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The Estimation of Family Planning and Primary Health Service
Costs in Morocco

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The Estimation of Family Planning and Primary Health Service Costs in Morocco

by James C. Knowles and Laurie Emrich

1.0 Introduction

The purpose of this paper is to describe procedures used to estimate family planning and primary health service delivery costs in Ministry of Public Health (MOPH) ambulatory care facilities in Morocco and to present the resulting estimates. The work described in this paper was carried out under the A.I.D.-funded OPTIONS for Population Policy Development project, with funds provided by the USAID Mission in Morocco. The objective of this study was to provide information on service delivery costs which can be used by MOPH to:

- 1) improve the allocation of existing family planning resources;
- 2) forecast future family planning resource needs; and
- 3) justify the allocation of additional public resources to family planning.

Another objective of the study was to identify and document the most appropriate methodology for cost estimation in Morocco and to develop the local capacity to do such work in the future. It was anticipated that future cost surveys might extend over a wider geographical range and might be conducted at different times throughout the year to control for seasonal variation

The present study drew heavily on prior work, including a proposed methodology for cost estimation in the Moroccan ambulatory health system (Roquin, 1988) and previous A I D - supported efforts to develop generalized costing methodologies (e.g., REACH Project, October, 1987). At the same time, the present study differs from these proposed methodologies in important respects. The Roquin methodology, for example, places heavy emphasis on the allocation of non-labor costs between various programs, while the methodology used in the present study places more emphasis on the accurate estimation of labor costs. The REACH Project's Guidance for cost estimation was designed for proposed A I.D.-funded projects, while the present study attempts to estimate the costs of ongoing programs within the overall program of the Ministry of Public Health. No attempt is made in the present study to isolate or identify costs paid for by foreign donors or host governments. Furthermore, the estimated costs refer only to those incurred at the provincial level. Central administrative costs, as well as centrally generated expenditures for such important activities as information, education and communication (IEC), training, data collection, planning, research and evaluation, are not included in the estimates reported in the present study.

The cost survey was implemented during the period February 19 to March 16 , 1990, in eighteen ambulatory health facilities in the provinces of Agadir, Kenitra, and Ben Slimane. In each province one of each type of facility was sampled: urban and rural health centers; urban and rural dispensaries; family planning reference center; and basic rural dispensary. Rural hospitals are the only type of ambulatory care facility not included in the survey. Provincial health offices, which supervise and administer both the ambulatory and hospital systems in each province, were included in the survey.

Since the survey was limited in scope, and neither the provinces nor the individual facilities within them were randomly selected, it would be improper to consider them to be representative of the entire country.

This paper presents basic descriptive information on service delivery costs and explains the cost estimation methodology. It is intended to provide MOPH and others with essential information concerning current patterns of resource allocation and utilization in MOPH ambulatory care facilities. Obtaining a clear idea of current patterns of resource use is a necessary first step toward improving the efficiency of such use. Using these same data, the following papers will be written:

- 1) family planning cost effectiveness analysis;
- 2) projection of future family planning costs; and
- 3) family planning benefit-cost analysis.

The primary focus of the present study is on family planning, but an early decision was made to broaden its scope by gathering detailed cost estimates for curative care, other preventive health programs, and maternal and child health services. This decision was made for several reasons. First, an estimate of the resources utilized in providing curative and preventive services to infants, children, pregnant women and nursing mothers is essential to assessing the benefits of reduced fertility (i.e., benefit-cost analysis). Second, information on current resource allocation and use is necessary in order to project future costs. For example, to the extent that staff in MCH units are underemployed now, FP services could be expanded in the future without adding staff.

Additionally, information on the cost of curative and other program activities is necessary for a cost effectiveness study of family planning as a health intervention (e.g., comparing the estimated cost per life saved through family planning to similar cost effectiveness ratios for curative and other preventive programs). Finally, the additional expense involved in developing detailed cost estimates for other services was minor in comparison to the potential value of such data for planning purposes.

The decision to conduct a time use survey instead of relying on personnel and/or their supervisors to provide estimates of their time use was made for several reasons.

First, since labor was thought to account for a very high share of total costs, it was important to estimate it as accurately as possible. Second, health personnel typically divided their time between a variety of program and non-program activities. Preliminary surveys revealed that they could not give a reliable estimate of their own division of labor among these programs.

Finally, there was some evidence of bias toward under-reporting of the time when personnel were waiting for another patient to arrive, and other "non-productive" activities. It was considered very important to measure the extent of such underutilization of resources. Moreover, because of the methodological role of the study, several alternative approaches to time measurement were employed in the survey.

The present paper is divided into six sections, beginning with this introduction. Section 2 discusses the time use survey, including the procedures used and the results obtained. The third section presents the procedures used to collect supplementary data on both non-labor costs and services provided. Section 4 explains the procedures used to link the time use survey data to the non-labor cost and service data in order to obtain estimates of total costs for an entire year, 1989. The resulting cost estimates are presented and discussed in Section 5. Section 6 presents the study's conclusions.

2.0 Time Use Survey

In Morocco, approximately eighty percent of family planning users are served in Ministry of Public Health (MOPH) facilities. All MOPH ambulatory health centers provide oral contraceptives and condoms, while many facilities also furnish IUD's. Sterilizations are performed in urban hospitals and maternities (i.e., outside the ambulatory system). In these fixed facilities, FP services are typically available in the MCH units. Clients are also served by itinerant nurses operating out of rural dispensaries (e.g., the VDMS outreach program) and by mobile health teams operating out of health centers or provincial headquarters (equipes mobiles).

In addition to multi-purpose health facilities, there are family planning reference centers that offer only FP services. They are usually located in provincial capitals and are staffed both by nurses and by one or more part-time obstetricians/gynecologists. With the exception of these FP reference centers, personnel providing family planning services typically offer several other services. These vary from MCH activities to the full range of preventive and curative services, available in rural dispensaries staffed by only one or two nurses.

In order to estimate the labor cost involved in providing family planning, it is therefore necessary to approximate the proportion of time each worker spends providing family planning services, both within fixed facilities and as part of mobile outreach services.

The time use survey carried out in the present study was viewed as a pilot study to identify the most cost-effective approach to obtaining information on the distribution of health worker time among various activities. It was hoped that the pilot study would ultimately be followed up by one or more national studies conducted by the MOPH without external assistance. To ensure that MOPH would have the local capability to carry out similar future studies, a private consulting firm (ICONE) was identified to work collaboratively with MOPH and OPTIONS staff on all aspects of the survey.

2.1 Methodology

An initial review of the literature identified a number of alternative approaches to collecting time use data. These included:

1) Direct Observation. This technique involves the use of carefully trained enumerators who observe and record the activities of one or more health workers during a clinic session. The technique varies depending on whether a census of such activities is recorded or merely a sample of activities at fixed intervals (e.g., observations at two minute intervals). The advantage of a census is that it reduces sampling error. The disadvantages include high cost since typically a single enumerator is assigned to each health worker and a high degree of bias if a relationship should develop between the enumerator and the staff person being observed. In practice, census methods are only practical if enumerators spend relatively short periods of time with each health worker. This would present serious problems in the present study because of the significant variation in health worker activities. For example, the level of activity tends to be much higher in the early morning and late afternoon and/or on certain days of the week when many facilities are devoted to specific activities, e.g., vaccinations on Tuesday.

For these reasons, the method of direct observation at fixed intervals was utilized, with each enumerator circulating through the facility, observing and recording the activity of individual health workers at a given moment. This method was only practical in fixed facilities. In the case of mobile activities such as outreach services, direct observation would necessitate a census since enumerators could not circulate from one worker to another. This was considered to be both prohibitively expensive and likely to produce biased information (for the reasons noted above). Instead, time sheets (see below) were used for mobile activities.

2) Patient Flow Analysis (PFA). This technique has been used widely by the Centers for Disease Control in recent years. It involves providing arriving patients with a form on which each health worker that has contact with the patient records the following information: the health worker's ID number; the time the activity was initiated; the time it was terminated; and a code describing the activity performed. The patient retains this form while he/she is in the clinic and leaves it with the last health worker seen before leaving.

PFA has many advantages as compared to direct observation. First, it provides a census of all direct patient care activities without necessitating the intervention of an enumerator (although additional training of health workers is required). This both reduces cost and decreases the possible bias from having an outsider present.

The primary disadvantages of PFA are that it produces an enormous quantity of data and that it fails to enumerate non-patient contact activities such as personnel waiting time or administrative activities. PFA is also impractical as a method for collecting time use data for mobile activities.

3) Time Sheets. This technique involves personnel keeping a record of their own activities, including the time at which they commence and complete each activity. This method is clearly the least expensive method to employ and is practical both in fixed facilities and for mobile outreach activities.

Its principal disadvantages are that it involves careful training of health workers, so that they will correctly identify and code the appropriate activity. Also, it is a nuisance for the health workers to fill out the forms while they are busy providing services. In addition, this method is subject to substantial risk of bias since no outside, presumably disinterested, observer is involved in the data collection.

4) Retrospective Survey. This method involves administering a questionnaire to health workers and/or their supervisors to obtain information about the division of their time among various activities. This approach has been used before in Morocco to estimate labor cost (Experdata, 1988), and it is practical to use both for workers in fixed facilities and for mobile outreach workers. Experience in other settings suggests that this method works best when workers are interviewed at the end of a single clinic session, rather than being asked to recall activities over a period of several days.

Its principal advantage is that it is inexpensive to employ and, compared to the use of time sheets, permits enumerators to clarify the concepts involved, so that a minimum of health worker training is necessary. Its major disadvantages are the inability to collect detailed data on a wide range of activities and the highly questionable accuracy of the data obtained.

2.2 Pre-test

All four of these methods were used in an extensive pre-test carried out in four facilities in Khemisset Province (ICONE, August, 1989). These included an urban and rural health center, an urban dispensary, a family planning reference center, a mobile health unit and several itinerant outreach workers. The pre-test led to the following conclusions:

- 1) Direct Observation at fixed intervals was practical to employ and presented few problems;
- 2) PFA was feasible but produced an enormous quantity of data;
- 3) Time Sheets' use was practical, particularly for mobile outreach activities. Their use was also necessary for any staff who had after-hours work to record; and
- 4) Retrospective Survey data bore little resemblance to either the Direct Observation or PFA data. The retrospective survey data were particularly incomplete with respect to non-productive activities, such as waiting and personal time. Health workers also had significant difficulty in understanding the time allocation process.

As a result of the pre-test, it was determined that no single data collection method was appropriate to employ for both fixed and mobile service delivery strategies. Instead, Direct Observation would be used in fixed facilities and Time Sheets would be used for mobile activities. Because of the methodological focus of the study, it was decided to limit the use of PFA in fixed facilities, primarily as a check on the accuracy of the Direct Observation data. Since the study's primary interest was family planning, the use of PFA was limited to family planning and to one other Maternal and Child Health program, pre-/post-natal care.

2.3 Survey Preparations

Following the pre-test, preparations were made for the pilot survey to be carried out in three provinces. These preliminaries included: preparation of forms to be used in the survey and a list of the activities to be coded; development of data processing and analysis procedures; selection of the sample provinces and facilities; recruitment of interviewers and supervisors; facilitation of preparatory meetings with provincial health staff in sample provinces and health facilities; and the training of supervisors and interviewers.

Preparation of Forms. The most difficult part of this task was reaching agreement concerning the list of activities to be enumerated in the survey. While MOPH staff were keen to have as much detail as possible for planning purposes, the survey's success clearly depended on limiting the degree of detail to a manageable level. The resulting list of fifty-two activities (see Appendix A) represented many compromises. For example, while it was decided not to differentiate between subsets of tasks within most programs, a more detailed list was used for FP and pre-/post-natal care, the two programs for which PFA data were collected.

The final list of surveyed activities reflected the way in which service statistics are kept in MOPH facilities. For example, consultations are defined as examinations by physicians or by paramedical staff in the smaller facilities. Therefore, in the study, consultations were differentiated only by the characteristics of the patient (male,

Separate forms were designed for each of the three methods employed in the survey, Direct Observation, PFA, and Time Sheets. An abbreviated list of the activities and their codes was printed on each of the three main data collection forms, to facilitate the work of enumerators and respondents. Additional forms were prepared for the following purposes:

1) to compile a census of personnel working in each facility. This permitted unique ID codes to be assigned to each health worker for use in filling out the main forms;

2) to record information on patients to whom PFA forms were given at the time of their arrival; and

3) to reconcile the information from different forms concerning the amount of time each staff member was observed to be working in the fixed facility, versus the amount of time the worker reported on Time Sheets that he/she was working outside the facility during normal work hours (e.g., outreach activities) or in after-hours work. The difference between normal working hours and the sum of working hours which could be accounted for from the forms was considered unexplained absence. Any absences recorded by direct observation within fixed facilities which were explained by time sheet data, corresponding to mobile work activities, were also adjusted by supervisors on a daily basis.

Data Processing and Analysis. These procedures were developed at the same time that the forms were being finalized. In some cases, it was necessary to make last-minute revisions to accommodate data processing requirements. Custom dBase III programs were written to facilitate data entry, and were tested on forms collected during the fieldwork phase of the supervisor/enumerator training.

Additional programs were written to convert the data from the form in which they were collected to the format required for analysis (i.e., tabulations of observed frequencies -Direct Observation- or time intervals -PFA, Time Sheets- by facility, individual personnel and activity. These programs were also tested with the data collected during training.

Sample Selection. A two-stage, non-random sample selection process was utilized to choose the eighteen facilities included in the survey. Although a pure random sample would have been preferable, resource constraints did not permit this. Considerable logistics problems would have arisen from attempting to conduct the survey in more than three provinces. An additional consideration was the need to collect cost data from provincial health offices, in order to estimate administrative costs. To have done this in eighteen different provinces would have been prohibitively expensive.

The first phase of the sampling process involved selecting the provinces in which the study would be implemented. The three provinces that were chosen reflect varying stages of development of the health infrastructure. Within the sample, Agadir clearly represented the most advanced state of development, having participated in a World Bank project ("Soins Sante de Base") designed to strengthen the ambulatory health network. In contrast, Ben Slimane is a relatively new province with a minimal health infrastructure. And though Kenitra has a relatively well developed health infrastructure from a national perspective, it is certainly less advanced than Agadir's.

Within each province, a facility from each of the following categories of the ambulatory health hierarchy was sampled. (Only rural hospitals were excluded from the survey).

1) Urban Health Center (CSU). Urban health centers provide a broad array of services and are usually staffed by 15-20 staff, including 2-4 physicians. Urban health centers include separate MCH units with 3-4 nurses in which IUD's are usually available. Urban health centers generally do not provide MCH/FP services on an outreach basis.

2) Urban Dispensary (DU). Urban dispensaries usually have 10-15 staff and increasingly include one or more physicians. They also have separate MCH units, in which IUD's are typically available. Urban dispensaries no longer include MCH/FP services on an outreach basis.

3) Family Planning Reference Center (CRPF). Family planning reference centers provide only family planning services and are typically staffed by 3-5 nurses and one or more part-time obstetrician/gynecologists. These facilities also provide family planning training to other nurses.

4) Rural Health Center (CSR). Rural health centers have between 10-15 staff, including one or more physicians and a dedicated MCH unit, in which IUD's are often available. Some rural health centers have a limited number of beds, primarily for maternity services. Rural health centers sometimes provide MCH/FP activities on an outreach basis.

5) Rural Dispensary (DR). Rural dispensaries include 2-5 staff, including nurses and support personnel. One or more nurses (typically a female) specializes in MCH/FP services, and there are usually one or more itinerant nurses providing MCH/FP services on an outreach basis (e.g., VDMS agents).

6) Basic Rural Dispensary (DRB). Basic rural dispensaries are the lowest level of facility in the ambulatory health system. They employ 1-2 nurses who work both in the clinic and in outreach activities. Usually there is no MCH unit, and all nurses tend to divide their time among family planning, other MCH services, other preventive health services, and curative care.

The second stage of the sampling process involved the selection of the individual facilities to be surveyed in each sampled province. They were selected by the provincial health authorities, in consultation with project staff and MOPH central staff. Logistic considerations were paramount. For example, the availability of lodging for female enumerators and general accessibility played a key role in this process.

Consequently, the possibility of significant bias, particularly at the second phase of the sampling process, cannot be excluded. Accordingly, it is dangerous to generalize the results of this survey from the local level to either the provincial or the national level.

An additional sampling problem arose in Ben Slimane province, which had no family planning reference center. The center from Sale province was included instead. Some characteristics of the sample facilities are presented in Table 1.

Selecting Interviewers and Supervisors. In selecting supervisors and enumerators, the major trade-off was between MOPH staff with medical training (e.g., experienced nursing staff) and MOPH staff who had worked extensively on health surveys. Although prior survey experience is generally the most valuable attribute for supervisors and enumerators, the nature of the time use survey appeared to call for a degree of medical sophistication and familiarity with procedures in ambulatory health facilities (particularly with respect to the implementation of the Direct Observation methodology).

Ultimately, a mix of both types of enumerators was selected (50 percent nurses, 50 percent statisticians). An effort was made to constitute teams of two or more enumerators with each skill represented. All supervisors were health statisticians with extensive survey experience.

In addition to the technical background of the survey personnel, gender was also an important characteristic. It was necessary for at least one female enumerator to be stationed in each MCH unit, both to implement the Direct Observation methodology and to supervise the PFA methodology. Six of the fifteen enumerators selected were female, as was one of the three supervisors.

The enumerators were assigned to facilities according to the size of their staffs. Some of the larger health centers were assigned three enumerators, while the smallest facilities had only one. Each supervisor was responsible for two facilities, with the female supervisor in charge of activities at the family planning reference centers.

Meetings with Provincial Health Staff. Each provincial medical office was visited at least once by one or more members of the joint TFG/ICONE/MOPH team. In these initial provincial meetings, they explained the objectives of the survey, helped select the sample facilities, and visited each individual site to explain the survey's general purpose and procedures. At the same time, a meeting was set up

at the provincial health office for the Sunday afternoon prior to the initiation of the survey in each province. The purpose of the Sunday meeting was to explain the detailed forms and survey procedures to the health workers from all the facilities included in the survey.

Training of Supervisors and Enumerators. Training materials were prepared, including separate supervisor and enumerator guides and a list of definitions (see Appendix B). A first session was provided to supervisors during the afternoon which preceded the formal three-day workshop. The training was carried out largely by the Principal Investigator, and consisted of one day of classroom instruction, and two days of combined field testing in three different facilities in Sale province. Participants also evaluated and discussed the problems they encountered. Both supervisors and trainees considered the training to have been sufficient.

2.4 Field Work

The field work took place February 19 to March 16, 1990. The survey team spent one week in each province, with one or more enumerators stationed at each facility during the full week. The team surveyed Kenitra, had one week off during the Feast of the Throne, and then continued in Ben Slimane and the following week in Agadir.

Three MOPH supervisors and one staff member from ICONE were present in each province during the survey. Supervisors checked the data collected each day and made corrections, as appropriate, to reconcile the information from the different forms (as explained above). At the end of each week, the data were transmitted to ICONE's offices in Rabat for data entry and initial processing. No major problems were encountered during the field work.

2.5 Results

Tables 2 and 3 present the combined, three province results of the time use survey for each category of facility. The data in Tables 2 and 3 are in percentage form and refer to the percentage distribution of observed labor cost for the fifty-two surveyed activities. The labor cost data were obtained for each facility by weighting the observed labor times, in hours, by each worker's hourly wage (including fringe benefits). As discussed below, salary data were obtained from the Ministry of Finance. Table 2 refers to the distribution of labor cost for activities conducted within fixed facilities, while Table 3 provides corresponding data for mobile activities, such as outreach services or work outside of normal working hours.

One of the most striking things about the data in Tables 2 and 3 is the high proportion of total labor cost involved in indirect activities such as "Reception/triage", and "Other Indirect Activities". These activities do not involve patient contact and are not tied to a particular program. Indirect activities account for 76.6 percent of

all labor cost in the fixed facilities, and for 69.7 percent of labor cost associated with mobile activities.

Moreover, in fixed facilities, unproductive activities (i.e., waiting time, personal time and absence) account for 46.2 percent of total labor cost, as compared to only 29.7 percent for mobile activities. In the case of mobile activities, travel time accounts for 23.2 percent of labor costs.

Table 2 data demonstrate the considerable cost attributed to waiting time, and to indirect activities. This, in turn, suggests that these facilities are significantly underutilized. There are several possible reasons for this observed underutilization:

1) in the case of rural and basic rural dispensaries, the population may be too dispersed to make effective use of these facilities;

2) a perpetual scarcity of medical supplies and medicine may discourage clients' use of the facilities; and

3) utilization tends to be heavily concentrated in the morning and late afternoon hours and/or on market days, and facilities tend to be staffed to accommodate such peak periods.

Curative care (i.e., medical and paramedical consultations and treatments) accounts for the largest share of direct labor costs among fixed services--12.8 percent of total fixed facility labor cost (or 54.7 percent of fixed facility direct labor cost, i.e., excluding indirect labor cost). These percentages would be even higher if family planning reference centers were excluded.

Family planning accounts for the next largest share of resources; nearly 3 percent of total fixed facility labor cost (12 percent of fixed facility direct labor cost). Within family planning the non method specific categories of consultations, information, education, and communication, and record-keeping account for over 60 percent of family planning direct labor cost.

All MCH services, including family planning, account for 6.5 percent of total fixed labor cost (27.8 percent of fixed direct labor cost). Activities directly identifiable as serving women and children, including both curative and preventive care (i.e., consultations and treatments received by women and children, school hygiene, MCH services) account for 17.6 percent of all fixed labor cost (75.2 percent of fixed facility direct labor cost). This proportion, which is already higher than the proportion of women and children (i.e., ages 10-14) in the total population (70 percent), would undoubtedly be even higher if women and children's share of other programs could be identified (e.g., tuberculosis, malaria, diabetes, hypertension).

In the case of mobile activities (Table 3), curative care accounts for a somewhat smaller share (8 percent) of total labor cost (26.4 percent of direct labor cost). The

next largest mobile programs are school hygiene (7.1 percent of total labor cost), environmental health (3.2 percent), immunization (2.9 percent) and family planning (2.3 percent). All MCH programs (including family planning) absorb 9.2 percent of total mobile labor cost (30.4 percent of mobile direct labor cost), while services for women and children absorb 20.6 percent of total mobile labor cost (or 68 percent of mobile direct labor cost). In rural and basic rural dispensaries, in which MCH outreach services are most developed (e.g., V.D.M.S. program), family planning alone accounts for 12.6 percent (DR) and 6 percent (DRB) of all mobile labor cost (or 27.0 and 22.1 percent of direct labor cost); while all MCH services account for 30.5 percent and 14.9 percent of all mobile labor (or 65.4 and 54.8 percent of mobile direct labor cost).

The fact that both PFA and Direct Observation data were collected for family planning and pre-/post-natal services makes it possible to compare the data collected using these two alternative techniques. Table 4 compares the sample mean labor cost estimates obtained from the two alternative methodologies together with sample correlation coefficients (n=18). Whereas all but one of the eighteen correlation coefficients are positive, with thirteen being statistically significant at the 0.01 level, fourteen of the eighteen PFA means are lower than those for the Direct Observation data (although none of the observed differences is statistically significant at even the 0.05 level). Theoretically, the PFA data provide the more reliable estimates since they are not subject to the same degree of sampling error. But the quality of the PFA data depends on the performance of the health workers themselves, while the Direct Observation data were collected by the more carefully trained enumerators.

3.0 Supplementary Cost and Service Data

In addition to the time use survey, which collected data on the division of personnel time between various activities, the following cost information was collected from the sampled facilities during the week of the survey.

- 1) data on non-labor recurrent costs such as utilities, fuel and other vehicle operating costs, building maintenance, medical and non-medical supplies, drugs and vaccines;
- 2) an enumeration of all non-expendable property, including buildings and land, vehicles, medical (and office) equipment and furniture;
- 3) a list of all personnel employed in the facilities, including their salary grade, level and personnel identification number (to facilitate the collection of actual salary data from the Ministry of Finance); and
- 4) a list of the fixed and mobile services provided by the facility, both during the week of the survey (1990) and during the entire preceding year (1989).

In addition, the first three items in the above list were collected from the provincial health offices in order to estimate the provincial administrative cost to be shared by each facility. Items 1 and 2 were not collected for the family planning reference center in Sale province (the center included in the time use survey due to the absence of such a facility in Ben Slimane province). However, personnel and service statistics were obtained for this facility so that it could be included in the time use survey.

In all cases, the basic data were compiled by personnel working in either the provincial health office or in the individual facilities, using a set of specially designed forms (see Appendix C). No particular problems were encountered in collecting these data. Nevertheless, the quantity of work involved suggests that any future surveys should provide more time than one week and should probably consider some compensation to personnel for the considerable extra work involved.

The collection of supplementary cost data was complicated by the fact that it was not all accessible on any single level of the system. Much of the information for individual facilities was obtainable at the facility itself, but some was available only at the provincial health office. Utilities, vehicle maintenance and operating costs were obtained at the provincial health offices, while the Ministry offices in Rabat contributed actual salaries and the prices of many items. Previous work (Roquin, 1988) was extremely helpful in locating the various sources of data.

3.1 Expendables

Utilities. Data on water, electricity, telephone, postage, and butane gas consumption for each facility and for the provincial offices were furnished by the provincial administrators.

Motor Vehicle Operating Costs. Operating costs, including fuel, lubricants, spare parts and maintenance expenses were supplied by provincial administrators, both for vehicles assigned to health facilities and to provincial offices. Data on vehicle insurance cost was obtained from central government offices.

Non-medical Supplies. These items, miscellaneous office supplies and cleaning products, are always purchased at the provincial level. Information on the quantities consumed and the actual prices paid were available at provincial health offices.

Drugs and Medical Supplies. Each facility supplied its data on actual quantities consumed. However the prices had to be obtained at the central level. The main source of information was the 1989 official price lists ("nomenclatures"), supplemented by other central government and the UNICEF essential drug price lists. Prices of products like contraceptives and vaccines that were supplied and used by specific programs were requested from the appropriate central program offices.

3.2 Non-expendables

Buildings. The dimensions of all buildings were measured during the cost survey, and their square meter area computed. Information on the building materials used and the date of construction were also obtained locally.

A construction expert in the USAID Mission provided information on cost per square meter of ordinary construction (1450 - 2000 Dh). This includes the 19% tax and a 20% contingency fund, as would be implemented by a contractor. An average of 1725 Dh per square meter (approximately \$200) was used to estimate the replacement value of all permanent buildings. A range of 1500-1700 Dirham was provided for pre-fabricated construction, for which an average of 1600 Dh per square meter was used. Ministry-provided housing was not included in the cost survey. Although employees pay a nominal rent for such housing, there is clearly a substantial subsidy involved. Future surveys might do well to include it.

Land. The land on which the facilities were located was also measured. Estimates of its value, per square meter, were obtained from provincial health officers. These land value estimates ranged from a low of 15 Dirham per square meter in some rural areas to 300 Dirham per square meter in the towns of Kenitra and Agadir. When employee housing was located on the same site, the area used for facilities was prorated on the basis of the area of the buildings.

Motor Vehicles. An inventory of functioning motor vehicles was compiled in provincial health offices, including each vehicle's make, model, year and the number of kilometers traveled during 1989. Estimates of the replacement value of each vehicle were obtained from central government sources.

Medical Equipment. A complete inventory of functioning medical and office equipment was compiled by each health facility and by the provincial offices. Price estimates for each item were obtained from the official price lists ("nomenclatures") or from other central government prices lists.

Office Furniture. The same procedures were employed as for medical equipment.

3.3 Personnel

A list of all personnel working in the surveyed facilities and in provincial health offices was compiled, including their names, salary grade and level, position and personnel identification number (DOTI). Salary data were not locally available, but the personnel ID number was used to access salary records on the Ministry of Finance computer.

The salaries used in the study were gross (i.e., pretax) wages and included all cash benefits. The actual salary data were used to construct a wage scale, by grade and

level. These average salaries, rather than the specific, individual payments were used to prepare the cost estimates. The difference between these average and the actual salaries were individual differences in benefits due to marital status or number of children. It was theoretically more appropriate to exclude such individual variation from the cost estimates

3.4 Service Statistics

An important part of the cost survey involved the collection of service statistics both for the week of the time use survey and for all of 1989. Separate service statistics were collected for fixed and mobile activities. As discussed in the following section, these service statistics were used to obtain estimates of annual labor costs for 1989 from the weekly labor costs measured in the time use survey. The service statistics, which were particularly detailed for family planning and other MCH programs, were also collected for subsequent use in cost effectiveness analysis.

The service statistics were all obtained at the level of the individual health facilities and included only statistics which were routinely collected by all health facilities throughout the ambulatory system. The decision to collect only the standard service data was made not only to facilitate the data collection process, but also to make it at least potentially possible to develop national cost estimates on the basis of national service statistics. The rationale for doing so was based on the idea that much of the national variation in costs, whether due to geographic or seasonal factors, might be reflected in variations in the mix of services provided. If one could accurately estimate costs for individual services, then applying such service-specific costs to the national service mix might produce some credible estimates of total ambulatory costs at the national level.

Summary service statistics for each category of facility are provided in Table 5, for fixed services, and in Table 6, for mobile services.

4.0 Cost Estimation

The time use survey provided data on labor allocation for only one week in 1990, while the data on non-labor costs were collected for all of 1989. In order to develop complete cost estimates for 1989, the following additional steps were necessary:

- 1) Labor costs were estimated for 1989;
- 2) Estimates of annual capital costs were made;
- 3) Indirect costs were allocated to various programs and between fixed and mobile service delivery strategies; and
- 4) other direct (i.e., non-labor, program-related) costs were allocated between fixed and mobile service delivery strategies.

4.1 Labor Cost

The time use survey, in combination with salary data collected from the Ministry of Finance, yielded estimates of labor cost for each of 52 activities, both fixed and mobile, for the week of the survey (see Tables 2 and 3). These figures for one week of 1990 needed to be converted into estimates of direct (i.e., program-related) labor cost for the entire preceding year (1989).

The service statistics provided the necessary link. In most cases, it was possible to connect a program or activity directly to a single service statistic. For example, the labor cost of curative services (i.e., consultations and treatments) was linked to the sum of all consultations, treatments and injections (Tables 5 and 6). The ratio of labor cost to curative services during the week of the survey was computed and multiplied by the sum of all curative services provided during the previous year to obtain an estimate of annual direct labor cost for curative services for 1989.

Similarly, the ratio of "other family planning" labor cost (i.e., consultations, IEC, record-keeping, reference to other facilities) to the number of initial visits during the week of the time use survey was used as a basis for estimating other family planning labor costs for all of 1989.

In the case of some programs such as environmental hygiene, no single service statistic seemed appropriate, and the observed weekly value from 1990 was annualized for 1989 simply by multiplying the weekly value by 52. If the activity was not observed during the survey week in a given facility but was carried out during the preceding year, ratios for the same type of facility and service were utilized.

Table 7 provides a list of activities for which annual estimates of labor costs were prepared, including the annualization method used.

4.2 Annual Capital Cost

Capital costs were obtained by annualizing the replacement value of the capital stock of land and buildings, vehicles, medical equipment and furniture, using the following formula (Reynolds and Gaspari, 1985, p. A-14):

$$ACC = [r(1+r)^n] / [(1+r)^n - 1] CV$$

where ACC refers to annual capital cost, CV refers to the current (i.e., replacement) value of the capital asset, n refers to the expected lifetime of the asset and r refers to the interest rate. An interest rate of ten percent was used. The expected lifetime of assets was assumed to be as follows: land (unlimited, i.e., only interest applies),

buildings (25 years), motor vehicles, medical equipment and furniture (5 years). The same procedures and assumptions were used to estimate annual capital costs for both individual health facilities and provincial offices and facilities (i.e., motor pools, laboratories, and pharmacies).

4.3 Indirect Cost

All capital cost was assumed to be an indirect cost (i.e., shared by all programs and activities). In addition, indirect cost included the cost of all non-medical supplies (e.g., stationery, cleaning materials), cost of heating (butane gas), utilities (telephone, electricity, water, postage), non-program medical supplies (e.g., bandages, syringes), vehicle operating costs and indirect labor. Indirect labor was calculated as the difference between total labor (i.e., the sum of the gross salaries and benefits of all employees of each facility in 1989) and direct labor cost, estimated as explained above.

In addition to each facility's own indirect cost, a share of the provincial administrative cost was assigned to each facility and treated as part of its indirect cost. The ratio of each health center's number of personnel to the total number of personnel working at all ambulatory health sites within the province was used as the basis for allocating provincial administrative costs.

Provincial administrative costs included personnel costs, annual capital costs, expendable medical and non-medical supplies, heating, utilities and vehicle operating expenses. All provincial administrative costs were treated as indirect, so no attempt was made to allocate them to specific activities or programs.

Administrative costs were computed separately for the different divisions that compose the Provincial health office (e.g., Provincial Medical Office, Ambulatory Care Service [SIAAP], motor pool, laboratory, and pharmacy). Provincial administrators were asked to estimate the share of each division's costs to allocate to the ambulatory, as opposed to the hospital system. For example, half of the Provincial Health Office's cost was allocated to the ambulatory system, while all of the Ambulatory Care Service's cost was allocated to the ambulatory system. The shares of motor pool, pharmacy and laboratory allocated to the ambulatory system varied from one province to another.

All indirect cost was allocated between programs, and between fixed and mobile strategies, in proportion to estimates of direct labor cost. For example, if curative activities (consultations/treatments) in fixed facilities accounted for half of all direct labor, half of all indirect cost was also allocated to these activities.

4.4 Other Direct Costs

Certain medicines or supplies such as streptomycin, vaccines, vaccination supplies, and contraceptives could be readily linked to specific programs (i.e., anti-tuberculosis,

immunization, family planning). Accordingly, they were allocated directly to each program. All non-program medicines were allocated to curative care under the "other direct cost" rubric.

All "Other Direct Costs" were distributed between fixed and mobile service delivery strategies within a given program in proportion to the program's division of direct labor between each service delivery strategy.

5.0 Results

The cost estimates are provided in Tables 8-19. The discussion of these results addresses the following topics:

- 1) variations in total costs among types of facilities, service delivery strategies and major cost components;
- 2) distribution of indirect cost by functional cost categories;
- 3) allocation of provincial administrative cost by functional cost categories;
- 4) the overall share of labor cost in total costs;
- 5) the shares of fixed versus recurrent costs in total costs; and
- 6) the distribution of total costs by service categories (e.g., curative care, MCH services).

5.1 Total Costs

Table 8 provides estimates of total costs by facility and by service delivery strategy. Mean total costs per facility range from a high of 1,025,338 Dirham (Dh.) per annum in urban health centers (CSU's) to a low of 73,980 Dh. per annum in basic rural dispensaries (DRB's).¹ The differences in annual cost between various facilities is explained both by variations in the number of total staff (see Table 1) and by the existing salary differentials. Physicians, who are typically paid three times the salary of nurses, are found only in urban and rural health centers (CSU, CSR) and in some urban dispensaries (DU).

Excluding family planning reference centers (CRPF), which provide no outreach services, the share of mobile service costs in total costs ranges from a high of 32.0 percent (DR) to a low of 6.7 percent (DU). As expected, mobile services are much more important in rural, as opposed to urban facilities.

¹ The U.S. Dollar was equal to approximately 8.6 Dirham at the time of the survey.

Table 8 also presents the major components of total costs (ie. direct labor, other direct, and indirect cost). Indirect cost accounts for a very high share of: total costs for all services combined (76.9 percent); fixed (77.5 percent); and mobile (72.9 percent) services. Direct labor cost accounts for 14.0 percent of total costs for all services combined (13.7 percent for fixed service costs and 15.7 percent of mobile service costs), while other direct cost accounts for the remaining 9.1 percent of total costs for all services combined (8.8 percent of fixed service costs and 9.1 percent of mobile service costs).

An interesting relationship, but one possibly open to misinterpretation, appears in Table 8 between the relative shares of direct labor cost and other direct cost across facility types. Those facilities employing physicians (i.e., CSU, DU, CSR) exhibit direct labor cost shares in excess of other direct cost shares, while the reverse is true for rural dispensaries and basic rural dispensaries (DR, DRB). While it is tempting to conclude from the data in Table 8 that non-physicians may use more other direct costs (i.e., mostly medications) per patient visit as compared to physicians, this is not the case. As the data in Table 9 reveal, there is no systematic relationship between the cost of medications per consultation and the presence of physicians in a health center. Direct labor cost is higher in facilities employing physicians mainly because of the relatively high salaries they receive.

5.2 Indirect Cost

Table 10 presents the distribution of estimated indirect cost by facility type and by functional cost category. Indirect labor alone accounts for 55.1 percent of all indirect cost, followed in importance by provincial administrative cost (19.5 percent) and the amortized cost of buildings (10.3 percent). Surprisingly, both fixed and variable vehicle expenses account for only 2.0 percent of indirect cost, although there is considerable variation in the importance of this cost category between different types of health establishments (i.e., from a high of 4.2 percent, for rural health centers, to a low of zero, for family planning reference centers). The share of indirect cost accounted for by indirect labor tends to be highest in both urban and rural health centers and urban dispensaries, due to the fact that physicians, who are paid salaries 3-4 times higher than nurses, are employed only in these sites. The share of fixed cost in total indirect cost tends to be commensurately lower for these categories of facilities.

5.3 Provincial Administrative Cost

Table 11 presents the distribution of provincial administrative cost by functional cost category. Again, labor cost accounts for by far the highest share of provincial administrative cost (62.1 percent), followed by the amortized cost of vehicles (11.0 percent) and buildings (9.2 percent), utilities (5.1 percent) and recurrent transportation cost (4.3 percent).

5.4 Labor's Share of Total Costs

Total labor cost includes direct and indirect labor cost (cf Tables 8 and 10)), and labor's share of provincial administrative cost (cf Table 11). The components of total labor cost are presented in Table 12. For all surveyed facilities the following relationships were demonstrated: total labor accounts for 65.7 percent of total costs; with direct labor accounting for only 14.0 percent of total expenditures; indirect labor for 42.4 percent of total costs; and administrative labor for 9.3 percent of total expense. Labor's share in total costs varies from a high of 70.4 percent, among urban health centers (CSU's), to a low of 43.5 percent, among basic rural dispensaries (DRB's). Not surprisingly, the data in Table 12 suggest that labor's share of total costs is higher at sites that employ physicians.

5.5. Recurrent versus Fixed (Capital) Cost

The data in Tables 8, 10 and 11 can be used to obtain estimates of the share of recurrent cost in total costs. Recurrent cost is defined as total costs less fixed cost. Fixed cost refers to the annual amortized value of the capital used by the ambulatory health system (i.e., vehicles, buildings, land, furniture and equipment). New purchases of these capital items are included in the capital budget, which is distinct from the operating, or recurrent budget.

Fixed costs are incurred both at the site itself, where they account for 21.7 percent of indirect cost (Table 10), and at the provincial level, where they account for 26.7 percent of administrative cost (Table 11). Table 13 presents the breakdown of total costs into fixed and recurrent components. Fixed cost accounts for 20.7 percent of total costs for all facilities surveyed, with recurrent expenses accounting for the remaining 79.3 percent.

There is considerable variation in the major cost components between various categories of facilities. The share of fixed expenditures in total costs is lowest in both urban and rural health centers (18.1 percent and 18.3 percent respectively). It is highest in basic rural dispensaries (35.8 percent), followed by rural dispensaries (30.9 percent) and family planning reference centers (29.7 percent). The share of fixed cost in total costs is lowest in facilities which employ physicians, due to the relatively high salaries they receive.

5.6 Total Costs by Service Category

Tables 14-16 present estimates of total costs by program. These data show that curative services account for over half the total costs of all facilities in the survey: 51.70 percent of costs for all services (Table 16); 53.89 percent of costs for fixed services (Table 14); and for 37.84 percent of costs of mobile services (Table 15). Though outreach activities account for a relatively small share of total costs (13.8 percent; cf Table 8), it is clear that they nevertheless serve to increase the share of

total costs absorbed by preventive health services.

The data in Table 16 show that of those facilities providing curative care (i.e., all facilities except family planning reference centers) the proportion of costs absorbed by such care is highest in urban health centers (62.80 percent) and lowest in rural dispensaries (33.82 percent) and basic rural dispensaries (30.49 percent). Among the latter two facility types, curative care accounts for particularly low shares of mobile service costs: 3.69 percent and 10.79 percent, respectively (cf Table 15). The fact that curative care constitutes a relatively high share of total costs in urban and rural health centers and urban dispensaries is not surprising, given the fact that these facilities employ relatively high-paid physicians, the bulk of whose time is absorbed by curative care (i.e., medical consultations).

After curative care, family planning (FP) is the next largest component of total costs: 11.82 percent of costs for all services (Table 16); 12.77 percent of costs for fixed services (Table 14); and 5.90 percent of costs for mobile services (Table 15). The data in Table 16 also show that the bulk of FP costs are absorbed by "Other FP activities", such as consultations, I.E.C., record-keeping, and referrals, rather than by method-specific activities such as explaining and giving oral contraceptives, or inserting IUDs.

The proportion of FP costs absorbed by "Other FP activities" is considerably lower for mobile services as compared to fixed services (35 percent versus 65 percent; see Tables 14-15). In large part this is due to that mobile workers act primarily to resupply family planning users, so they do not need to spend much time with counselling and IEC. Thus the survey results suggest that any comparison of service delivery costs between fixed facilities and outreach services should take into consideration the different mix of services provided.

All MCH services (including family planning) constitute 30.42 percent of total costs for all services. This proportion varies little between fixed (30.59 percent) and mobile (29.44 percent) delivery strategies. However, the composition of MCH services differs between fixed and mobile delivery, with family planning services absorbing the highest share (42 percent) of fixed MCH costs (Table 14), while immunization accounts for the highest share (39 percent) of mobile MCH costs (Table 15).

In addition to family planning, which accounts for 11.82 percent of total costs, the immunization program absorbs 6.60 percent of total costs, while nutrition surveillance absorbs an additional 5.92 percent. The anti-diarrheal program and the pre-/post-natal care program account for smaller shares (2.14 percent and 3.94 percent, respectively). It is interesting to note that MCH services account for higher shares of total costs than do curative services among rural dispensaries (44.13 percent MCH versus 33.82 percent curative) and basic rural dispensaries (46.41 percent MCH versus 30.49 percent curative).

The school hygiene program absorbs 6.71 percent of all costs (Table 16), with the

bulk of this activity concentrated in urban health centers (i.e., 14.12 percent of CSU costs). Among the various disease-specific programs, the anti-tuberculosis program absorbs 4.47 percent of total costs among surveyed facilities, most of which is in the form of fixed services (Table 14). The anti-malaria program's 2.38 percent share of total costs is heavily concentrated in rural facilities. The only other program or category of service accounting for more than one percent of total costs is the diabetes control program (1.43 percent).

In many cases it is possible to link programs and categories of services to specific age-sex groups. Tables 17-19 present estimates of the shares of total costs absorbed by services targeted exclusively to men, women and children. According to Table 19, exclusively women's and children's services (70 percent of the population) account for 73.66 percent of the cost of all services, while exclusively men's services (30 percent of the population) account for only 15.17 percent of costs. Services that are not age or sex-specific, environmental hygiene, malaria, and tuberculosis, account for the balance (11.17 percent).

The proportion of fixed service costs absorbed by women's and children's services is somewhat lower for rural dispensaries and basic rural dispensaries (63.44 percent and 66.55 percent, respectively) than for other sites. Presumably this is due to the travel constraints women face in rural areas (Table 17). The fact that women's and children's services account for higher shares of mobile service costs in these same facilities (72.90 percent and 90.25 percent, respectively) suggests that women and children benefit disproportionately from the improved access to health services afforded by outreach services, particularly in rural areas (Table 18).

6.0 Conclusions

This paper has reported on a time use and cost survey of eighteen ambulatory health facilities in three provinces of Morocco. The survey was designed to obtain estimates of the cost of providing various types of primary health services both in fixed facilities and through mobile, outreach activities. The time use survey included the use of three different methodologies: direct observation, patient flow analysis (PFA), and time sheets. Both direct observation and PFA were used within fixed facilities, while time sheets were used to record time spent in providing outreach services, as well as all activities carried on either outside the fixed facility or outside normal working hours.

The time use survey was carried out successfully and provides a model suitable for application in other settings. The results of the time use survey reveal a serious problem of underutilized resources in most facilities. This observed underutilization of resources should be taken into consideration when projecting future costs, since it suggests that marginal costs are lower than average costs.

Additionally, it seems that some consideration should be given to possible policies

to rationalize the use of these resources. Examples of such policies might include charging user fees for peak-period use and/or providing appointments during off-peak periods. Mobile teams of health workers, possibly including physicians, might be made available to facilities on days of particularly heavy demand. These policies would allow the facilities to avoid having to over-staff to meet peak demands (e.g., early morning hours, market days).

Cost and service data were collected at the same time and for the same facilities as the time use survey. These data were combined with the results of the time use survey, which yielded estimates of labor costs, and supplementary data on provincial administrative costs, to obtain estimates of the full cost of providing various services. The cost estimates point to the following conclusions:

1) that total costs are dominated by indirect costs (76.9 percent), the largest element of which is labor costs (55.1 percent of indirect cost);

2) that labor's share of total costs amounts to 65.7 percent of total costs;

3) that recurrent cost accounts for 79.3 percent of total costs, the balance of which (20.7 percent) is accounted for by fixed cost (i.e., amortized capital cost);

4) that curative care absorbs more than half (51.7 percent) of all ambulatory health resources;

5) that MCH services account for 30.42 percent of total costs, of which family planning accounts for 11.82 percent; immunization, for 6.60 percent; and nutrition surveillance, for 5.92 percent; and

6) that exclusively women's and children's services account for 73.66 percent of total costs.

The cost estimates also point to the presence of physicians in a facility as an important determinant not only of total costs but also of the share of labor costs in total costs and of the share of curative care costs in total costs. The study's findings thus suggest the need to consider costs recovery for curative services or, alternatively, to consider the possibility of privatizing physician services within the public ambulatory system.

In addition to the present paper, which reports on the methods used to obtain the cost estimates and which presents a variety of descriptive data, the following additional papers will be prepared using these data:

1) a public sector benefit-cost analysis of family planning;

2) a cost effectiveness analysis of family planning; and

3) a projection of future family planning costs.

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Table 1: Staffing Patterns of Surveyed Facilities

	Physicians	Nurses	Other	Total
KENITRA				
CSU Mohamed Diouri	3	14	2	19
DU EL Khansaa	1	9	2	12
CRPF Hopital El Idrissi	0*	3	0	3
CSR Sidi Allal Tazi	1	7	0	8
DR Souk Tlat	0	4	0	4
DRB Mgadiâ	0	2	0	2
BEN SLIMANE				
CSU P.A.M.	4	13	0	17
DU Ben Slimane	2	8	1	11
CRPF Bettame (Sale)	0*	3	1	4
CSR Bouznika	3	11	3	17
DR Tlet Ziaida	0	4	0	4
DRB El Mansouria	0	1	0	1
AGADIR				
CSU Inezgane	2	12	1	15
DU Quartier Industriel	0	10	0	10
CRPF Agadir	0*	4	1	5
CSR Biougra	2	11	1	14
DR Ait Amira	0	4	0	4
DRB Imzilene	0	1	0	1

* Part-time gynecologist only

Table 2: Distribution of Labor Cost among Fixed Activities (%)

	CSU	DU	CRPF	CSR	DR	DRB	TOTAL
Consultations-men	4.1	1.0	0.0	1.7	0.1	0.0	2.2
Consultations-women	6.3	2.0	0.0	3.7	0.0	0.0	3.8
Consultations-children	4.9	1.6	0.0	2.2	0.1	0.0	2.8
Treatments-men	1.4	1.2	0.0	1.0	3.4	3.7	1.3
Treatments-women	1.6	1.3	0.0	1.3	3.1	3.2	1.4
Treatments-children	2.0	0.9	0.0	0.9	1.5	2.8	1.3
Environmental health	0.0	0.0	0.0	0.0	0.1	0.0	0.0
School hygiene	4.4	0.3	0.0	0.7	0.2	0.2	1.8
Anti-malaria program	0.3	0.1	0.0	0.6	1.1	1.7	0.4
Anti-bilharzia program	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Anti-tuberculosis program	1.0	1.0	0.0	1.7	1.7	1.1	1.2
Diabetes control program	0.2	0.5	0.0	0.4	0.3	0.8	0.3
Hypertension control program	0.4	0.4	0.0	0.2	0.1	0.4	0.3
Rhumatism control program	0.0	0.0	0.0	0.2	0.0	0.2	0.1
Sexual disease program	0.1	0.1	0.0	0.1	0.0	0.1	0.1
Other programs	0.0	0.2	0.0	0.0	0.0	0.0	0.1
Immunization program	2.0	1.8	0.0	0.4	1.2	2.2	1.3
Anti-diarrhea program	0.1	0.3	0.0	0.2	0.2	0.0	0.2
Nutritional surveillance	0.6	0.7	0.0	1.9	0.9	0.0	1.0
Consultations (FP)	0.4	0.3	5.8	0.6	0.2	0.3	0.8
I.E.C. (FP)	0.3	0.4	2.7	0.1	0.4	0.3	0.4
Record-keeping (FP)	0.6	0.4	4.1	0.2	0.5	0.4	0.6
Oral contraceptives (new acceptors)	0.0	0.0	0.1	0.2	0.2	0.1	0.1
Oral contraceptives (continuing users)	0.2	0.3	0.0	1.1	1.4	1.4	0.6
Condom	0.0	0.0	0.1	0.1	0.2	0.0	0.1
I U.D.	0.1	0.1	1.4	0.1	0.0	0.2	0.2
Other FP methods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FP Referrals	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Consultations (pre-/post-natal)	0.1	0.3	0.0	0.4	0.3	0.2	0.2
Pre-natal examination	0.1	0.6	0.0	0.8	0.3	0.4	0.4
Pre-natal tests	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Pre-natal vaccinations	0.0	0.1	0.0	0.1	0.0	0.1	0.0
I.E.C. (pre-/post-natal)	0.0	0.2	0.0	0.1	0.1	0.3	0.0
Record-keeping (pre-/post-natal)	0.2	0.8	0.1	0.3	0.6	0.7	0.0
Delivery	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Post-natal examination	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Field follow-up visit (pre-/post-natal)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reception/triage	2.2	2.2	0.0	6.6	2.3	0.9	3.4
Statistics/reports	6.1	4.4	9.9	3.9	5.8	3.9	5.3
Work preparation	5.5	5.0	15.3	5.9	3.8	4.9	6.0
Administrative activities	3.0	1.2	0.5	2.9	2.2	0.2	2.4
Supervision	0.3	0.1	0.1	0.5	0.0	0.0	0.3
Communication	4.6	2.5	5.1	2.5	1.4	0.1	3.3
Training	0.1	0.1	0.2	0.0	0.6	0.6	0.1
Health education (general)	0.0	0.2	1.4	0.1	0.1	0.0	0.2
Non-health activities	1.0	0.1	0.0	0.2	0.0	0.6	0.4
Waiting time (staff only)	24.5	26.8	28.4	20.1	39.3	45.5	25.0
Personal time	1.5	2.7	3.2	10.0	3.6	0.3	4.5
Travel/displacement time	2.4	2.0	0.6	4.5	1.0	1.6	2.8
Leave	1.8	9.2	9.3	4.3	16.7	6.0	5.4
Absence	15.3	25.9	10.7	15.8	2.8	9.2	16.7
Other indirect activities	0.2	0.6	1.0	1.2	1.6	5.3	0.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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Table 3: Distribution of Labor Cost among Mobile Activities (%)

	CSU	DU	CRPF	CSR	DR	DRB	TOTAL
Consultations-men	2.7	0.0	0.0	1.7	0.0	0.0	1.7
Consultations-women	0.8	0.0	0.0	2.1	0.3	0.0	1.2
Consultations-children	0.6	0.0	0.0	1.1	0.0	0.0	0.7
Treatments-men	0.8	8.3	0.0	2.4	0.9	0.9	2.0
Treatments-women	0.3	7.8	0.0	2.0	1.1	1.2	1.6
Treatments-children	0.3	1.2	0.0	1.3	0.7	1.0	0.8
Environmental health	0.1	0.0	0.0	6.3	5.2	0.0	3.2
School hygiene	10.3	9.0	0.0	5.7	1.5	0.9	7.1
Anti-malaria program	0.0	0.7	0.0	2.1	4.7	8.0	1.6
Anti-bilharzia program	0.0	0.0	0.0	0.0	1.0	0.0	0.1
Anti-tuberculosis program	0.0	0.0	0.0	0.2	0.6	0.0	0.1
Diabetes control program	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hypertension control program	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rhumatism control program	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sexual disease program	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Other programs	1.2	0.0	0.0	0.3	0.0	0.0	0.1
Immunization program	1.3	3.7	0.0	3.9	4.8	0.6	2.9
Anti-diarrhea program	0.3	0.0	0.0	0.8	3.8	1.9	0.9
Nutritional surveillance	0.6	0.0	0.0	1.8	5.6	3.4	1.6
Consultations (FP)	0.0	0.0	0.0	0.2	0.7	0.7	0.2
I.E.C. (FP)	0.1	0.2	0.0	0.4	4.4	0.6	0.7
Record-keeping (FP)	0.0	0.0	0.0	0.3	0.9	2.0	0.3
Oral contraceptives (new acceptors)	0.1	0.0	0.0	0.1	1.7	1.1	0.3
Oral contraceptives (continuing users)	0.1	0.0	0.0	0.3	4.4	1.6	0.7
Condom	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I.U.D.	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Other FP methods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FP Referrals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Consultations (pre-/post-natal)	0.0	0.0	0.0	0.1	0.4	0.0	0.1
Pre-natal examination	0.0	0.0	0.0	0.3	0.8	0.0	0.2
Pre-natal tests	0.0	0.0	0.0	0.2	2.4	0.4	0.3
Pre-natal vaccinations	0.1	0.0	0.0	0.0	0.5	0.9	0.1
I.E.C. (pre-/post-natal)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Record-keeping (pre-/post-natal)	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Delivery	0.0	0.0	0.0	0.0	0.0	1.4	0.0
Post-natal examination	0.0	0.0	0.0	0.2	0.0	0.0	0.1
Field follow-up visit (pre-/post-natal)	0.0	0.0	0.0	0.7	0.0	0.0	0.3
Reception/triage	0.0	0.0	0.0	0.0	0.0	0.3	0.4
Statistics/reports	1.9	1.2	19.9	2.2	1.5	0.1	2.0
Work preparation	1.5	0.0	0.0	1.7	2.4	8.4	1.7
Administrative activities	5.7	1.3	0.0	0.6	0.8	0.8	2.6
Supervision	1.2	0.0	0.0	0.1	0.0	0.0	0.5
Communication	6.4	0.0	22.1	4.0	0.0	1.2	2.0
Training	0.0	0.0	0.0	0.4	0.0	0.0	0.2
Health education (general)	0.9	0.2	0.0	1.0	2.6	0.0	1.0
Non-health activities	0.6	1.8	10.7	6.9	0.0	0.4	3.3
Waiting time (staff only)	24.9	22.8	6.8	9.6	6.9	19.1	16.2
Personal time	1.6	3.6	0.0	3.0	4.5	3.3	2.7
Travel/displacement time	19.9	31.0	24.8	24.0	26.5	23.9	23.2
Leave	3.2	0.0	15.7	2.7	0.0	0.0	2.5
Absence	17.7	3.5	0.0	6.5	7.7	15.1	10.8
Other indirect activities	0.0	0.0	0.0	1.4	0.0	0.0	0.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4: Comparison of Family Planning and Pre-/post-natal Care Labor Cost Estimates
 Obtained from Direct Observation and PFA Data (n = 18)

	Sample Means (s.d.)		Correlation Coefficients
	Direct Obs.	PFA	
Consultations (FP)	39.8 (59.2)	24.3 (29.1)	0.85*
I.E.C. (FP)	20.7 (19.5)	13.2 (17.5)	0.63*
Record-keeping (FP)	30.9 (37.0)	24.5 (29.4)	0.75*
Oral contraceptives (new users)	4.0 (7.4)	1.9 (2.2)	0.84*
Oral contraceptives (continuing users)	28.4 (449.0)	8.4 (8.2)	0.77*
Condoms	2.5 (4.1)	0.6 (0.7)	0.55
I.U.D.	5.2 (11.4)	5.1 (7.7)	0.34
Other FP Methods	0.2 (0.8)	0.5 (2.1)	0.99*
FP Referrals (e.g., sterilization)	1.2 (3.0)	1.7 (3.3)	-0.12
Pre-/post-natal consultations	11.2 (20.4)	9.7 (15.3)	0.80*
Pre-/post-natal examinations	21.6 (37.7)	16.8 (24.0)	0.92*
Pre-/post-natal tests	1.8 (4.2)	1.7 (2.3)	0.67
Vaccinations (e.g., anti-tetanus)	3.3 (5.5)	2.6 (5.0)	0.71*
I.E.C. (pre-/post-natal)	4.3 (6.7)	3.8 (4.6)	0.61*
Record keeping (pre-/post-natal)	19.7 (23.1)	12.9 (16.6)	0.94*
Delivery	0.8 (3.3)	1.2 (5.1)	0.99*
Post-partum examination	2.1 (3.3)	3.4 (5.7)	0.83*
Follow-up visit (pre-/post-natal)	1.1 (3.5)	0.0 (0.0)	0.00

* r statistically significant at .01 level

Table 5: Services Delivered by Fixed Facilities, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Medical Consultations							
-Men	64,490	18,305	0	37,807	4,277	93	124,967
-Women	18,234	4,432	0	11,892	1,055	28	35,641
-Children	25,912	6,822	0	16,454	1,711	34	50,935
Paramedical Consultations							
-Men	134,317	30,023	0	12,618	1,511	31	41,553
-Women	38,742	12,387	0	71,182	16,016	4,266	255,804
-Children	54,995	9,162	0	20,855	4,106	1,121	77,211
Treatments	40,580	8,474	0	30,503	5,806	1,619	102,085
-Men	30,104	24,098	0	19,824	6,104	1,526	76,508
-Women	7,919	7,553	0	27,752	6,398	1,554	89,906
-Children	11,714	10,183	0	8,398	2,466	384	26,720
Injections	10,471	6,362	0	9,689	1,977	542	34,105
-Men	48,366	36,809	0	9,665	1,955	628	29,081
-Women	13,935	13,197	0	48,606	13,125	3,148	150,054
-Children	21,721	14,968	0	13,991	4,898	1,089	47,110
Anti malaria Program	12,710	8,644	0	19,873	5,929	1,553	64,044
Blood Samples	0	0	0	14,742	2,298	506	38,900
Anti-bilharzia Program	5,489	1,412	0	0	0	0	0
Urine Specimens	0	0	0	3,263	1,668	519	12,351
Anti-tuberculosis Program	499	140	0	0	0	0	0
Sputum Samples	0	0	0	41	0	0	680
Number Treated	3,825	954	0	0	0	0	0
Diabetes Control Program	1,065	134	0	1,426	421	71	6,697
Insulin Injections	0	0	0	107	61	12	1,379
Hypertension Control Program	4,873	8,168	0	0	0	0	0
Blood Pressure Measurements	0	0	0	13,209	1,138	593	27,981
School Hygiene	2,892	811	0	0	0	0	0
Students Examined	0	0	0	2,830	164	288	6,985
Eye Examinations	40,274	8,809	0	0	0	0	0
Environmental Health	7,418	1,431	0	32,625	335	302	82,295
Food Establ. Inspected	0	0	0	2,083	280	46	11,258
Wells Disinfected	0	0	0	0	0	0	0
Immunization Program	0	0	0	0	0	0	0
Vaccinations given	0	0	0	50	18	9	77
Anti-diarrhea Program	14,282	7,654	0	0	0	0	0
Children Treated	0	0	0	17,124	7,454	418	46,962
ORT Demonstrations	2,015	973	0	0	0	0	0
ORT Packets Distributed	2,181	874	0	2,300	939	254	6,481
Nutrition Surveillance Program	6,172	3,055	0	2,052	737	180	6,024
Children Weighed	0	0	0	6,899	2,894	767	19,787
Demonstrations	15,393	10,580	0	0	0	0	0
Actamine Packages Distributed	2,557	815	0	10,134	3,434	1,176	40,717
Sterogyl Distributed	1,736	1,236	0	196	111	105	3,784
	1,418	1,448	0	2,225	478	322	5,997
			0	917	596	295	4,674

Table 5 (continued)

	CSU	DU	CRPF	CSR	DR	DRB	Total
Family Planning	0	0	0	0	0	0	0
Initial Visits	9,759	4,928	6,379	2,362	3,958	2,025	29,411
IUD Insertions/reinsertions	315	114	1,554	232	58	21	2,294
IUD Removals	103	17	472	34	10	3	639
Initial Pill Consultations	1,383	289	520	926	323	178	3,619
Return Pill Consultations	11,862	5,704	326	6,748	4,046	1,539	30,225
Initial Condom Consultations	196	70	297	77	113	0	753
Return Condom Consultations	238	203	211	93	131	20	896
Condoms Distributed	8,352	8,376	11,485	1,960	2,036	535	32,744
Pill Cycles Distributed	14,261	10,763	2,501	11,685	6,645	2,014	47,869
IUD Referrals	0	0	0	0	0	0	0
Sterilization Referrals	2	13	945	76	5	3	1,044
Pre/post-natal Care Program	0	0	0	0	0	0	0
Pre-natal visits	1,255	945	0	1,177	278	80	3,735
Post-natal visits	1,362	1,020	0	1,551	390	220	4,549
Anti-tetanus Vaccinations	935	2,173	0	3,023	256	292	6,679

Table 6: Mobile Services Delivered, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Medical Consultations	0	0	0	0	101	0	101
-Men	0	0	0	0	60	0	60
-Women	0	0	0	0	15	0	15
-Children	0	0	0	0	26	0	26
Paramedical Consultations	0	0	0	14,675	4,175	110	18,960
-Men	0	0	0	1,215	776	14	2,005
-Women	0	0	0	4,144	2,033	55	6,232
-Children	0	0	0	9,316	1,366	41	10,723
Treatments	0	0	0	1,845	1,555	0	3,400
-Men	0	0	0	362	376	0	738
Women	0	0	0	598	560	0	1,158
-Children	0	0	0	885	619	0	1,504
Injections	0	0	0	127	575	37	739
-Men	0	0	0	10	150	15	175
-Women	0	0	0	94	284	22	400
-Children	0	0	0	23	141	0	164
Anti-malaria Program	0	0	0	0	0	0	0
Blood Samples	265	0	0	1,620	2,001	81	3,967
Anti-bilharzia Program	0	0	0	0	0	0	0
Urine Specimens	0	0	0	0	0	0	0
Anti-tuberculosis Program	0	0	0	0	0	0	0
Sputum Samples	0	0	0	83	106	0	189
Number Treated	0	0	0	0	11	0	11
Diabetes Control Program	0	0	0	0	0	0	0
Insulin Injections	0	0	0	0	0	0	0
Hypertension Control Program	0	0	0	0	0	0	0
Blood Pressure Measurements	0	0	0	0	0	0	0
School Hygiene	0	0	0	0	0	0	0
Students Examined	1,430	0	0	6,740	2,693	627	11,490
Eye Examinations	0	0	0	2,215	973	91	3,279
Environmental Health	0	0	0	0	0	0	0
Food Establ. Inspected	0	0	0	533	0	0	533
Wells Disinfected	30	0	0	443	315	76	864
Immunization Program	0	0	0	0	0	0	0
Vaccinations given	1,975	0	0	1,683	7,272	1,347	12,277
Anti-diarrhea Program	0	0	0	0	0	0	0
Children Treated	422	0	0	975	827	33	2,257
ORT Demonstrations	130	0	0	975	583	33	1,721
ORT Packets Distributed	1,396	0	0	1,043	2,459	99	4,997
Nutrition Surveillance Program	0	0	0	0	0	0	0
Children Weighed	0	0	0	855	1,400	76	2,331
Demonstrations	0	0	0	85	72	9	166
Actamine Packages Distributed	205	0	0	746	272	36	1,259
Sterogyl Distributed	20	0	0	0	115	191	326

Table 6 (continued)

	CSU	DU	CRPF	CSR	DR	DRB	Total
Family Planning	0	0	0	0	0	0	0
Initial Visits	0	0	0	307	917	49	1,273
IUD Insertions/reinsertions	0	0	0	0	0	0	0
IUD Removals	0	0	0	0	0	0	0
Initial Pill Consultations	110	0	0	216	216	14	556
Return Pill Consultations	330	0	0	2,755	2,653	108	5,846
Initial Condom Consultations	0	0	0	31	96	0	127
Return Condom Consultations	0	0	0	72	0	0	72
Condoms Distributed	0	0	0	2,285	1,092	0	3,377
Pill Cycles Distributed	440	0	0	10,394	8,883	2,025	21,812
IUD Referrals	0	0	0	17	23	4	44
Sterilization Referrals	0	0	0	0	29	4	33
Pre/post-natal Care Program	0	0	0	0	0	0	0
Pre-natal visits	0	0	0	19	155	0	174
Post-natal visits	0	0	0	53	114	0	167
Anti-tetanus Vaccinations	0	0	0	36	1,126	1,593	2,755

Table 7: Methods Used to Annualize Labor Cost

Program	Annualization based on:
Consultations/treatments	Number of medical and paramedical consultations, treatments and injections
Environmental Health	Weekly labor cost multiplied by 52
School Hygiene	Number of students examined (medical + paramedical)
Anti-malaria Program	Number of blood samples drawn
Anti-bilharzia Program	Number of urine specimens collected
Anti-tuberculosis Program	Number of sputum samples collected
Diabetes Control Program	Number of insulin injections given
Hypertension Control Program	Number of blood pressure measurements taken
Rhumatism Control Program	Weekly labor cost multiplied by 52
Sexually Transmitted Diseases Program	Weekly labor cost multiplied by 52
Other Programs	Weekly labor cost multiplied by 52
Immunization Program	Number of vaccinations (doses) given
Anti-diarrhea Program	Number of children treated
Nutrition Surveillance Program	Number of children weighed
Pre-/post-natal Care Program	Number of pre- and post-natal visits
Family Planning	
-Pill	Number of initial + continuing pill visits
-Condom	Number of initial + continuing condom visits
-IUD	Number of initial + continuing IUD visits
-Other FP activities	Number of initial visits

Table 8: Estimated Total Costs by Facility Type, Service Delivery Strategy and by Major Components, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
FIXED SERVICES							
Direct Labor	17.6	10.8	5.6	14.9	7.3	6.2	13.7
Other Direct	8.5	8.2	3.2	8.6	14.7	16.5	8.8
Indirect	74.0	81.1	91.2	76.5	78.0	77.3	77.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean (dirham)	926,248	588,100	206,931	726,908	167,207	67,261	461,238
MOBILE SERVICES							
Direct Labor	15.3	10.7	-	20.7	7.4	6.9	15.7
Other Direct	4.6	8.8	-	13.8	15.8	14.5	11.5
Indirect	80.3	80.6	-	65.6	76.8	78.7	72.9
Total	100.0	100.0	-	100.0	100.0	100.0	100.0
Mean (dirham)	99,090	41,947	-	191,362	78,563	6,719	73,708
ALL SERVICES							
Direct Labor	17.4	10.8	5.6	16.1	7.3	6.2	14.0
Other Direct	3.1	8.2	3.2	9.7	15.1	16.3	9.1
Indirect	74.6	81.0	91.2	74.2	77.6	77.5	76.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean (dirham)	1,025,338	630,047	206,932	918,270	245,770	73,980	534,966
n	3	3	2	3	3	3	17

Table 9: Expenditures on Medications per Consultation by Facility Type, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Expenditures on medications (Dh.)	142,101	79,785	---	131,978	25,118	11,468	390,450
Number of Consultations (all types)	198,807	48,328	---	123,659	24,468	4,469	399,731
Medications per consultation (Dh.)	0.71	1.65	---	1.07	1.03	2.57	0.98

Table 10: Distribution of Estimated Indirect Costs (%), 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Administrative (SIAAP)	19.9	19.4	21.6	18.8	19.4	19.3	19.5
Fixed Costs							
Vehicles	1.1	0.2	0.0	3.1	1.4	2.4	1.5
Buildings	8.8	10.6	14.2	8.0	17.0	22.7	10.3
Land	4.2	5.5	4.5	4.9	10.0	3.7	5.2
Furniture	1.0	0.8	2.4	0.9	1.0	1.9	1.0
Equipment	3.7	2.9	5.8	2.9	5.2	10.4	3.7
Subtotal	19.0	20.0	26.8	19.8	34.6	41.1	21.7
Variable Costs							
Indirect Labor	58.7	54.3	48.4	57.5	43.8	36.1	55.1
Cleaning supplies	0.1	0.3	0.4	0.1	0.3	0.5	0.2
Office supplies	0.1	0.1	0.1	0.1	0.1	0.4	0.1
Medical supplies	0.3	0.4	2.0	0.4	0.3	0.5	0.4
Heating oil/gas	0.1	0.0	0.0	0.0	0.0	0.4	0.0
Transportation	0.3	0.0	0.0	1.1	0.5	1.3	0.5
Utilities	1.6	5.5	0.7	2.2	1.0	0.4	2.5
Subtotal	61.2	60.6	51.6	61.5	46.0	39.6	58.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total (dirham)	2,292,802	1,531,415	377,376	2,044,496	572,084	171,655	6,989,778
n	3	3	2	3	3	3	17
Mean (dirham)	764,267	510,472	188,663	681,499	190,695	57,218	411,163

Table 11: Provincial Administrative Costs Allocated to the Ambulatory Health System, 1989

	Percent
FIXED	
Vehicles	11.0
Buildings	9.2
Land	2.7
Furniture	2.5
Equipment	1.3
Subtotal	26.7
VARIABLE	
Labor	62.1
Cleaning Supplies	0.2
Office Supplies	0.5
Medical Supplies	1.1
Heating Oil/Gas	0.0
Transportation	4.3
Utilities	5.1
Subtotal	73.3
Total	100.0
TOTAL (Dirham)	7,651,435
MEAN (n=3)	2,550,478

Table 12: Labor's Share (%) in Total Costs, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Direct labor	17.4	10.8	5.6	16.1	7.3	6.2	14.0
Indirect labor	43.8	43.9	44.2	42.7	34.0	28.0	42.4
Administrative labor	9.2	9.8	12.2	8.6	9.3	9.3	9.3
Labor's share	70.4	64.5	62.0	67.4	50.6	43.5	65.7
Other share	29.6	35.5	38.0	32.6	49.4	56.5	34.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 13: Fixed versus Recurrent Cost, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Fixed Cost							
Indirect	14.2	16.2	24.4	14.7	26.9	31.8	16.7
Administrative	4.0	4.2	5.3	3.7	4.0	4.0	4.0
Subtotal	18.1	20.4	29.7	18.3	30.9	35.8	20.7
Recurrent Cost							
Direct	25.5	19.0	8.8	25.8	22.4	22.5	23.1
Indirect	45.7	49.1	47.1	45.6	35.7	30.7	45.2
Administrative	10.9	11.5	14.4	10.5	11.0	11.0	11.0
Subtotal	81.9	79.6	70.3	81.7	69.1	64.2	79.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 14: Cost of Fixed Services by Program (%), 1989

	USU	DU	CRPF	CSR	DR	DRB	Total
Curative Care	67.52	49.67	0.00	53.52	47.98	32.40	53.89
Environmental Health	0.00	0.00	0.00	0.12	0.13	2.86	0.12
School Hygiene	9.52	2.89	0.00	1.47	2.42	3.51	4.68
Anti-malaria Program	0.85	0.56	0.00	4.40	3.72	4.61	2.01
Anti-bilharzia Program	0.04	0.27	0.00	0.02	0.00	0.00	0.08
Anti-tuberculosis Program	3.32	5.49	0.00	6.59	9.46	8.37	5.07
Diabetes Control Program	0.18	2.99	0.00	2.61	1.69	3.34	1.66
Hypertension Control Program	1.65	1.54	0.00	0.50	0.59	1.02	1.13
Arthritis Control Program	0.00	0.14	0.00	0.46	0.00	0.22	0.17
STD Program	0.15	0.53	0.00	0.10	0.00	0.48	0.21
Other Programs	0.00	1.22	0.00	0.20	0.29	0.00	0.35
Immunization Program	6.57	9.11	0.00	2.12	9.33	10.16	5.83
Anti-diarrhea Program	0.89	4.51	0.00	1.51	3.05	1.72	1.99
Nutrition Surveillance Prog.	1.80	4.87	0.00	15.34	3.21	3.13	6.29
Pre-/post-natal Care Prog.	1.45	7.80	0.00	3.20	5.67	6.38	3.71
Family Planning (total)	6.00	8.37	100.00	7.69	12.26	21.60	12.77
-Pill	1.18	2.27	1.77	4.54	8.84	7.39	3.04
-Condom	0.11	0.18	1.96	0.13	0.85	0.75	0.29
-IUD	0.18	0.20	13.77	0.72	0.00	3.63	1.13
-Other FP Activities	4.53	5.73	82.51	2.29	2.57	9.83	8.30
	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (dirham)	2,778,745	1,764,301	413,863	2,180,725	501,621	201,784	7,841,039
n	3	3	2	3	3	3	17
Mean (dirham)	926,248	588,100	206,932	726,908	167,207	67,261	461,238

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Table 15: Cost of Mobile Services by Program (%), 1989

	CSU	DU	CRPF	CSR	DR	CRB	Total
Curative Care	18.21	53.41	0.00	59.56	3.69	10.79	37.84
Environmental Health	1.10	0.00	0.00	8.53	7.61	0.16	5.60
School Hygiene	57.09	23.90	0.00	6.00	3.57	2.52	19.41
Anti-malaria Program	0.37	1.93	0.00	4.34	12.38	6.48	4.70
Anti-bilharzia Program	0.00	0.00	0.00	0.00	3.22	0.00	0.61
Anti-tuberculosis Program	0.62	0.00	0.00	0.55	1.86	0.00	0.75
Diabetes Control Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hypertension Control Program	0.00	0.00	0.00	0.06	0.00	0.00	0.03
Arthritis Control Program	0.00	0.00	0.00	0.08	0.00	0.00	0.04
STD Program	0.00	0.00	0.00	0.30	0.00	0.00	0.14
Other Programs	3.08	0.00	0.00	1.43	1.14	0.00	1.60
Immunization Program	9.55	11.01	0.00	7.32	23.87	13.45	11.43
Anti-diarrhea Program	1.09	0.00	0.00	2.54	8.54	5.64	3.12
Nutrition Surveillance Prog.	3.00	0.00	0.00	1.35	11.13	11.36	3.61
Pre-/post-natal Care Prog.	2.61	8.95	0.00	3.39	10.90	16.30	5.38
Family Planning (total)	3.28	0.86	0.00	4.76	12.31	33.31	5.90
-Pill	1.86	0.50	0.00	2.09	9.32	19.88	3.47
-Condom	0.34	0.00	0.00	0.24	0.13	0.00	0.22
-IUD	0.08	0.21	0.00	0.03	0.33	0.00	0.12
-Other FP Activities	1.00	0.65	0.00	2.40	2.53	13.43	2.09
	100.00	100.00	0.00	100.00	100.00	100.00	100.00
Total (dirham)	297,270	125,841	0	574,086	235,690	20,157	1,253,044
n	3	3	2	3	3	3	17
Mean (dirham)	99,090	41,947	0	191,362	78,563	6,719	73,708

Table 16: Cost of All Services by Program (%), 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Curative Care	62.80	49.92	0.00	54.78	33.82	30.49	51.70
Environmental Health	0.11	0.00	0.00	1.87	2.52	2.62	0.87
School Hygiene	14.12	4.29	0.00	2.42	2.79	3.42	6.71
Anti-malaria Program	0.80	0.65	0.00	4.39	6.49	4.78	2.38
Anti-bilharzia Program	0.03	0.26	0.00	0.01	1.03	0.00	0.15
Anti-tuberculosis Program	3.06	5.13	0.00	5.33	7.03	7.62	4.47
Diabetes Control Program	0.17	2.79	0.00	2.07	1.15	3.04	1.43
Hypertension Control Program	1.49	1.44	0.00	0.41	0.40	0.93	0.98
Arthritis Control Program	0.00	0.13	0.00	0.38	0.00	0.20	0.15
STD Program	0.14	0.49	0.00	0.15	0.00	0.43	0.21
Other Programs	0.30	1.14	0.00	0.46	0.56	0.00	0.52
Immunization Program	6.86	9.24	0.00	3.20	13.98	10.47	6.60
Anti-diarrhea Program	0.91	4.21	0.00	1.72	4.80	2.07	2.14
Nutrition Surveillance Prog.	1.92	4.54	0.00	12.43	5.74	3.88	5.92
Pre-/post-natal Care Prog.	1.56	7.88	0.00	3.31	7.34	7.29	3.94
Family Planning (total)	5.74	7.87	100.00	7.08	12.27	22.70	11.82
-Pill	1.24	2.12	1.77	4.03	8.99	8.54	3.10
-Condom	0.14	0.17	1.96	0.15	0.61	0.68	0.28
-IUD	0.17	0.20	13.77	0.58	0.11	3.31	0.99
-Other FP Activities	4.19	5.39	82.51	2.31	2.56	10.18	7.45
	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total (dirham)	3,076,015	1,890,142	413,863	2,754,810	737,311	221,941	9,094,082
n	3	3	2	3	3	3	17
Mean (dirham)	1,025,338	630,047	206,932	918,270	245,770	73,980	534,946

Table 17: Women's and Children's Share (%) of Fixed Service Costs, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Exclusively Women's Services							
Curative care	26.27	20.46	0.00	24.78	18.14	10.69	21.88
Pre-/post-natal	1.45	7.80	0.00	3.29	5.67	6.38	3.71
Family planning	6.00	8.37	100.00	7.69	17.26	21.60	12.77
Subtotal	33.72	36.63	100.00	35.76	36.07	38.67	38.36
Exclusively Children's Services							
Curative care	22.96	15.50	0.00	15.36	9.36	9.36	17.24
School Hygiene	9.52	2.89	0.00	1.47	2.42	3.51	4.68
Immunization	6.57	9.11	0.00	2.12	9.33	10.16	5.83
Anti-diarrhea	0.89	4.51	0.00	1.51	3.05	1.72	1.99
Nutrition surveillance	1.80	4.87	0.00	15.34	3.21	3.13	6.29
Subtotal	41.74	36.88	0.00	35.80	27.37	27.88	36.03
Women's + Children's	75.46	73.51	100.00	71.56	63.44	66.55	74.39
Exclusively Men's Services							
Curative care	18.29	13.71	0.00	13.38	20.48	12.35	14.77
Other Programs	6.25	12.78	0.00	15.06	16.08	21.10	10.84
Total	100.00						

Table 18: Women's and Children's Share (%) of Mobile Service Costs, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Exclusively Women's Services							
Curative care	3.64	24.09	---	23.05	1.72	4.18	13.24
Pre-/post-natal	2.61	8.95	---	3.39	10.90	16.30	5.38
Family planning	3.28	0.86	---	4.76	12.31	33.31	5.90
Subtotal	9.53	33.90	---	31.20	24.93	53.79	24.52
Exclusively Children's Services							
Curative care	2.99	3.69	---	13.46	0.86	3.49	7.08
School Hygiene	57.09	23.90	---	6.00	3.57	2.52	19.41
Immunization	9.55	11.01	---	7.32	23.87	13.45	11.43
Anti-diarrhea	1.09	0.00	---	2.54	8.54	5.64	3.12
Nutrition surveillance	3.00	0.00	---	1.35	11.13	11.36	3.61
Subtotal	73.72	38.60	---	30.67	47.97	36.46	44.65
Women's + Children's	83.25	72.50	---	61.87	72.90	90.25	69.17
Exclusively Men's Services							
Curative care	11.58	25.63	---	23.05	1.11	3.12	17.52
Other Programs	5.17	1.87	---	15.08	25.99	6.63	13.31
Total	100.00	100.00	---	100.00	100.00	100.00	100.00

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Table 19: Women's and Children's Share (%) of All Service Costs, 1989

	CSU	DU	CRPF	CSR	DR	DRB	Total
Exclusively Women's Services							
Curative care	24.08	20.70	0.00	24.42	12.89	10.10	20.69
Pre-/post-natal	1.56	7.88	0.00	3.31	7.34	7.29	3.94
Family planning	5.74	7.87	100.00	7.08	12.27	22.70	11.82
Subtotal	31.38	36.45	100.00	34.81	32.50	40.09	36.45
Exclusively Children's Services							
Curative care	21.03	14.71	0.00	14.96	6.64	8.83	15.84
School Hygiene	14.12	4.29	0.00	2.42	2.79	3.42	6.71
Immunization	6.86	9.24	0.00	3.20	13.98	10.47	6.60
Anti-diarrhea	0.91	4.21	0.00	1.72	4.80	2.07	2.14
Nutrition surveillance	1.92	4.54	0.00	12.43	5.74	3.88	5.92
Subtotal	44.84	36.99	0.00	34.73	33.95	28.67	37.21
Women's + Children's							
Curative care	76.22	73.44	100.00	69.54	66.45	68.76	73.66
Exclusively Men's Services							
Curative care	17.69	14.51	0.00	15.40	14.29	11.56	15.17
Other Programs							
Curative care	6.09	12.05	0.00	15.06	19.26	19.68	11.17
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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Appendix A
Time Use Survey Forms

CONSULTATIONS

11. Consultations hommes
Diagnostic, examen, inscription
12. Consultation femmes
Diagnostic, examen, inscription
13. Consultation enfants
excepté hygiène scolaire

SOINS

21. Soins hommes
pansements, injections, distribution
de médicaments (hors programme)
22. Soins femmes
23. Soins enfants

PROGRAMMES SANITAIRES

31. Hygiène du milieu
d pistage et surveillance
assainissement des gîtes larvaires
contrôle de l'eau et traitement
des puits
désinfectisation/dératisation
surveillance hydrique
contrôle de salubrité
contrôle de l'hygiène alimentaire
32. Hygiène scolaire
consultation paramédicale
contrôle des cantines scolaires
surveillance des colonies de
vacances et internat
éducation sanitaire scolaire
examen médical systématique
inscription
soins
33. Lutte anti-paludique
distribution de médicaments
goutte épaisse
inscription
assainissement de gîtes larvaires
enquête
34. Lutte anti-bilharziose
distribution de médicaments
prélèvement
inscription
assainissement de gîtes larvaires
enquête
35. Lutte anti-tuberculeuse
prélèvement de crachat
distribution de médicaments
inscription
visite de relance et enquête
soins
36. Diabète
37. Hypertension
38. Rhumatismes articulaires aigus
39. Maladies sexuellement transmissibles
40. Autres programmes
y compris les maladies disposant
de ressources propres et d'une
organisation spécifique du travail

51. P.U.I.

- . inscription
- . injection
- . I.R.C.
- . visite de relance
- . autres
- 52. P.L.N.D.
. inscription
- . distribution de S.R.O.
- . I.R.C.
- 53. P.L.N.C.
. consultation / examen
- . pesée
- . distribution et démonstration
de farine enrichie
- . distribution de comprimés de fer
- . inscription
- . I.R.C.

PLANIFICATION FAMILIALE

61. Consultation P.F.
. interrogatoire
- . examen
- . visite de contrôle
62. I.R.C. P.F.
. motivation
63. Inscription P.F.
64. Pilule H.A.
nouvelle acceptante
65. Pilule A.A.
ancienne acceptante
66. Condon
67. D.I.U.
. insertion
- . réinsertion
- . retrait
68. Autres méthodes P.F.
. ligature des trompes
69. Référence P.F.
. D.I.U.
- . Ligature des trompes

**PROGRAMME DE SUIVI DE LA GROSSESSE
ET DE L'ACCOUCHEMENT (PSGA)**

71. Consultation PSGA
. interrogatoire
72. Examen PSGA
. taille
- . poids
- . mesure de la hauteur utérine
- . examen physique extérieur
- . toucher vaginal
- . tension artérielle
- . battements du coeur du foetus
73. Tests PSGA
. Test sanguin
- . Glycémie
- . Albumine
74. Vaccin anti-tétanos ou autre
75. I.R.C. PSGA
76. Inscription PSGA
77. Accouchement
78. Examen post-accouchement
79. Visite de relance PSGA

ACTIVITES INDIRECTES

81. Triage
82. Supports informationnels
. statistiques périodiques
- . enquête
83. Préparation du travail
. approvisionnement en médicaments
en matériel
- . nettoyage des locaux et du matériel
- . préparation des instruments de travail
- . reconnaissance géographique du
sous-secteur (Itinérant)
84. Activités administratives
. activités de gestion
- . intendance
- . certificats médicaux
85. Contrôle / supervision
y compris agent communautaire
et accoucheuse traditionnelle.
86. Communication/Information
. communication entre le personnel
lors du travail
- . communication au téléphone.
- . visite de délégués médicaux
87. Formation / recyclage du personnel
. lecture d'information
- . formation structurée
- . formation sur le tas.
88. Education sanitaire
pour un public large.
89. Activités non sanitaires
. relations de coordination
intersectorielle
- . activités ludiques (fêtes,...).
91. Temps d'attente
92. Temps personnel
repas, boissons, toilettes,
activités personnelles.
93. Temps de déplacement
voyages, pannes, maintenance,
essence déplacement à l'intérieur
d'un établissement
94. Grand
95. Absence
notamment pour maladies
99. Autres activités indirectes
décrire l'activité sur fiche.

CODES DES ETABLISSEMENTS

SALE (Formation)

- 01 - Centre Santé Urbain (Tabriket)
- 02 - Dispensaire Urbain (Douar Cheikh Lamfadal)
- 03 - Dispensaire Rural (Bouknadel)
- 04 - Centre de Référence (Bettana)

AGADIR

- 11 - Centre Santé Urbain (Inezgane)
- 12 - Dispensaire Urbain (Quartier Industriel)
- 13 - Dispensaire Rural (Ait Amira)
- 14 - Centre Santé Rural (Biougra)
- 15 - Dispensaire Rural de Base (Taallat)
- 16 - Centre de Référence (Agadir)

BEN SLIMANE

- 21 - Centre Santé Urbain (Ben Slimane)
- 22 - Dispensaire Urbain (Incorporé au niveau du C.S.U.)
- 23 - Dispensaire Rural (Incorporé au C.S.R. Bouznika)
- 24 - Centre Santé Rural (Beni Yakhlef)
- 25 - Dispensaire Rural de Base (Mansouria)
- 26 - Formation à sélectionner (ou Equipe mobile)

KENITRA

- 31 - Centre Santé Urbain (Mohamed Diouri)
- 32 - Dispensaire Urbain (El Khansaa)
- 33 - Dispensaire Rural (Souk Tlat)
- 34 - Centre Santé Rural (Lalla Mimouna)
- 35 - Dispensaire Rural de Base (Mgadid)
- 316 - Centre de Référence (Hopital Drissi)

	Code activité	Code personnel	Decompte horaire	Heure début heure	Heure fin heure
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

CONSULTATIONS

- 11 Consultations hommes
- 12 Consultations femmes
- 13 Consultations enfants

S M I

- 51 PNI
- 52 PLMD
- 53 PLMC

ACTIVITES INDIRECTES

- 81 Triage
- 82 Supports informationnels
- 83 Préparation du travail
- 84 Gestion du poste de travail
- 85 Contrôle/supervision
- 86 Communication
- 87 Formation/recyclage du personnel
- 88 Education sanitaire
- 89 activités non sanitaires

SOINS

- 21 Soins hommes
- 22 Soins femmes
- 23 Soins enfants

P F

- 61 Consultation P F
- 62 IEC P F
- 63 Inscription P F
- 64 Pilule N A
- 65 Pilule A A
- 66 Condom
- 67 DIU
- 68 Autres méthodes P F
- 69 Référence

PROGRAMMES SANITAIRES

- 31 Hygiène du milieu
- 32 Hygiène scolaire
- 33 Lutte anti-paludéique
- 34 Lutte anti-bilharziose
- 35 Lutte anti-tuberculeuse
- 36 Diabète
- 37 Hypertension
- 38 RAA
- 39 MST

PSGA

- 71 Consultations PSGA
- 72 Examen PSGA
- 73 Test PSGA
- 74 Vaccin anti-tétanos
- 75 IEC PSGA
- 76 Inscription PSGA
- 77 Accouchement
- 78 Examen post-accouchement
- 79 Visite de relance PSGA

TEMPS

- 91 Temps d'attente
- 92 Temps personnel
- 93 Temps de déplacement
- 94 Congé
- 95 Absence

- 40 Autres programmes

- 99 Autres activités indirectes décrites l'activité sur fiche

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Appendix B
Time Use Survey Enumerator Training Materials

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GUIDE DE L'ENQUETEUR

1- Rappel des objectifs de l'enquête :

Il s'agit d'évaluer le temps requis pour réaliser des activités de soins de santé de base sur les provinces de Kénitra, de Benslimane et d'Agadir. Ces mesures serviront notamment à l'estimation des coûts des programmes sanitaires du Ministère de Santé Publique sur la base des proratas de temps dégagés.

ex. : si 20 % du temps d'un centre de santé est consacré au programme sanitaire Planning Familial, on considérera alors que le coût de cette activité représente 20 % des coûts variables.

2- Méthodologie d'enquête :

L'enquête sera réalisée auprès de chaque type d'établissement de soins de santé primaire sur chacune des provinces, à l'exception de l'hôpital rural.

Différentes méthodes d'évaluation des structures d'emploi du temps seront utilisées selon le type d'activités et le type d'établissement de façon à couvrir la totalité des activités fixes et des activités mobiles.

La méthodologie d'enquête est donc une combinaison de différentes méthodologies testées à savoir :

- l'observation directe à intervalles fixes qui étudiera les activités en mode fixe pendant les heures normales de travail.

la méthodologie P.F.A. qui étudiera de manière approfondie les activités du Planning Familial et du Programme de Suivi de la Grossesse et de l'Accouchement en mode fixe pendant les heures normales de travail.

- l'auto-évaluation pour les activités en mode mobile et pour toutes les activités en dehors des heures normales.

Les formulaires d'enquête sont donc fonction des méthodologies précédentes.

3- Durée d'enquête :

Chaque établissement sera observé pendant la journée de travail et ce, pendant une semaine ouvrable (5 jours à l'exception du samedi et du dimanche).

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4- Préparation, information et participation :

La mise en place de ce dispositif d'enquête nécessitera une réunion préalable d'explication et de sensibilisation du personnel médical et para-médical qui devra être faite la veille du lancement de l'enquête par les superviseurs et les enquêteurs des petits centres le dimanche après-midi (prévoir deux heures).

Ainsi lors des réunions d'information préalables il faut s'assurer du concours de tous les membres du personnel, en expliquant de façon claire les méthodologies utilisées, les objectifs à atteindre et surtout il faut veiller à dissiper toute sorte de malentendus concernant l'enquête. Il ne s'agit aucunement de contrôler les activités et les temps de travail du personnel mais d'évaluer le coût des programmes sanitaires. C'est donc un véritable contrat-confiance qu'il s'agit d'établir avec les enquêtés. Le superviseur devra donc veiller au respect de ce contrat par une entière disponibilité pour d'éventuels approfondissements et explications supplémentaires lors des deux premiers jours de la semaine d'investigation sur chacune des provinces.

Il est donc recommandé aux superviseurs et aux enquêteurs de mettre en place leur dispositif avant le commencement des activités des établissements des soins de santé primaire. Il est conseillé de se loger et de se nourrir de préférence sur le lieu même de l'enquête afin d'éviter tout problème de transport. En effet, tout retard peut être préjudiciable à la collecte des données. Ils veilleront à ne pas changer les habitudes de travail du personnel.

5- Conduite de l'enquête par les superviseurs :

Le superviseur sera chargé de veiller au bon remplissage des questionnaires notamment des fiches "P.F.A." pour les programmes Planning Familial et Programme du Suivi de la Grossesse et de l'Accouchement et des fiches "auto-évaluation" pour les activités mobiles et il veillera à calculer les décomptes horaires pour ces deux dernières méthodologies.

Il doit aussi contrôler le remplissage correct des fiches et il sera amené à sortir pour vérifier le déroulement de l'enquête sur les centres qui dépendent de sa responsabilité.

6- Présentation des approches méthodologiques et remplissage des formulaires d'enquête

a- Observation directe

Cette méthodologie note à des intervalles de temps réguliers (toutes les 2 minutes) les activités réalisées à un instant précis par le personnel médical et paramédical dans l'établissement.

Cette méthodologie suppose une connaissance des lieux, des activités spécialisées et des postes de travail.

Cette méthodologie permet le recueil d'un grand nombre de données relatives aux activités du personnel ce qui permet d'améliorer grandement la fiabilité des résultats et de pouvoir "extrapoler" par la suite de façon correcte.

Cette méthodologie n'est valable toutefois qu'en mode fixe.

L'enquêteur qui sera chargé d'appliquer cette méthodologie devra noter à chaque passage le code des activités de chaque membre du personnel à son tour. Il devra veiller à ne pas déranger le personnel dans son travail.

Néanmoins il pourra interroger le personnel dans le cas où l'activité réalisée n'est pas reconnue.

Il circulera donc à travers les différents postes de travail de l'établissement occupé par le personnel qu'il indiquera par leur code. Il inscrira de même l'heure de début et de fin d'une séquence de passage.

Il veillera particulièrement au respect de l'ordre numérique de passage afin d'avoir une base de comparaison correcte.

En cas d'absence du poste de travail, il faut rechercher la personne. On notera temps personnel si la personne n'est pas retrouvée.

b- Méthodologie P.F.A.

Cette méthodologie est une version simplifiée de la méthodologie dite d'Atlanta (Patient Flow Analysis) qui étudie les interactions entre les patients et le personnel.

Elle a pour avantage de pouvoir décrire dans le détail et en profondeur les activités réalisées avec un patient.

Elle s'applique en mode fixe .

Elle n'est utilisée que pour les programmes sanitaires Planning Familial et P.S.G.A.

Les fiches seront remplies par le personnel MSP des centres de référence et des services SMI. Une enquêtrice sera présente sur le service pour veiller au bon remplissage des fiches. Le personnel inscrira le n° du patient, l'établissement et son code, la date (jour et mois), le code de l'activité, le code personnel, l'heure de début et l'heure de fin de chacune des activités réalisées selon le canevas des activités P.F. et P.S.G.A. présenté en bas de page. Chaque ligne de la fiche "P.F.A." correspond à une activité et une seule. Ainsi un membre du personnel pourra être enregistré 4 fois s'il pratique 4 activités avec le même patient.

Le superviseur veillera à calculer le décompte horaire et à contrôler la codification de chacune des activités.

En cas de référence vers un autre membre du personnel, le patient portera, sa fiche avec lui et la fera remplir. Le dernier membre du personnel qui examinera le patient devra garder cette fiche.

c- L'auto-évaluation

Cette méthodologie consiste en un auto-remplissage et une auto-évaluation des temps consacrés aux activités réalisées.

Cette méthodologie est particulièrement adaptée au mode mobile car elle est d'un usage simple et évite ainsi l'affectation d'un enquêteur au personnel itinérant.

Il existe une seule fiche valable pour les trois types de stratégie de couverture : l'itinérance par visite à domicile, l'itinérance par point de contact et l'équipe mobile.

Elle servira aussi à enregistrer les activités extraordinaires du personnel en dehors des heures normales de travail (accouchement ou urgence la nuit...)

Ces fiches sont à remplir quotidiennement par les infirmiers itinérants (VAD ou points de contact).

Il doit remplir la fiche d'auto évaluation au fur et à mesure des activités.

Lors d'une sortie en équipe mobile, chaque membre du personnel remplira sa fiche individuelle.

Le personnel itinérant indiquera son nom, son code, l'établissement dont il relève et la date de sortie.

Il codifiera l'activité selon la nomenclature en bas de page en indiquant l'heure de début et l'heure de fin.

Le superviseur devra la aussi contrôler le code des activités et calculer le décompte horaire.

Il veillera aussi au bon approvisionnement en formulaires des enquêteurs

RAPPEL DES TACHES DES SUPERVISEURS

Travail préalable :

- Sensibiliser les responsables de chaque formation aux objectifs de l'enquête et au programme de travail de la semaine
- Fixer l'heure et le lieu pour une réunion pour sensibiliser le personnel de chaque formation sur les objectifs et sur le déroulement de l'enquête. Ces réunions doivent être fixées de préférence le dimanche après-midi et dureront environ deux heures. Le personnel médical et para-médical doit être formé pour le remplissage correct des fiches d'auto-évaluation et pour l'interprétation des codes d'activités. En plus, le personnel SMI recevra une formation complémentaire pour le remplissage des fiches P.F.A.
- Vérifier que les enquêteurs sont correctement logés et à proximité des établissements pour commencer à l'heure le travail de collecte de données.
- Recenser le personnel permanent de chaque formation avec les fiches prévues à cet effet, en numérotant chaque individu. Ces numéros serviront de code personnel pendant l'enquête
- Donner à chaque membre du personnel une fiche "Auto-évaluation" pour enregistrer ses activités en dehors des heures normales de travail. Les agents itinérants et les membres des équipes mobiles doivent être équipés de plusieurs exemplaires de cette fiche. Le superviseur doit écrire le nom et le code personnel de chaque membre du personnel sur les fiches avant de les remettre.
- Déterminer l'ordre de passage pour les observations directes pour chaque formation. Diviser les membres du personnel en deux si leur nombre dépasse onze (le nombre maximum des personnes qu'on peut observer avec une seule fiche).
- Préparer et distribuer aux enquêteurs une quantité suffisante des fiches "Observation directe" pour chaque jour de l'enquête avec le nom et le code de l'établissement ainsi que les noms du personnel et les codes personnels inscrits à l'avance.

Travail quotidien

- S'assurer que les enquêteurs ont commencé leur travail avant l'heure normale de travail de la formation.
- Visiter chaque formation sous sa responsabilité au moins deux fois par jour (le matin et l'après-midi) pour contrôler le travail des enquêteurs et pour répondre aux questions qui peuvent se poser.

- Contrôler la qualité des fiches "Observation directe" "P.F.A." pour s'assurer qu'elles ont été correctement remplies. Dans le cas contraire les corriger.
- Collecter les fiches "Auto-évaluation" du personnel itinérant la fin de chaque journée et les contrôler pour s'assurer de la qualité et de leur cohérence.
- Examiner les fiches "Auto-évaluation" du personnel itinérant pendant la semaine pour s'assurer de leur qualité et leur cohérence.
- Faire le décompte horaire des fiches "P.F.A." et "Auto-évaluation" à la fin de la journée.
- Remplir la fiche "Récapitulatif des heures du travail" chaque soir pour chaque membre du personnel. Ajuster les fiches "Observation directe" pour qu'elles soient cohérentes avec les fiches "Auto-évaluation".
Si un membre du personnel a été considéré comme absent alors qu'il était en itinérance, il faut nettoyer le code "absence" de la fiche "Observation directe".
- Être disponible pour discuter du déroulement de l'enquête avec le responsable d'ICONE.

Travail à la fin de semaine :

- Collecter les fiches "Auto-évaluation" de tout le personnel de la formation en utilisant la fiche de recensement du personnel de chaque formation pour s'assurer que personne n'a été oublié.
- Terminer tout le travail de décompte horaire des fiches "Auto-évaluation" et "P.F.A."
- Contrôler toutes les fiches de l'enquête pour s'assurer que toute l'information a été enregistrée.
- Assembler toutes les fiches et les livrer au responsable d'ICONE pour la saisie.

DEFINITION

Activités directes : ce sont toutes les activités relatives aux programmes sanitaires

Activités indirectes : autre activité comme le triage, les supports informationnels et, le temps d'attente

Consultation médicale : réalisée par un médecin.

Consultation para-médicale : réalisée par le personnel para-medical

Soins : peuvent être réalisés soit par le médecin (soins complexes) soit par le personnel para-médical (injections, pansements, infections, lavage d'oreilles)

IEC : Information-Education-Communication : c'est une activité tendant à expliquer et à motiver le patient.

ES : toute forme de décharge verbale liée au travail du personnel.

Communication/Information : communication entre le personnel sur le lieu de travail et communication au téléphone.

Formation/Recyclage du personnel : c'est une activité structurée

Inscription : toute inscription liée à un patient sur carnet de santé, ordonnance, fiche, registre.

Prélèvements : goutte épaisse, crachats, sang, mucus.

Contrôle/supervision : contrôle et supervision du travail réalisé par le personnel

Préparation du travail : préparation du matériel et des locaux.

Activité administrative : activité administrative, intendance.

Supports informationnels : activité de recueil et établissement de données statistiques des rapports périodiques

Relation de coordination intersectorielle : avec les représentants des autres ministères (Intérieur, Collectivités Locales, Agriculture, Travaux Publics...)

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PLAN DETAILLE DE LA FORMATION

Lundi 12 février :

- 9 h : Ouverture par le Dr. ZAROUF et Mr. AZELMAT.
- 9 h 30 : Présentation des objectifs de l'enquête et des méthodologies d'enquête : FASSY FEHRY et Dr. KNOWLES
. Observation directe
. Auto-évaluation
. P.F.A.
- 10 h : Plan d'action de l'enquête : Mme. KILAOUI
Rôle et responsabilité des superviseurs
Rôle et responsabilité des enquêteurs
- 10 h 30: Pause
- 10 h 45: Discussion sur les activités et les codifications
- 12 h 30: Déjeuner
- 14 h : Observation directe
- 15 h : Auto-évaluation
- 15 h 30: P.F.A. pour le personnel SMI
- 16 : Pause
- 16 h 15: Résumé et plan de travail de la journée du mardi

Mardi 13 février

- Matin : - Formation pratiqué sur le terrain à Salé.
- Retour à la Division de la Population et déjeuner.

Après-midi :

- 14 h à 16 h: évaluation du test
- 16h : Pause
- 16 h 15 : Programmation et plan de travail de la journée du mercredi.

Mercredi 14 février :

Matin : test sur le terrain

Retour à la Division de la Population et déjeuner.

Après-midi :

- 14 h à 16 h : évaluation du test
- 16 h : clôture par le Dr MECBAL

Appendix C
Cost and Service Data Collection Forms

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Fiche de Travail
Collecte de Statistiques de Service

Fiche Etabli Par : _____

Formation: _____

Province : _____

	Semaine		L'annee 1989		Observations
	Fixe	Mobile	Fixe	Mobile	
Consultations Medicales					
hommes	_____	_____	_____	_____	_____
femmes	_____	_____	_____	_____	_____
enfants	_____	_____	_____	_____	_____
=====					
Consultations Para-Med.					
hommes	_____	_____	_____	_____	_____
femmes	_____	_____	_____	_____	_____
enfants	_____	_____	_____	_____	_____
=====					
Soins					
hommes	_____	_____	_____	_____	_____
femmes	_____	_____	_____	_____	_____
enfants	_____	_____	_____	_____	_____
=====					
Injections					
hommes	_____	_____	_____	_____	_____
femmes	_____	_____	_____	_____	_____
enfants	_____	_____	_____	_____	_____
=====					
Lutte Anti-Paludique					
# Lames (goute ep.)	_____	_____	_____	_____	_____
# Gites Prospectes	_____	_____	_____	_____	_____
=====					
Lutte Anti- Bilharziose					
# Prelev. Urine	_____	_____	_____	_____	_____
# Gites Inspectes	_____	_____	_____	_____	_____
=====					
Lutte Anti-Tuberculose					
# Crachats (Lames prep.)	_____	_____	_____	_____	_____
# Malades Prises en chg.	_____	_____	_____	_____	_____
=====					
Lutte Contre le Diabete					
# Injection d'Insulin	_____	_____	_____	_____	_____

=====

Veillez noter que si les categories ne s'appliquent pas a votre formation, il faut mettre M.A. (non applicable) dans ces cases. Exemple: S'il n'y a pas de bilharziose chez vous, mettez M.A. dans tous les cases Lutte Anti-Bilharziose.

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FICHE DE TRAVAIL
Collecte de Statistiques de Service

Semaine de L Année 1989
fixe Mobile fixe Mobile Observations

Lutte Contre le hypertension

Tensions mesurees _____

Hygiene Scolaire

Eleves Ex. (med/para) _____

Controle Visuelle _____

Hygiene de Milieu

Etab. Alm. Insp. _____

Pt. Eau desinf. _____

PMI

Prestations vaccinales _____

Ref Vac Mob(tts sortes) _____

PLMD.

Enfants Traites _____

Demonstrations (SRO) _____

Sachets SRO Distrib. _____

PLMC

Enfants Peses _____

Demonstrations _____

Sachets Actamine Distr _____

Sterogyl Distribues _____

PF

Visites Initiales _____

DIU (inser + reins) _____

DIU (retrait...) _____

Cons. Pil Init(nv acc) _____

Cons Pil Ret (utiltrc) _____

Visites Condoms (init) _____

Visites Condoms (ret) _____

Condoms Distribues _____

Plaqs. Pilules Distr. _____

Ref. Mob. (DIU) _____

Ref. Ligature Trompe _____

PSGA

Visite Pre-Natale _____

Visite Post-Natale _____

Vacc. anti-Tetanique _____

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____

Nom de formation : _____

Province : _____

LISTE DU MATERIEL DE BUREAU DURABLE 1989

.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
Agrafeuse	_____	_____	_____	_____
Armoire vestiaire (sp/dbl)	_____	_____	_____	_____
Banc Semi-Metallique	_____	_____	_____	_____
Bureau du Major	_____	_____	_____	_____
Bureau du Medecin	_____	_____	_____	_____
Chaise Bur. Semi-Metalliq	_____	_____	_____	_____
Chaise Visiteur	_____	_____	_____	_____
Classeur Metallique	_____	_____	_____	_____
Drapeau National	_____	_____	_____	_____
Fauteuil Visiteur	_____	_____	_____	_____
Machine a calculer elect.*	_____	_____	_____	_____
Machine a ecrire P. Ch.*	_____	_____	_____	_____
Megaphone	_____	_____	_____	_____
Porte Manteau	_____	_____	_____	_____
Portrait de S.M. le roi	_____	_____	_____	_____
Projecteur Diapo.	_____	_____	_____	_____
Radiateur Electrique*	_____	_____	_____	_____
Table de decharge	_____	_____	_____	_____
Tableau d'affichage	_____	_____	_____	_____
Tabouret	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

* Pour les cas de materiel important comme radiateur, machine a calculer, projecteur etc, veuillez citer le marque, modele, et annee de fabrication.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____

Nom de Formation: _____

Province : _____

PRODUITS D'HYGIENE CONSOMMES EN 1989

.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS
Alcool a bruler (litre)	_____	_____	_____	_____
Balai a coco	_____	_____	_____	_____
Balai garde robe	_____	_____	_____	_____
Balai Paille de riz	_____	_____	_____	_____
Balayette W.C.	_____	_____	_____	_____
Eau de Javel (litre)	_____	_____	_____	_____
Eponge Double 180 x 95	_____	_____	_____	_____
Flytox (litre)	_____	_____	_____	_____
Gresil (litre)	_____	_____	_____	_____
Jex (fin)	_____	_____	_____	_____
Nab	_____	_____	_____	_____
Papier Hygienique	_____	_____	_____	_____
Pompe Pulverisateur	_____	_____	_____	_____
Raclette	_____	_____	_____	_____
Sanicroix (litre)	_____	_____	_____	_____
Savon Morceau (bte 250 g)	_____	_____	_____	_____
" Liquide	_____	_____	_____	_____
" Poudre	_____	_____	_____	_____
Serviette	_____	_____	_____	_____
Serpillere (50 x 80)	_____	_____	_____	_____
Torchon (simple ou double)	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Liste Etablie Par : _____

Formation: _____

Province : _____

LISTE D'EQUIPEMENT MEDICALE ET MATERIEL TECHNIQUE DURABLE 1989

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
Abaisse Langue en Acier	_____	_____	_____	_____
Accumulateurs	_____	_____	_____	_____
Appareil a Tension	_____	_____	_____	_____
Armoire a Med. (2 portes)	_____	_____	_____	_____
Aspirateur (2 FL) el.	_____	_____	_____	_____
Balance Adulte *	_____	_____	_____	_____
Balance Pese Bebe *	_____	_____	_____	_____
Bassin de lit	_____	_____	_____	_____
Bassine en fer (50 cm)	_____	_____	_____	_____
Brancard Pliant Metalliq.	_____	_____	_____	_____
Binette avec manche	_____	_____	_____	_____
Bocal en verre graduee	_____	_____	_____	_____
Blouse de Corvee Blanche	_____	_____	_____	_____
" Corvee Bleue	_____	_____	_____	_____
" d'infirmiere	_____	_____	_____	_____
Boite Autoclave (120 x 140)	_____	_____	_____	_____
Boite Instruments (GM /PH)	_____	_____	_____	_____
Boite pour Seringues GM/PH	_____	_____	_____	_____
Calot d'infirmier	_____	_____	_____	_____

* En cas d'equipement important (eg. sterilisateur, refrigerateur, table gynecologique, etc.), veuillez citer le marque, modele, et annee de fabrication au colonne observations.

LISTE D'EQUIPEMENT MEDICALE ET MATERIEL TECHNIQUE DURABLE 1989
.....

DESIGNATION	QTE	PU	P7	OBSERVATIONS *
Casque				
Chariot Roulant				
Ciseaux de couturiere				
Clef a Griffe				
Cocotte a vapeur GM ou PM?				
Congelateur				
Corbeille a Papier				
Couvertures mi-laine ad.				
Couvre Lit coton 240 x 160				
Cuvette (Inox ou plast)				
Draps (adult ou enfant?)				
Entonnoir (verre ou plast)				
Escabeau Metallique				
Flacon Verseur				
Gueridon Roulant en tole				
Haricot				
Hote a linge				
Inhalateur				
Lampe d'examen				
Lampe a alcool				
Lit de camp metallique				
Machine a Laver (el 5kg)				
Marteau a Reflexe (enf/ad)				
Matelas (GM ou PM?)				
Metre Ruban				

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Liste Etablie Par : _____ Formation: _____
Province : _____

LISTE D'EQUIPEMENT MEDICALE ET MATERIEL TECHNIQUE DURABLE 1989
.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
Oreiller Kapok	_____	_____	_____	_____
Paravent Metallique	_____	_____	_____	_____
Pelle a Poussiere	_____	_____	_____	_____
Pelvimetre	_____	_____	_____	_____
Peson	_____	_____	_____	_____
Pinces a _____	_____	_____	_____	_____
" _____	_____	_____	_____	_____
" _____	_____	_____	_____	_____
" _____	_____	_____	_____	_____
Plateau a Instrument (24 x 30)	_____	_____	_____	_____
Porte Vaccins	_____	_____	_____	_____
Poubelle (GM ou PM)	_____	_____	_____	_____
Pulverisateur a Liquide	_____	_____	_____	_____
Rechaud a Gaz * (2 feux)	_____	_____	_____	marque _____ annee _____ modele _____
Refrigerateur (el. ou gz?*) (230 litres)	_____	_____	_____	marque _____ annee _____ modele _____
Sacoche pour inf. brevete	_____	_____	_____	_____
Serreau de Medecin	_____	_____	_____	_____
Seau Galvanise	_____	_____	_____	_____
Sommiers Metallique	_____	_____	_____	_____
Sonde Cannule	_____	_____	_____	_____
Speculum	_____	_____	_____	_____
Sterilisateur (el. ou gz?*)	_____	_____	_____	marque _____ annee _____ modele _____
Stetoscope	_____	_____	_____	_____

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LISTE D'EQUIPEMENT MEDICALE ET MATERIEL TECHNIQUE DURABLE 1989
.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
Table Gynecologique *				
Table d'examin Kermisson*				
Table Roulant (2 etages)				
Tablier d'infirmier				
Tablier de Medecin				
Tale d'oreiller				
Tenaille				
Tire Lait				
Toile Ciree (rouleau 25m)				
Toile Pour Paravent				
Toise Pour Adulte				
Traversin Kapok en 90 cm				
Vitrine a Instruments (1 porte)				
Voile d'infirmiere				
Autres a preciser				

* En cas d'equipement important (eg. sterilisateur, refrigerateur, table gynecologique, etc.), veuillez citer le marque, modele, et annee de fabrication au colonne observations.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____ Formations: _____
Province : _____

PRODUITS ET FOURNITURES TECHNIQUES CONSOMMES (PAR PROGRAMME) 1989

.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
-------------	-----	----	----	----------------

PMI

No. dose DT Coq				
No. dose Polio				
No. dose VAR				
No. dose VAT				
No. dose BCG				
No. dose Tuberculine				
Autres a preciser				

.....

PSGA

Formol (litre)				
Labstix (bte. de ___)				
Mercryl				
Guide Surveillance Gross.				
Autres a preciser				

.....

PLND

SRO Sachets				
Autres a preciser				

.....

PLMC

Actamine Sachets				
Sterogyl ampoule				
Autres a preciser				

.....

LAP

No. Lames				
Malocide 50 mg.				
Nivaquine 300 mg.				
Carnet A 20				
Autres a preciser				

.....

NB: Attention, il ne faut pas compter deux fois le meme produit (cad. les elements deja cites sur la liste de medicaments consommes ou celle d'equipement medical ne doivent pas etre mentionnes une deuxieme fois ici.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etabli Par : _____

Formation: _____

Province : _____

PRODUITS TECHNIQUES ET FOURNITURES CONSOMMES (PAR PROGRAMME) 1989

.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS *
-------------	-----	----	----	----------------

PF				
Condoms	_____	_____	_____	_____
DIU	_____	_____	_____	_____
Lofemerol	_____	_____	_____	_____
Ovrettes	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

LAT				
INH	_____	_____	_____	_____
PZA	_____	_____	_____	_____
Rifinah 300	_____	_____	_____	_____
Rifinah 150	_____	_____	_____	_____
Streptomycine	_____	_____	_____	_____
Carnet Bacilloscopie	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Hygiene de Milieu				
Eau de Javel (litre)	_____	_____	_____	_____
Chlore	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____

Hygiene Scolaire				
Pommade Opthal. 1% tube	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____

! S'il y a autres programmes qui ont envoyes autres produits technique durant l'annee 1989, veuillez les citer sur un autre feuille de papier.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____

Formation: _____

Province : _____

LISTE DE FOURNITURES DE BUREAU (FONGIBLE) CONSOMMES EN 1989

.....

DESIGNATION	QTE	PU	PT	OBSERVATIONS
Ampoule	_____	_____	_____	_____
Cahier de 100 pages	_____	_____	_____	_____
Cahier Palmier (GM ou PM?)	_____	_____	_____	_____
Carnet (bon pour)	_____	_____	_____	_____
Chemises Cartones	_____	_____	_____	_____
Colle	_____	_____	_____	_____
Crayons	_____	_____	_____	_____
Dateur	_____	_____	_____	_____
Encreur	_____	_____	_____	_____
Envelopes (unites)	_____	_____	_____	_____
Epingles (bte. de)	_____	_____	_____	_____
Feutres	_____	_____	_____	_____
Gommes	_____	_____	_____	_____
Papier collant (scotch)	_____	_____	_____	_____
Papiers (rames)	_____	_____	_____	_____
Puneuses (bte. de)	_____	_____	_____	_____
Papier Carbone(feuilles)	_____	_____	_____	_____
Registre Grand Modele	_____	_____	_____	_____
Regles en plastique	_____	_____	_____	_____
Stylos	_____	_____	_____	_____
Trombones (bte. de)	_____	_____	_____	_____
Autres a preciser	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____ Formation: _____
 Province : _____

LISTE DE MATERIEL MEDICALE (FONGIBLE) 1989

DESIGNATION	OTE	PU	PT	OBSERVATIONS
Abaisse Langue Ad. (bois) (Boite de)				
Abaisse Langue Enfant (") (Boite de paires)				
Doigtier Caoutchouc(2 dgt) (boite de paires)				
Doigtier Caoutchouc(1 dgt) (boite de paires)				
Gants en Latex (boite de paires)				
Seringues a _____				preciser reutil, ou jetable
Seringues a _____				
Seringues a _____				
Seringues a _____				
Seringues a _____				
Thermometres				
Autres a preciser				

NB: Attention, il ne faut pas compter deux fois le meme produit (cad. les elements deja cites sur la liste de medicaments consommes ou celle de produits et fournitures technique de programme) ne doivent pas etre mentionnes une deuxieme fois ici.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____ Formation: _____
Province : _____

LISTE DES MOYENS DE MOBILITES EN 1989
(Y compris leur coute de fonctionnement)
.....

DESIGNATION	OTE	PU	PT	OBSERVATIONS*
-------------	-----	----	----	---------------

Voitures:

_____	_____	_____	_____	_____
(marque/modele/annee)				
Essence (litres)				
Lubrifiants				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
_____	_____	_____	_____	_____
.....

_____	_____	_____	_____	_____
(marque/modele/annee)				
Essence (litres)				
Lubrifiants				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
_____	_____	_____	_____	_____
.....

_____	_____	_____	_____	_____
(marque/modele/annee)				
Essence (litres)				
Lubrifiants				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
_____	_____	_____	_____	_____
.....

Autres a preciser _____

* Veuillez citer le nombre de kilometres parcouru en 1989 et le kilometrage existant le 31 decembre 1989.

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LISTE DE MOYENS DE MOBILITE EN 1989 p 2 velomoteurs
(Y compris couts de fonctionnement)

DESIGNATION	OTE	PU	PT	OBSERVATIONS
.....				
Velomoteurs:				
.....
(marque/modele/annee)				
Essence (litres)				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
.....
(marque/modele/annee)				
Essence (litres)				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
.....
Autres a preciser				
.....
(marque/modele/annee)				
Essence (litres)				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
.....
.....
Essence (litres)				
Total Pieces de Rech.				
Entretien (main d'oeuv)				
.....
.....

* Veuillez citer le nombre de kilometres parcouru en 1989 et le kilometrage existant le 31 decembre 1989.

Fiche De Travail
Collecte des Données Financières

Liste Établie Par : _____ Formation: _____
Province : _____

LISTE DE MEDICAMENTS ET FOURNITURES MEDICALES (NON-PROGRAMME) CONSOMMES EN 1989

DESIGNATION	CONDITIONNEMENT	QUANTITE CONSOMMEE PAR MOIS												OTE			
		J	F	M	A	M	J	J	A	S	O	N	D	TTL	PU	PT	
Aspirine Comprimés	Bte 1000																
Aspirine Suppor.	Bte 50																
Aldomet Comp.	Bte 500																
Atropine Inj.																	
Cureomycine 0,3%	Unite																
Bipencilline 1m	Bte 50 fl																
Buscopan Ampoule	Bte 6 am																
Bleu de Methyl	Litre																
Chloramphénicol	Bte 100																
Cortonal Comp.	Bte 100																
Daonil	Bte 30 cp																
Extencilline 1200	Bte 50 fl																
Extencilline 600	Bte. 50 fl																
Flagyl	Bte 100 cp																

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LISTE DE MEDICAMENTS ET FOURNITURES MEDICALES (NON-PROGRAMME) CONSOMMES EN 1989

DESIGNATION	CONDITIONNEMENT	QUANTITE CONSOMMEE P K MOIS												OIE	PU	PT	
		J	F	M	A	M	J	J	A	S	O	N	D				TTL
Glibenclamide Cp	Bte. 30 cp																
Gardenal 0,50	Bte. 1000 cp																
Glucose n 5% (?)																	
Gresolofuvime 500 gr	Bte. 100 cp																
Hydrocortisone 100 mg	Bte. 50 amp																
Hostocycline 500mg	Bte. 100 cp																
Insuline Ordinaire	Unite																
Insuline Retard	Unite																
Insuline semi Lente	Unite																
Leallix Cp.	Bte. 100 cp																
Maslox Comprime	Bte. 200 cp																
Phenergan Supp.	Bte. 50																
Primperan	Bte. 12 amp																
Pommade d'iosine	Bte. 250 g.																
Pommade de zinc	Bte. 250 g.																
Pommade d'alibour	Bte. 250 g.																
Suppos. Anti-Hemorr.	Bte. 50																
" Pulm. enfant	Bte. 50																

Fiche De Travail
Collecte des Donnees Financieres

Liste Etabli Par : _____

Formation: _____

Province : _____

LISTE DE MEDICAMENTS ET FOURNITURES MEDICALES (NON-PROGRAMME) CONSOMMES EN 1989

DESIGNATION	CONDITIONNEMENT	QUANTITE CONSOMMEE PAR MOIS												OTE		
		J	F	M	A	M	J	J	A	S	O	N	D	TL	PU	PT

Serum Anti-Tetanique Bte. 10 amp.

Theophylline Suppos Bte. 50

Theophylline Ampoule Bte. 5 amp.

Xylocaine Bte. 10 fl 10ml

Autres a preciser

Alcool Iode litre

Bande en gaze Pt. 50 unites

Diogaz Pansement GM

Bleu de Meth. litre

Compresse en 35x45Pt. 100 unites

Coton hydro 250 Unite

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LISTE DE MEDICAMENTS ET FOURNITURES MEDICALES (NON-PROGRAMME) CONSOMMES EN 1989
.....

DESIGNATION	CONDITIONNEMENT	QUANTITE CONSOMMEE PAR MOIS												TTL	PU	PT	
		J	F	M	A	M	J	J	A	S	O	N	D				
Coton cord	500 Unite																
Eau distille	Bte.																
Fil de lin	Bte. de																
Fcmol	Bte. 500																
Labsix	100																
Sparadraps	0,12																
Sparadraps	0,07																
Vaseline Blanch																	
Violet de Gentian	Litre																
Autres a preciser																	

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Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____

Formation: _____

Province : _____

*Batiments et Terrain

Type de Batiment	Dimensions M	Materiaux de construction toit murs	Date de const.	Observations
#1		dalle tuile tole en dur prefab,		
#2				
#3				
#4				
#5				
#6				

Terrain

La Superficie de l'enceinte (longeur X largeur)

* y compris les maisons des med-cins, des infirmiers et tout personnel de la formation qui logent dan les batiments du gouvernement.

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____ Province : _____

Services Publiques Consommes en 1989

FORMATIONS	EAU	ELECT RICITE	TELE PHONE	FRAIS POSTE	GAZ BUTANE	OBSERVATIONS
------------	-----	-----------------	---------------	----------------	---------------	--------------

Centre de Ref.:

Centre de sante
Urbain:

Dispen. Urbain:

Centre Sante
Rural:

Dispen. Rural:

Disp. Rural
de Base:

Bureau Med.
Provincial:
(cheferie)

Bureau SIAAP
(Cheferie):

Laboratoire
SIAAP:

Service
Entretien:

Parc Auto:

Autres a preciser

OK

Fiche De Travail
Collecte des Donnees Financieres

Liste Etablie Par : _____

Formation: _____

Province : _____

PRODUITS ET MATERIEL TECHNIQUES CONSOMMES (PAR PROGRAMME) 1989
.....

DESIGNATION _____ QTE _____ PU _____ PY _____ OBSERVATIONS *

1
Suite de Programme . _____

Suite de Programme. _____

1

.....

NB: Attention, il ne faut pas compter deux fois le meme produit (cad. les elements deja cites sur la liste de medicaments consommes ou celle d'equipement medical ne doivent pas etre mentionnes une deuxieme fois ici.

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