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Abt. Associates Inc.

PHCI Baseline Survey Report

Building the Foundation for Quality Services in Primary Health Care in Jordan

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Prepared for:

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PHCI
PRIMARY HEALTH CARE INITIATIVES

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Abbreviations

JPFHS	Jordan Population and Family Health Survey
MOH	Ministry of Health
N	Number
PIR	Performance Improvement Review
PHC	Primary Health Care
PHCI	Primary Health Care Initiatives
SPSS	Statistical Package for the Social Sciences
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Introduction

The purpose of the baseline survey is to determine the level of quality of service at primary health care centers prior to the initiation of major interventions by the PHCI Project. The survey, conducted in May 2000, will be repeated in year five of the Project and compared to the baseline to identify changes in service quality.

The research questions guiding the baseline survey were developed to answer the general question: how do the facilities perform on each of the elements that constitute the conceptual framework? The specific questions are as follows:

1. Do the facilities demonstrate a client friendly, accessible, and safe environment? (*Environment and Safety*)

2. Do the facilities demonstrate the capacity to plan, staff, organize, implement, and maintain health delivery services? *(Management Systems*)

3. Do the facilities offer health promotion programs that increase health awareness and demand for services? *(Health Promotion)*

4. Do the facilities maintain a motivated, trained, and supervised staff capable of providing appropriate, safe and effective services? *(Technical Competence)*

5. Do the facilities meet client expectations and needs by providing appropriate, safe and effective services? *(Client Satisfaction)*

6. Do the facilities provide appropriate and effective services that comply with standards and respond to client health needs? *(Client Care)*

Methodology

In its design and structure, the baseline survey reflects the multi-layered nature of the measurement of quality. To ensure that the survey presents a comprehensive picture of the quality elements, information pertaining to each of 25 quality indicators has been gathered from a variety of data sources, using a range of data collection methods. The survey collects information on each quality indicator from the perspective of key stakeholders, using interviews, structured clinic observations; and reviews of clinic records. To facilitate data collection, the survey is divided into the following seven sections: facility observations, client and facility record reviews, interviews with clients, the manager, staff and members of the community committee. The survey was conducted in thirty health centers across Jordan, with data collected over a two-week period in May, 2000.

In the interest of feasibility and relevance, a decision was made to evaluate the quality of care in centers serving the largest percentage of the population. Thirty health centers were randomly chosen from a pool of sampling units, which included geographic representation and a client volume of over 120 visits per week. This allowed for an adequate data collection base and gave the maximum precision within

the limits of the survey. Thus survey results may be generalized to the 216 centers that meet the baseline criteria of clients served and may not be as applicable to the 122 low volume centers.

The following pattern of data collection was used at each of the 30 health centers:

DATA SOURCES	NUMBER PER HEALTH CENTER
1. Facility Review	1
2. Facility Record Review	1
3. Client Record Review	10
4. Client Interview	25
5. Manager Interview	1
6. Staff Interviews (Physician/ Nurse/ Midwife)	1 each
7. Community Committee Member Interview	2

Findings and Conclusions

The average rating for all sampled PHC centers on each of the 6 quality elements was calculated. The ratings range from a high of 81% for Client Satisfaction to a low of 40% for Management Systems. On three of the six elements (Technical Competence, Client Care, and Management Systems) PHC centers achieved ratings of less than 60%, suggesting the need to focus improvements in these areas.

Each of the six quality elements is composed of 2 to 8 indicators, totaling 25 measurable performance indicators. The range of achievement for these indicators is from 92% for the indicator “reproductive health care provided” to 16% for the indicator “use of management information.”

Environment and Safety: this quality element received an overall rating of 64%, ranking it second of the 6 elements. The four areas of performance measured to assess this element are: appropriate service environment, infection prevention readiness, client perception of access, and facilitation of access. The survey results show that physical conditions for service delivery are generally acceptable and that improvements are most needed in the area of infection prevention.

Management Systems: this element received an overall rating of 40%, ranking it lowest of the 6 elements. The five performance indicators comprising this element included supply system, staff management, planning, referral systems and use of management information. Specific problem areas highlighted by the survey results suggest the need for improvements in staff management, job descriptions, planning, referral procedures, and use of information for planning and organizing services. Drug supply management received a high rating but the results point to problems in maintaining appropriate stock levels.

Health Promotion: this element, rated at 67%, ranked third. The three areas of performance selected to assess this element include availability of health education, planning for health education, and promotion of health services (not scored). The variance in scores for the indicators “health education available” and “health education plans in place”, reveals the gap between planning for and participation in health

education activities at the health center. Survey results also highlight the need for active promotion of health center services to the community. According to the data, the overwhelming majority of clients have learned about clinic services from friends and family, few having learned about the services from sources such as radio, print or visual media promoting the health center programs.

Technical Competence: PHC centers received an overall rating of 53% on this fourth ranked quality element measured though interviews and observations to document the effectiveness of supervision, staff training, and availability and use of protocols and standards. Supervision reveals weaknesses such as infrequent meetings and insufficient attention to the use of supervisory methods supporting performance improvements. The findings indicate that a system is needed to assure that managers and staff participate in a variety of continuous educational programs. Survey results show that neither protocols nor standards of care are available to assist managers in guiding and developing staff performance.

Client Satisfaction: PHC centers were rated 78% for this element, the highest among the six elements. The survey measured Client Satisfaction through guided exit interviews to obtain client views regarding their satisfaction with health center services, facilities and staff. Despite this rating, client suggestions for improving quality of care indicate that improvements may be needed. When asked, 70% of clients had concrete suggestions for change. Their comments reinforce the need to address issues such as limited time for client provider contact and improvements in the availability of drugs.

Client Care: PHC center achievement on this quality element was 45% ranking it fifth. Eight indicators measured the quality of client care for sick adults and children and for women seeking reproductive health services. Data collection used client and clinic records as a surrogate measure of service quality in history taking, physical assessment, diagnostic procedures, treatment, health education counseling, and follow-up care. The results show adequate to good performance on reproductive health care indicators but ratings on indicators measuring quality care for adults and children are low. Follow up care and preventive health services also received low ratings.

Although current care for MCH services was highly rated, utilization is relatively low pointing out the need for expanded outreach through promotion and education to provide opportunities for women to obtain the full range of reproductive health services during and after pregnancy.

Summary and Recommendations

The Primary Health Care Initiative project over its 5-year existence is designed to improve the quality of care and access to primary health care services. Thus many of the baseline findings will be addressed through the Project and MOH comprehensive inputs to quality improvement. These include promoting the integration of service delivery and supporting the complementary activities of training, applied research, management support systems, health communication and marketing, procurement of essential equipment and the selective renovations of facilities. To focus on client needs, a family health care model, which emphasizes reproductive, child, and adult health and health promotion, is being created. The model will be implemented by a

family health provider team consisting of a qualified doctor and nurse, trained to deliver services in a holistic manner focusing on the needs of every member of the family.

However many of the problems identified through the baseline survey go beyond the scope of the project inputs and point to the need for policy level decisions. The project can, through its six components, substantially contribute to the implementation of activities resulting from these decisions. The following recommendations are examples of areas, which require further attention:

- equitable access to primary health care across all levels of the population
- infection prevention procedures and training and infrastructure readiness to improve safety for clients and staff
- equitable deployment of staff resources and staff responsibilities.
- criteria to guide the appropriate staffing of health facilities
- private-public sector partnerships
- increase in and better distribution of female doctors and use of trained midwives to insert IUDs
- review of incentives, both monetary and non-monetary, to increase staff motivation and satisfaction
- study of the PHC center supply system to review stock maintenance and supply management procedures
- creation of central level body to oversee and reinforce project inputs to ensure sustainability of improved quality of services at the PHC center level.

BASELINE SURVEY: QUALITY OF CARE IN PRIMARY HEALTH CARE CENTERS

1. INTRODUCTION

1.1 Background

The Primary Health Care Initiatives (PHCI) Project is a five-year USAID funded project covering the period from August 1999 through July 2004. The goal of the project is to increase access and demand for quality services at MOH Primary Health Care (PHC) center facilities across Jordan. In order to reach this goal, 6 major inputs have been identified and will be implemented by the PHCI project with the MOH to improve the quality of care.

The Project inputs are:
1) introducing and sustaining a quality assurance program;
2) training PHC center staff;
3) strengthening health communication and marketing;
4) improving the health management information system;
5) strengthening the capacity at the governorate level to conduct and utilize research;
6) renovating selected facilities and providing a standardized equipment package to each primary health care center.

1.2 Purpose

The purpose of the baseline survey is to determine the level of quality of service at primary health care centers prior to the initiation of major project interventions. The survey, conducted in May 2,000, will be repeated in year five of the project and compared to the baseline to identify changes in service quality.

The baseline enables the PHCI staff and MOH counterparts to define and prioritize areas of need and to shape the scope of project inputs to maximize the potential for quality improvement. Discussions of the baseline survey findings with health center and governorate staff should also increase understanding of the components of quality and the importance of implementing quality improvement strategies.

1.3 Conceptual Framework

The Project has defined a well performing PHC center as one that:
1) has a pleasant and safe environment;
2) has strong facility management and organization that includes managing and utilizing information;
3) offers an effective health communication and promotion program involving the community;
4) encourages a learning environment to promote the technical competence and support of its staff;
5) fosters the satisfaction of clients; and
6) stresses the quality of client care.

The baseline survey's conceptual framework encompasses all six essential elements in establishing the structure for measuring quality of care. The conceptual framework was created by applying accepted guidance for both quality assurance and quality improvement to the Jordan PHC center setting, and was influenced by several sources, including the Donabedian model[1] of health services delivery, the Judith Bruce framework[2] for client satisfaction with family planning services, and similar evaluation tools.

For a more complete description of the conceptual framework and its relationship to the baseline survey's structure and instrumentation, see Annex 1.

2. RESEARCH QUESTIONS

The research questions guiding the baseline survey were developed to answer the general question: how do the facilities perform on each of the elements that constitute the conceptual framework? The specific questions are as follows:

1. Do the facilities demonstrate a client friendly, accessible, and safe environment? (*Environment and Safety*)

2. Do the facilities demonstrate the capacity to plan, staff, organize, implement, and maintain health delivery services? *(Management Systems*)

3. Do the facilities offer health promotion programs that increase health awareness and demand for services? *(Health Promotion)*

4. Do the facilities maintain a motivated, trained, and supervised staff capable of providing appropriate, safe and effective services? *(Technical Competence)*

5. Do the facilities meet client expectations and needs by providing appropriate, safe and effective services? *(Client Satisfaction)*

6. Do the facilities provide appropriate and effective services that comply with standards and respond to client health needs? *(Client Care)*

3. METHODOLOGY

Baseline survey implementation was a multi-step process that included the following: instrument development and field-testing, sample selection, data collection and management, and data analysis.

3.1 Instrument Development

The baseline survey instrument was developed after reviewing the existing quality literature and survey instruments designed to measure service quality. These frameworks and instruments were adapted to respond to the realities of the Jordan PHC center setting. The resulting survey interprets and transforms accepted quality guidance into six distinct elements or categories, providing a comprehensive picture of service quality at primary health centers. Within the framework, each element is further

divided into several measurable performance indicators (see Annex 2 Elements and Indicators). The six elements and their corresponding indicators are:

Environment and Safety refers to the facility's provision of an environment that is client friendly and accessible, where infection prevention practices are implemented and monitored to ensure clients' safety.

Indicators

- *Appropriate service environment*: hygienic conditions, physical privacy and properly maintained equipment in the facility
- *Infection prevention readiness:* presence of prerequisite conditions for effective infection prevention including procedures for disposal of needles and trash; presence of soap and glove disposal receptacles; effective means of sterilization or chemical disinfection, and staff guidance for infection prevention posted.
- *Client perception of access:* presence of factors facilitating service utilization such as convenient clinic location, ease of movement within the clinic, and affordable service fees.
- *Facilitation of access*: presence of public notices, describing services, service hours, fees and location, to facilitate utilization.

Management Systems address the health care facility's capacity to provide the structure and systems to effectively plan, staff, organize, implement, and maintain health delivery services.

Indicators

- *Supply system in place:* maintenance of appropriate stock levels and storage locations for pharmaceutical and contraceptive supplies
- *Staff management in place*: maintenance of personnel records, containing job descriptions, information about training experiences and performance evaluation reports; opportunities for staff to participate in work planning; and staff satisfaction. Other aspects of staff management, such as supervisory support, are included in the quality element, Technical Competence.
- *Planning takes place*: presence of mission statements, annual workplans, use of research and other approaches for problem solving, and methods for obtaining client feedback
- *Referral system in place*: presence of referral notes that include date of referral, reason for referral, name of referral, and updated correspondence from referred facility
- *Use of management information*: use and maintenance of management information systems; utilization of data for decision-making in planning and organizing services including establishing a community health profile and an appointment system

Health Promotion refers to the presence and support of health education programs within the center and promotion of services in the community.

Indicators

- *Health education available:* client interest and participation in health education sessions; availability of health education materials; health center plans for health education
- *Health education planned*: facility records documenting health education plans and records of sessions

Technical Competence requires the availability and use of protocols and standards, as well as the facility's ability to retain a motivated and trained staff, including the provision of a supervision system and staff training.

Indicators

- *Supervision in place*: systemic use of supervision; frequency of supervisory processes, supervisor planning
- *Staff training provided*: content of training, frequency of training
- *Protocols and standards available*: presence of protocols and standards at primary health care facilities.

Client Satisfaction is defined in terms of satisfaction with services: access, privacy, and provider contact, and with staff communications.

Indicators

- *Client satisfaction with services:* ratings for general satisfaction with services and for family planning, antenatal, and well-baby services
- *Client satisfaction with access, privacy and provider contact:* measures the quality of the service environment, including privacy, waiting time, duration of physician contact and technical competence of staff
- *Client satisfaction with communication*: staff courtesy, name usage, provision of lucid explanations and answers to questions

Client Care examines the expectations and needs of care provided for common adult and childhood illness and reproductive health services for women.

Indicators

- *Reproductive health care provided*: receipt of services, including desired family planning methods, nutritional guidance, and guidance on future care
- *Reproductive health records complete*: completion of antenatal and family planning records, with information on physical assessment, diagnostic procedure, treatment, health education, referral, follow-up
- *Family planning counseling provided*: experiences with counseling, including questions asked and information received
- *Family planning promotion takes place*: staff promotion of family planning services, including counseling, guidance, education; existence of referrals practices

- *Adult illness records complete*: completion of adult client records for diabetes, hypertension and anemia, focusing on areas of physical assessment, diagnostic procedure, treatment, health education, referral, follow-up
- *Follow-up care provided*: scheduling and recording follow-up care appointments; tracking and rescheduling canceled or missed appointments
- *Child illness records complete*: completion of records for clients with asthma, acute respiratory infection, and diarrhea, focusing on areas of physical assessment, diagnostic procedure, treatment, health education, referral, and follow-up
- *Preventive health services provided:* provision of preventive health information to clients such as personal guidance on diet, child nutrition or immunization, presence of health information notations on client records and presence of screening programs for major illnesses.

3.2 Survey Development

In its design and structure, the baseline survey reflects the multi-layered nature of the measurement of quality. To ensure that the survey presents a comprehensive picture of the quality elements, information pertaining to each of 25 quality indicators has been gathered from a variety of data sources, using a range of data collection methods. The survey collects information on each quality indicator from the perspective of key stakeholders, using interviews, structured clinic observations, and reviews of clinic records. To facilitate data collection, the survey is divided into the following seven sections: facility observations, client and facility record reviews, interviews with clients, the manager, staff and members of the community committee. Several unscored questions were included in the survey to provide additional information about health services.

It should be noted that in the analysis phase, a decision was made to exclude the data collected from the community committee section. Although this information improved our understanding of the community perception of quality of service and level of community involvement at the primary health care center, it was determined that the limited sample size and bias in choosing community committee members made the data invalid.

Field Testing:

Following reviews by PHCI staff and MOH quality assurance counterparts, the survey was translated into Arabic and field-tested at the Mahes Primary Health Center (PHC) in Balqa Governorate. The center met two criteria, i.e., a client volume of over 120 client visits per week and presence of an active community committee. Following the field test, instruments and data collection processes were revised to incorporate field test findings. The resulting final survey instrument consists of 290 questions separated into seven sections providing a comprehensive picture of health service quality. The complete questionnaire in English is included in Annex 3. The Arabic version is available from the PHCI office in Amman.

3.3 Sampling

In the interest of feasibility and relevance, a decision was made to evaluate the quality of care in centers serving the largest percentage of the population. Thirty health centers were randomly chosen from a pool of sampling units, which included geographic representation and a client volume of over 120 visits per week. This allowed for an adequate data collection base and gave the maximum precision within the limits of the survey. Thus survey results may be generalized to the 216 centers that meet the baseline criteria of clients served and may not be as applicable to the 122 low volume centers.

3.4 Data Collection and Management

Data Collection:

MOH data collectors received two days of classroom and practical training to familiarize them with the data collection instruments, standardize data collection procedures and methods, and plan for data collection.

Teams of two trained data collectors visited each of the sites over a period of 11 working days with a maximum of 2 days allotted to each health center. All health centers were formally notified of the survey by the MOH, reminded two days prior to scheduled data collection, and requested to make arrangements for community committee interviews, where applicable.

Survey Implementation:

The following pattern of data collection was used at each of the 30 health centers:

DATA SOURCES	NUMBER PER HEALTH CENTER
1. Facility Review	1
2. Facility Record Review	1
3. Client Record Review	10
4. Client Interview	25
5. Manager Interview	1
6. Staff Interviews (Physician/ Nurse/ Midwife)	1 each
7. Community Committee Member Interview	2

Client Selection and Client Characteristics:

As described in the sampling plan (Annex 4), twenty-five client exit interviews were conducted at each of the health centers, resulting in 750 completed exit interviews. At each health center, every third client was selected from the waiting room for participation in the interviews. To ensure that a representative sample of clients was drawn, client selection was distributed throughout the hours of clinic operation. When clients agreed to be interviewed, they were given colored tickets, which allowed data collectors to identify participants for interviews as they exited the center.

Of the 750 adult clients interviewed, 77% were female and 23% male. Client ages, reported by adults or parents, ranged from 12 to 85 years of age, with a mean age of 34 years. Adult clients interviewed reported a mean number of 4.6 children per family, and 27% of the sample had 7 or more children. Other characteristics of the client sample include:

- 80% literate

- 33% elementary education; 30% secondary education; 16% college education
- 29% met health center criteria for free care
- 71% had health insurance through military, civil and private agencies.
- 9.6% antenatal clients (N=72)
- 5.2% family planning clients (N=39): 12 new users; 27 continuing users
- 15.5% well baby visits (N=116): 21 first visit and 95 return visits
- 30% maternal and child health clients (N=227) i.e. antenatal, family planning and well-baby visits

Selection of Manager and Staff Interviewees:
The data collection protocol called for interviews with managers, physicians, nurses and midwives at each health center. Twenty-nine physician managers were interviewed (one manager was absent). When present, a second physician was interviewed. The interview protocol also called for random selection of one nurse and one midwife. In smaller health centers, where one nurse and one midwife were available, both were interviewed. In total, interviews were conducted with 29 manager/physicians and 77 staff including 19 non-manager physicians, 31 nurses and 27 midwives.

Selection of Records for Review:
Ten records were randomly selected for review at each center. The criteria for selection were as follows: from the maternal and child health (MCH) service, data collectors were instructed to use the client logbooks to identify and randomly select 2 family planning and 2 antenatal care records. On the General/Medical service of the PHC center where sick adults and children are seen, the instructions were to review the physician's register for disease classification and randomly pull 6 records in total representing any combination of the following conditions: diabetes, hypertension, bronchial asthma, ARI, diarrhea and anemia. Data were abstracted from the selected records using the Client Record Review.

Data Entry:
Two data entry people were selected, interviewed, and hired. Data entry was completed over a 9-day period.

Data Analysis:
Research question scores were compiled in the following three-step process:

1. Scores for each of the 290 questions were computed as frequencies and percentages
2. Questions were grouped into 25 indicators, average scores the indicators were computed
3. The indicators comprising each element were grouped and the average score for the each element was computed.

The following example illustrates the process used for determining the overall average score or rating for each element. In this example, the score for each indicator is calculated, and then the total score for the four indicators is used to calculate the mean score for the element.

Environment and Safety is comprised of four indicators and 22 survey questions, distributed in the following manner:

Indicator 1: Appropriate service environment = 6 questions

Indicator 2: Infection prevention readiness = 10 questions

Indicator 3: Client perception of access = 3 questions

Indicator 4: Facilitation of access = 3 questions

4. BASELINE SURVEY FINDINGS

Survey data collected at thirty health centers was compiled for SPSS analysis. Frequency statistics were calculated to construct a performance index for the six elements based upon percentage of achievement on each of 25 quality indicators. In this section of the report, the quality elements and corresponding performance indicators are presented and discussed. In the conclusions and comment section for each element, the discussion addresses strengths and weaknesses and focuses on how PHCI inputs can be used to improve quality.

Figure 1 shows the average achievement for all sampled PHC centers on each of the 6 quality elements. The ratings range from a high of 78% for Client Satisfaction to a low of 40% for Management Systems. On three of the six elements (Technical Competence, Client Care, and Management Systems) PHC centers achieved ratings of less than 60%, suggesting the need to focus improvements in these areas. To highlight priorities, the baseline survey results have been categorized in the following way: scores above 80% are considered good performance; scores 60%-80% are adequate, and those facilities receiving a score of less than 60% are inadequate.

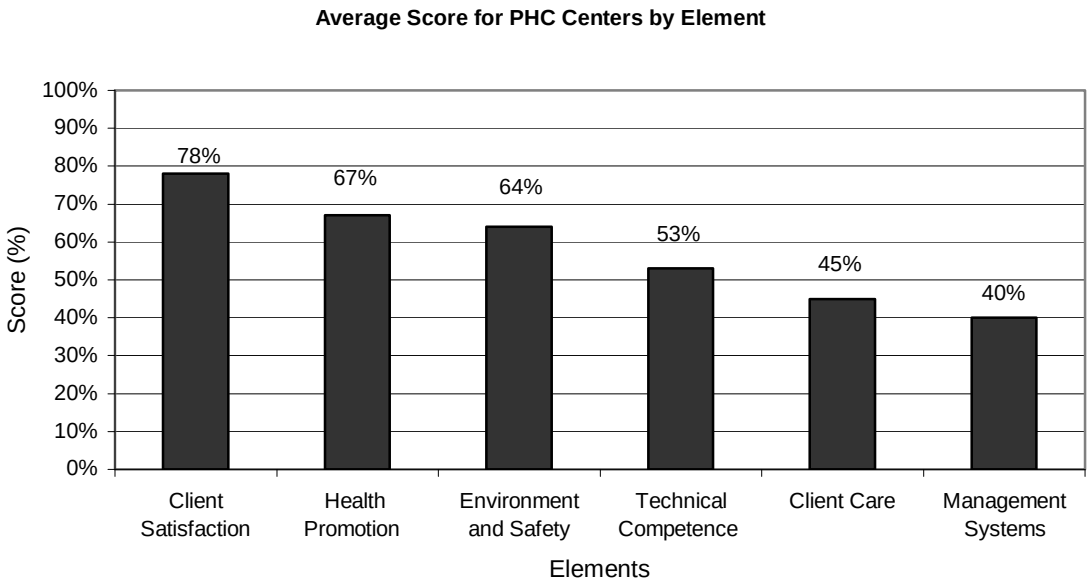


Figure 1. Average score for all PHC centers by elements

The survey results for each of the six elements were also used to generate a total quality score for all health centers in the sample. The total quality score was calculated by averaging the scores for each element across all health centers. The results ranged

from 70% to 46% with a mean score of 57% (See Annex 5). Correlation analysis conducted to determine the strength of the relationship between PHC center quality scores and client volume showed no statistical relationship between the two. Therefore, changes in client volume would not be expected to have an effect on total quality scores.

The following section provides a detailed description of service delivery in the 30 sample sites.

Each of the six quality elements presented in Figure 1 is composed of 2 to 8 indicators for a total of 25 indicators. The percentage ratings for the indicators are presented in descending order in Figure 2.

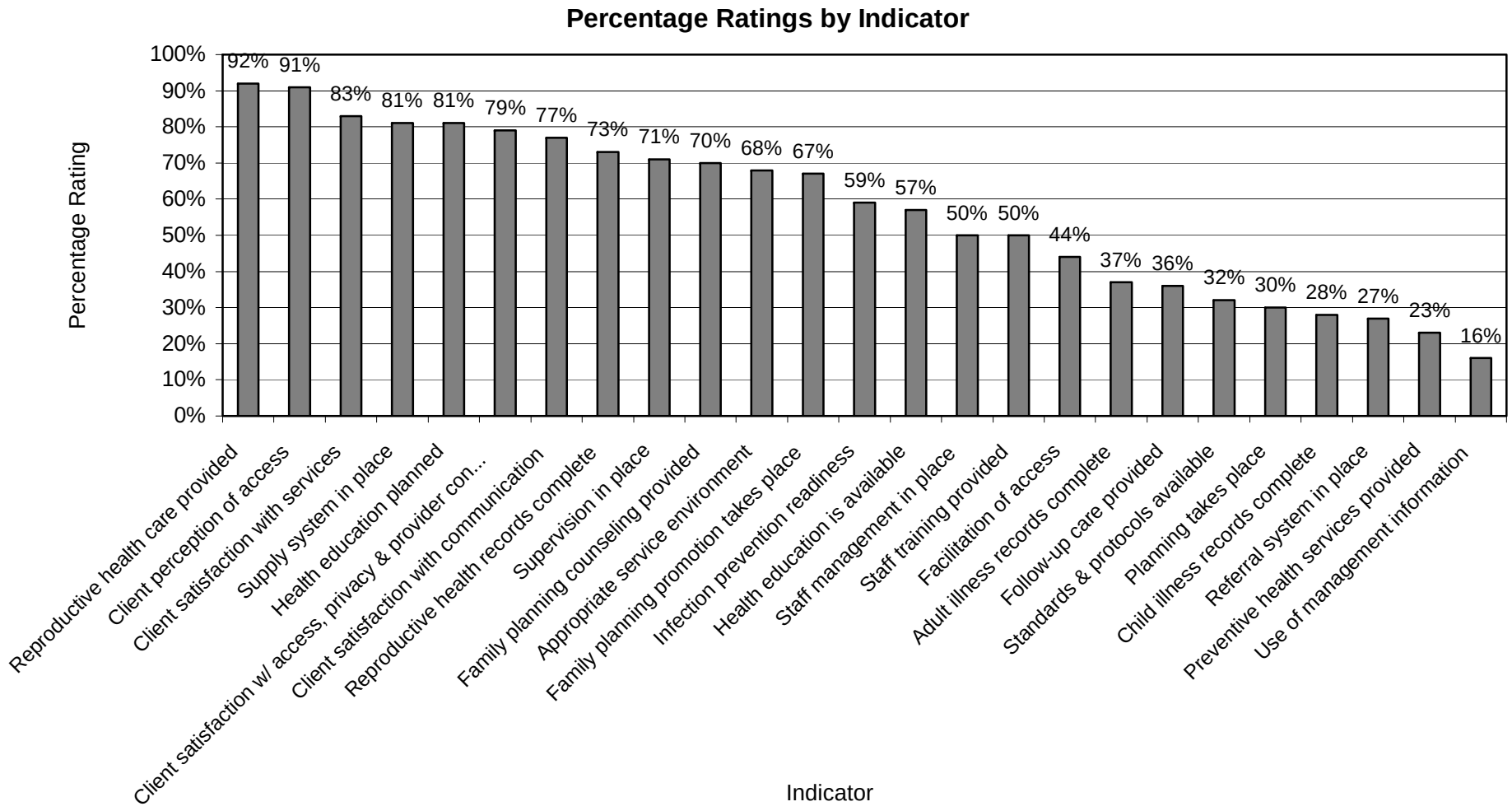


Figure 2. Percentage ratings by indicator

4.1 Research Question: Do the facilities demonstrate a client friendly, accessible, and safe environment?

This element, Environment and Safety, received an overall rating of 64%, ranking it third of the 6 elements. The four areas of performance measured to assess this element are: appropriate service environment, infection prevention readiness, client perception of access, and facilitation of access. Results for these four performance areas are shown in Figure 3.

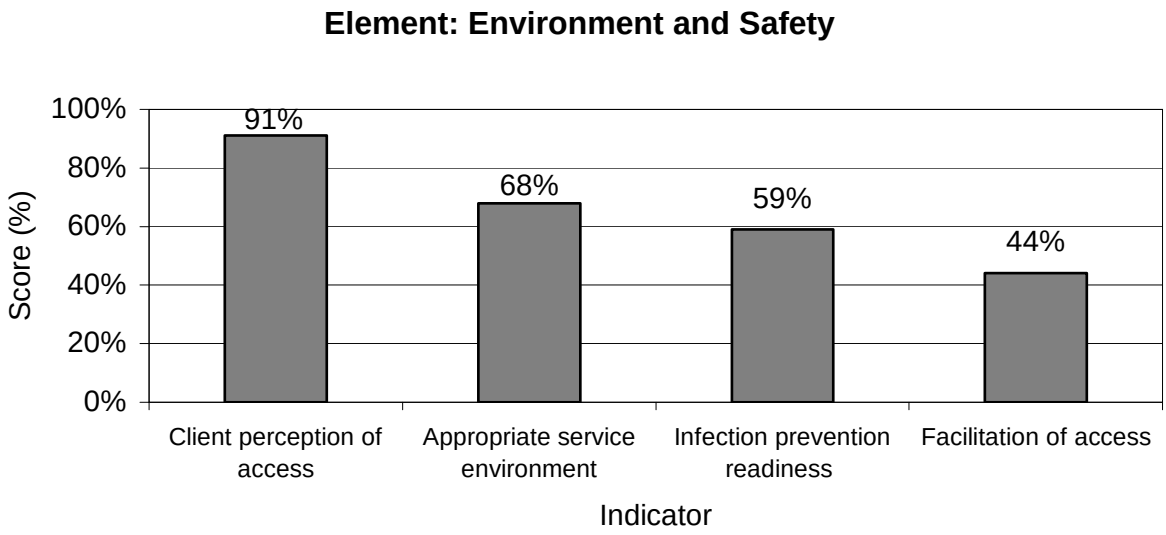


Figure 3. Environment and Safety scores

4.1.1 Indicator: appropriate service environment

This indicator provides a measure of cleanliness, adequacy of waiting area facilities, status of equipment and aspects of physical privacy. The score for this indicator reflects information gathered using structured observations and interviews with clients and service providers. Health centers achieved an overall rating of 68%.

Cleanliness: 79% of clients reported that centers were clean and attractive compared to 63% of observers who assessed centers as clean and neat with no blood, rust, dirt, soiled areas on equipment, instruments, furniture, walls or floors, toilets and sinks. (Figure 4).

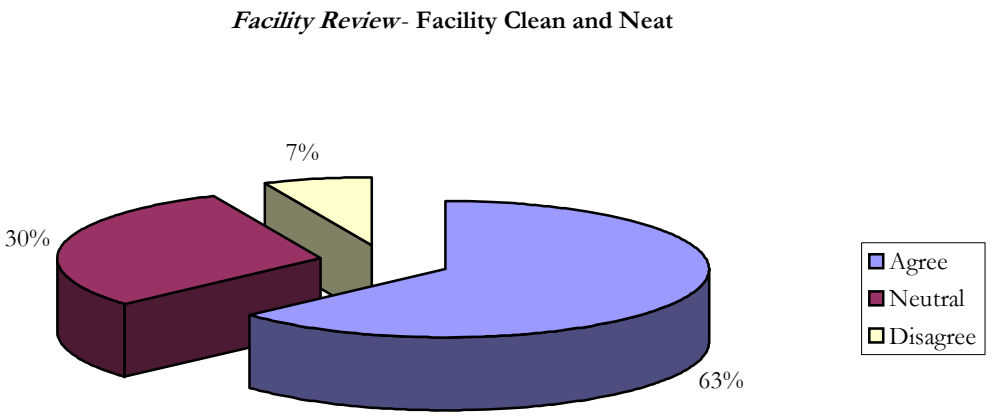


Figure 4. Assessment of facility cleanliness

Waiting Area: During facility observations, 50% of PHC centers were noted to have enough seats for clients in the clinic waiting area. Clients seem satisfied with the waiting areas despite the observed lack of seating; 87% of the clients reported satisfaction with waiting areas.

Privacy: Physical privacy is evaluated by observing for the presence of a door or a curtain in all examination rooms.

- 90% (N = 27) of health centers have a door or curtain on all examination rooms.
- 47% (N=14) of the MCH areas have a private area for family planning counseling.
- 79% of clients were satisfied with arrangements for privacy

Maintenance and Equipment: Findings from the Facility Review document the presence and functional status of essential PHC center equipment maintained by the midwives or nurses assigned to the MCH service area. These 30 staff members indicated that:

- 30% of facilities (N=9) had functioning refrigerators in all three locations i.e. immunization room, pharmacy and laboratory.
- 70% of facilities (N=21) had functioning refrigerators in only 1 or 2 locations
- 100% of the midwives monitor the temperature of the refrigerated vaccines and drugs and check the calibration of the scale.
- 67% of the midwives monitor the temperature of the autoclave.

4.1.2 Indicator: infection prevention readiness

This indicator was measured by observing the prerequisite physical conditions for effective infection prevention. The health centers achieved a score of 59% on this indicator.

The findings for 30 health centers follow:

- 93% (N=28) facilities have a container designated for disposing used needles.
- 67% (N = 20) of facilities have soap available in each examination room.
- 53% facilities (N=16) have disposable gloves available in each examination room.
- 47% (N=14) have a sink with running water, specifically designated for cleaning instruments.
- 17% (N=5) facilities post the steps for infection prevention for staff reference.
- 10% (N=3) have a trashcan in each examination room with a secure fitting cover for medical waste disposal.
- All facilities are equipped with an effective means of sterilization or chemical disinfection; 97% of the facilities have an autoclave; 13% (N=4) have a steam sterilizer and 47% (N=14) have a container for soaking instruments with a chemical disinfectant.

4.1.3 Indicator: client perception of access

The centers achieved an overall rating of 91% on this indicator measuring client's perceptions of access to determine if clinic location, clinic infrastructure or service fees create barriers to utilization.

Table 1 shows that most clients either walk or take public transportation to reach health centers. When interviewed, the majority of clients (82%) confirmed that the center was easily accessible. These results are expected since 92% of Jordanians live within a 3-kilometer distance from the nearest health center[2]. In addition, 95% of clients found it easy to navigate within the center.

Table 1. Access to PHC Center

How did you get to the PHC Center today?	Frequency	%
Walked	483	64.4
Bus or Service	158	21.1
Private (including taxi) transportation	109	14.5
Total	**750**	**100.0%**

Reconfirming the finding that access is favorable, Figure 5 shows that 86% of the clients (N=645) selected the health center because it was convenient and close to their homes.

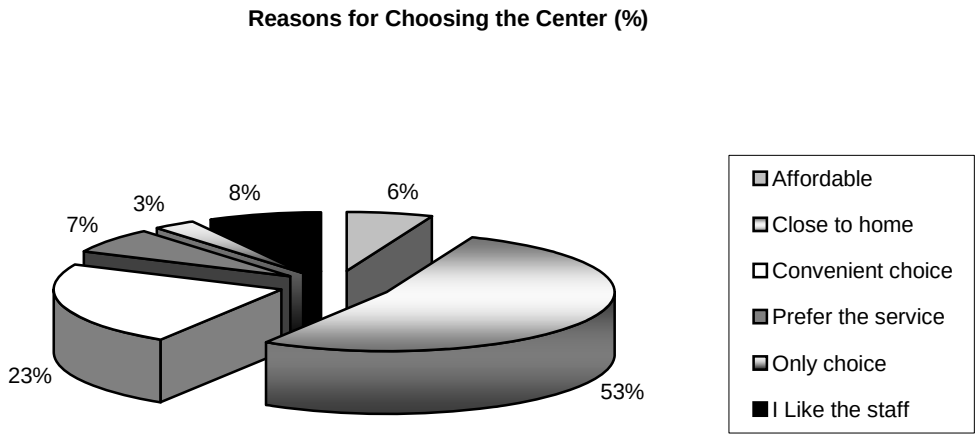


Figure 5. Primary reason for choosing PHC center

Service fees were paid by half of interviewed cli400ents and the reported service fee of 1-5 JD was considered reasonable by 95% of payers. Therefore, service fees are not considered to be a barrier to service access.

4.1.4 Indicator: facilitation of access

Facilities received an overall rating of 44% for this indicator documenting the availability of information to guide clients to and within clinics. Seventy-seven percent (N=23) of facilities had signs instructing clients where to go for services. While only 10% facilities (N=3) had signs listing service instructions. Hours were posted at 1 facility.

4.2 Research Question: Do the facilities demonstrate the capacity to plan, staff, organize, implement, and maintain health delivery services?

The quality element Management Systems received an over-all rating of 40%, ranking it lowest of the 6 elements. The five indicators measured to determine the rating for this element are presented in descending order of achievement in Figure 6.

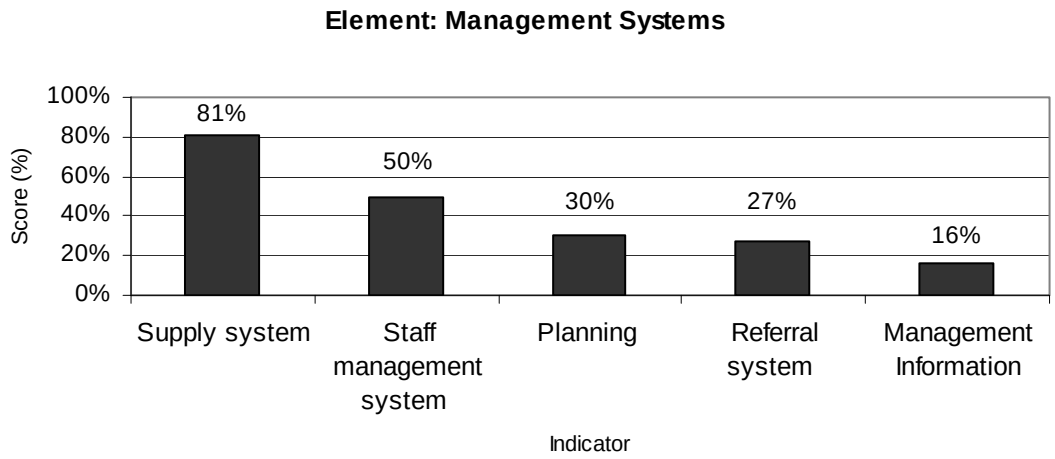


Figure 6. Management Systems indicator scores

4.2.1 Indicator: supply system in place

PHC centers achieved a composite score of 81% based upon observations and interview questions to ascertain the presence of accepted standards for supply system management (see Figure 6).

The following results contributed to the supply system scores:

- All facilities have a place for storage of pharmaceutical supplies that is protected from sun, heat, pests, and water
- 90% of facilities have an appropriate place for storage for contraceptive supplies.
- 90% of managers report having an MOH essential drug list.
- 45% of managers report receiving an updated drug list monthly; 10% receive the list weekly and 41% report never having received the list.
- 66% of managers reported stock-outs for some essential drugs in the last month.
- 85% of clients received prescribed medications at the clinic pharmacy before leaving the clinic

4.2.2 Indicator: staff management in place

PHC centers achieved a rating of 50% for this indicator. An effective staff management system is defined as one that maintains personnel records; provides written job descriptions to guide managers and staff in understanding and evaluating performance; establishes opportunities for staff to participate in work planning; and monitors staff satisfaction.

Personnel Management: Although 28 of 30 health centers have personnel files for staff members, approximately 90% of personnel files do not include job descriptions, information about training experiences or performance reports.

- Twenty-seven of the 29 managers interviewed did not have a job description. The two managers with a job description reported that it reflected their current responsibilities.
- 29% (N=22) of interviewed staff members were able to show the interviewer their job description; 18 reported that it reflected their current responsibilities.

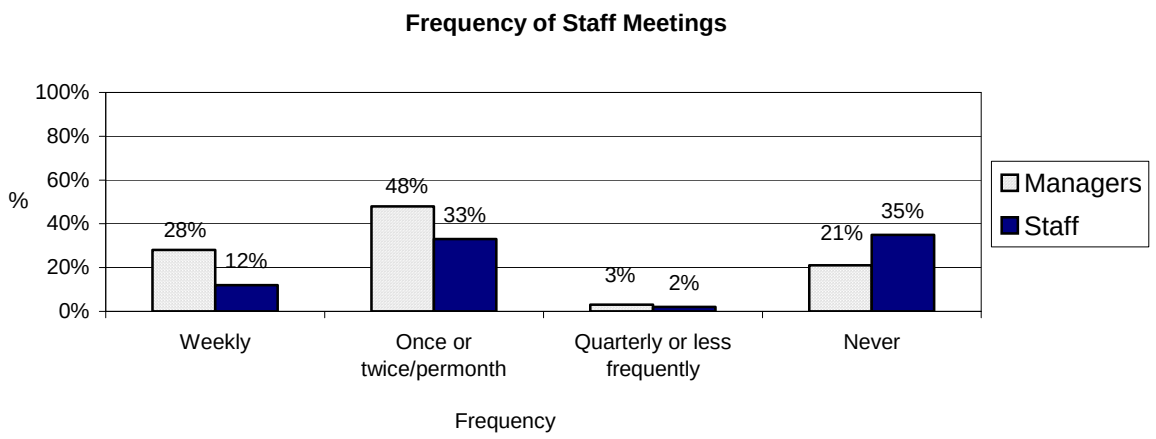


Figure 7. Reports of meeting frequency by managers and staff

Staff Meetings: Managers and staff were asked to describe the frequency of staff meetings. There are substantial differences in manager and staff reports of meeting frequency and a notable percent of both managers and staff reporting the complete absence of staff meetings.

Job Satisfaction: Table 8 shows that staff and managers are reasonably and similarly satisfied with their jobs. A factor contributing to high satisfaction may be the report of good teamwork by 92% of staff (physicians, nurses and midwives).

Figure 8. Job satisfaction according to managers and staff

Staffing: Thirty eight percent of managers reported having staffing problems, such as, shortage (N=8), oversupply (N=7), absenteeism (N=4), and turnover (N=3).

4.2.3 Indicator: planning takes place

Topics included to measure planning include the presence of work plans and mission statements, the use of research and other approaches for problem solving, and presence of a method for obtaining client feedback. This aspect of management systems received a rating of 30%.

Workplans: 17% (5 managers) have an annual work plan.

Mission Statement: Of the 30 facilities visited, three (10%) had a mission statement posted in a public place.

Problem-solving Approaches: Twelve managers had used the results of research to help solve their problems while 13 had not. When asked where they would get help to solve problems, managers gave the following answers:

- publications 42% (N=12)
- health directorate 28% (N=8)
- internet service 14% (N=4)

Client Feedback: The follow data summarize managers' efforts to learn of client opinions about services:

- 17% of managers (N=5) have a system for obtaining feedback from clients;
- 14% of managers (N=4) use client-exit interviews;
- one facility collects information about client satisfaction from a client suggestion box in the waiting area of the facility.

4.2.4 Indicator: referral system in place

A well-functioning referral system was achieved by 27% of facilities. Client records were reviewed for referral notes that contained the following information; reason for referral, referral site, and feedback about the client care from the referral source.

Referral Note: Most records containing a referral note lacked the reason for referral and reference to the referral location. Only one manager reported receiving feedback from the referral site. In this sample, clients with non-communicable disease were more likely to be referred than clients with an infectious disease; e.g. referral notes were included in 7 of 23 anemia records, compared to only 1 of the 22 ARI records.

Expectations of Referral Sites: Managers gave the following reasons for referrals:

- 72% indicated a need for specialist consultation;
- 65% for urgency of cases;
- 35% did not know what to do for the client.

4.2.5 Indicator: use of management information

This indicator addresses use of information to assist in planning and organizing services. PHC centers achieved a rating of 16% on this indicator, the lowest of 25 scored indicators.

Community Health Profile:

- 24% of the 29 managers interviewed indicated that they had a profile of community health problems

Appointment System:

- 3 managers reported having an appointment system for the health center
- 86% of midwives reported having an appointment system for MCH clients
- 91% of midwives report having a process for following clients who do not return for scheduled appointments.

Staffing: Since staffing standards for primary health centers were not available, managers were asked to report on the number of existing staff and the number of vacancies for each category of staff at the PHC center, based upon historical staffing patterns.

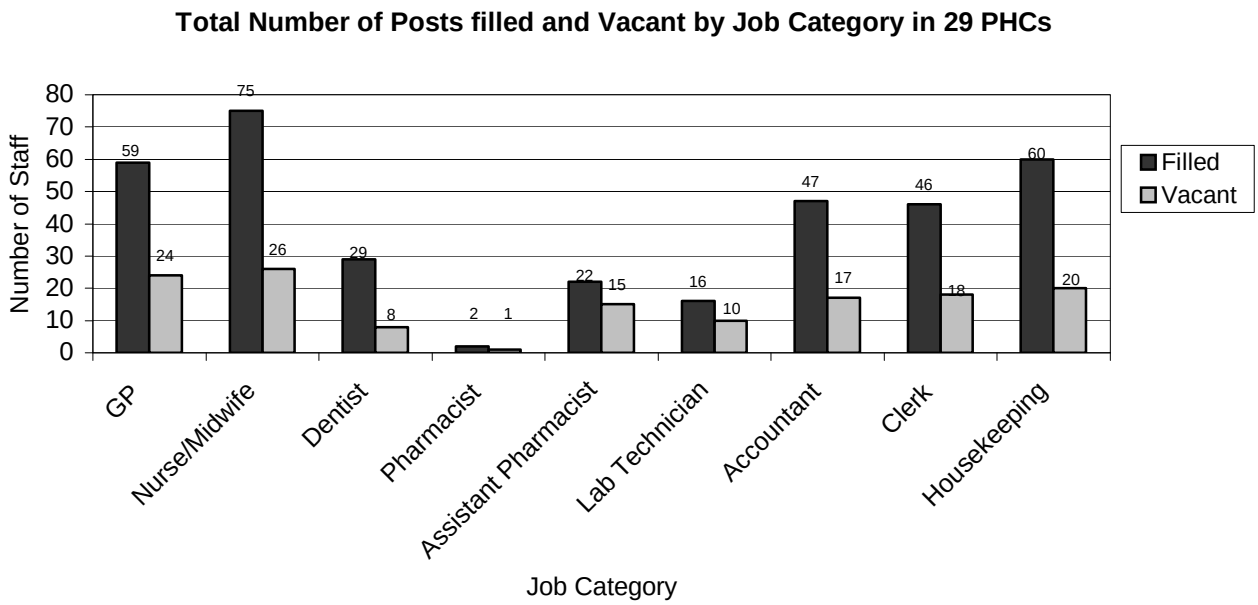


Figure 9. Total number of posts filled and vacant by job category in 29 PHC centers

Figure 9 shows the highest number of vacant posts reported by health center managers in the categories of general physician and nurse/midwife at 24 and 26 posts respectively. However, when considered as proportion of posts filled, it can be inferred that assistant pharmacist and laboratory technician vacancies are a problem as well.

4.3 Research Question: Does the center offer health promotion programs that increase awareness and demand for services?

This element received an overall rating of 67% ranking it second. The three areas of performance selected to assess this element include availability of health education, planning for health education, and promotion of health services (not scored).

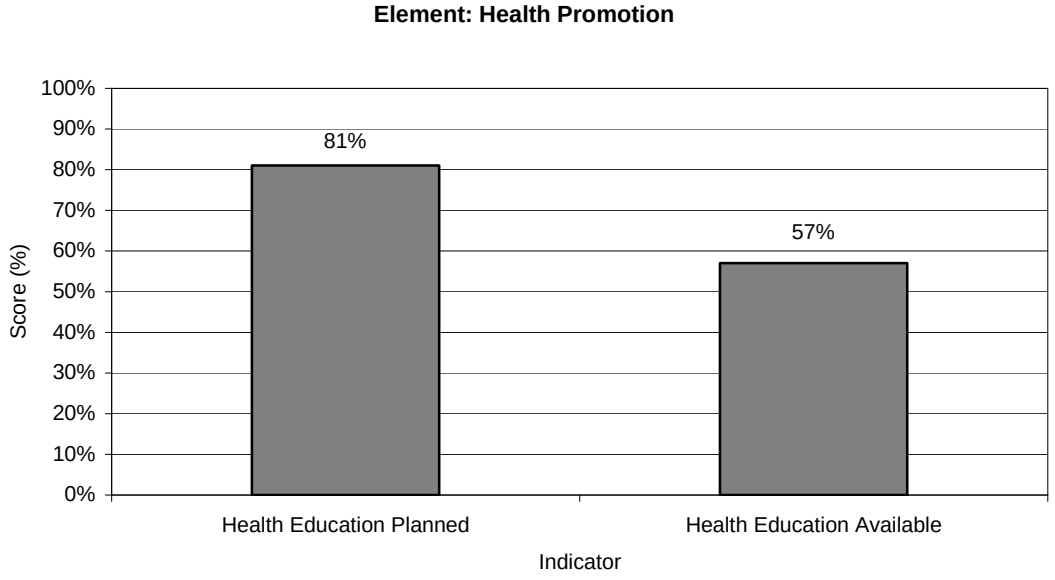


Figure 10. Health Promotion indicator scores

4.3.1 Indicator: health education planned

PHC centers received a rating of 81% for this indicator, which reflects the presence of a schedule of activities, rather than a program plan. Most health facilities had a schedule of health education sessions, containing details about the subject and speaker, to guide health education within the clinic, at schools and at other outreach sites. The centers lack a health education program plan describing community needs, program objectives, target groups and monitoring/feedback processes.

4.3.2 Indicator: health education available

PHC centers achieved 57% on this quality indicator, comprising questions about client participation and interest in health education sessions, and availability of health education materials at the health center.

Client Participation: Seventeen percent (N=129) of clients reported their attendance at health education sessions arranged by the center. Almost 75% of all sessions were on MCH topics, suggesting the need for a more balanced program of health education to address the range of community health needs. Attendees partipated in the following health education sessions by subject:

- Family planning 43% (N=55)
- Child health 19% (N=24)
- Adult health 14% (N= 18)
- Reproductive health 13% (N = 17)
- Dental health 2% (N=3)
- Other 9% (N=12)

Client Interest: The information obtained by this question gives some dimension to the missed opportunities for health education experienced at health centers. Although only 129 clients attended sessions, ninety percent (N=674) said they would attend health education sessions offered by the health center.

Health Education Materials: 50% (N= 376) of clients noted that health education materials (brochures, videos, posters) were available during their visit. The facility review data note the presence of educational materials in 73% of clinics. The difference between client perception and clinic review data may be explained by poor placement of health education materials or messages that are unrelated to client needs.

4.3.3 Indicator: Primary Health care Center promotion (unscored)

The survey included several unscored questions to obtain additional information about health services. In this case, survey questions were included to determine whether PHC centers promoted health services in the community. These questions focused on how the “first visit” client learned of services and reasons for health center attendance. The unscored responses to questions about service promotion are given below.

Learned of services: Of the 750 respondents, 6% (N= 45) were visiting the clinic for the first time. Table 2 shows that friends and family members were the predominant source of information about center services and that 4% learned about the center through the newspaper and TV advertisement.

Table 2. Service promotion through new client's source of information about PHC center

How learned about the PHC center	Frequency	%
Friend	28	62.2
Family member	7	15.6
Newspaper	1	2.2
TV	1	2.2
Other	1	2.2
Missing	7	15.6
Total	**45**	**100.0%**

Reasons for Attendance: The majority of clients attended for curative care (62%) particularly diabetes and hypertension treatment. Preventive and reproductive health care, family planning and immunizations accounted for 33% of the visits as presented in Table 3.

Table 3. Frequency distribution of reason for client visits to PHC center

Reason for Visit to PHC center	Frequency	%
Curative	467	62.3
Preventive care	95	12.7
Reproductive Health Care	82	10.9
Family Planning	45	6.0
Immunization	24	3.2
Follow up care	19	2.5
Dental Care	15	2.0
Missing	3	0.4
Total	**750**	**100.0%**

4.4 Research Question: Do the facilities maintain a motivated, trained, and supervised staff capable of providing appropriate, safe and effective services?

PHC centers received an overall rating of 53% on this fourth ranked quality element, Technical Competence. This element was measured though interviews and observations documenting the effectiveness of the supervision system, staff training, and availability and use of protocols and standards.

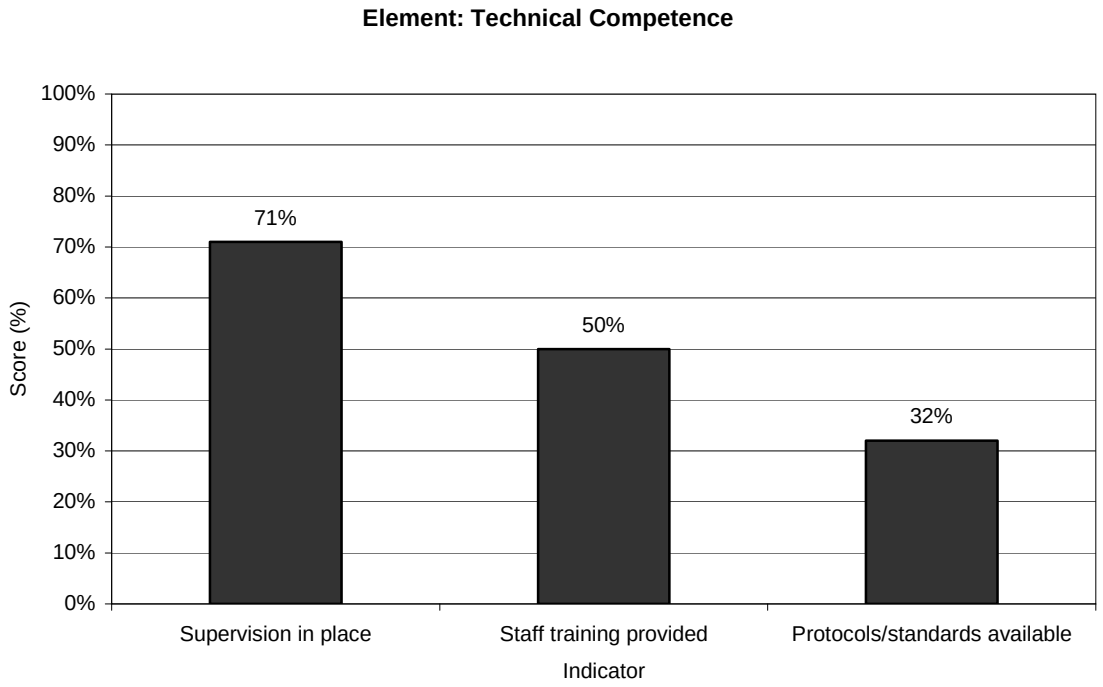


Figure 11. Technical Competence indicator scores

4.4.1 Indicator: supervision in place

The PHC centers achieved a score of 71% for this indicator as shown in Figure 11. Manager and staff responses to questions about supervisory processes, frequency, and focus were aggregated to develop the score for this indicator.

Supervision of Managers: although the supervisory chain is clear to PHC center managers, supervision is inadequate. Almost half (49%) of managers report receiving supervision visits less frequently than once per quarter while the remainder report supervision on a monthly or weekly basis.

Managers report discussions of the following topics when meeting with health directors:

- 34% work planning (N=10);
- 24% training needs (N=7);
- 17% client problems (N=5);
- 10% feedback on job performance (N=3);
- 7% budget (N = 2).

Supervison of Staff: Although more regular, staff supervision is occurring weekly or monthly in only 54% of cases. The remaining 46% are not experiencing regular supervision. The survey results follow:

- in contrast to supervision of managers, staff report that 93% of managers (N=27) conducted individual supervisory meetings with their staff;
- 54% of staff members report regular meetings to discuss job related issues; specifically, 38% report weekly meetings and 16% report monthly meetings;

- 67% of staff (N=52) agreed or strongly agreed with the statement that their immediate supervisor helped them solve their problems.

Table 4 compares the focus of discussions during supervisory meetings from the perspective of managers and staff. Findings highlight differences in perception of those meetings. Approximately half the mangers report that client provider observations are conducted during supervision meetings but less than 15% of staff report this as a feature of supervision. In addition, the proportion of managers who report giving feedback on job performance is substantially higher than staff reports of receiving feedback.

Table 4. Comparison of manager and staff reports of supervision meeting focus

Discussion	Manager	Staff
Observation of client-provider interactions	48%	14%
Client problems	48%	42%
Work planning	45%	31%
Feedback on job performance	34%	21%
Training needs	17%	23%

4.4.2 Indicator: staff training provided

PHC centers achieved a rating of 50% on this indicator gathered through manager and staff interviews and record reviews. Survey analysis offers an overview of the training system using data on training plans and schedules, training topics and training frequency.

Planning: Training plans are not prepared in 77% (N=23) of the sampled PHC centers and where present, they are not plans, but schedules of health education activities.

- 7 of 30 facilities had a schedule for staff training;
- 6 recorded the frequency of the courses being held and who attended;
- 7 recorded the subject of the staff-training course.

Frequency: Training for managers is receiving less attention than staff training, data show that more than half of managers received no training in the last 2 years. Specifically the data show the following:

- 45% of managers (N=13) reported attending a training course in the last 2 years;
- 73% of staff (N= 56) attended training in the last 2 years.

Topics: Over the last 2 years, mangers and staff training sessions have been distributed almost equally between topics related to clinical medicine and those addressing reproductive health. In addition to clinical training, a few managers have participated in management and supervision training sessions. The details are presented on Table 5.

Table 5. Topics for training

Managers (13)	Frequency		Staff (56)	Frequency
Clinical protocols	8		Reproductive health	26
Reproductive health	8		Clinical protocols	18
Management	3		Medical training	13
Supervision	2		Interpersonal communication	6

4.4.3 Indicator: protocols and standards available

Performance on this indicator was rated 32%. The score reflects manager and staff responses to questions about the availability of standards and protocols and training in their use.

Availability of Standards and Protocols: According to the survey, the majority of health centers do not have standards and protocols.

- 17% (N=5) of managers were able to show clinical protocols during the survey (see Figure 12);
- 3% (N=1) of managers were able to show standards of care during the survey;
- 31% of staff (N=24) reported that standards of care were available.

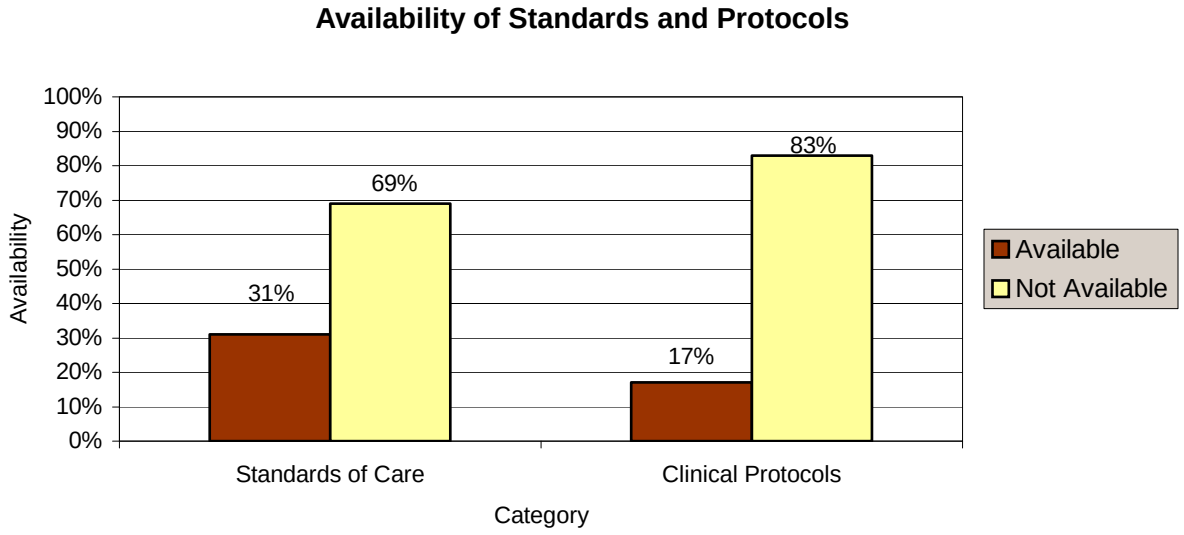


Figure 12. Availability of standards and protocols in 30 PHC centers

Training in Standards and Protocols:

- 27% of managers were trained in the use of clinical protocols but no managers reported training in standards of care.
- 26% of staff received training in the use of standards.

4.5 Research Question: Do the facilities meet client expectations and needs by providing appropriate, safe and effective services?

The survey measured Client Satisfaction through guided exit interviews to obtain client views about many dimensions of care. The results provide information about client satisfaction with health center services, facilities and staff. This quality element received a rating of 78% and ranked highest among the six elements. Figure 13 shows the performance on each of three indicators contributing to the overall score.

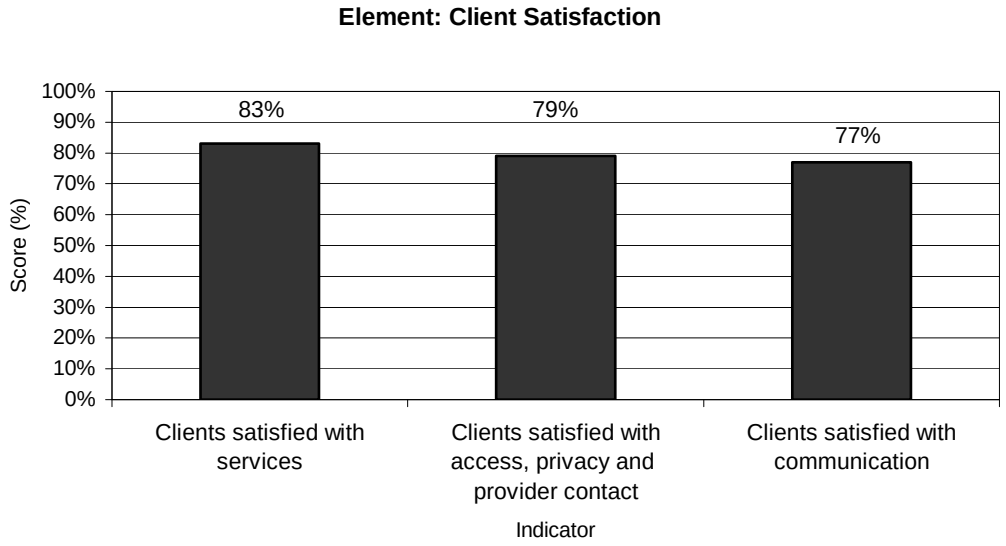


Figure 13. Client Satisfaction indicator scores

4.5.1 Indicator: client satisfaction with services

This indicator reflects client satisfaction rating of the clinic experience; 83% of clients, (N=606) were highly satisfied with services. Clients attending MCH services were also asked to rate these services. The results presented here show a high degree of satisfaction with all services:

- 83% of clients (N=606) rated the general clinic experience as highly satisfactory;
- 87% clients (N=34) rated the family planning service as highly satisfactory;
- 96% of clients (N=69) rated the antenatal service highly satisfactory;
- 94% of clients (N=109) rated the well baby service highly satisfactory.

4.5.2 Indicator: client satisfaction with clinic access, privacy and provider contact

PHC centers achieved a rating of 79% on this indicator measured in exit interviews conducted with 750 clients. The rating reflects client responses to questions about the quality and duration of contact with service providers, arrangements for privacy and the quality of the clinic environment.

Service Provider Contact:

- 70% of clients were satisfied with the waiting time (average 20 minutes);
- 83% of the clients expressed confidence in the physician's technical competence;
- 76% of clients were satisfied with privacy.

Providers and clients differ in their reports of contact time; while 58% of clients remember physician contact taking up to 5 minutes, staff report the exchange taking longer. Figure 14 shows the differences in perception of time spent with clients as reported by managers, staff and clients. In general, staff report spending more time with clients than clients report.

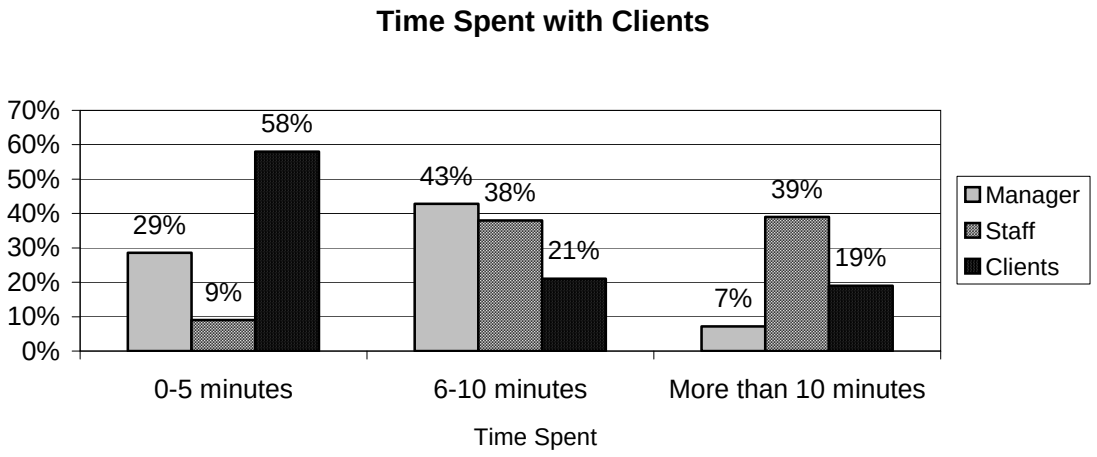


Figure 14. Reports of time spent with client

Service Access and Privacy:

- 79% of clients were satisfied with the provision for privacy;
- 68% of clients waited 20 minutes or less;
- 69% of clients thought the waiting time was appropriate.

Figure 15 shows the answers from 70% of clients (N=522) when asked if they had any suggestions for improving of health care in this health center.

The most frequently mentioned client suggestions for improving quality include:

- service delivery improvements including increase in the attention and time spent with the provider (47%);
- improvements in the supply and availability of drugs (11%);
- improve patient care by more case-specific treatment of problems and expand the range of services provided at PHC centers, such as x-ray, emergency, and laboratory services (10%);
- increase the number of female physicians particularly for reproductive health services (8%);
- increase the availability of dental services (8%).

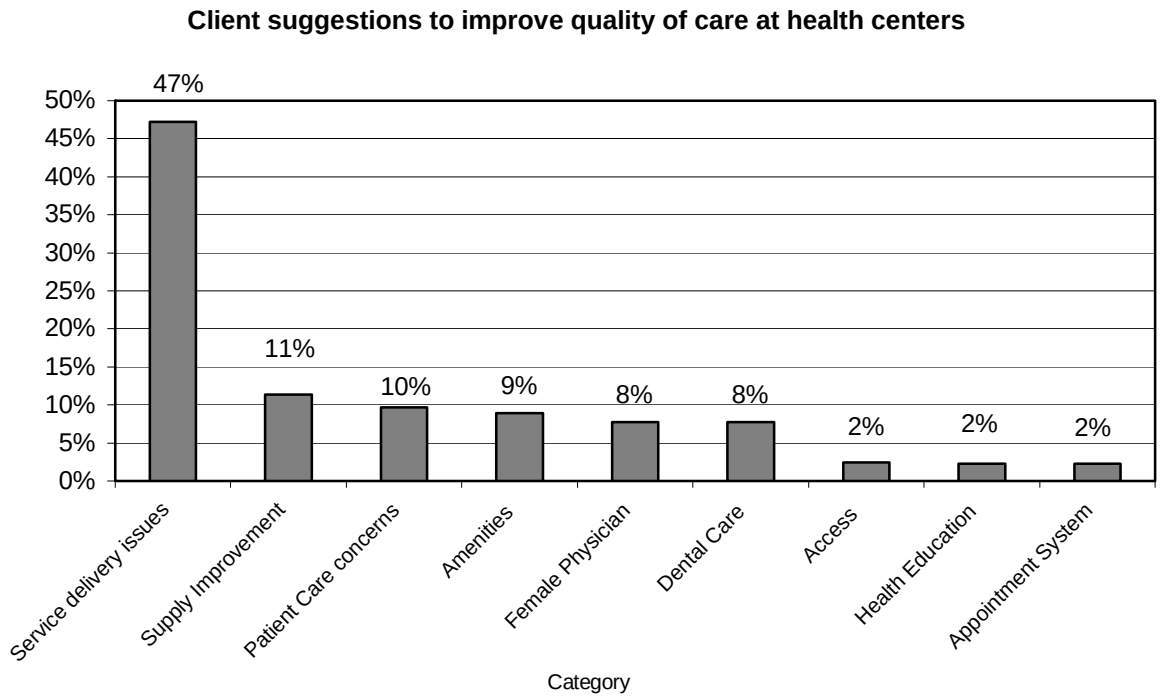


Figure 15. Client suggestions for improving quality of care

4.5.3 Indicator: Client satisfaction with communication

Client perceptions regarding the quality of communication with service providers was obtained through questions about staff courtesy, explanations about care and responses to client questions. The following results contributed to the 77% rating achieved by health centers for this indicator.

- 82% of clients acknowledged staff courtesy
- 72% recalled that the physician used their name during the visit.
- 69% of clients said the physician explained the recommended treatment
- 70% recalled that physicians answered their questions
- 73% understood answers given by physicians

4.6 Research Question: Do the facilities provide appropriate and effective services that comply with standards and respond to client health needs?

On this quality element PHC centers received an overall rating of 45% for Client Care, ranking it fifth. Eight indicators measure the quality of care for sick adults and children and for women seeking reproductive health services. The scores for client care indicators presented in Figure 16 were compiled from record reviews and service provider interviews. Data collection used client and clinic records as a surrogate measure of service quality in history taking, physical assessment, diagnostic procedures, treatment, health education counseling, and follow-up care.

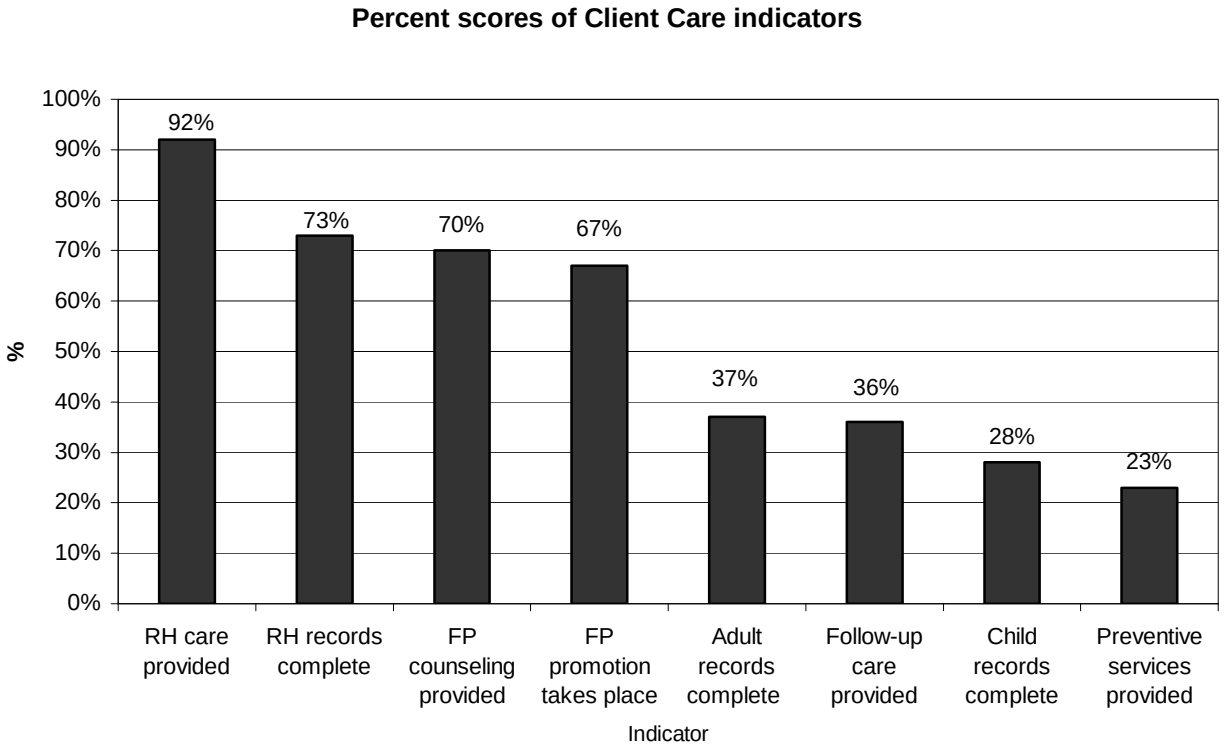


Figure 16. Client Care indicator scores

4.6.1 Indicator: reproductive health care provided

This indicator measured the quality of antenatal and family planning care by asking 55 antenatal and 83 family planning clients questions about the services they received. PHC centers achieved a rating of 92% for this quality indicator reflecting the following client responses:

- 99% of family planning clients received the desired family planning method on the day of her visit;
- 94% of pregnant women were asked if they had received tetanus toxoid;
- 88% of pregnant women received nutritional guidance;
- 80% of pregnant women were told of special conditions requiring their return to the clinic.

4.6.2 Indicator: reproductive health records are complete

PHC centers achieved a rating of 73% on this indicator. Records of 55 antenatal and 83 family planning clients were reviewed using a standard protocol to determine if all essential information was recorded. The rates for acceptable record completion are given in Table 6 for each of the 6 key components.

Table 6. Completion Rates for MCH Records

Item	RECORDS	
	Antenatal	Family Planning
History	77%	84%
Physical Assessment	94%	62%
Diagnostic Procedures	78%	NA*
Treatment	64%	99%**
Health Ed messages	29%	67%/79%***
Follow-up	75%	54%

* Not applicable
** Family planning method dispensed
*** See " family planning counseling provided" for elaboration

4.6.3 Indicator: family planning counseling provided

This indicator measured the quality of family planning counseling by asking new and continuing clients about their counseling experience. PHC centers achieved an overall rating of 70% on this indicator reflecting feedback from both new (n=12) and continuing (N=39) clients.

Family planning counseling for new users scored 67%. The 12 new family planning users reported the following details about the counseling experience:

- 100% were asked about pregnancy history;
- 83% were asked about their previous family planning experience;
- 50% were asked if and when she would like to have children;
- 64% of clients were told of the advantages and disadvantages of the various family planning methods.

Family planning counseling for continuing users scored 79%. The 39 continuing clients interviewed for the survey reported the following details about the counseling experience:

- 90% were told how to use the method;
- 69% were both told how to manage side effects and advised to return if there were any problems;

4.6.4 Indicator: family planning promotion takes place

PHC centers achieved a rating of 67% on this quality indicator measuring service provider promotion of family planning services during visits for well baby and post-partum care. Reports show the activities of 27 midwives and 31 nurses in setting service objectives, conducting client counseling and education, and following referral practices. The findings are given here:

- 58% of women (N=66) at well baby clinics were offered counseling in family planning by nurses;

- 33% of midwives (N=9) have objectives to guide their family planning activities, while 70% (N=21) do not follow a specific plan for increasing the number of family planning users;
- 74% of midwives (N=20) refer clients to comprehensive health centers, hospitals and CPP centers to obtain family planning methods not offered at the health center;
- 100% of midwives (N=27) discuss family planning during post-partum and well-baby visits.

Reproductive health service statistics: A quantitative dimension for the baseline was established by collecting reproductive health service statistics from 28 health centers offering MCH services (2 health centers did not provide RH services). The objective of the data collection was to provide an estimate of client demand for antenatal, postpartum and contraceptive services and to calculate contraceptive distribution by method for the same period. The results are presented in Tables 7 and 8.

Table 7. MCH services provided at health centers

MCH Service	Total # of Clients (3 months)	Average # of Clients/PHC Center (3 months)	Average # of Clients/PHC Center (1 month)
Antenatal Care	649	23	8
Postpartum Care	725	26	9
Family Planning	664	24	8

Health center data on MCH services displayed in Table 7 reflect low utilization of reproductive health care services in the 28 health centers in the sample.

Table 8. Distribution of contraceptives at primary health centers

Type of Contraceptive*	Total Distribution (3 months)	Average Distributed/PHC Center (3 months)	Average Distributed/PHC Center (1 month)
Oral pill (cycles)	2,790	100	33 cycles
IUD **	255	NA	NA
Injectible	74	3	1
Condom (pieces)	13,774	492	164

*Norplant and spermicides were not distributed
**Since many primary health centers do not insert IUDs, the average distribution per health center cannot be calculated with the above data.

Table 8 shows low levels of contraceptive method distribution at the survey facilities. Assuming a distribution policy of three cycles per month, approximately 11 women received oral contraceptives at each health center, each month, over the period January-March, 2000.

4.6.5 Indicator: adult illness records are complete

PHC centers achieved a rating of 37% on this indicator. Client records for diabetes, hypertension and anemia were reviewed using a standard protocol to determine if all essential information was recorded. The findings are presented in Figure 17. The data show that documentation rates were highest in the category of "treatment" while the rate of notations for other important client information was extremely low.

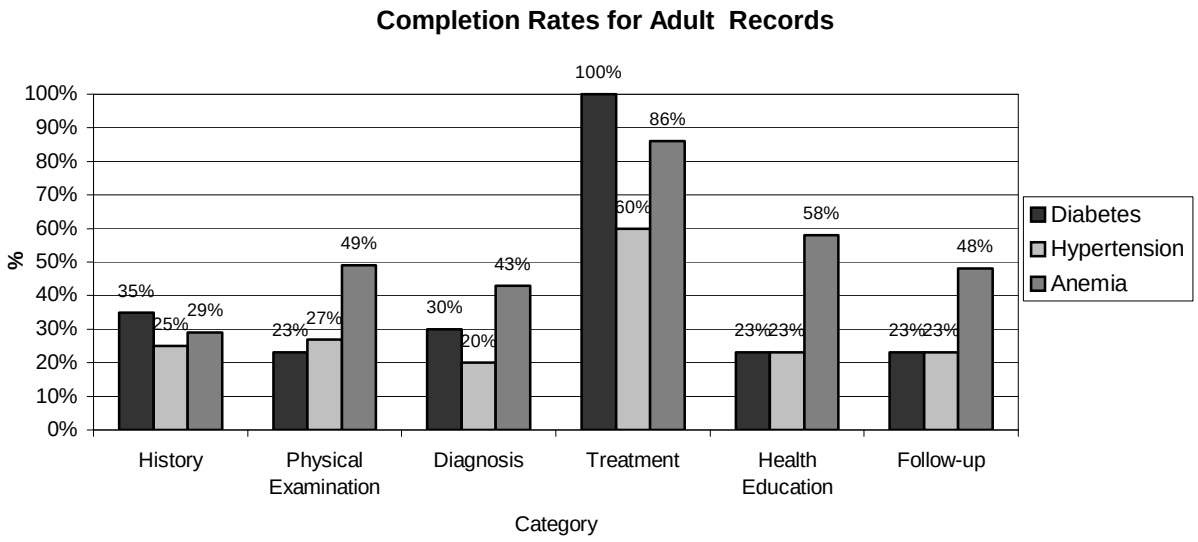


Figure 17. Completion rates for adult illness records

4.6.6 Indicator: follow-up care is provided

The health center rating for this indicator, 36%, reflects data gathered from record notations, client interviews and provider interviews. Questions focused on whether follow-up appointments were made and documented and on actions taken when clients failed to return.

Appointment System: The following table summarizes the data on appointments made for each service area.

Table 9. Appointments by Type of Patient Care

Type of Patient Care	Appointments
Antenatal	69%
Family Planning	43%
Diabetes	3%
Hypertension	3%
Anemia	35%
Bronchial asthma	4%
ARI	0%
Diarrhea	0%

Client Reports of Follow-up Appointments

- 49% (N=368) of 750 clients responded that the physician made a follow-up appointment;
- 87% (N= 34) of new users and continuing family planning clients were given a follow–up appointment by the provider;

- 97% of pregnant women were given a follow up appointment;
- 89% (N = 99) of those accompanying children at a well-baby visit reported that the provider made a follow–up appointment.

4.6.7 Indicator: child illness records are complete

PHC centers achieved a rating of 28% for this indicator, which measured performance by using standardized protocols to review records of pediatric clients with asthma, acute respiratory infection, and diarrhea. The findings are presented in Figure 18. The data show the highest level of record completion in the area of treatment and asthma records overall were more complete than records for the other problems.

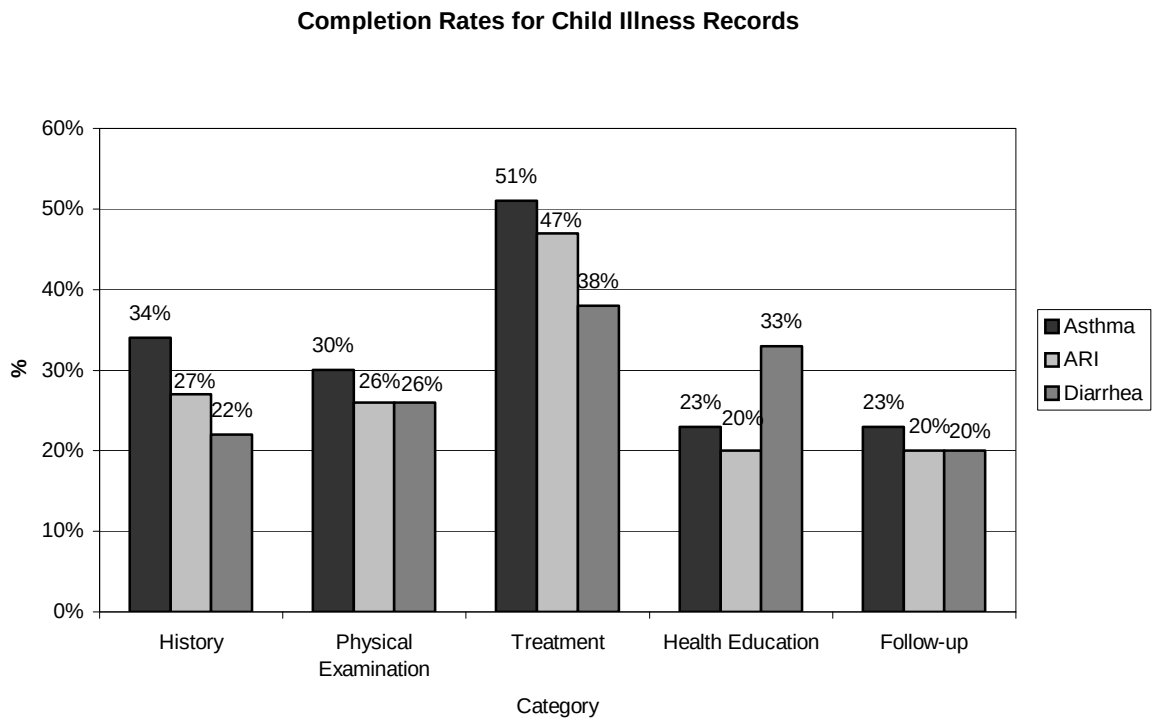


Figure 18. Completion rates for child illness records

4.6.8 Indicator: preventive health services provided

Health centers achieved a rating of 23% for this indicator which measured how service providers address preventive health issues. Records were sampled for notations on health messages, interviewed clients about health education messages received during their visit and interviewed staff about routine screening programs conducted at the clinic.

Client reports of health information received during a visit include:

- 96% of adults accompanying an infant or child during a well baby visit were given an immunization schedule;
- 86% (N = 401) of those who received a medication were given instructions for use by the pharmacist;
- 64% of accompanying adults were given child nutrition advice during the well baby visit;

- 58% (N = 437) remembered receiving health guidance from the provider or pharmacist including proper diet, how to take medication, and danger signs that signal immediate return to the clinic.

Health messages noted in client records: Table 10 summarizes the data from records for adult and pediatric conditions and antenatal care. The data show a great disparity between antenatal records and general medical records. With few exceptions, health education message notations are rarely found on patient care records for common health problems.

Table 10. Health education messages recorded by type of patient care

Type of Patient Care	Health Education Message Recorded
Antenatal	91%
Diarrhea	6%
Bronchial asthma	4%
Diabetes	1%
Hypertension	1%
ARI	0%

Screening Programs: The following data show manager reports of screening for major health problems:

- 17% of managers reported screening for diabetes;
- 20% of managers reported screening for hypertension;
- 1 manager conducted pap smears to screen for cervical cancer;
- No screening was reported for cholesterol and breast cancer.

5. CONCLUSIONS AND COMMENTS

This section presents the conclusions drawn from analysis of the survey data for each of the six research questions, contains comments to assist the reader in clarifying the results and outlines PHCI proposals for contributing to performance improvement.

To highlight priorities for action, the baseline survey results have been categorized in the following way: scores above 80% are considered good performance; scores 60%-80% are adequate, and scores less than 60% are inadequate.

5.1 Do the facilities demonstrate a client friendly, accessible and safe environment? *(Environment and Safety)*

The total score for Environment and Safety, 64%, is composed of four indicators measuring the physical condition of the facility; readiness for infection prevention; client perception of access; and facilitation of access to the center. The survey results show that physical conditions for service delivery are generally acceptable and that improvements are most needed in the area of infection prevention.

Appropriate service environment: Rating 68%-Adequate
PHC center performance received high ratings for indicators measuring cleanliness, privacy and equipment maintenance. Health centers were rated clean by both observers and clients; observers noted the presence of curtains or doors to ensure client privacy; and staff reported following standards for equipment maintenance. Within this indicator, privacy for family planning counseling, received low ratings. The PHCI project will address privacy for family planning counseling to ensure compliance with MOH regulations. PHC center standards and protocols will be revised and updated and staff members trained. Improvements in privacy at MCH spaces requiring redesign of facilities can be addressed with support from the health directorate, and when PHCI supported facility improvements are designed and completed at selected PHC centers. Training in the use of performance improvement review tools (PIR) will assist staff to document problems, prepare improvement plans and monitor progress.

Infection prevention readiness: Rating-59%-Inadequate
PHC center scores for this important aspect of health service readiness were disappointingly low. Of particular concern is the lack of attention to simple measures such as availability of soap and disposable gloves in examination rooms, which could protect clients and staff from transmission of nosocomial infections. Fewer than 20% of facilities have procedures for infection prevention posted in the health center for staff reference. Medical waste disposal is also rated low; only 10% of centers have a sink with running water designated for cleaning equipment. The importance of improving infection prevention procedures is supported by a report of the Family Health Group (1998, unpublished) which drew the conclusion that the increasing prevalence of Chlamydia in a community could have been related to poor infection prevention practices at the PHC center serving that community. In this important aspect of quality, PHCI expects to contribute through the development and dissemination of infection prevention standards and training for health center staff to address changes in attitudes and behaviors. Improvements in this area will depend on the availability of supplies,

equipment and a source of water. The combination of PHCI training and equipment inputs and MOH support should result in improvements.

Client perception of access: Rating-91%-good
PHC centers are located within 3 km of most and over 80% of clients either walk or use public transportation to reach the facilities. Ease of access to Jordanian health centers has also been noted by a FAFO study (1998), which found that accessibility to PHC centers in Jordan is especially easy, and that the urban-rural difference is actually minimal[3.]

Facilitation of access: Rating-44%-inadequate
Most centers have signs guiding clients to services within the facility but center hours are not posted. The addition of interior signs describing when and how services are provided would contribute to client understanding and diminish potential service barriers. PHCI can assist PHC center managers to recognize and address the need for more effective approaches to sharing facility information and the Performance Improvement Review (PIR), an internal assessment and improvement process currently being introduced by the PHCI Project, will point out potential access problems and facilitate health center team responses.

5.2 Do the facilities demonstrate the capacity to plan, staff, organize, implement and maintain health delivery services? *(Management Systems)*

The overall score of 40% achieved by PHC centers for research question two, Management Systems, suggests general weakness in management systems. Specific problem areas highlighted by the survey results suggest the need for improvements in staff management, job descriptions, planning, referral procedures, and use of information for planning and organizing services. In contrast, drug supply management received a high rating of 81%.

Supply System: Rating-81%- good
Many of the elements for a successful supply system are in place but a significant number of managers are not receiving updated lists of essential drugs to guide ordering and 66% report stock-outs for some essential drugs in the previous month. Although the data highlight a problem in maintaining appropriate stock levels most clients receive drugs at the clinic pharmacy, suggesting that physicians are prescribing available alternatives. To date, studies of the Jordan drug supply system have focused on hospitals and there is little documentation about PHC center supply services. Lack of drug supplies at PHC centers is a problem that may grow as demand for services and drug therapy options expand. Absence of prior studies on PHC center drug supplies and the problems highlighted by the baseline suggest the need for additional research to understand the system, its problems and options for improvement. To strengthen drug utilization practices, PHCI plans to train providers in the use of protocols and standards guiding appropriate use of medication

Staff management: Rating-50%- inadequate
PHC centers do not maintain adequate personnel records for staff members, files lack important information such as job descriptions, performance reviews and records of training experiences. The survey also found that staff meetings are not a regular feature

at many health centers and that staff and managers hold different opinions about the frequency of meetings. The PHCI project will focus its contributions to strengthen this aspect of management by: 1) supporting MOH efforts to complete and disseminate job descriptions currently being developed; 2) assisting the Directorate of Education and Training to design a training information data base and 3) conducting training in management and quality assurance activities to improve clinic coordination, staff motivation, work planning and, staff education.

Planning takes place: Rating-30%-inadequate

The poor performance on this indicator of management quality results from the absence of workplans and mission statements at the majority of health centers, from the lack of systems for obtaining client feedback- an important input to planning- and from the lack of attention to using research as a means of solving clinic operations problems. The PHCI Project will work with the governorate quality councils and PHC centers to promote improvements in work planning and to build capacity for internal planning by using PIR to identify problems and through management training. The project is also building research capacity to assist governorates in solving operations problems.

Referral system: Rating-27%-inadequate

Over 70% of the facilities were judged to have poor referral records characterized by lack of information about all major aspects of a good referral system. The Project is assisting the government to develop and disseminate diagnostic and management protocols, which will provide guidance for referral practice and documentation. Training in use of protocols will reinforce their relevance and improve performance. Research studies currently underway will guide suggestions for strengthening the referral procedures used by health centers. Referral forms designed to facilitate continuity for referred clients will be developed with central level counterparts and pilot tested at selected PHC centers. Trained quality assurance teams will monitor effectiveness of referrals.

Management information: Rating-16%-inadequate

Baseline data highlight the need for greater attention to using information for planning and organizing PHC center services. Health centers are not using community health information to design programs for health education, screening, prevention and care. The lack of staffing standards and guidelines for rationalization of staff combined with manager concerns about staff deployment and turnover problems, highlight the need for guidelines and standards to guide staff management decisions. A related concern is the lack of procedures for managing client flow, in particular, a client appointment system.

The Project is proposing activities to address each of these problems: 1) PHCI will assist PHC centers to develop annual plans using center and catchment area data about health trends and needs; 2) further analysis of the underlying personnel management is suggested prior to the development of staffing guidelines; 3) the Project will work with the MOH to design appointment systems to facilitate planning, ease congestion and contribute to improved satisfaction of clients and staff.

5.3 Do the facilities offer health promotion programs that increase health awareness and demand for services? *(Health Promotion)*

The overall score of 67% for research question three, Health Promotion, is composed of two indicators. The variance in scores for the indicators "health education planned" (81%) and "health education available" (57%) reveals the gap between planning for and participation in health education activities at the health center.

Survey results highlight the need for active promotion of health center services to the community. According to the data, the overwhelming majority of clients have learned about clinic services from friends and family, few having learned about the services from sources such as radio, print or visual media promoting the health center programs.

Health education plans in place: Rating-81%-adequate
Although schedules for health education are available, at approximately three quarters of the health centers surveyed, there is no evidence that these activity schedules have been prepared in response to community health needs assessment. Low client participation in clinic based health education may reflect lack of interest or absence of health education sessions at the centers. Additional information is required about health education program planning to determine what inputs may be needed to improve the quality and focus of health education plans and programs.

Health education is available: Rating-57%-inadequate
Client participation in health education programs during clinic visits is extremely low suggesting infrequent health education opportunities or low client interest. Regardless of the reason, health education is an important part of clinic services and greater participation should be encouraged. Another finding contributing to concern about the effectiveness of health education strategies is the apparent lack of client interest in health education posters and other printed materials available at centers. The PHCI Project communication strategy will strengthen this component of quality services by providing health education materials focused on major health problems to support client education activities, health worker training, targeted community outreach, and mass communication.

Services are promoted: Not scored
Survey results show that clients learn of health center services through their friends and relatives and that they seek mostly curative services. These findings highlight the need for clinics to actively promote services, particularly preventive services that contributed only 13% to the total number of client visits. Promotion of health center screening services for some of Jordan's most important health problems, such as hypertension and heart disease, could have a significant effect on long-term disease outcomes.

Additional investigation on unmet need and demand will assist the project to guide the development of effective strategies for influencing service demand and utilization patterns. Designated PHC center staff supported by the health directorate will use modern up-to-date marketing and promotional techniques to promote health center services. The centers will be supported in their promotional efforts by improved signage, posters, billboards and other targeted media. With guidance from MOH to determine program focus, PHCI communication and training strategies will assist clinics

to promote preventive health and screening programs and to increase demand for these services.

5.4 Do the facilities maintain a motivated, trained, and supervised staff capable of providing appropriate, safe and effective services? *(Technical Competence)*

The overall score of 53% for research question four, Technical Competence, reflects performance on three indicators measuring the supervision system, staff training, and use of protocols and standards. The score suggests the need for continued attention and support to this critical area.

Supervision in place: Rating-71%-Adequate
Although rated at this level, supervision reveals weaknesses such as infrequent meetings and insufficient attention to the use of supervisory methods supporting performance improvements. A substantial proportion of managers and staff do not meet on a regular basis with their supervisors and do not share a common understanding of what happens during supervision. Analysis of the results highlights the need for increasing the frequency of visits, and clarifying supervisory responsibilities, and activities. PHCI will provide training in supportive supervision methods for QA coordinators, PHC center managers and HTTs and other supervisors, as needed.

Staff training provided: Rating–50%-Inadequate
The low rating for this indicator is explained by the lack of attention to planning for training and lack of training opportunities for health center managers. The findings indicate that a system is needed to assure that managers and staff participate in a variety of continuous educational programs. PHCI is working closely with the Directorate of Education and Training and the Information Center to establish a sustainable training information data base. PHCI is also working with the MOH to establish a system of master trainers (HTT) to support government level training for service providers.

Protocols and standards available: Rating-32%-Inadequate
The use of standards and protocols by health center staff is limited by both the absence of this guidance and training in its use. Survey results show that neither protocols nor standards of care are available to assist managers in guiding and developing staff performance. The PHCI project is supporting MOH efforts to develop clinical protocols and management standards; train quality coordinators to communicate standards and monitor staff using the performance improvement review process (PIR). Involvement by high level MOH staff and focus on standards appropriate for PHC centers should help to standardize practice.

5.5 Do the facilities meet client expectations and needs by providing appropriate, safe and effective services? *(Client Satisfaction)*

Overall client satisfaction, a measure of satisfaction with facilities, services and providers at PHC centers, scored 78%. This result is consistent with other studies of client satisfaction in Jordan.

Client satisfaction with services: Rating–83%-Good
The score for client satisfaction received the highest rating. Despite this rating, client suggestions for improving quality of care indicate that improvements may be needed. When asked, 70% of clients had concrete suggestions for change. Their comments reinforce the need to address issues such as limited time for client provider contact and improvements in the availability of drugs. The Project will promote the use of client feedback as an integral part of performance review understanding that client involvement and client education will raise their expectations. Clinic quality teams, trained to assess all quality elements and develop concrete actions for improvement, will include client satisfaction as an integral part of the review.

Baseline data on client satisfaction are similar to FAFO's (1998) findings for household satisfaction with local health services in Jordan[4]. In that study, 71% of the households surveyed said that they were 'satisfied' or 'rather satisfied' with local health services, 10% reported that services were acceptable, and 18% claimed they were unsatisfied. PHCI is currently supporting an opinion and empirically based national study of client satisfaction to learn more about the level and determinants of client satisfaction.

Client satisfaction with access, privacy and provider contact: Rating–79%-adequate
The rating for privacy reflects client satisfaction with privacy and access and their confidence in service providers. While client satisfaction is adequate, there is room for improvement. Contact between the client and provider is short, i.e. 58% of clients report the contact to be less than 5 minutes. Furthermore, despite high client satisfaction with the health center experience, a substantial number of clients have suggested increasing contact time with providers.

PHCI expects to facilitate improvements in this area by training all providers to following the family health model and use protocols when managing client problems. PHCI will also promote nurse competence by strengthening their skills in assessment, counseling and health education. As nurses become more skillful, clinic managers can distribute client care responsibilities to decrease the physician burden and allow them more time for client care.

Client satisfaction with provider communication: Rating–77%-adequate
Client responses to questions about the interpersonal communication skills of staff show general satisfaction. Providers received high ratings for personalized greetings, and courtesy and respect shown to clients during their visit. Physicians also received high ratings for answering clients' questions in ways that clients could understand.

5.6 Do the facilities provide appropriate and effective services that comply with standards and respond to client health needs? *(Client Care)*

The rating of 45% for the sixth research question, Client Care, establishes this quality element as high priority for improvement. The results show adequate to good performance on reproductive health care indicators but ratings on indicators measuring quality care for adults and children are low. Follow up care and preventive health services also received low ratings.

Reproductive health care provided. Rating-92%-good
Responses to the four questions asked of family planning and antenatal clients show that women attending the primary health care centers received reproductive health care. The baseline results show that when a woman presents herself to the health center for reproductive health services, she receives "good care" by the midwife. As reported in other sections of this report, MCH service utilization is relatively low. Expanded outreach through promotion and education would improve opportunities for women to obtain the full range of reproductive health services during and after pregnancy. PHCI inputs will contribute to building demand through health education and health center promotion programs.

Reproductive health records are complete. Rating-73%-adequate
In general, antenatal and family planning client records sampled for the baseline contained adequate documentation on history, physical assessment, diagnostic procedures, treatment, health education and follow-up. PHCI will provide training, introduce protocols and support monitoring to support the maintenance of high quality records.

Family planning counseling provided: Rating-70%-adequate
Family planning clients are counseled in method selection but greater attention could be given to explaining the advantages and disadvantages of various family planning methods. Training and health education materials are planned to support effective family planning counseling. Emphasis will also be given to ensuring privacy during counseling.

Family Planning promotion takes places: Rating-67%-adequate
Questions in this area addressed two factors that influence demand for family planning services i.e. promotion of family planning among women attending the center for other services; and the presence of plans and objectives to increase utilization and referral practices. The finding show that midwives actively promote family planning during well baby and postpartum visits, and refer clients for services not available at the clinic such as IUDs. Unfortunately, none of the midwives had objectives and plans to guide them in expanding family planning services. Given the low rate of family planning service utilization at PHC centers, demand generation is an important area for improvement. PHCI will address this performance problem by promoting family planning within the health center, conducting health education campaigns, and assisting midwives to set objectives for increasing the number of family planning acceptors.

Reproductive health services provided (unscored)
Health center data show low utilization of antenatal and family planning services. Although demand is good for well baby and post-partum services, too few women are seeking antenatal and family planning services. Service provider training, participation in planning exercises, and use of protocols should reduce missed opportunities for reproductive health services. Performance review monitoring (PIR) will assist health centers to monitor progress and identify opportunities for improvement.

PHCI will assist the government in increasing demand for reproductive health services at PHC centers through 1) improving training with emphasis on technical competence and counseling at "every opportunity"; 2) expansion of health education programs to

increase both outreach efforts and programs aimed at women within the health center, and strategies for reaching male decision makers; 3) better record keeping and referral.

Adult (37%) and pediatric (28%) records are complete: Rating–inadequate
Records lack complete information about clients seen at health centers. In most records, physician notes are limited to treatment and contain no mention of history, physical examination, diagnostic tests, health education or follow-up. Pediatric records are more deficient than adult records most notably in the category of treatment notes.

The PHCI project contributions to improvement in record keeping will include dissemination of protocols to establish expectations, training in record keeping procedures, and introduction of a family health care record.

Follow-up care is provided: Rating-36%- inadequate
Performance on this indicator was determined by the presence of an appointment system and through client reports of follow-up appointments made. Records show that antenatal, family planning and anemia clients are more likely to receive follow-up appointments than general medicine clients. Only 3% of diabetic and hypertension records and 4% of asthma records contained scheduled follow-up appointments. Since follow-up for chronic diseases is an important element of care this is an area for further attention and training.

Implementing an appointment system in PHC centers, or with MCH services, has been an issue for debate in Jordan. Provider reports show that clients frequently miss appointments. The majority (73%) of midwives (N=22) sampled for this survey follow up clients by making home visits (63%), and contacting clients by telephone (56%). A PHCI supported study is investigating the implications and feasibility of installing appointment systems at health centers. Clinical standards and training will improve provider attention follow-up care.

Preventive health information provided: Rating–23%- inadequate
The performance on this indicator is mixed consisting of high ratings for client reports of receiving verbal guidance from staff and lower ratings for record notations. The absence of screening programs for common problems such as hypertension is another area of concern for the quality of health education programs. The PHCI project will work with the MOH in developing health education materials and strategic approaches that should enable the health centers to be more proactive in identifying and targeting high-risk individuals in the community and helping them to manage their health problems or change their life-style.

6. SUMMARY AND RECOMMENDATIONS

The baseline quality of service survey highlights the strengths and weaknesses of the primary health care center system. The data was analyzed according to six important dimensions of quality service: Environment and Safety, Management Systems, Health Promotion, Technical Competence, Client Satisfaction and Client Care. The results point out general high client satisfaction with center services, communication, access and provider competence but low marks in management systems, such as referral

procedures, use of standards and protocols for service provision, use of data for planning, and the management of staff. In general, this indicates that sectors in which vertical programs or strong inputs have been provided scored well, such as the supply system or MCH recording keeping and service provision; similarly areas of deficiencies are those in which little attention has yet to be directed, such as use of standards, general health record keeping and the provision of preventive health services.

The Primary Health Care Initiative project over its 5-year existence is designed to improve the quality of care and access to primary health care services. Thus many of the baseline findings will be addressed through the Project and MOH comprehensive inputs to quality improvement. These include promoting the integration of service delivery and supporting the complementary activities of training, applied research, management support systems, health communication and marketing, procurement of essential equipment and the selective renovations of facilities. To focus on client needs, a family health care model, which emphasizes reproductive, child, and adult health and health promotion, is being created. The model will be implemented by a family health provider team consisting of a qualified doctor and nurse, trained to deliver services in a holistic manner focusing on the needs of every member of the family.

This model has benefits for the consumers and the system:

- Continuity of care is enhanced as health teams are assigned to families and family health records are maintained;
- Comprehensive services emphasizing prevention, screening and counseling prevent missed opportunities;
- Integrated services improve access and convenience for the user;
- Cost effective improvements in quality of management and clinical services result from the integration of services and the more equitable deployment of staff
- Coverage is expanded due to increased client demand for quality services

However many of the problems identified through the baseline survey go beyond the scope of the project inputs and point to the need for policy level decisions. The project can, through its six components, substantially contribute to the implementation of activities resulting from these decisions. The following recommendations are examples of areas, which require further attention:

Recommendations

- To equalize access to health services, facilities should be reviewed for their geographic appropriateness, equitable access, and range of available services to ensure equitable access to primary health care across all levels of the population

- To ensure the safety of clients and providers, infection prevention procedures, proper distribution and maintenance of equipment and supplies and training should be made available.

- To both increase provider-client contact, allowing a comprehensive approach to health, and lessen client waiting time, a more equitable deployment of staff

resources and staff responsibilities to should be explored. This includes reviewing the responsibilities and training of health providers to lessen the burden on physicians' time and ensuring better allocation of staff across centers.

- Proper criteria to guide the appropriate staffing of health centers based on client volume and health needs is another area requiring policy level decisions.

- Encouraging private-public sector partnerships builds on the strengths of both systems to improve referral networks, increase community health knowledge, and provide a wider range of services

- To meet the need and increase demand for reproductive health services, and in particular family planning services, the number and distribution of female doctors and the use of trained midwives to insert IUDs to meet client demand should be explored.

- Decisions regarding the use of incentives, both monetary and non-monetary, to increase staff motivation and satisfaction and reinforce performance improvement should be reviewed

- A study of the PHC center supply system should be undertaken to review problems in maintaining stock and assisting MOH to design more effective supply management procedures for health centers

- Creating a body at the central level to oversee and reinforce project inputs and new directions taken by MOH should be explored to ensure sustainability of improved quality of services at the PHC center level.

Annex 1: Conceptual Framework
Baseline Survey Elements, Indicators and Instruments

Survey Section	Environment and Safety	Management Systems	Health Promotion	Technical Competence	Client Satisfaction	Client Care
1. Facility Review	• Appropriate service environment • Infection prevention readiness • Adequate Access	• Supply system in place • Planning takes place	• Health education available	• Staff training provided		
2. Facility Records		• Staff management in place	• Health education planned			
3. Client Record Review		• Referral system in place				• RH records complete • Adult records complete • Child illness records complete • Preventive care • Follow-up care
4. Client Exit Interview	• Appropriate service environment • Adequate Access		• Health education available		• Client satisfaction with services • Client satisfaction with access, privacy, and provider contact • Client satisfaction with communication	• FP counseling provided • RH Care provided • FP promotion takes place • Preventive health services provided • Follow- up care provided
5. Staff Interview: <u>Manager</u>		• Use of management information • Planning takes place • Referral system • Supply system • Staff management		• Supervision in place • Staff training provided • Protocols/ standards available		• Preventive health information provided
6. Staff Interview: <u>Physician, Nurse & Midwife</u>	• Appropriate physical environment	• Staff management in place		• Protocols & standards available		• FP promotion takes place • Follow-up care provided
7. Community Committee Interview*						

*Data not included for this Baseline Report

Annex 2: Elements and Indicators

Environment and Safety (N=4 indicators)

- Appropriate service environment
- Infection prevention readiness
- Client perception of access
- Facilitation of access

Management Systems (N=5)

- Supply system in place
- Staff management in place
- Planning takes place
- Referral system in place
- Use of management information

Health Promotion (N= 2)

- Health education planned
- Health education available

Technical Competence (N= 3)

- Supervision in place
- Staff training provided
- Protocols and standards available

Client Satisfaction (N=3)

- Client satisfaction with services
- Client satisfaction with access, privacy and provider contact
- Client satisfaction with communication

Client Care (N=8)

- Reproductive health care provided
- Reproductive health records complete
- Family planning counseling provided
- Family planning promotion takes place
- Adult illness records complete
- Follow-up care provided
- Child illness records complete
- Preventive health services provided

INSERT ANNEX 3: QUESTIONNAIRE HERE

Annex 4: Sampling Plan

In the interest of feasibility and relevance, a decision was made to evaluate the quality of care in centers serving the largest percentage of the population. Thirty health centers were randomly chosen from a pool of sampling units, which included geographic representation and a client volume of over 120 visits per week. This allowed for an adequate data collection base and gave the maximum precision within the limits of the survey. Thus survey results may be generalized to the 216 centers that meet the baseline criteria of clients served and may not be as applicable to the 120 low volume centers.

As with all surveys, the development of a sampling plan depends upon broad assumptions about the variance of the responses to the survey questions. The true precision of estimates derived from the survey cannot be known until the survey is completed and the data analyzed. For this baseline survey, criteria were set for the random selection of 30 health centers. Since the baseline survey includes multiple instruments with different respondents the level of precision will not be the same for all estimates. To develop a sampling strategy, the Team used the client survey. This survey can be administered to a large number of respondents at each health center and provides the opportunity for a reasonable level of precision for a single question. The remaining survey instruments have only one to three respondents per health center so that although the single question precision is going to be poor, the variance of scores based on multiple questions should be small enough to allow adequately precise estimates at the element and indicator level.

For the client survey, the Team based the estimated precision for a single “Yes-No” response. The Team also established the sample size assuming a 50-50 split between “Yes” and “No” responses since this split provides the greatest required sample size for a given level of precision. The effective required sample size can be derived from the graph as shown in Figure 19 below. From this figure, one can see that a sample size of 400 provides a half width of 5%. This means that if a survey was conducted at 400 health center clients and 50% of the respondents answer “Yes” to a question, we can be 95% confident that between 45% and 55% of all health center users would reply “Yes” to that question. A sample size of 100 would provide a half width of 10%. These sample sizes are based on the assumption of a simple random sample. Stratification and clustering can increase or reduce the required sample size for a given level of precision. Because of the relatively small size of the sample, stratification was considered impractical. Since the Team is using a cluster sample (clustering by health center) the true precision will be reduced from that shown in Figure 19. The Team decided that a sample of 25 clients at each of 30 health centers (750 completed surveys) should yield an adequate level of precision. Even with a clustering reduction, the half width should be below 10%.

Since 25 completed surveys per health center are required, attention had to be paid to the number of visits per week per center. In low volume facilities, it may not be feasible to interview the required number of respondents. Table 11 shows the approximate distribution of health centers by number of visits per week. The Team made the decision to eliminate health centers with fewer than 120 visits per week based on practicality and relevance to the largest segment of the population served. This

decision means that the survey results apply only to those health centers with patient volumes of 120 visits per week or greater; conclusions about quality of care in low volume centers may differ.

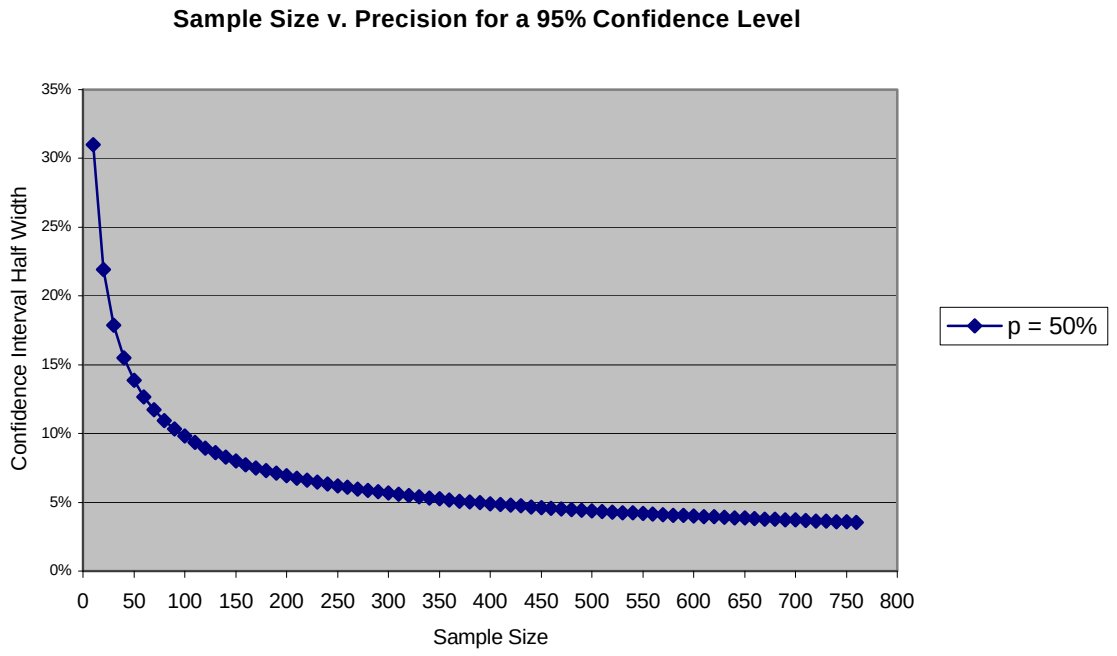


Figure 19. Sample size versus precision for 95% confidence level

Table 11. Count of PHC centers by number of primary care visits per week

# of visits per week	Number of PHC centers
0 - less than 30	13
30 - less than 60	40
60 - less than 120	67
120 - less than 240	91
240 - less than 480	89
480 – less than 1225	36
Total	**336**

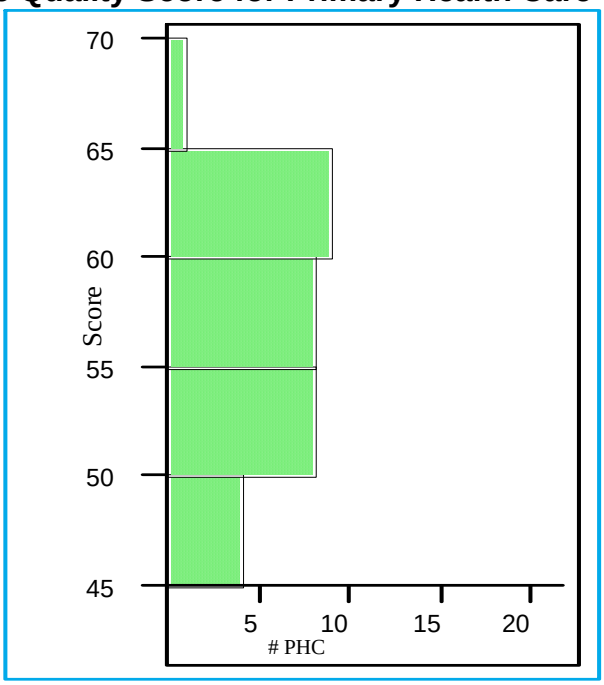
Selecting the sample:
To select the sample, the Team created the sample frame shown below. In this sample frame, each health center with 120 or more visits per week was listed. The Team then sorted the health centers by governorate and by region (Central, North, and South). This sorting gives a natural stratification to ensure representation for each region. The Team did not know the distribution of patient departures during the day, whether clients exit the facility individually or in groups, or how much time is required to approach the patient and conduct the survey. However, the Team believed that an interviewer probably would not be able to interview more than one of every three individuals exiting the facility and possibly fewer. This led the Team to define a sampling unit as 60 primary care visits. Nationwide, the Team estimated that about one MCH visit occurs

for every four primary health visits, so that if there are 60 primary care visits, the Team would expect approximately 15 MCH visits. Thus, a sampling unit of 60 primary care visits should give a total of about 75 patients from which to obtain 25 interviews.

Using 60 visits as the sampling unit, the Team estimated the number of sampling units for each health center and created the sampling frame, which may be obtained on diskette from PHCI in Amman. The Team identified a total of 1,120 sampling units for all health centers and chose to divide the sampling frame into 10 zones. They then selected three health centers from each zone for a total of 30 health centers to participate in the data collection.

Annex 5: Distribution of Quality Scores by Quartile

Average Quality Score for Primary Health Care Centers



Maximum	100%	69.6
Quartile	75%	61.1
Median	50%	56.9
Quartile	25%	51.3
Minimum	0%	46.3

Mean	56.6
Standard Deviation	5.7
Upper 95% Mean	58.8
Lower 95% Mean	54.5
Number of Centers	30

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