

# Health Facility Survey on Outpatient Child Care (IMCI) Services

**Egypt**  
**March 2002**



Ministry of Health and Population  
Arab Republic of Egypt



World Health Organization  
Regional Office for the Eastern Mediterranean

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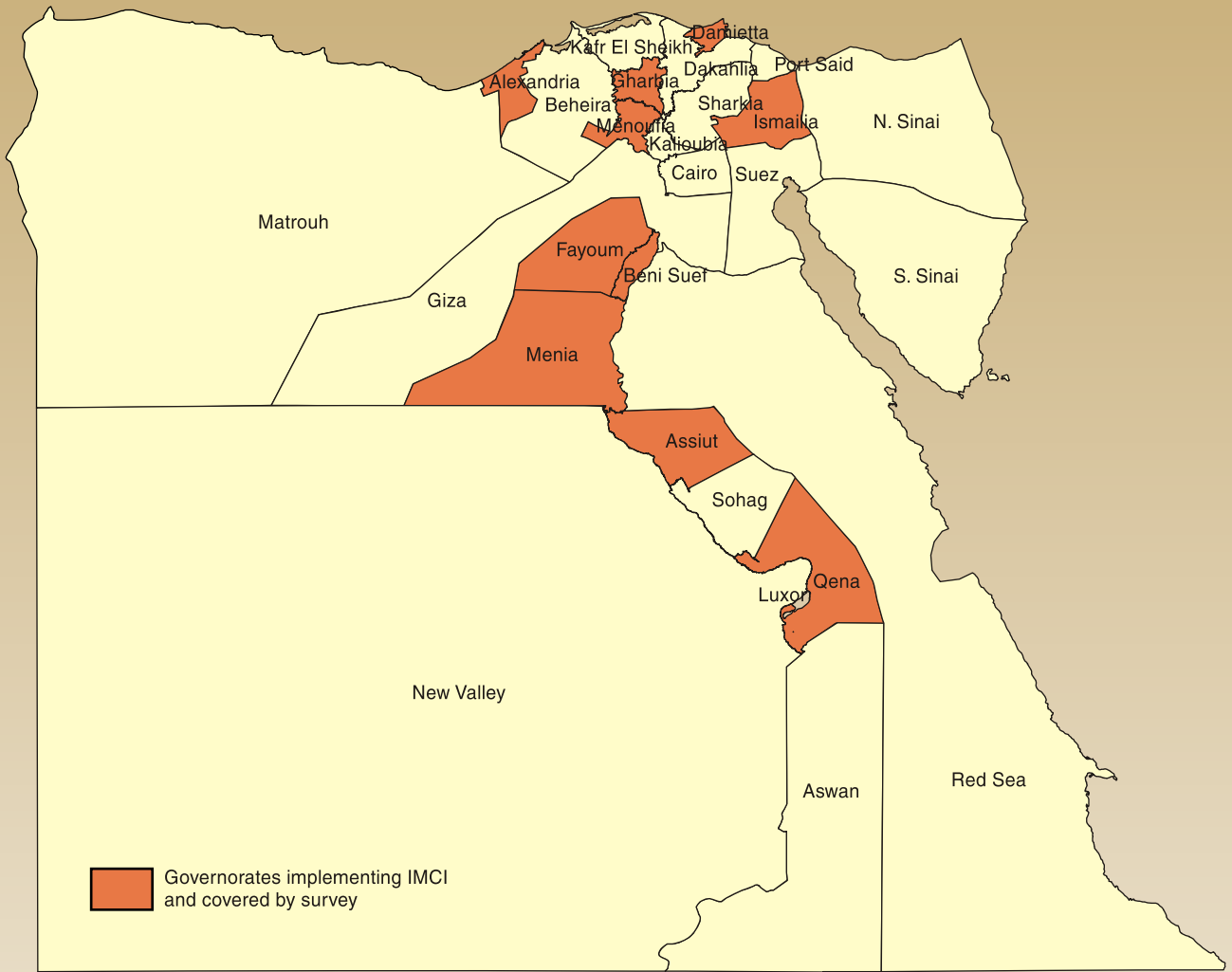
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**Governorates included in the survey**

## EXECUTIVE SUMMARY

### **Background**

Integrated management of childhood illness (IMCI) was introduced in Egypt in 1997 to integrate vertical child health care programmes under the primary health care programme. It has since expanded to cover some 600 health facilities in 10 governorates. This survey was planned to measure outcome indicators (quality of care) at IMCI health facilities.

### **Methods**

The management was observed of 296 children aged 2 months up to 5 years with an 'IMCI' condition seen at 50 health facilities, randomly selected from 294 IMCI facilities that had a daily caseload of at least four children under 5 years, including rural and urban health centres, and outpatient departments of hospitals, in 10 governorates. 292 interviews with child caretakers were also conducted, and facilities, services and supplies were assessed in the 50 facilities visited.

### **Results**

Two-thirds (66%) of cases were among children under 2 years old and all the 6 severe cases fell in this age group. Fewer female children than male children tended to be seen at rural facilities. The majority of caretakers (85%) were mothers of the sick children. About a quarter (27%) of children had 'anaemia' based on clinical pallor. About one child in 20 (5%) was low weight-for-age. Most of the conditions seen were mild and required just home care.

*Assessment:* About half (47%) of children were systematically checked for all the 10 main assessment tasks and most (83%) of those below 2 years old and with low weight-for-age and/or anaemia were assessed for feeding practices. Children seen by female doctors tended to be more thoroughly assessed than those seen by male doctors. All children were weighed, had temperature taken and immunization status checked. The respiratory rate was taken in 97% of the children with cough or breathing problems and the count was considered reliable in two-thirds (65%) of them. In most children, key tasks were performed and done correctly to check for a throat problem, detect clinical pallor, and assess such conditions as diarrhoea and ear problems. A history to check about measles was taken in 3/4 (74%) of children with fever or history of fever. Over two-thirds (69%) of children were asked also about problems other than those covered by the IMCI clinical guidelines. Child health cards were checked in 58% of cases.

*Classification:* For the conditions identified, there was agreement between provider and surveyor classification in 73% of cases. All but one (99%) of the conditions incorrectly classified by the provider were under-classified as milder cases, including especially cases with 'pneumonia' and 'anaemia'.

*Treatment and advice:* One of the six severe cases needing urgent referral or hospital admission was fully managed, while two others were admitted with no initial treatment. Injectable drugs, including antibiotics, were properly used. About 3/4 (73%) of cases needing oral antibiotics were prescribed antibiotics correctly; antibiotics were unnecessarily prescribed to less than 5% of cases. The weak area in providers' antibiotic instructions and caretaker recall was the duration of treatment. Only 45% of caretakers stated that, if the child got better before completing the whole course of antibiotic as advised, they should continue the treatment for the full duration advised by the provider. Most caretakers of children with diarrhoea were advised on ORS and its preparation and use, and two-thirds of them (67%) recalled all the instructions correctly. Other treatments (paracetamol for fever, iron for anaemia, safe remedies for cough) were prescribed in most cases as appropriate. Iron supplements were given in 3/4 (76%) of eligible children. All children but one needing vaccination left the facility with the required vaccinations or advice on when to come back for it. Advice on



definite follow-up would have been required in as many as 73% of all children seen based on the guidelines, raising some issues about the feasibility of such a recommendation. Although most caretakers were advised on home care (feeding, fluids and when to seek care), only 21% of them were clear about all the three key home care rules and, especially, the danger signs that should prompt them to seek immediate care. Overall, more than 2/3 (71%) of target children received age-appropriate advice on feeding, while only 57% of those 6 to 11 months old were properly advised on the frequency of complementary feeding. One mother in five (21%) received some advice on her health.

*Health systems:* The large majority of caretakers (95%) were satisfied with the health services provided, valuing provider examination of the child, treatment given, and information received – all prominent features of the IMCI approach. Flow of patients was smooth in most facilities and IMCI tasks were well distributed between doctors and nurses. Three-quarters (77%) of first-level, non-hospital facilities had at least 60% of doctors trained in IMCI; 65% of children were managed by doctors who had been trained in IMCI in the past year. Drugs were available, with an average of 5.8 out of the 6 essential oral drugs for treatment of pneumonia, dysentery, diarrhoea, fever and anaemia, 11.2 out of 12 key drugs for IMCI conditions, and all the 3 parenteral drugs recommended for pre-referral treatment. All non-hospital facilities had supplies and equipment for vaccination, and most had other basic supplies and materials; mother counselling cards on childcare were found in 78% of facilities. Transportation for referred cases was not reported as a problem, with an average time of 15 minutes to reach the referral facility. Virtually all facilities reported to have child health services available 7 days a week. Two-thirds (64%) of facilities had a supervisory book and less than half (44%) had recommendations recorded in it. Case management practices had been observed in a third (36%) of the most recent supervisory visits. About a quarter of all outpatient visits recorded in a reference month were for children below 5 years old.

### ***Conclusions***

Caretakers highly appreciated the child health care services provided. The management of sick children seen by providers trained in IMCI followed a systematic approach in most cases and drugs were used rationally. Key supportive elements of the health system were in place in the IMCI facilities visited. The IMCI strategy therefore seems to act as a powerful channel to improve the quality of services. Better links should be established between IMCI and mother care. Case management areas needing improvement are described in detail in Annex 1.

### ***Recommendations***

1. Plans for a revised approach to training should be developed to address the issue of staff turnover and the challenge of increasing training coverage while expanding to more facilities.
2. Clinical and communication skills of medical graduates already exposed to IMCI in medical schools should be assessed, to help address the challenge of long-term sustainability of IMCI.
3. The impact of the current iron supplementation policy should be measured to review the issue of anaemia in children (and mothers).
4. The use of the child health card should be widely promoted, childcare messages should be incorporated in it and home care and care-seeking practices should be priority areas for community interventions.
5. Childcare drug expenditure by IMCI and non-IMCI providers should be estimated to document improved drug availability at no extra cost through rational prescribing by trained providers.
6. Priority should be given to testing and close monitoring of the approach to strengthening supervision currently under development.

## 1. OBJECTIVES

The Ministry of Health and Population (MOHP) of Egypt, in collaboration with the Regional Office for the Eastern Mediterranean (EMRO) of the World Health Organization (WHO), conducted a survey from 10 March to 10 April 2002 on the quality of outpatient care provided to children below 5 years old at health facilities by health providers trained in the Integrated Management of Childhood Illness (IMCI).

The “IMCI health facility survey” in Egypt more specifically had the following objectives:

- (1) To assess the *quality of outpatient care*, including both clinical and counselling care, provided at health facilities to sick children aged 2 months up to 5 years old<sup>1</sup> by health providers trained in IMCI;
- (2) To describe *organizational and managerial factors* (“health systems support”) influencing the quality of care and identify major constraints to it;
- (3) To measure *key indicators* of quality care to monitor progress of the IMCI strategy at health facilities; and
- (4) To recommend *further approaches* to improving the quality of outpatient care.

## 2. BACKGROUND

This section summarizes information that was reviewed to discuss survey objectives, adapt the survey questionnaires and develop country-specific survey rules. This information was also used as background to the analysis and interpretation of the results of the survey.

### 2.1 SETTING

Almost all (98%) the population in Egypt, estimated at almost 68 million, lives in the Nile valley and its delta (5% of the total area)<sup>2</sup>. Being mostly concentrated in a narrow area, it usually has *accessibility* to the wide primary health care (PHC) network of the MOHP, which consists of over 4000 health facilities – the average number per district varying greatly – and represents the backbone of the health system. More than half of the population (about 55%) lives in *rural areas* and about 80% of the PHC facilities is located in these areas.

### 2.2 CHILD HEALTH INDICATORS

*Infant (IMR) and under-five (U5MR) mortality rates* have been declining considerably in Egypt over the years, falling from 98.3 to 43.5 deaths per 1000 live births (IMR) and from 140 to 54.3 deaths per 1000 live births (U5MR), respectively, in the period 1980–2000, according to the latest Egypt Demographic and Health Survey carried out in the year 2000 (EDHS2000) (Fig. 1). Thus, 80% of childhood<sup>3</sup> deaths occur in the first year of life.

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<sup>1</sup> The expression “up to 5 years old” in this report refers to children less than 5 years old, therefore excluding the day of their 5th birthday. This expression, although not fully correct, is used here as it appears to be more easily understood by readers without epidemiological background.

<sup>2</sup> Sources in this section include MOHP, WHO (WHO World Health Report, 2001) and UNICEF (The State of the World Children, 2002).

<sup>3</sup> Childhood in this report refers to children below 5 years old.

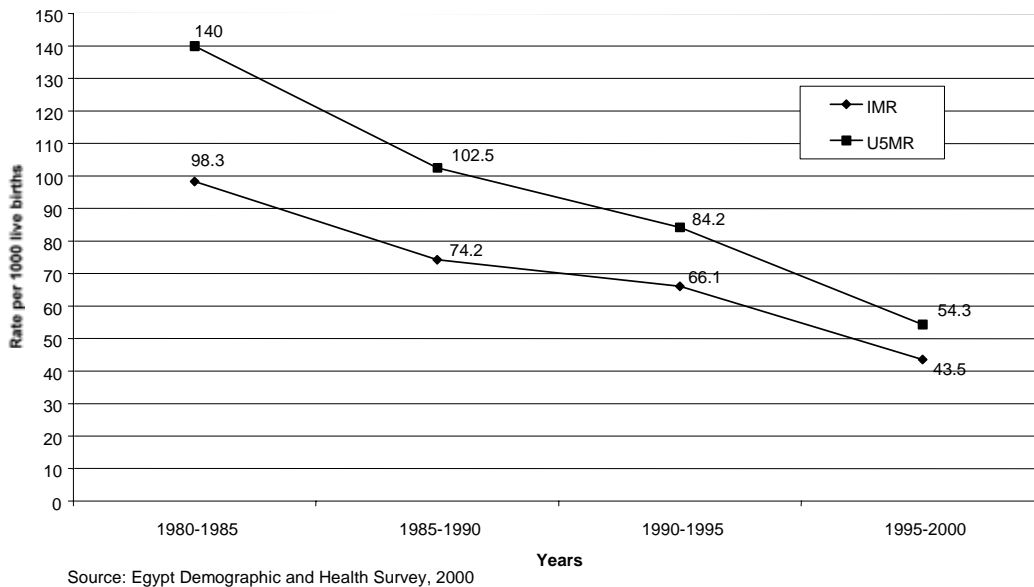


Fig. 1. **Infant and under-five mortality, Egypt, 1980–2000**

There are remarkable differences between urban and rural areas and Lower and Upper Egypt, with IMR and U5MR in rural areas in Upper Egypt being almost twice as high as urban areas in Lower Egypt. This is important when prioritizing public health interventions designed to impact on child mortality. While little difference exists in mortality between boys and girls, mother-related risk factors for child mortality include among others young maternal age (< 20 years old) and short birth interval (< 2 years). Acute respiratory infections and diarrhoeal diseases represent about half of the deaths in under-5 children in Egypt and are responsible for some 39% and 20% of outpatient consultations at PHC facilities, respectively; they are also a common reason for hospital admissions<sup>4</sup>. Malnutrition is also not uncommon: almost a fifth (18.7%) of children below 5 years old was found stunted (< -2 SD for height-for-age) in the EDHS2000.

### 2.3 THE RESPONSE: AN INTEGRATED CHILD CARE STRATEGY (IMCI)

The strategy on Integrated Management of Childhood Illness (IMCI) was formally introduced in Egypt in 1997 “as a suitable strategy to meet the needs of the PHC programme, which was confronted with difficulties in integrating child care vertical programmes”<sup>4</sup>. IMCI was included in the “Basic benefit package” of the Health Sector Reform, which had been developed at the time. The main steps of the IMCI process in Egypt from introduction through the early implementation phase are shown in Annex 2. An IMCI working group was formally established in 1997 to coordinate activities. Taking into due consideration the marked urban–rural and Upper–Lower Egypt differentials in health and socioeconomic indicators, the strategy has since its inception been implemented in Upper Egypt. In the past 2 years, the strategy has been expanding to cover some 600 health facilities in 32 out of 82 districts located in 10 governorates. Five of these 10 governorates are in Upper Egypt. Among the main adaptations to the generic WHO/UNICEF clinical guidelines are: the inclusion of the management of sore throat, the separation of the management of anaemia and malnutrition, the removal of malaria and the extension of the recommendation for exclusive breastfeeding to the first 6 months of life.

<sup>4</sup> Report on IMCI early implementation phase – December 1996 – March 2000, PHC sector, MOHP, Cairo, April 2000.

The main focus of the strategy has initially been on the health system.

- ❖ *Improving health providers' skills* – A total of 90 clinical training courses on IMCI have been conducted for almost 2000 people from PHC facilities and hospital outpatient departments (Annex 3). While doctors undergo the standard 11-day training, a 4-day training package has been developed for nurses focussing on selected tasks, to improve the distribution of case management tasks and responsibilities among health facility staff. About 95% of health providers trained have been followed up with skill reinforcement visits within 4–6 weeks of the training course (“IMCI follow-up visits”). One issue has been the turnover of trained staff; training slots have been reserved in new courses to train new staff in the facilities already covered where trained staff have left (“IMCI facilities”). IMCI elements have also been introduced in the teaching at seven medical schools, to address the issue of long-term sustainability. Medical graduates from the first batch of medical students exposed to IMCI are currently going through their one-year internship as house officers and will soon be ready to enter the health system.
- ❖ *Improving the health system* – A review of the essential drug list has been undertaken, with basically all drugs needed for IMCI included. A standard approach has been used to improve health system support to child care, with proper orientation of governorate and district authorities, selection of districts based on agreed upon criteria, followed by situation analysis and district planning. As a result of those plans, basic supplies and equipment have been provided to IMCI-implementing facilities and efforts have been made in coordination with local authorities to ensure adequate supply of the required drugs. Work at ‘IMCI health facilities’ has been re-organized to make patient flow smooth, detect severe cases promptly and manage cases systematically, distributing selected tasks to nurses. Case record forms have been developed and distributed and an information system has been developed. To encourage caretakers to take their sick children back to the facility for follow-up visits when required, follow-up visit fees have been waived. Attention has recently been paid to supervision and a supervisory skills training package has been developed.

Activities to improve *family and community practices* have initially focussed on collection of baseline data from, and assessments of, a few communities.

### **3. SURVEY METHODOLOGY**

The survey consisted of the following main phases (Annex 4): planning (one week), training of surveyors and supervisors (one week), data collection and data entry (11 days), data cleaning (2 days), data analysis (one week), and presentation and discussion of the findings and recommendations.

#### **3.1 PLANNING**

Plans for the survey were developed from 2 to 6 December 2001 by a national planning team of the MOHP in close collaboration with WHO. The planning team included: the national IMCI coordinator and four other members of the IMCI team at central level, among whom was the chairperson of the working group on IMCI community component; a four-member WHO team from the country, regional and headquarters levels; and a representative from John Snow, Inc. (JSI). Staff from the United States Agency for International Development (USAID, Cairo) were able to join some of the sessions. As this was the first time that such a survey was conducted in a country of the WHO Eastern

Mediterranean Region (EMR), planning was an intensive and full-time process to adapt the survey instrument and methodology not only to Egypt but also to the Region.

The planning team carried out the following tasks: discussed the survey objectives; reviewed the survey methodology; selected the health facilities to survey; reviewed and adapted the survey forms; discussed plans for surveyor training, data entry, data analysis and a national feedback meeting. The review of the survey forms was a thorough and long process. Changes concerned both the content and design of the survey instruments and survey procedures (see § 3.3). The adapted forms were tested in El Fayoum governorate in January 2002 in a health facility not included in the survey sample and were then finalized. Based on the final version of the forms, the surveyor training and reference guide “Question-by-question explanations and survey procedures” was prepared, to be finalized during surveyor training. This version represented a substantial revision of the draft WHO version and aimed to guide surveyor training and the work of surveyors during data collection, addressing specific issues and situations. A copy of the guide is available from MOHP and WHO/EMRO.

### **3.2 GEOGRAPHIC SCOPE OF THE SURVEY AND SELECTION OF HEALTH FACILITIES TO SURVEY**

This survey was a cluster survey, with children taken to a health facility on the day of the survey forming a cluster. A total of 50 health facilities - “50 clusters” - were randomly selected – single stage sampling – from a list of 294 health facilities covered by the IMCI strategy and having an estimated minimum daily caseload of four cases below 5 years old (“sampling frame”). The caseload threshold and the number of facilities selected aimed to ensure the recruitment of a sufficient number of children under 5 years old in the survey, i.e. an adequate sample size, with limits of precision of the results not greater than  $\pm 10$  for the whole sample. Selecting a larger number of facilities than 50 to improve the limits of precision would have increased the duration of data collection, causing the surveyors to stay away for the whole survey from their routine responsibilities for too long. Annex 5 shows the list of facilities selected, their type and distribution in governorates and districts. Children below 2 months old were excluded from this survey. Their case management is different from that of the older children and it would have been necessary to select a separate and adequate sample just for this age group. Furthermore, the number of infants under age 2 months seen at health facilities is usually very low, especially at health centres. To make meaningful conclusions on their management, a substantial increase in the number of facilities surveyed and a much longer duration of the survey would have been required. This was not feasible. These concerns were later confirmed by the outpatient records of the facilities surveyed, which suggested that the median proportion of all under-5 consultations for sick infants aged less than 2 months old – not included in this survey – was 4%.

The population served by the IMCI facilities in the sampling frame was over 8 670 000 people, including over 1 340 000 children below 5 years old. The sample was weighted during the selection, to ensure the same distribution of facilities in the sample as in the sampling frame, according to their geographical location (Upper and Lower Egypt) and type. Facilities were grouped into three types: hospitals, urban health centres and rural health facilities. During data collection, 10 health facilities had to be replaced with others of the same type (except for a urban health centre in Upper Egypt which was replaced with a rural health facility) and located in the same district, as agreed during planning. The replacement was necessary because no IMCI-trained staff were present at the time of the visit (Annex 6). The final distribution of the facilities in the sampling frame and sample is shown in Table 1.

Table 1. **Final distribution of health facilities by geographical location and type: sampling frame and survey sample** (facilities with an estimated minimum daily caseload of four children below 5 years old)

Location	Distribution	Type of facilities				
		No.	Hospital	UHC	RHF	
<b>Lower</b>	<i>Frame</i>	156/294 (53%)	156	17 (10.9%)	30 (19.2%)	109 (69.9%)
	<i>Survey</i>	27/50 (54%)	<b>27</b>	<b>3</b> (11.1%)	<b>5</b> (18.5%)	<b>19</b> (70.4%)
<b>Upper</b>	<i>Frame</i>	138/294 (47%)	138	15 (10.9%)	14 (10.1%)	109 (79.0%)
	<i>Survey</i>	23/50 (46%)	<b>23</b>	<b>3</b> (13.0%)	<b>1</b> (4.4%)	<b>19</b> (82.6%)
<b>Total</b>	<i>Frame</i>	294/294 (100%)	294	32 (10.9%)	44 (15.0%)	218 (74.1%)
	<i>Survey</i>	50/50 (100%)	<b>50</b>	<b>6</b> (12.0%)	<b>6</b> (12.0%)	<b>38</b> (76.0%)

UHC: urban health centre  
RHF: rural health facility

The introduction and implementation of the IMCI strategy was assumed to have been very similar in the various governorates and districts; technical support had systematically been provided by the same IMCI central team. It was therefore felt that the data gathered in the 50 facilities would be reasonably adequate to assess the current level of quality of care provided by IMCI-trained providers to sick children aged 2 months up to 5 years old<sup>5</sup> at IMCI facilities having a daily caseload of at least four children under 5 years old in the 10 governorates implementing the IMCI strategy in Egypt.

### 3.3 SURVEY PROCEDURES AND INSTRUMENTS

The methodology that was used in this survey was based on the methodology described in the draft manual on the IMCI health facility survey under preparation by the World Health Organization (WHO) [*Health Facility Survey for integrated child health services*, WHO, Geneva, 2001]. The methodology was however revised by the planning team of this survey taking into account: a) previous, extensive experience in the conduct of similar health facility surveys on diarrhoeal diseases and acute respiratory infections; and b) needs for adaptation to the situation in Egypt. Survey procedures are described in detail in § 3.5.

Two types of data were collected: *quantitative* and *qualitative*.

*Quantitative data* were collected by an enrolment card and four forms (see Appendix). These forms had been carefully reviewed, adapted and tested during the survey planning phase (§ 3.1). Country-specific instructions on procedures and questions were developed to guide the work of surveyors during training and the survey proper, addressing specific points one by one, as a further adaptation of the survey instrument to the country situation and programme needs. This set of instructions was finalized during the surveyor training. The forms used in this survey were:

- EC : Enrolment card;
- Form 1: Observation of health facility provider's management of a sick child;
- Form 2: Exit interview with the caretaker of the sick child;
- Form 3: Re-examination of the sick child by a surveyor; and
- Form 4: Assessment of facilities, services and supplies.

<sup>5</sup> See footnote (1)

The main changes introduced in the forms concerned both the design of the forms and their content. The following three criteria for enrolment of children in the survey were all reported on the enrolment card for use by the supervisor:

- ❖ Age (children 2 months up to 5 years old<sup>6</sup>);
- ❖ Initial visit (i.e. repeat, follow-up visits were excluded); and
- ❖ Complaint (at least one symptom, sign or condition covered by the IMCI protocol).

The change in the design of the forms substantially facilitated surveyor training, data collection and data entry. A number of questions were also added to collect valuable information not only on whether a certain task was performed by the health provider ('quantity'), but also on "how" the task was carried out ('quality') and "who" carried it out (organization of work). Management of sore throat and ear problems was added and other items were adapted in line with the Egypt IMCI guidelines and health system. Feeding was given more attention, while questions on malaria were removed. Coding of selected questions by supervisors was improved.

*Qualitative data* were represented by surveyors' impressions based on their observations during the survey and discussions with health facility staff during the feedback meeting at the end of each visit. This information was recorded on a separate form and used as an additional resource in data analysis to assist in the interpretation of the quantitative data. Additional observations from supervisors and interpretation of the results were discussed in a meeting with the central team.

### **3.4 TRAINING OF SURVEYORS AND SUPERVISORS**

A total of 12 surveyors, 6 supervisors, a data entry co-ordinator and the national IMCI co-ordinator participated in the 40-hour surveyor training in Alexandria from 10 to 15 March 2002. Surveyors and supervisors were paediatricians, who had been trained in IMCI case management and facilitation skills and had participated in skill reinforcement and follow-up visits after IMCI training (Annex 7). Many of them were also IMCI trainers. Thus, everybody was very familiar with the IMCI guidelines.

The training schedule had been prepared considering the need to explain the first form thoroughly and clearly, to help the participants gradually understand the substantial difference existing between the procedures of this survey and the methodology used in the IMCI "follow-up visits" with which they were familiar (Annex 8). For classroom practice, extensive use was made of examples, reinforced by role-plays and followed by active discussions. Surveyors then practised how to use the forms through three practical sessions at the outpatient department of El Raml Paediatric hospital in Alexandria, a facility not included in the survey sample. Practice was preceded by demonstration (simulation), with a supervisor examining a real case and all the trainees observing and filling in Form 1 at the same time. The demonstration was followed by an active discussion that helped clarify a number of issues and was much appreciated by the participants. Practice consisted of observation of hospital staff's management of actual cases, interview with the child caretaker, independent re-examination of the same cases and assessment of facility support. Thanks to the availability of, and very efficient arrangements by, the hospital staff for the trainees' practice, each trainee had the opportunity to practise extensively during the practical sessions and personally deal with many cases on the last day, as under actual field conditions. Each practice was followed by a review in small groups of the forms completed by the trainees. A reliability check conducted after the second practice yielded an inter-surveyor agreement rate within each team ranging from 97% to 99%, a remarkable achievement reflecting the good selection of

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<sup>6</sup> See footnote (1)

surveyors and high quality of training. As this was the first time that such a survey was conducted in the Region and many adaptations had been introduced in the forms and procedures, participants were given opportunities to discuss issues and propose new rules throughout the training. Thus, they played an active, dynamic and productive role that they themselves appreciated and proved very valuable to further improve the survey methodology. The survey rules to complete the forms and procedures to standardize the methodology were finalized during the training. On the last day, a two-hour session was held to summarize all procedures and instructions using drills, with focus on those items which had caused more difficulties during practice. Finally, participants' evaluation of the training was very positive (Annex 9).

### **3.5 DATA COLLECTION**

Data were collected in the 10 governorates from 16 to 27 March 2002. The 12 surveyors were divided into six two-member teams, with each team directly supervised by a supervisor (Annex 10). Each team on average visited one facility per day. Additional time was allocated for internal travel to the facilities located in areas more distant from Alexandria. The procedures on data collection at each facility are illustrated in Annex 11.

At each facility visited, the supervisor identified and – after obtaining caretaker's informed consent – enrolled children aged 2 months up to 5 years old with an IMCI condition who were taken to the facility on that day<sup>7</sup>. To standardize procedures in all facilities, only children who could be seen by the local doctor by 12.00 noon were enrolled in the survey. One of the two surveyors observed the management of these children by facility staff trained in IMCI [Form 1]. Soon after each child had been managed, the second surveyor interviewed the child caretaker in a separate place ("exit interview" - Form 2), to assess her level of satisfaction with the care provided and her understanding of the advice just received on antibiotic use and/or home care. The same surveyor then examined the same children independently, so that the health providers' findings on each case could later be checked against the surveyor's findings ("gold standard") [Form 3]. Finally, the supervisor supervised both surveyors and collected information on facility services, facility staff's IMCI training status, quality of supervision, case-load, availability of antibiotics and other drugs needed for IMCI, and other supply and basic equipment and materials [Form 4]. At the end of the visit, feedback was provided to, and comments were discussed with, the staff of each facility and summarized on a separate open-ended form.

### **3.6 DATA ENTRY, CLEANING AND ANALYSIS**

All forms were checked in the field by each supervisor during data collection. Forms were then cross-checked again at MOHP in Cairo by two persons independently, before data were entered into a computer programme using EpiInfo Version 6.04c<sup>8</sup> by two two-member data entry teams at the MOHP. One team exclusively entered all 'Forms 1', while the other team entered all the remaining forms. This approach helped to standardize and speed up data entry and reduce errors. Thanks to arrangements made by the national team, data entry could already start from the third day of data collection, that is as soon as the first forms were

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<sup>7</sup> For ethical reasons, it was agreed that any child found by the supervisor to be "unconscious" or in "coma" would not be enrolled in the survey but would be urgently referred. If a child had any other confirmed severe condition requiring urgent referral, the exit interview with the caretaker was to be skipped, to avoid delays in care.

<sup>8</sup>EpiInfo, Version 6.04c: A word processing, database and statistics program for epidemiology on microcomputers, Centers for Disease Control and Prevention, Atlanta, Georgia, U.S.A. in collaboration with the Global Programme on AIDS, World Health Organization (WHO), Geneva, Switzerland, October 1997.



received at central level from the field. A data entry validation programme, revised during the adaptation of all files, facilitated the data entry process and helped detect and correct inconsistent data. The programme was designed also to create unique codes for each child in each file automatically, to enable to relate all forms to each other during the analysis. The data were further checked after they had been entered and during the preparation of data summary tables. Thus, quality control was ensured before, during and after data entry. Qualitative information, i.e. surveyors' observations and health providers' comments during the visit, was also summarized to assist in the interpretation of the quantitative data and formulation of recommendations to improve child care at health facilities in future. All the information collected was then analysed, presented in tables and graphs, reviewed and discussed by a small team at central level, all members of which had participated in the survey as supervisors. Further review of the data was carried out by the same team during the two-day preparation for the review meeting.

### **3.7 REVIEW MEETING**

Major survey findings, conclusions and recommendations and their implications for future planning in the area of child health were presented and discussed at a meeting in Cairo on 16 April 2002. The meeting was attended by 45 people (Annex 12), including: the Under-secretaries for Primary Health Care and Research and Development of MOHP; director-generals and other senior staff of relevant departments and programmes of MOHP (PHC, integrated medical zones, pharmaceuticals, ARI, mother and child health); under-secretaries and IMCI coordinators from the 10 governorates implementing IMCI; teaching staff and senior paediatricians of four medical schools; and staff of international, multilateral and bilateral organisations and agencies (WHO, USAID, JSI) supporting child health care initiatives in Egypt. Comments made during the meeting were considered in the preparation of the final report.

## **4. SURVEY FINDINGS**

This section of the report presents the most significant findings of the survey. A summary of results related to the generic list of WHO priority indicators and supplemental measures, with their definitions, is given in Annex 13. Detailed and additional findings are presented in tables and graphs in Annex 14.

### **4.1 SAMPLE CHARACTERISTICS**

#### *4.1.1 Characteristics of cases observed and of their caretakers*

Fifty (50) health facilities were visited, namely six hospitals, six urban health centres and 38 rural health facilities (Table 2), located in ten governorates implementing the IMCI strategy in Lower and Upper Egypt. The management by IMCI-trained health providers of 296 children aged 2 months up to 5 years old with an "IMCI condition"<sup>9</sup> was observed, 292 exit interviews with their caretakers were carried out and all 50 facilities were checked for health system support. This assured survey results on observation of case management within the limits of precision of  $\pm 10\%$ . Details of the sample characteristics by type of facility are shown in Tables 2 and 3, respectively.

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<sup>9</sup> "IMCI condition" refers to any condition specifically covered by the IMCI guidelines of MOHP, Egypt, such as those associated with danger signs ("very severe disease") and/or presenting with cough or difficult breathing, diarrhoea, fever, throat and ear problems, malnutrition and anaemia.

Table 2. **Sample characteristics by facility type** (sample not stratified; results in the total column unweighted)

Characteristics	Hospitals (OPD) <sup>1</sup>	Urban health centres	Rural health facilities	Total
<b>Health facilities surveyed</b>	<b>6 (12%)</b>	<b>6 (12%)</b>	<b>38 (76%)</b>	<b>50</b>
<b>Cases observed</b>	<b>36 (12.2%)</b>	<b>36 (12.2%)</b>	<b>224 (75.7%)</b>	<b>296</b>
> Gender: <i>Female</i>	18 (50%)	18 (50%)	90 (40.2%)	126 (42.6%)
> Age (both genders):	n = 36	n = 36	n = 224	n = 296
< 1 year (2–11 months)	17 (47.2%)	11 (30.6%)	89 (39.7%)	117 (39.5%)
1 year (12–23 months)	9 (25.0%)	12 (33.3%)	58 (25.9%)	79 (26.7%)
2 years (24–35 months)	8 (22.2%)	6 (16.7%)	35 (15.6%)	49 (16.6%)
3 years (36–47 months)	2 (5.6%)	3 (8.3%)	28 (12.5%)	33 (11.1%)
4 years (48–59 months)	0	4 (11.1%)	14 (6.3%)	18 (6.1%)
<b>Caretakers (interviewed)<sup>2</sup>:</b>	<b>n = 34</b>	<b>n = 36</b>	<b>n = 222</b>	<b>n = 292</b>
> Gender: <i>Female</i>	33 (97.1%)	34 (94.4%)	207 (93.2%)	274 (93.8%)
<i>Mothers</i>	29 (85.3%)	32 (88.9%)	187 (84.2%)	248 (84.9%)
<i>Other relative</i>	5 (14.7%)	2 (5.6%)	27 (12.2%)	34 (11.6%)
<i>Fathers</i>	0	2 (5.6%)	8 (3.6%)	10 (3.4%)

<sup>1</sup>Outpatient departments

<sup>2</sup>Excluded are 4 cases, of which: 3 were referred by the provider and on case (no exit interviews conducted for these cases)

e was the brother of a referred

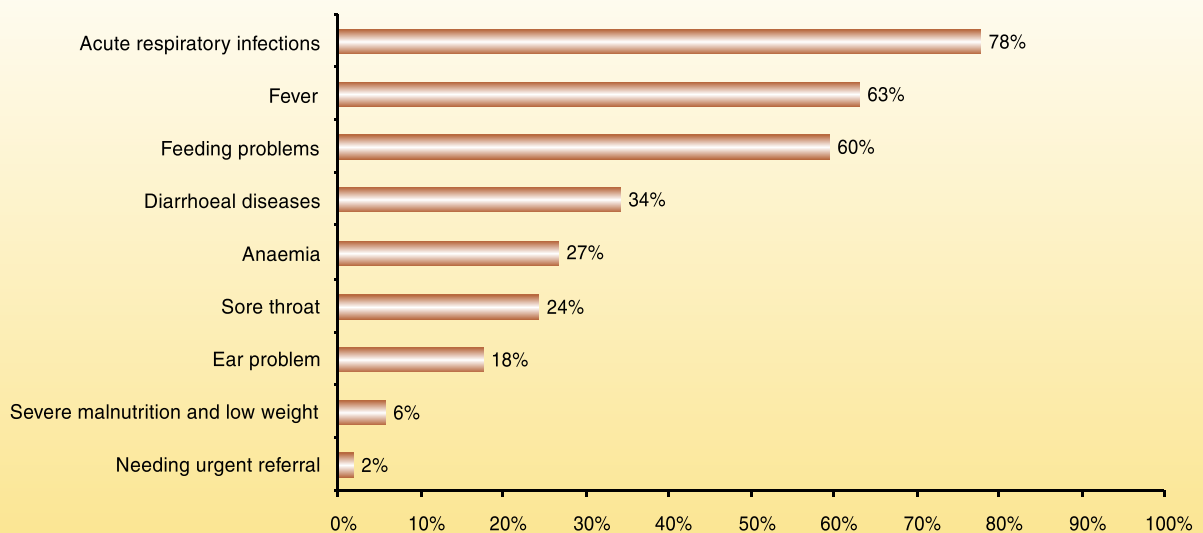


Fig. 2 **Sample characteristics: IMCI conditions identified in the sample surveyed**

Table 3. **Sample characteristics by facility type: classification of cases enrolled according to surveyor's re-examination findings** (sample not stratified; results in the “total” column unweighted)

Classifications <sup>#</sup>	Hospitals (OPD) <sup>1</sup>	Urban health centres	Rural health facilities	Total
<b>Cases observed for management</b> <sup>2</sup>	n = 36	n = 36	n = 224	n = 296
<i>Very severe disease</i>	0	0	0	0
<b>Acute respiratory infection</b>	28 ( <b>77.8%</b> )	28 ( <b>77.8%</b> )	174 ( <b>77.7%</b> )	230 ( <b>77.8%</b> )
<i>Severe pneumonia/ very severe disease</i>	3 (8.3%)	0	1 (0.4%)	4 (1.4%)
<i>Pneumonia</i>	9 (25.0%)	4 (11.1%)	23 (10.3%)	36 (12.2%)
<i>No pneumonia (cough or cold)</i>	16 (44.5%)	24 (66.7%)	150 (67.0%)	190 (64.2%)
<b>Diarrhoeal diseases</b>	15 ( <b>41.7%</b> )	12 ( <b>33.3%</b> )	74 ( <b>33.0%</b> )	101 ( <b>34.1%</b> )
<i>Diarrhoea with severe dehydration</i>	0	0	0	0
<i>Diarrhoea with some dehydration</i>	0	0	1 (0.4%)	1 (0.3%)
<i>Diarrhoea with no dehydration</i>	15 (41.7%)	12 (33.3%)	73 (32.6%)	100 (33.8%)
<i>Severe persistent diarrhoea</i>	0	0	0	0
<i>Persistent diarrhoea</i>	0	0	1 (0.4%)	1 (0.3%)
<i>Dysentery</i>	0	3 (8.3%)	4 (1.8%)	7 (2.4%)
<b>Sore throat</b>	9 ( <b>25.0%</b> )	12 ( <b>33.3%</b> )	51 ( <b>22.8%</b> )	72 ( <b>24.3%</b> )
<i>Streptococcal sore throat</i>	2 (5.6%)	3 (8.3%)	6 (2.7%)	11 (3.7%)
<i>Non -streptococcal sore throat</i>	7 (19.4%)	9 (25.0%)	45 (20.1%)	61 (20.6%)
<i>No throat problem</i>	27 (75.0%)	24 (66.7%)	173 (77.2%)	224 (75.7%)
<b>Fever</b>	29 ( <b>80.5%</b> )	27 ( <b>75.0%</b> )	131 ( <b>58.5%</b> )	187 ( <b>63.1%</b> )
<i>Very severe febrile disease</i>	0	0	0	0
<i>Fever possible bacterial infection</i>	13 (36.1%)	8 (22.2%)	30 (13.4%)	51 (17.2%)
<i>Fever bacterial infection unlikely</i>	16 (44.4%)	19 (52.8%)	101 (45.1%)	136 (45.9%)
<i>Severe complicated measles</i>	0	0	0	0
<i>Measles with eye/ mouth complications</i>	0	0	0	0
<i>Measles</i>	0	0	1 (0.4%)	1 (0.3%)
<b>Ear problem</b>	6 ( <b>16.7%</b> )	5 ( <b>13.9%</b> )	41 ( <b>18.3%</b> )	52 ( <b>17.6%</b> )
<i>Mastoiditis</i>	0	0	0	0
<i>Acute ear infection</i>	0	0	7 (3.1%)	7 (2.4%)
<i>Chronic ear infection</i>	0	0	2 (0.9%)	2 (0.7%)
<i>No ear infection</i>	6 (16.7%)	5 (13.9%)	32 (14.3%)	43 (14.5%)
<i>Severe malnutrition</i>	0	0	1 (0.4%)	1 (0.3%)
<i>Severe anaemia</i>	1 (2.8%)	0	0	1 (0.3%)
<i>Low weight</i>	3 (8.3%)	0	13 (5.8%)	16 (5.4%)
<i>Anaemia</i>	10 (27.8%)	14 (38.9%)	54 (24.1%)	78 (26.4%)
<i>No low weight</i>	33 (91.7%)	36 (100%)	210 (93.8%)	279 (94.3%)
<i>No anaemia</i>	25 (69.4%)	22 (61.1%)	169 (75.4%)	217 (73.3%)
<i>Feeding problems</i>	24 (66.7%)	18 (50.0%)	134 (59.8%)	176 (59.5%)
<i>Skin problems</i>	3 (8.3%)	7 (19.4%)	36 (16.1%)	46 (15.5%)

<sup>#</sup> A child may have more than one classification

<sup>1</sup> Outpatient departments

<sup>2</sup> According to surveyor classification (“gold standard”). As only children 2–59 months old presenting with at least an “IMCI” condition were enrolled in the survey, the distribution of classifications is only within this group rather than the whole population of children taken to health facilities for any reasons

**All the 6 severe conditions requiring urgent referral were identified in children less than 2 years old: 5 of them (83%) were infants**

- Age:* Two-thirds (66.2%) of the children enrolled and managed were under 2 years old. These children represent a more vulnerable group: all the six children classified as having a severe condition needing urgent referral or admission to hospital fell into this age group and all of them but one were infants.
- Gender:* Overall, the proportion of visits for female children was lower than male children (42.6% Vs 57.4%) and this was evident mostly at rural health facilities (40.2% Vs 59.8%). The review of outpatient records for sick children and 'well children' below 5 years old for the month of January 2002 in the 50 facilities visited during the survey gave about an equal proportion for female child visits in general (49.4% Vs 50.6%) and slightly lower for rural health facilities (46.6% Vs 53.4%). The records, however, showed ample differences between facilities.
- Caretakers:* The large majority of caretakers of sick children (93.8%) was female, mostly mothers (84.9% of all caretakers).

#### 4.1.2 Patterns of illness

Most children (77.8%) had an *acute respiratory* condition, almost two-thirds (63.1%) were febrile or had a history of *fever*, a third (34.1%) reported *diarrhoea* and one in four (24.3%) had a *sore throat* mainly classified as non-streptococcal (Fig. 2). Only 1 child had persistent diarrhoea. Although ear problems were frequently reported (17.7%), an acute or chronic *ear infection* was found only in 3.1% of children (Table 3). Interestingly, caretakers reported a skin problem<sup>10</sup> in about one child in six (15.5%).

About one child in 20 (5.4%) was *low weight-for-age*. Notably, more than one child in four (26.7%) was classified as having *anaemia*, based on clinical pallor. Studies carried out at household level in Egypt in recent years had also found a similar prevalence of anaemia in children in the community, based on laboratory findings<sup>11</sup>.

In general, the data would suggest an over-utilization of health services for minor ailments, as most of the child conditions observed were mild. In fact, only six of the 296 children (2%) required urgent referral, about one child in seven (12.2%) had 'pneumonia', a low proportion of children had other conditions needing antibiotic treatment (e.g. dysentery, streptococcal sore throat or acute ear infection), and only one case with diarrhoea had some dehydration (Table 3). This interpretation finds confirmation in the findings of household surveys conducted previously<sup>12</sup>, which reported that caretakers would often seek care for a child with diarrhoea or cough and choose to take milder cases to government health centres. This high utilization of services for minor conditions has implications on the caseload at health facilities. On the other hand, it offers a good opportunity to provide also 'well-child services' to these children (e.g. immunization, growth monitoring, feeding assessment, etc.), check their mothers' health – 85% of caretakers are mothers – and counsel them on child home care, including feeding practices.

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<sup>10</sup> In IMCI, skin problems fall under "other problems"; they are not covered by an illness-specific algorithm.

<sup>11</sup> Demographic and Health Survey – DHS, Egypt, 2000: 29.9% of children 6–59 months old were found to have a haemoglobin level < 11 g/dl. Moussa et al., 1995, reported 25.2% of children 6–71 months old having a haematocrit < 33%.

<sup>12</sup> S. Pièche (WHO): A household survey on home care and care-seeking practices for children with diarrhoea and acute respiratory infections and feeding practices in Lower and Upper Egypt, 26 August – 2 October 1998; Demographic and Health Survey – DHS, Egypt, 2000

#### 4.1.3 Relationship of caretakers' report of fast or difficult breathing with pneumonia

Difficult breathing, fast breathing or 'pneumonia' (referred to in this paragraph as 'breathing problems' all together) were reported by caretakers in 30 (13%) of the 230 children with an acute respiratory condition. Although the survey was not designed to collect specific information on the local terminology used by caretakers to refer to 'breathing problems', the relationship of caretakers' report of breathing problems with pneumonia or severe pneumonia was briefly reviewed (Annex 14 - Tables A1 and A2). In fact, one of the key home care messages for families, promoted first by the ARI<sup>13</sup> control programme and then by IMCI, is to seek care promptly if their sick children develop a breathing problem. In this survey, caretakers reported a breathing problem only in 11 (27.5%) of the 40 children found to have pneumonia or severe pneumonia (low *sensitivity*), although all of them had by definition an increased respiratory rate and/or chest in-drawing on examination (Table A1)<sup>14</sup>. The same level of sensitivity (28%) had been found in a similar study in Alexandria<sup>15</sup>. The *specificity* was high (90%): if caretakers did not report breathing problems, their children were unlikely to have pneumonia. Examining whether caretaker's report of breathing problems had a good predictive value for pneumonia or severe pneumonia, it was found that about a third (36.7%) of the children with reported breathing problems actually had pneumonia or severe pneumonia (Table A2)<sup>16</sup>. Although children with a reported breathing problem were 2.7 times more likely to have pneumonia or severe pneumonia than those in whom it had not been reported, the positive predictive value appears low. Since the predictive value also depends on the prevalence of the disease in the population under study (children taken to health facilities in this case), 'breathing problems' might have an even lower predictive value for pneumonia in the community. This is because a higher prevalence of the illness is to be found in a population of children who are ill (i.e. those seen at health facilities, more so if at hospitals) than in the community. In fact, in the hospital-based study in Alexandria – higher chances to have children with pneumonia in that setting – the positive predictive value of caretaker's report of 'breathing problems' was higher (70%)<sup>17</sup>. Thus, in this particular sample of children taken to a health facility and found to have pneumonia or severe pneumonia, most caretakers had either missed the breathing problem or simply not given particular importance to it alone. An ARI focused ethnographic study (FES) carried out in Ismailia in 1990 concluded that mothers were able to recognize fast breathing but, in deciding on the severity of an illness, would rely on the concomitant presence of other signs, e.g. fever and cough. Moreover, the household survey in 1998 described delays in care-seeking for children in whom a breathing problem had been recognized by their caretakers.

As mentioned earlier, this study did not look at the sensitivity, specificity and predictive values of each local term, but pooled all of them into one category ('breathing problems'). Given the findings reported above, however, it would appear important to try and look more in depth in future into the issue of local terminology for breathing problems and its relationship with care-seeking, in order to develop very specific messages on care-seeking for children with ARI.

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<sup>13</sup> ARI: acute respiratory infections

<sup>14</sup> It should be emphasized that this sample: a) included only children with an IMCI condition, rather than all sick children, and b) consisted of children taken to a health facility, rather than children at home. The classification of cases as "pneumonia" or "severe pneumonia" was based on clinical signs (general danger signs, chest indrawing and fast breathing).

<sup>15</sup> An independent evaluation: Comparison of the performance of doctors trained in the standard eleven-day with a six-day case management training course on the Integrated Management of Childhood Illness (IMCI) – Preliminary results of data analysis, by Dr S. Pièche, WHO/EMRO, Cairo, August 2001

<sup>16</sup> 36.7% was therefore the positive predictive value for pneumonia or more severe illness of caretakers' report of fast or difficult breathing or pneumonia in this sample; the negative predictive value for absence of pneumonia or more severe illness of caretakers' not reporting breathing problems was 85.5%.

<sup>17</sup> The sample of children with pneumonia in that study was small and therefore caution should be exercised in making conclusions.

## 4.2 QUALITY OF CLINICAL CARE

A summary of selected results of the survey on the quality of clinical care is shown in Table 4. The next sections present the findings on the key components of case management in detail, namely assessment, classification, treatment and counselling, to describe the quality of integrated care that children received at health facilities. It should be emphasized that the survey looked at the quality of care that each child received rather than provider's performance, although information on the latter could often be inferred from the former.

- ❖ *Reliability of caretakers:* An interesting finding in this survey was the inconstant reliability of caretakers in giving information on signs and symptoms first to the survey team supervisor on enrolment of the child, next to the local health provider and finally to the surveyor re-examining the child. For example, in six children in whom the caretakers reported the presence of cough or difficult breathing to the surveyor, they had previously told the local provider that the child had no cough or difficult breathing; two of these children had pneumonia. And vice versa, in two children in whom caretakers told the surveyor that the child had no cough or difficult breathing, they had told the local provider that the child did have cough or difficult breathing. This was one of the main reasons why certain assessment tasks were not carried out by the local providers in some children: the negative history resulted in the provider's mis-classification and incorrect treatment of the child when compared with the surveyor findings used as reference standard.

Table 4. **Summary table with selected survey results on quality of clinical care**

Quality of clinical care: tasks	Findings
<b>❖ Assessment</b>	
• Children in whom all the 10 main assessment tasks were carried out	<b>47.3%</b>
• Children below 2 years old and those low weight and/or anaemia assessed for feeding practices	<b>83.1%</b>
<b>❖ Classification</b>	
• Agreement between provider's and surveyor's classification of conditions found	<b>72.7%</b>
• Cases underclassified among those incorrectly classified by the provider	<b>98.7%</b>
<b>❖ Treatment and advice</b>	
• Severe cases correctly managed	<b>1 out of 6</b>
• Children needing an oral antibiotic prescribed it correctly	<b>73.5%</b>
• Children not needing antibiotics leaving the facility without antibiotics	<b>94.5%</b>
• Children needing vaccinations who leave the facility with all needed vaccinations or advice on when to come back for scheduled vaccination	<b>93.3%</b>
• Children prescribed oral antibiotic and/or ORS whose caretakers knew how to give the treatment before leaving the facility	<b>60.3%</b>
• Children whose caretakers were advised on all the three home care rules	<b>83.1%</b>
• Children whose caretakers knew all the three home care rules before leaving the facility	<b>21.2%</b>
• Proportion of children less than 2 years old and those low weight-for-age and/or anaemia whose caretakers were given age-appropriate feeding advice	<b>70.8%</b>

- ❖ *Case management by provider's gender:* More than two-thirds of children (68.6%) were seen by male providers. A previous study evaluating case management skills of providers trained in IMCI in Egypt in 2001<sup>18</sup> had found that female doctors performed significantly better than male doctors on that occasion ( $P < 0.001$ ). A preliminary analysis of case management data by provider gender in this survey tends to support a similar conclusion. For example, children seen by female doctors were more likely than those seen by male doctors to be checked for assessment tasks that were usually performed less often, such as checking anterior neck lymphnodes ( $P < 0.05$ ) and both lymphnodes and throat ( $P < 0.05$ ), or mucous membrane pallor ( $P < 0.01$ ). Children with or without clinical pallor seen by female doctors were likewise more likely to be correctly classified as 'anaemia' and 'no anaemia' cases, respectively, than those seen by male doctors ( $P < 0.05$ ).

#### 4.2.1 Assessment

The guidelines on integrated childcare (IMCI) require that a number of key assessment tasks should be performed in any sick child, irrespective of the specific complaint. This helps identify conditions that are not reported by the caretaker. To measure how complete the assessment that each child received was, an *index of integrated assessment* was used in the analysis. The index consists of many key tasks and gives equal weight to each task done (score per task done = 1): it is expressed as the mean of the number of tasks performed in each child (out of those that should have been performed). This index is preferred to compound indicators as these result just in 'yes' answers if all and only all component tasks of which they consist are done: even if only one task is missed out of many, the compound indicator would result in a 'no' answer. This prevents documenting changes in some of the compound indicators' component tasks in future. The index of integrated assessment, instead, enables follow-up of care improvements and progress over time, taking into account each of the tasks of which it consists: the higher the number of tasks performed, the higher the index. Two versions of the index were used in this analysis: a) one version based on the generic index proposed by WHO for these surveys on a trial basis; and b) a second version representing the adapted index to Egypt. The latter was meant to account for few additional, key assessment tasks – also under consideration by WHO for other types of evaluation – and adaptations present in the Egypt IMCI guidelines. The WHO index was included in the analysis to allow comparisons with other surveys in different countries.

*Note:* Rather than describe health providers' '*practices*', the survey results provide some information on providers' '*skills*'. Health providers knew that they were being observed by the surveyor; therefore, what they did did not necessarily reflect what they would do under routine circumstances (i.e. their routine practices). However, if they carried out a task and did it correctly while being observed, this would indicate at least that they would have the skills to do that task properly. The IMCI chart was consulted by the providers in the large majority of cases observed (95.6%).

- ❖ *Integrated assessment* (See Table 5; Fig. A1-A2): The index values found in this survey were: a) a mean of 9.4 tasks performed out of 10 assessment tasks to be performed, for the WHO index<sup>19</sup>; and b) a mean of 13.7 out of 15 tasks, for the Egypt-adapted index<sup>19</sup>. The high values of both indices indicate that many children were

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<sup>18</sup> See footnote (15)

<sup>19</sup> The ten assessment tasks of the WHO index are: child checked for three danger signs (1,2,3), checked for the three main symptoms (4,5,6), child weighed (7) and weight checked against a growth chart (8), child checked for palmar pallor (9) and for vaccination status (10). The Egypt index adds the following 5 tasks: temperature checked with thermometer (11), throat and lymph nodes checked (12), child checked for the presence of ear problem (13), wasting (14) and oedema of both feet (15).

systematically assessed for the main tasks through the IMCI protocol: all the 10 main assessment tasks of the WHO index were carried out in about a child in two (47.3%), while the percentage reached 93.2% if one considered children in whom at least 9 out of the 10 assessment tasks were performed.

- ❖ *Assessment tasks* (Table 5; Fig. A1-A2): All children were weighed, their temperature was taken and their vaccination status was checked. Most children (94.9%) were checked for the presence of the three general danger signs (inability to drink, vomiting everything and convulsions) to detect cases of very severe disease requiring urgent referral. Almost all children (99%) were checked for the presence of the three main symptoms of cough, diarrhoea and fever, irrespective of the initial complaints, in order not to miss conditions not reported spontaneously by caretakers. Most children (95.9%) were checked for the presence of an ear problem.

*Note:* 33.3% of children in whom caretakers initially did not report cough or difficult breathing, 9.3% of those in whom they did not report diarrhoea and 29.5% in whom they did not report fever, were then found by the surveyor to have an acute respiratory infection (ARI), diarrhoea or fever (or history of fever), respectively, in addition to the complaint/s reported: they were thus examined also for these conditions. The systematic checking for an ear problem enabled the surveyor to detect 5 additional cases of ear infection, for whom caretakers had initially not reported an ear problem, i.e. about half (55.6%) of the 9 cases of ear infection ultimately found. These data further confirm the validity of the integrated childcare (IMCI) guidelines for a more complete examination of the sick child, not limited to the main complaint initially reported by the caretakers.

**Table 5. Integrated assessment: proportion of sick children in whom selected assessment tasks were performed by the health providers (WHO “priority indicators” shown in italics)**

Assessment tasks	Children (%) in whom performed N = 296
• <i>Child checked for three general danger signs</i> <sup>1</sup> (ability to drink, vomiting everything, convulsions)	281 (94.9%)
• <i>Child checked for the presence of three main symptoms: cough, diarrhoea and fever</i>	293 (99.0%)
• Child checked for a throat problem (throat and lymph nodes checked)	248 (83.8%)
• Child checked for the presence of an ear problem	284 (95.9%)
• Child checked for palmar and mucous membrane pallor	261 (88.2%)
• Child checked for visible wasting	218 (73.6%)
• Child checked for the presence of oedema of both feet	227 (76.7%)
• Child temperature taken (by thermometer)	295 (99.7%)
• Child weight taken and recorded	296 (100%)
• <i>Child weight checked against a growth chart</i>	296 (100%)
• Child health card asked	173 (58.4%)
• <i>Child vaccination status checked</i>	295 (99.7%)
• Child checked for the presence of other problems	205 (69.3%)
• <b>WHO index of integrated assessment</b> (mean of 10 assessment tasks performed) <sup>2</sup> :	9.4
• <b>Adapted index of integrated assessment–Egypt</b> (mean of 15 assessment tasks performed) <sup>3</sup> :	13.7

<sup>1</sup> The three signs were checked with the following frequency: ability to drink in 293 (99%) cases, child vomiting everything in 289 (97.6%) and convulsions in relation to this episode of illness in 286 (96.6%)

<sup>2</sup> All the 10 assessment tasks were performed in 140 (47.3%) of the 296 children observed. At least 9 of the 10 tasks were carried out in 176 (93.2%) of the cases

<sup>3</sup> All the 15 assessment tasks were performed in 113 (38.2%) of the 296 children observed. At least 14 of the 15 tasks were carried out in 196 (66.2%) of the cases



The signs that were assessed less frequently than those described above were: palmar and mucous membrane pallor (assessed in 88.2% of children) to detect clinical anaemia; oedema of both feet (76.7%)<sup>20</sup> and visible severe wasting (73.6%)<sup>20</sup> to detect clinical severe malnutrition; and both throat redness and exudates *and* enlarged tender neck lymph-nodes (83.8%)<sup>20</sup> to detect sore throat.

- ❖ *Child health cards* (Table 5) were checked in 58.4% of children. The cards have been introduced in recent years by MOHP in Egypt for all children, to record key health information including also immunization status.
- ❖ *Feeding assessment:* (Table A3; Fig. A3) 83.1% of children under 2 years old and of those with low weight or anaemia not referred by the provider were assessed for feeding practices, as recommended by the IMCI guidelines (including breastfeeding for those less than 2 years old, complementary feeding and feeding changes during illness)<sup>21</sup>. Also this task, which aimed at detecting and improving incorrect feeding practices, was therefore carried out in most children. Although children with low weight-for-age and/or anaemia were not more likely to receive feeding assessment than those without those conditions, it should be noted that half of them had been mis-classified by the provider as cases with no anaemia or low weight-for-age: if 2 years old or more, these children would not have required feeding assessment.
- ❖ *Qualitative and additional findings on assessment:* As part of the adaptation of the survey instrument, an attempt was made to check not only whether a certain number ('quantity') of key tasks was carried out for *any* sick child, but also how ('quality') they were performed and whether further assessment tasks were carried out in those children in whom a condition was found. A sample of key assessment tasks was chosen that could reliably be assessed through observation (Table A4).
  - **Weight and temperature for all children** (Fig. A4): these were taken *correctly* in almost all children and the weight was always recorded.
  - **Respiratory rate in children with cough or difficult breathing** (Table A5; Fig. A5-A6): it was counted in 97% of children. In all but one of the remaining children it was not counted because the caretaker had told the provider that the child had no cough. In this analysis, the counts were considered 'reliable'<sup>22</sup> in about two-thirds (65.5%) of children in whom the counts were taken. Ample differences in counts were found between the provider and the surveyor, ranging from -39 breaths/min. to +21 breaths/min. This analysis showed that 'unreliable' counts were directly responsible for providers' under-classifying as 'no pneumonia' four children who actually had fast breathing ('pneumonia') and over-classifying as 'pneumonia' 8 children with 'no pneumonia'.
  - **Skin pinch and offering water in children with diarrhoea** (Fig. A5): most children with diarrhoea had their abdomen skin pinched (94%) to check skin turgor, and were offered something to drink (93.1%) to check thirst. When the skin was pinched, it was pinched *correctly* in most cases (94.7%).
  - **Checking throat and lymphnodes in all children** (Fig. A7): most children (93.1%) had their throat checked for redness and exudate, while their cervical lymph-nodes

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<sup>20</sup> Also in the study in Alexandria these assessment tasks were among the ones more often missed.

<sup>21</sup> See definitions at bottom of table A3, Annex 14. If the indicator is limited to children under 2 years of age – as proposed in the WHO general list of priority indicators for ease of calculation, the proportion of these children assessed for feeding in this survey rises to 85.5%.

<sup>22</sup> Exclusively for the purpose of this analysis, a count was considered 'reliable' if the difference in count between the provider and the surveyor for the same child was not greater than 5 breaths per minute. This arbitrary level was based on experience from previous health facility surveys on acute respiratory infections: about two-thirds of all counts would usually lie within this difference.

- were checked for enlargement and tenderness a little less frequently (83.8%).
- **Checking both ears in children with an ear problem** (Fig. A7): about three children in four (73.1%) of those with a history of agonizing ear pain or ear discharge had both their ears checked. For those who were not checked, the main reason was that their caretakers had told the local provider that the child had no ear problem.
  - **Checking for measles in children with fever** (Fig. A8): a history of measles within the last 3 months was checked in about one child in four (74.3%) with fever or history of fever.
  - **Checking for palmar pallor and mucous membrane pallor in all children** (Fig. A8): almost all children (99%) had their hands' palms checked for pallor, while the mucous membranes were checked for pallor a little less frequently (88.9%).
- ❖ *Assessment of other problems:* Although the IMCI guidelines focus on the most common causes of mortality and important causes of morbidity, what makes them thorough are the instructions to complete the assessment of each child by asking about other problems and assessing them if present. The caretakers of about two-thirds of children (69.3%) were asked about the presence of any other problems.

#### 4.2.2 Classification

Overall there was an agreement between the provider's classification and the surveyor's classification in 72.7% of the conditions found in the 296 children examined (See Table 6; Fig. A9)<sup>23,24</sup>. The full breakdown per condition is presented in Table A6 through Table A12 in Annex 14. There were many instances in which unreliable answers initially given by the caretaker misled the provider, causing him or her to miss the assessment of signs or symptoms and misclassify the child. The analysis of the data also tried to establish whether the misclassified cases had actually been 'under-classified', i.e. considered as milder cases than what they actually were, as this would have important clinical implications (Table 6). The results are described below. Although the samples by illness or condition are small in some cases, the data help suggest whether an inadequate assessment of the child – inaccurate history or incomplete or incorrect physical examination – was responsible for the under-classification of cases.

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<sup>23</sup> A total of 278 conditions were identified, falling in the following seven categories: 1) Very severe disease or severe pneumonia or pneumonia; 2) Diarrhoea with severe or some dehydration, severe persistent diarrhoea, dysentery; 3) Very severe febrile disease or fever-possible bacterial infection; 4) Streptococcal sore throat or non-streptococcal sore throat; 5) Mastoiditis or acute or chronic ear infection; 6) Severe malnutrition or low weight; and 7) Severe anaemia or anaemia.

<sup>24</sup> "Correct" is used in this report when health provider's case management practices agree with surveyor's (the 'gold standard'), that is if they comply with the national, standard IMCI case management guidelines.

Table 6. **Agreement of provider's case classification with surveyor's classification on identified conditions** (the denominator is the total number of conditions identified in the 296 children examined, i.e. 278 conditions. A sick child often had more than one condition).

Condition	Identified by		Agreement (%)	Underclassified (out of misclassified)
	Provider	Surveyor		
<i>Very severe disease/severe pneumonia or pneumonia</i>	32	40	<b>80.0%</b>	8/8
<i>Diarrhoea with severe or some dehydration</i>	0	1	<b>(0%)</b>	1/1
<i>Persistent diarrhoea</i>	1	1	<b>100%</b>	0
<i>Dysentery</i>	7	7	<b>100%</b>	0
<i>Very severe febrile disease or fever-possible bacterial infection</i>	44	51	<b>86.3%</b>	7/7
<i>Measles</i>	0	1	<b>(0%)</b>	1/1
<i>Streptococcal sore throat or non-streptococcal sore throat</i>	46	72	<b>63.9%</b>	25/26
<i>Mastoiditis or acute or chronic ear infection</i>	9	9	<b>100%</b>	0
<i>Severe malnutrition or low weight</i>	14	17	<b>82%</b>	3/3
<i>Severe anaemia or anaemia</i>	49	79	<b>62%</b>	30/30
<b>TOTAL</b>	<b>202</b>	<b>278</b>	<b>72.7%</b>	<b>75/76 (98.7%)</b>

- **Very severe pneumonia, severe pneumonia and pneumonia** (Table A6): there was agreement on these classifications in 80% of the 40 cases identified by the surveyor. The eight cases that were misclassified by the provider were all under-classified. This resulted in a case of severe pneumonia not being referred by the provider and seven cases of pneumonia being about to be sent home with no antibiotic treatment<sup>25</sup>. Caretakers of two of these cases with non-severe pneumonia had answered negatively the provider's question on whether the child had cough or difficult breathing – they were concerned only about fever – and were therefore not assessed for pneumonia. The reason for missing the other five cases of non-severe pneumonia was provider's unreliable count of the respiratory rate which in four of these children differed from the surveyors' count by more than 10 breaths per minute.
- **Diarrhoea with severe or some dehydration** (Table A7): the only case of persistent diarrhoea and the seven cases of bloody diarrhoea were all correctly classified by the provider. In the only case of some dehydration, the signs of dehydration were missed by the provider.
- **Streptococcal and non-streptococcal sore throat** (Table A9): all cases of 'streptococcal sore throat' were correctly identified by providers and only one of 'non-streptococcal sore throat' was classified as 'streptococcal sore throat'. This resulted in rational use of antibiotics in children with a throat problem. In fact, although 39.3% of children with 'non-streptococcal sore throat' were missed by the provider, this did not have clinical implications as these cases do not require antibiotic treatment.
- **Acute and chronic ear infection** (Table A10): all cases of acute or chronic ear infection were correctly identified by the provider.
- **Very severe febrile disease or fever with possible bacterial infection** (Table A8): there was agreement in 86.3% of these cases. The seven cases that were misclassified by the provider were all under-classified.

<sup>25</sup> These cases received correct treatment in the end, as the survey team supervisor reviewed these cases with the facility provider after they had been examined by the provider and the surveyor had recorded his findings on case management on the survey forms.

- **Severe malnutrition or low weight** (Table A11): the provider classification agreed with the surveyor classification in 14 (98%) of the 17 cases of the condition. The other three cases were under-classified; among them was the only case of severe malnutrition found in the survey sample.
- **Severe anaemia or anaemia** (Table A12): this was the most problematic area, with agreement found in only 62% of the 79 cases of clinically detected severe anaemia or anaemia. The only case of severe anaemia and 29 cases of non-severe anaemia were missed. This has implications, as anaemia is a relatively common condition in children in Egypt. As noted earlier (§ 4.2), children with anaemia seen by female doctors were more likely to be correctly classified than those seen by male doctors ( $P < 0.05$ ). Studies conducted to measure the sensitivity, specificity and predictive value of clinical signs of anaemia in a few countries have yielded different results in different settings. To detect anaemia clinically, the Egyptian IMCI protocol relies on the presence of at least one of two clinical signs, namely palmar pallor and mucous membrane pallor, to try to increase the sensitivity of the protocol. The high rate of disagreement found on these signs in the survey suggests the need for additional information on the sensitivity of the protocol and for special attention to be paid to the assessment of these signs during training and follow-up.
- **Identification of feeding problems** (Fig. A10): feeding problems were common and were found in 176 children (60%) by the surveyors: providers were able to identify about half (56.8%) of these cases.

#### 4.2.3 Treatment and advice

##### 4.2.3.1 Management of severe cases

A total of six cases were classified by the surveyor as cases of a severe condition warranting urgent referral or admission to hospital: four of them were ARI cases with 'severe pneumonia'/'very severe disease' (Table A13a). Three (50%) of the six severe cases were identified as such also by the local health provider and were correctly referred or admitted to hospital, but only one of them received appropriate pre-referral treatment. The caretakers of the three cases identified by the provider were all given explanations on the reasons for urgent referral and all accepted referral. In conclusion, only one of the six severe cases was correctly managed, i.e. it was identified and managed according to the IMCI guidelines.

*Note:* The national IMCI guidelines recommend that even for children with a severe classification seen at the outpatient or emergency department of a hospital, a pre-referral dose of antibiotic should be given upon admission to those with suspected bacterial infection as standard operating procedure. In fact, these cases have a severe or very severe condition, and should be dealt with as medical emergencies. There is often a substantial delay in starting treatment, from the time the child is assessed in the outpatient or emergency department and the time the patient has been transferred to the ward, re-assessed, all treatment instructions have been given and treatment has finally been started.

##### 4.2.3.2 Use of injectable drugs

Injectable drugs were correctly used or correctly not used<sup>26</sup> in 97.6% of children. All cases but one (92.3%) of those who received an injectable antibiotic needed it (Table A13b; Fig. A11). The reason for one case to receive an injectable antibiotic that should not have been given was its incorrect classification as streptococcal sore throat by the provider – if correct, this classification would have required injectable antibiotic according to the national IMCI guidelines. All cases with streptococcal sore throat were prescribed benzathine

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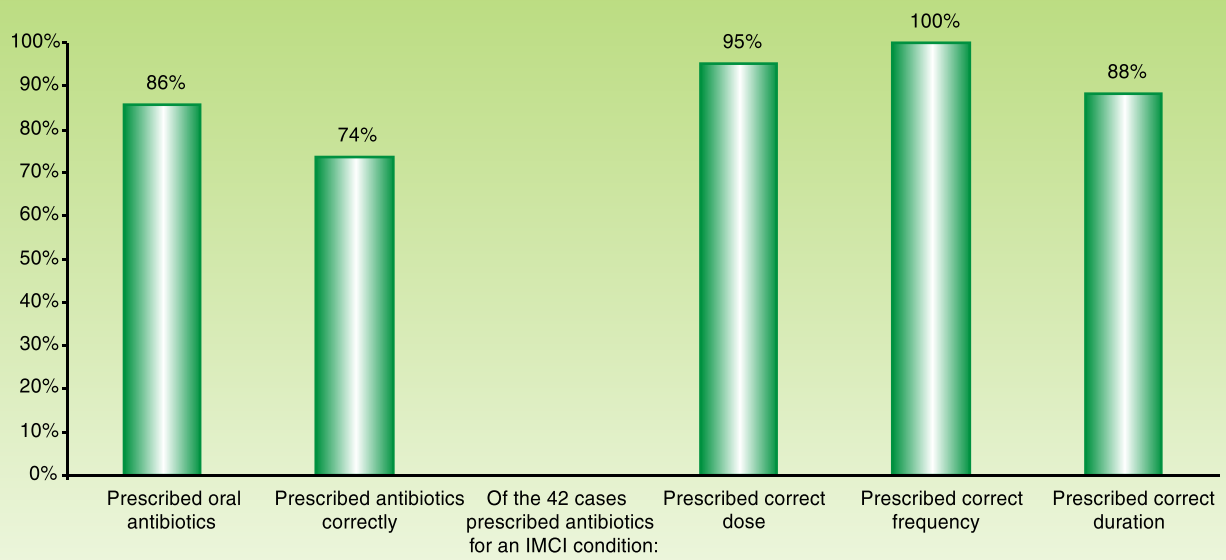
<sup>26</sup> Cases that required them were given them and cases not needing them were not given them according to the national IMCI guidelines.

penicillin, the antibiotic recommended by the national IMCI guidelines.

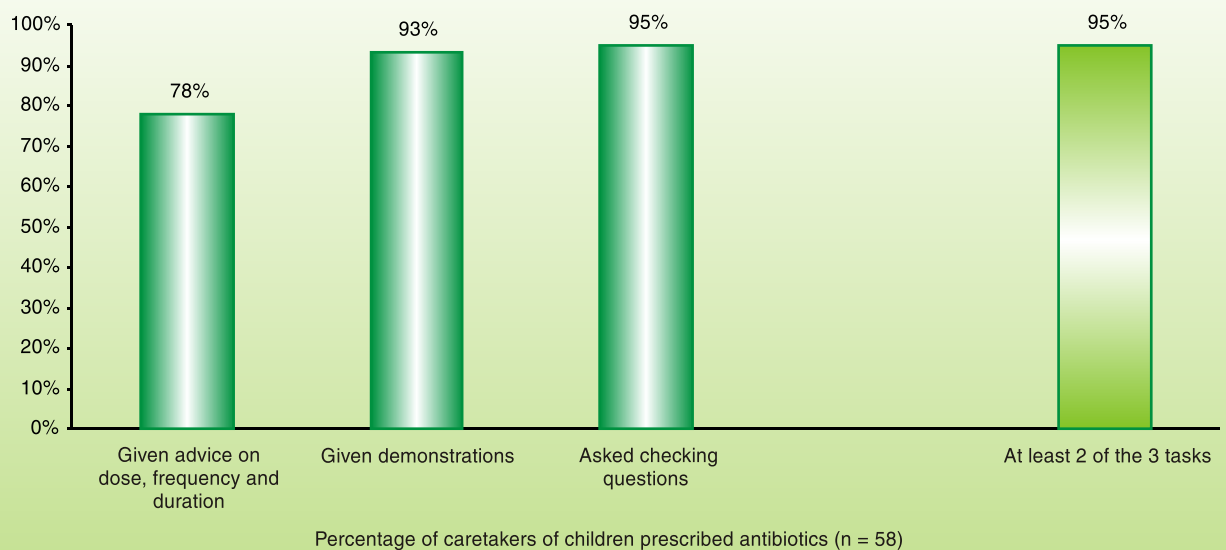
#### 4.2.3.3 Rational use of oral antibiotics

- ❖ *Prescription:* Most (85.7%) children with an IMCI condition not requiring urgent referral who needed oral antibiotics were prescribed them, and about three in four (73.5%) were prescribed them correctly (Table A14; Fig. 3). For the antibiotic to be prescribed correctly, the provider had to state the dose, frequency and duration of treatment clearly in the prescription. The main reason for an incomplete prescription was the lack of information about the duration of treatment. Only 11 cases (4.6%) of those not needing antibiotics were prescribed antibiotics unnecessarily, mostly because these cases had been misclassified by the provider as conditions that would have required antibiotics.
  - **Non-severe pneumonia** (Table A14): most (80.6%) of these cases were prescribed a recommended oral antibiotic. All children that the provider had correctly classified as having 'pneumonia' were prescribed them, but in three of them the prescription lacked information on the duration of treatment. The seven 'pneumonia' cases that were prescribed no antibiotics had been misclassified by the provider as 'no pneumonia' cases.
  - **Dysentery** (Table A14): all the seven cases of 'dysentery' were prescribed a recommended oral antibiotic; the prescription was incomplete in one of them, as the duration of treatment was not indicated.
- ❖ *Advice and caretaker recall:* Caretakers for children to whom an oral antibiotic is prescribed should be: a) given advice on how much, how many times per day and for how many days they should give the antibiotic to the child; b) shown how to give it to the child; and c) asked open-ended questions to check for their understanding of the instructions received. The last task is a key task as oral antibiotic treatment is delegated to families: checking for caretaker comprehension of the instructions given is the only way to ascertain whether the caretaker has clearly understood all the instructions and to clarify any doubt before she leaves the facility. In this survey, three caretakers in four (77.6%) were advised on drug treatment (item "a." above), most (93.1%) caretakers were shown how to give it ("b."), and most (94.8%) were also asked checking questions ("c.") (Table A16, Fig. 4). More than one child in two (56.9%) was given the first dose of the antibiotic at the facility. In facilities provided with a pharmacy, caretakers were usually asked to go to the pharmacy, take the antibiotic with the prescription and come back for the demonstration and administration of the first dose.

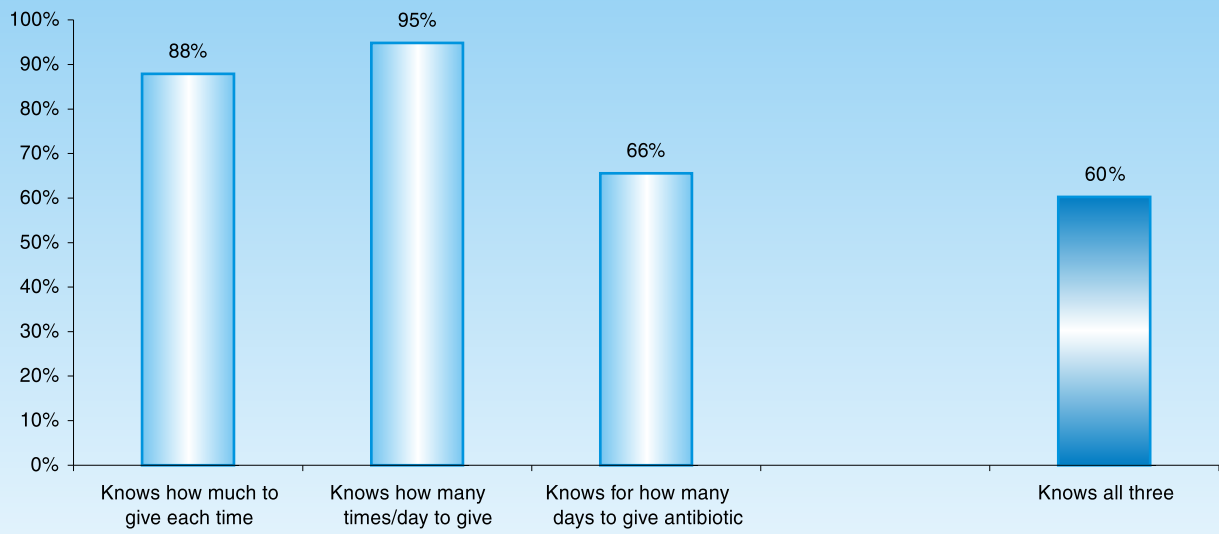
As a result of the advice received, more than half (60.3%) of the caretakers who had been prescribed an antibiotic were able to describe correctly to the surveyor during exit interviews how to give the antibiotic to the child (Table A16; Fig. 5). They knew *all* the following: a) the dose (87.9% recalled this individual message correctly), the frequency (94.8%), and the duration of treatment (65.5%). The lower level of knowledge about the duration of treatment was consistent with providers' tendency to overlook this advice. In general, there was a direct relationship of provider's advice on dose and duration of treatment with caretaker's correct recall of the advice: caretakers advised on these two items were more likely to recall them correctly at exit interview than those not advised ( $P < 0.01$ ) (Table A17; Fig. A14).



**Fig. 3 Correct prescription of oral antibiotic treatment to non-severe cases with an IMCI condition needing oral antibiotics**

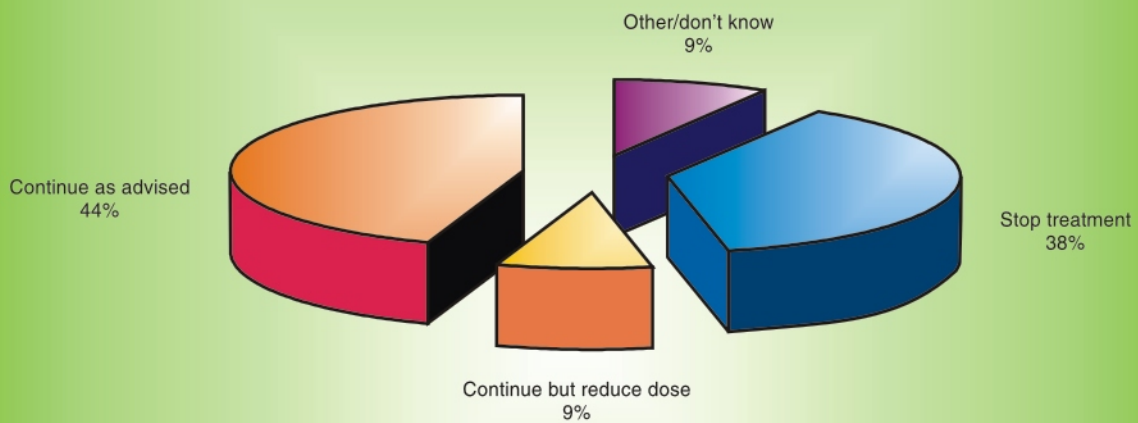


**Fig. 4 Communications skills: provider's advice on antibiotic treatment**



Percentage of caretakers prescribed antibiotics for their sick children recalling advice correctly

**Fig. 5 Caretaker's correct recall of advice on antibiotic treatment**



**Fig. 6 Caretaker's potential compliance with advice on duration of antibiotic treatment**

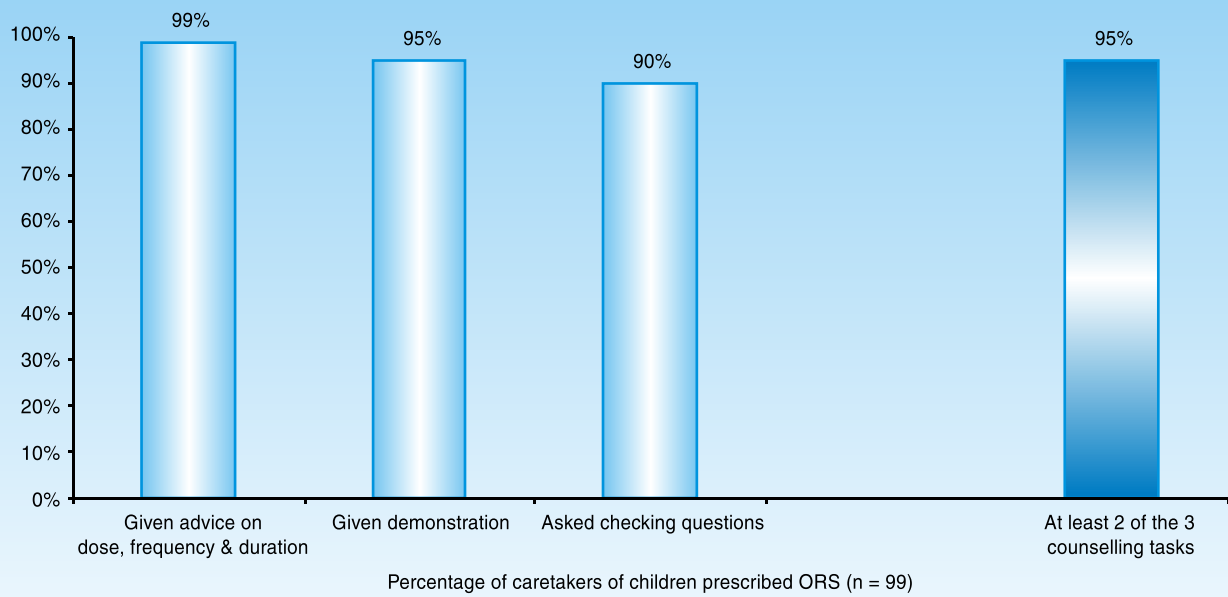


Fig. 7 **Communication skills: provider's advice on ORS treatment**

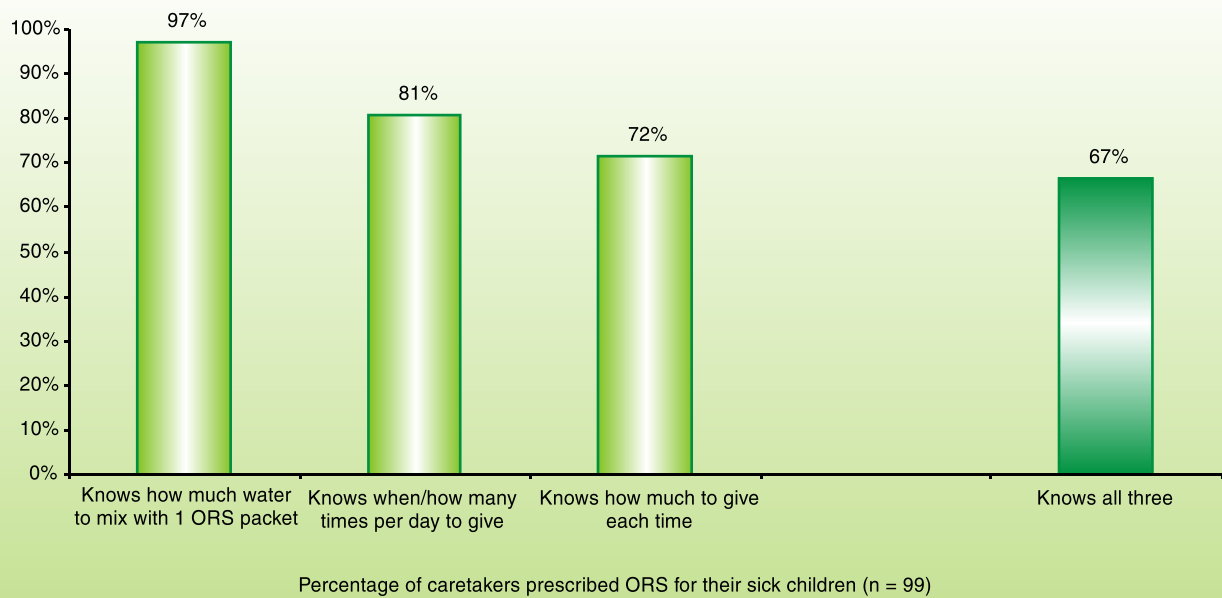


Fig. 8 **Caretaker's correct recall of advice on ORS treatment**



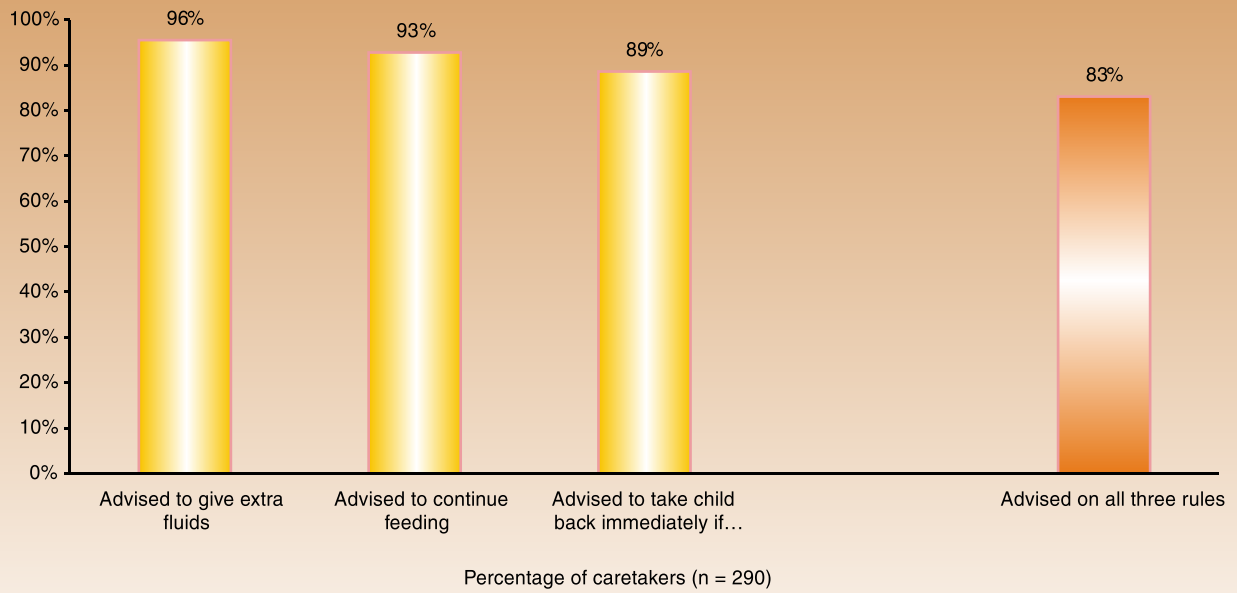


Fig. 9 Caretakers advised on home care by providers

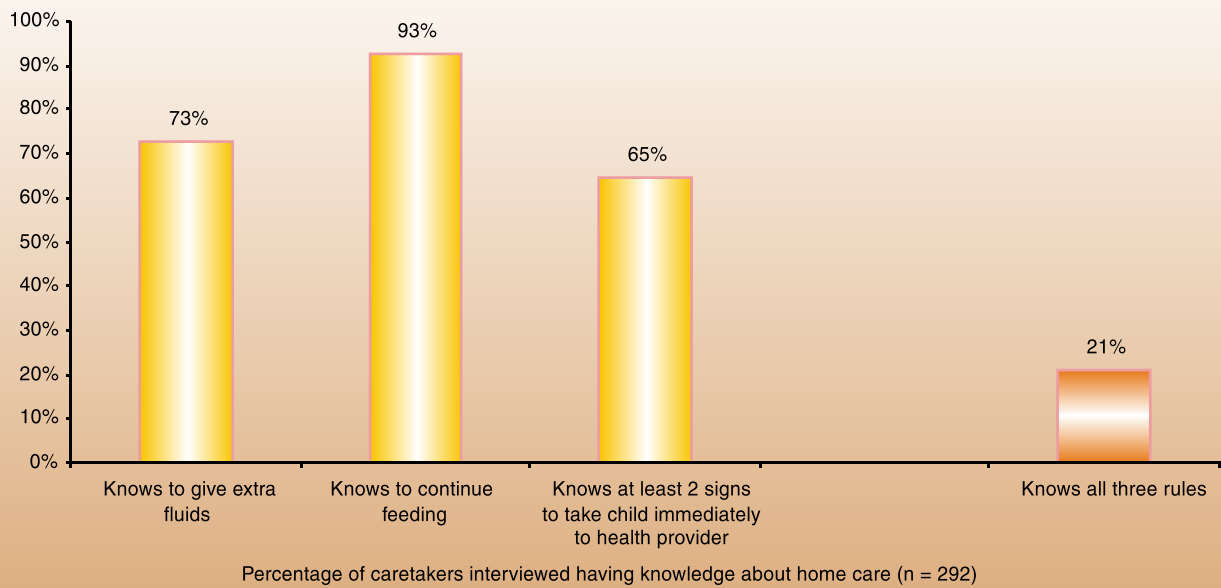


Fig. 10 Caretaker's knowledge about home care

- ❖ *Potential compliance with advice:* Caretakers of children who had been prescribed an oral antibiotic for any reason by the provider were asked what they would do if the child got better before completing the treatment course advised by the provider. About half of them (44.8%) replied that they would continue treatment as advised, but more than a third (37.9%) stated that they would stop treatment (Table A19, Fig. 6). A higher proportion of caretakers who mentioned they would stop the medicine was in the group that was not given correct instructions on antibiotic compared with the group advised correctly; however, the sample was too small for the difference to reach statistical significance (Table A18).

#### 4.2.3.4 Oral rehydration salts (ORS)

Only one child with diarrhoea had clinical signs of some dehydration but, as the signs had been missed by the provider, the child was not treated with ORS at the facility (Table A15). As noted also for antibiotic treatment, caretakers of children with diarrhoea given ORS for home use should be advised on treatment (dose, frequency and duration), given a demonstration on how to prepare ORS and on how to give it to the child, and checked for their understanding of the advice received. The caretakers of almost all diarrhoea cases (99%) were advised on ORS treatment, most were shown how to give it to the child (94.9%) and asked checking questions (89.9%) (Fig. 7).

When asked how they would prepare ORS, and when and how much solution they would give to the child, caretakers of two-thirds (66.7%) of cases with diarrhoea were able to describe *all* the following correctly: a) how much water to mix with an ORS sachet to prepare the solution (97% responded correctly on this item); b) when to give ORS to the child each day (80.8%) and how much ORS to give the child each time (71.7%) (Table A16; Fig. 8).

#### 4.2.3.5 Other treatment

- **Paracetamol for children with high fever** (Table A15): all children but one (96.6%) with an axillary temperature of 38°C or above were given paracetamol, as recommended by the national IMCI guidelines.
- **Cough medicines for children with ARI** (Table A15): almost all children were given safe advice on cough remedies. Only two cases of cough were prescribed a cough medicine considered potentially harmful by the national ARI control programme guidelines.
- **Iron for children with anaemia** (Table A15; Fig. A12): most children (85.5%) with clinical pallor were prescribed iron.
- **Iron as supplement to children with no anaemia** (Table A15; Fig. A12): three in four children (75.8%) aged 6 to 30 months old with no clinical signs of anaemia (pallor) were given iron, in line with the national IMCI guidelines for this age group.
- **Vitamin A** (Table A15; Fig. A12): four out of a total of six children that needed vitamin A were given it. The remaining two cases did not receive vitamin A as they had been misclassified by the provider, who had missed measles and severe malnutrition, respectively, for which vitamin A administration is recommended by the IMCI guidelines.
- **Immunization** (Table A15; Fig. A12): All children but one (93.3%) needing vaccination left the facility with all needed vaccinations or advice to come back for vaccination on the scheduled vaccination day<sup>27</sup>.

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<sup>27</sup> According to the national policy in Egypt, not all facilities provide immunization services (hospitals do not) and those providing them may often do so only on scheduled days.

#### 4.2.3.6 Advice on follow-up

The national IMCI guidelines recommend that children found to have some specific conditions should come back to the facility for definite follow-up within a certain number of days, which may vary according to the condition. In this survey, 72.8% of all children seen would have needed definite follow-up based on the guidelines (Table A20). *This rate is very high and there is concern that it may not be practical and feasible to advise such a high proportion of children to return for follow-up.* Half of the cases that should have been advised to return to the facility for follow-up based on the guidelines were cases with feeding problems (e.g. change in feeding practices during illness). *Changing feeding practices during illness is very common and it may be practical in this setting to follow up only those children that are low weight or anaemic.* This actually seems to be happening already: while caretakers of about two-thirds (68.2%) of cases needing advice on follow-up received this advice by the provider, providers tended to omit the advice more often in cases with just feeding problems than in those given antibiotics (e.g. pneumonia, dysentery and acute ear infection cases)(Fig. A15). When given the advice on follow-up, caretakers recalled it well in most cases (Table A21; Fig. A16).

#### 4.2.3.7 Counselling and caretaker knowledge about home care

Three basic messages on home care during illness – ‘home care rules’ – should be given to the caretakers of all sick children: giving extra fluids, continuing feeding and knowing which signs to watch out for at home in order to return promptly to the health provider. In this survey, the caretakers of the majority of children (83.1%) were advised by the provider on *all* the three home care rules (Table A22; Fig. 9). About three-quarters of non-severe cases (73.7%) were shown the ‘mother card’ containing the illustrated home care messages as a counselling aid.

However, when the caretakers were interviewed before leaving the facility and asked about the three home care rules, only one in five of them (21.2%) mentioned *all* the three rules (Table A23; Fig. 10).

It is important to note that this is the caretaker knowledge level *after* provider advice. About half of caretakers (56.2%) mentioned about the need to give extra fluids *and* continue feeding. What was missed in most cases about the three rules were the specific early danger signs that should prompt a caretaker to take the child back to the facility without delay. Although there are methodological issues related to the way this general question was formulated, caretakers tended to miss those key signs and to mention instead generic signs or symptoms as triggers to care-seeking (e.g. diarrhoea, cough, fever) (Table A23; Fig. 11). For example, only a small proportion of caretakers of children with cough and no pneumonia mentioned respiratory signs as signs to watch out at home (i.e. 14.7% mentioned fast breathing and 35.3% difficult breathing).

Very low knowledge about care-seeking among caretakers was also reported in the IMCI community baseline survey conducted in three IMCI early implementation areas in September 1999. These findings are in line with the pattern of illness described in this survey, with many mild cases with simple cough taken to the facility. They suggest a generic, non-specific care-seeking process (see also § 4.1.2 and § 4.1.3). The fact that the household survey in Gharbia and Assiut in 1998 found that many caretakers knew that breathing problems were danger signs and reported a higher rate of care-seeking for children with breathing problems than those without, should be interpreted with caution. In fact, the ARI focussed ethnographic study in Ismailia in 1990 showed that seeking care for children with breathing problems usually occurred in concomitance with other signs (e.g. fever and cough). Furthermore, the household survey itself confirmed the occurrence of delays in care-seeking

for children with reported breathing problems. The data analysis of this health facility survey confirms the important role that providers may play in giving information on care-seeking to the caretakers effectively. In fact, caretakers who had received the advice by the provider on the specific signs to watch out at home were significantly more likely to know those signs in the interview than those who had not been told about them ( $P < 0.001$ ) (Table A24; Fig. A18). Much more needs to be done, however, in the area of home care. For example, the EDHS2000 showed that feeding was continued and extra fluids were given only in a quarter (27.4%) and a sixth (17%) of children with diarrhoea, respectively. This was despite the fact that mothers had sought advice from a health facility in almost half of cases and, therefore, should have received proper home care advice.

#### 4.2.3.8 Age-appropriate advice on feeding

Fig. 12 shows the proportion of cases whose caretakers were given appropriate advice on feeding according to the age of the child. In general, more than two-thirds of cases (70.8%) were given appropriate feeding advice (for the definitions, see the footnote at the bottom of Table A26). The group of children in which the feeding advice was more often inadequate was 6 to 11 months old, a most vulnerable group: caretakers of only about half (57.1%) of these children were correctly advised to continue breastfeeding (or to give as much breastmilk as the child wants) *and* to give complementary foods three times a day. A common problem area was that of complementary feeding, namely the number of times the child should be fed in a day. The survey did not look into the type of food that was advised. Children less than 2 years old and those with low weight and/or anaemia did not appear more likely to receive age-appropriate feeding advice than the other children.

#### 4.2.3.9 Mothers advised on their health

One mother in five (21.4%) among the caretakers of children not needing urgent referral received some advice on her health<sup>28</sup>. The IMCI guidelines recommend that health providers should counsel the mother of the sick child about her own health if the child does not have a severe condition. The low rate of counselling on mother's health was expected, as training courses in Egypt have to date focussed on child health. This is a missed opportunity, as mothers represent 84.9% of all caretakers (§ 4.1.1) and, with most children seen at health facilities having mild conditions, IMCI would help build a bridge between child and maternal health. This is particularly important also for the child, as there is a relationship between maternal health and child health. It would serve to improve pregnancy care – for mothers who are pregnant – which is currently at low levels in Egypt, although showing some improvements in recent years<sup>29</sup>. A high-risk approach could be considered initially, with attention paid to young mothers, especially in rural Upper Egypt.

### 4.3 HEALTH SYSTEMS

The survey also looked into some key aspects of health systems support that are required for the provision of quality services and affect their utilization, namely: caretaker satisfaction with the services provided; organization of work at the facility; availability of essential drugs, basic supply and equipment – including immunization – and transportation

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<sup>28</sup> Any of the following: counselling on how to care for herself if sick or if she has a breast problem; advising to eat well; checking her tetanus toxoid immunization status and iron and vitamin supplementation status; ensuring access to reproductive health services and recommending the use of iodized salt for family foods.

<sup>29</sup> Demographic and Health Survey – DHS, Egypt, 2000: regular antenatal care with four or more visits was received for 36.7% of births – 19.2% in rural Upper Egypt; iron tablets were received in 28.3% of cases.

Table 7. **Main findings on health system support**

<b>Health system component</b>	<b>Findings</b>
• <i>Caretakers satisfied with the child health care services</i>	<b>95.2%</b>
• <i>Non-hospital facilities with at least 60% of doctors managing children trained in IMCI</i>	<b>77.3%</b>
• <i>Index of availability of essential oral treatments</i>	<b>5.8</b> out of <b>6</b> drugs
• <i>Index of availability of 12 non-injectable drugs</i>	<b>11.2</b> out of <b>12</b> drugs
• <i>Index of availability of injectable drugs for pre-referral treatment</i>	<b>3</b> out of <b>3</b> drugs
• <i>Non-hospital facilities with vaccination supply and equipment available</i>	<b>100%</b>
• <i>Facilities with basic supplies and materials for IMCI available</i>	<b>92.0%</b>
• <i>Facilities that received at least one supervisory visit in the last three months that included observation of case management</i>	<b>36.0%</b>

facilities for referred cases; training and supervision of providers; and records (Table 7). When looking at the results and drawing conclusions, it should be noted that the survey excluded from the sample facilities with small case load, that is about half of all facilities covered by the IMCI strategy in the country (§ 3.2).

#### 4.3.1 *Caretaker satisfaction*

Most (95.2%) caretakers interviewed reported they were satisfied or very satisfied with the health services provided at the facility (Table A27; Fig. A19). The aspects of care that were most appreciated by the caretakers included the fact that their children had been examined by the provider (86.3%), the treatment that was given (58.3%), the information given to them by the provider (17.3%) and availability of immunization services (15.1%) (Fig. A20). The last aspect is noteworthy, as it shows how appreciated immunization has become over the years, a major change from the early times. Other reasons mentioned by the caretakers for their satisfaction related to a good interaction with the provider. It should be noted that all these aspects of care that are perceived by the caretakers as an indication of good services are an integral part of the IMCI approach. According to the IMCI protocol, all children are to be examined thoroughly, treatment is standardized, with the first dose to be administered at the facility whenever possible, and counselling is a prominent feature of the clinical process. Thus, indirectly, the findings suggest that the use of the IMCI case management protocols and approach, including counselling, should help make services more attractive to the clients and contribute to improving their reputation.

#### 4.3.2 *Organization of work*

The data collected and survey teams' observations throughout the survey point out a good distribution of tasks between doctors and nurses, with usually a smooth flow of patients and an overall good organization of child health work at the facility (Table A28; Fig. A21). The tasks of weighing children, taking their temperature and recording the information were routinely carried out by nurses. In more than half of the cases (53.6%), nurses were involved in assessing feeding practices and in a third of cases (37.9%) they also provided advice on feeding and breastfeeding. In one case in five (19.3%), nurses advised caretakers on the signs indicating the need to take the child back to the facility promptly.

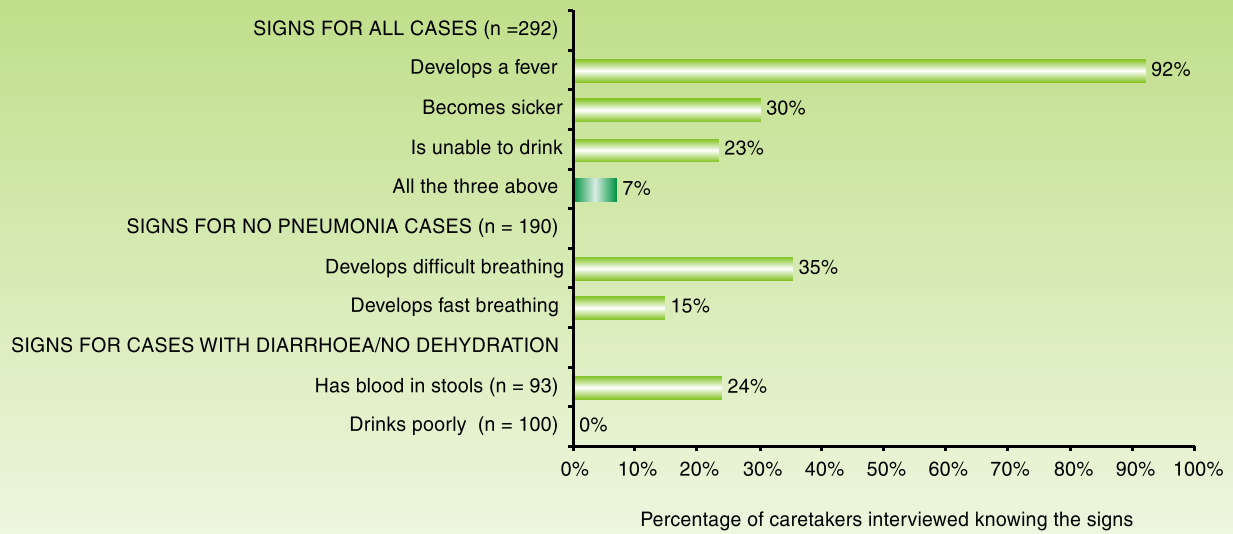


Fig. 11 **Caretaker's knowledge about care-seeking**

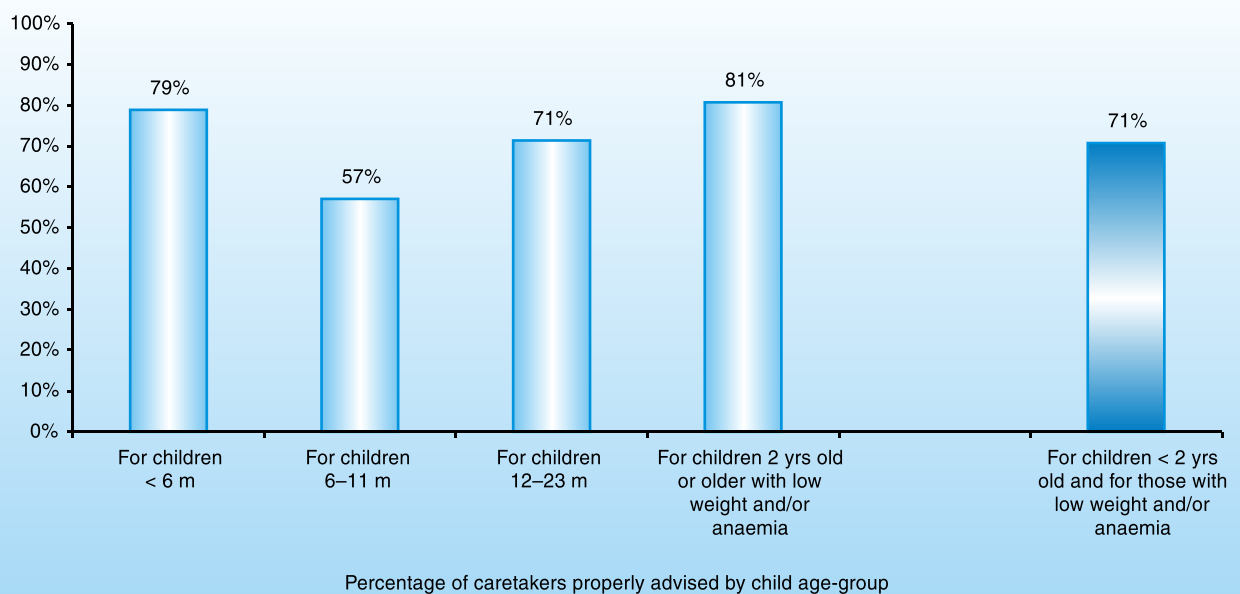


Fig. 12 **Caretakers given age-appropriate advice on frequency of feeding**

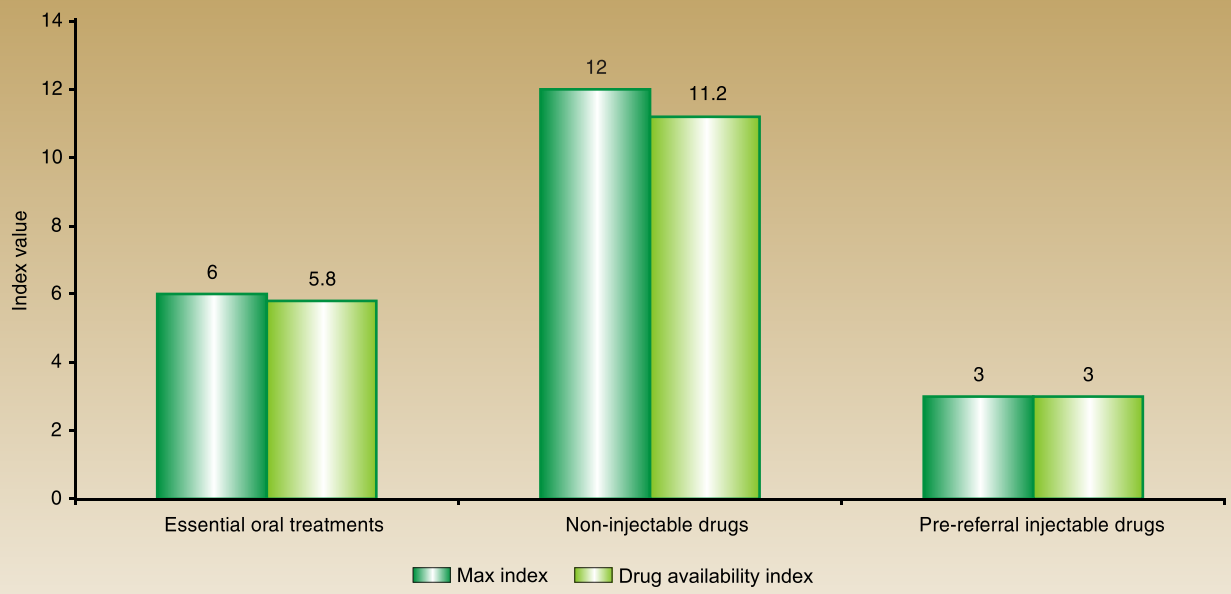


Fig. 13 **Index (arithmetic mean) of drug availability**

#### 4.3.3 Provider IMCI training status

About a third (31.1%) of all doctors and nurses managing children in the facilities visited had received IMCI training (Table A29). This figure may however be misleading. In fact, only some of the doctors and one to two nurses would be specifically assigned to the "IMCI clinic" in some facilities and only they would be the targets for training. Calculating the training coverage using *all* facility staff as a denominator – rather than only those assigned to the IMCI clinic – would therefore be of limited value. This explains why the training coverage of doctors was higher in RHF's (68.7% of all RHU doctors had received IMCI training) than hospitals or UHCs, as most RHF's (71.1%) were staffed with only one doctor. On the other hand, two-thirds of UHCs and all hospitals were staffed with 3 or more doctors. Overall, three-quarters (77.3%) of first-level (non-hospital) health facilities had at least 60% of doctors managing children trained in IMCI and 70.4% had all doctors trained.

The findings of this survey relate to cases managed by doctors who had been trained in IMCI and received follow-up visits recently, reflecting the efforts to expand the coverage in the past two years, after the early implementation phase (Table A30). In fact, two-thirds (65.5%) of children were managed by doctors who had received IMCI training in the past 12 months, a quarter (25.7%) by doctors trained between 1 and 2 years ago and the rest (8.8%) by doctors trained more than two years ago<sup>30</sup>. Although reported as a problem and partly suggested by these figures, turnover of staff trained in IMCI was not measured in this survey.

#### 4.3.4 Availability of drugs

Three measures – indexes<sup>31</sup> – were considered about the availability at health facilities of drugs required to manage cases according to the national IMCI clinical guidelines (Table A31; Fig. 13, A22, A23), namely the indexes of availability of:

- *Essential oral treatments*, that is oral drugs recommended for home treatment of pneumonia, dysentery, diarrhoea, anaemia and fever (i.e. amoxicillin, cotrimoxazole, ORS, vitamin A, iron and paracetamol). The index found was high: a mean of 5.8 drugs available out of 6 drugs.
- *12 non-injectable drugs*, including the six above and six other drugs for the treatment of dysentery cases not responding to first-line antibiotic (nalidixic acid), eye infections (tetracycline eye ointment), skin infections (gentian violet), wheezing (salbutamol) and convulsions (sodium valproate). The index level was good also in this case, with a mean of 11.2 out of 12 drugs.
- *Injectable drugs for one-dose pre-referral treatment* for children with severe classifications needing urgent referral, namely chloramphenicol, benzylpenicillin and gentamicin. The index was 3 out of 3 drugs, that is these three drugs were found available in all facilities.

All the six hospitals had at least one of the intravenous solutions recommended for rehydration of diarrhoea cases with severe dehydration, and these were widely available also at non-hospital facilities (Table A32). All the 50 facilities visited were supplied with benzathine penicillin, the antibiotic recommended for the treatment of streptococcal sore throat in the Egypt IMCI guidelines.

Although the definition of drug availability used in the survey was all but demanding, requiring only the presence of just one full course of treatment for each of the drugs per

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<sup>30</sup> The first IMCI clinical course at district level in Egypt was conducted in September 1999.

<sup>31</sup> As observed for the index on integrated assessment, each index of drug availability represents the mean of the total number of drugs considered in each category.



facility, observations by supervisors suggested that ample supplies of the drugs under consideration were found in many facilities. No standard data were collected on drug shortages over time, but these were usually not reported during the feedback sessions with facility staff at the end of the visit to the facility. Thus, it can be assumed that most facilities usually had all the drugs required for IMCI. It is noteworthy that availability of treatment was one of the common reasons stated by caretakers for their satisfaction with the services provided.

#### *4.3.5 Availability of supplies and equipment for vaccination*

All facilities visited—excluding hospitals which do not provide immunization services in Egypt—had disposable needle and syringe supplies for vaccination and functioning cold chain equipment (Table A34; Fig. A26). Refrigerators had working thermometers and their temperature was kept within the range of 2°C to 8°C as recommended by the national EPI. Cold boxes were found in all the above facilities and ice packs were found frozen in all but two facilities. Information on the availability of vaccines on the day of the visit was not collected, as it might have been misleading: facilities providing immunization services in Egypt may receive vaccines just for the immunization sessions, which are not held every day in all facilities. As noted for drugs, the availability of immunization services was one of the aspects of childcare appreciated by many caretakers. These findings, together with the routine assessment of the immunization status in all children documented in this survey, are in line with the wide childhood immunization coverage in Egypt (86.6% fully immunized by 12 months of age, according to the Demographic and Health Survey—DHS, Egypt, 2000).

#### *4.3.6 Availability of other basic supplies and equipment for IMCI*

The large majority of facilities visited (92%) were provided with the basic supplies and equipment needed for IMCI, including adult and baby scales, timing devices to count the respiratory rate, supplies to mix ORS, and tap water (Table A33; Fig. A24). Mother counselling cards and IMCI chart booklets were found in all but three facilities (94%) (Fig. A25). Counselling cards were often available also for distribution to mothers (78% of facilities), in addition to the copy for use by the provider. Other supplies (thermometers, nebulizers, tongue depressors, recording forms) were available in virtually all facilities. Thus, most facilities had all the supplies and equipment needed to implement the IMCI guidelines.

#### *4.3.7 Availability of transportation for referred cases*

People living in the catchment area of 90% of the facilities visited had access both physically (e.g. distance) and financially to a means of transportation to transfer cases referred to a higher level facility, according to facility staff. The median time to reach the referral hospital was estimated at 15 minutes, with a maximum time of 50 minutes (Table A35). Access to referral facilities for severe cases appeared therefore to be within reach of most people served by the type of health facilities included in this survey. It was not within the scope of this survey to assess how functional the referral system was, as this would have required a different survey design.

#### 4.3.8 Availability of child health services

All facilities but one (98%) were reported to provide services, including child health services, seven days a week (Table A35). This would in principle make child health services basically available every day in the community served by each facility.

#### 4.3.9 Supervision

Two-thirds (64%) of the facilities visited had a supervisory book available, broadly defined as any book – even multi-purpose register – in which supervisory visits would be recorded (Table A35). Observation of case management was a supervisory task carried out during a third (36%) of the last supervisory visits conducted in the past three months. Recommendations made during the last visit were recorded in a supervisory book in 22 (44%) of the 50 facilities visited. Overall, one facility in five (20%) received clinical supervision with findings and recommendations recorded in a supervisory book. These findings were expected, as the IMCI strategy in Egypt initially focussed on upgrading health providers' clinical skills and reinforcing them by follow-up visits after training and was just in the process of field-testing an IMCI supervisory skills training course. The data on supervision were therefore collected in this survey to serve as a baseline to measure improvements in supervision in the future resulting from strengthened supervision on childcare.

#### 4.3.10 Records

An attempt was made to collect some additional information on patterns of cases seen by reviewing routine outpatient records for the month of January 2002 at the facilities visited (Tables A36-A40). According to those records, about a quarter (25.3%) of all outpatient visits – all ages – were for children under 5 years old, the proportion going up to a third (34.8%) at urban health centres and down to less than a sixth (17%) at hospitals (Table A36). Other information is given in § 3.1.1. Much caution should be exercised in interpreting these data, as their reliability may be questionable in many cases, as often is the case for this type of data.

### 4.4 DIFFERENCES BETWEEN IMCI FOLLOW-UP VISITS AND THIS SURVEY

There are a number of important differences between the follow-up visits carried out after IMCI training and this survey. These differences are summarized below to help understand how to interpret the results obtained from the two types of activities.

- ❖ *Purpose:* The follow-up visits have been designed with the objective of strengthening health providers' clinical and counselling skills and following up improvements in health systems to support their work. As such, the follow-up visits are an essential part of training and focus on providers' performance. The survey, instead, is an evaluation, not a training event, and aims at assessing the quality of care received by children taken to 'IMCI facilities', rather than provider performance. The focus in the survey is therefore on the child, although information on provider performance can indirectly be inferred from the data collected.
- ❖ *Training of supervisors and surveyors:* The 'supervisors' involved in IMCI follow-up visits receive a short training to enable them to conduct the visits and meet the objectives described above. On the other hand, surveyors receive a very intensive training, lasting a full week and following rigid standards and many practical sessions, aiming at

reducing surveyor intra- and inter-variability, in order to ensure that all surveyors behave in the same way when collecting data.

- ❖ *Sample size and applicability of data:* Because of the different nature of the two activities, follow-up visits check provider performance by observation of just one case per provider (independent child re-examination – blind to the findings of the provider – in a separate place is not carried out). In the survey, instead, all children taken to a health facility are enrolled based on strict criteria and the number of children per provider may vary. Also, while follow-up visits collect information on the management of a few cases, surveys enrol hundreds of children to draw statistically valid conclusions that are applicable to all facilities from which the sample has been taken. Even if they were conducted using a very strict methodology, the results obtained from the follow-up visits would have very wide rather than narrow limits of precision and, while useful also as an initial monitoring tool, could not be extrapolated to describe the situation in other facilities. The follow-up visits are therefore very limited in time and size, although they very well serve their main purpose to reinforce provider skills as a training instrument.
- ❖ *Data analysis and use of results:* Data on follow-up visits are usually summarized and compiled by district and not by health facility; individual data on each provider or case managed observed in each facility are available only in the original follow-up forms. Data analysis in surveys is conducted on all cases enrolled and much more in depth. Because surveys collect 'hard data', they generate 'evidence' on IMCI and can also serve as advocacy and policy tools to draw interest, mobilize resources and back up supporting policy decisions.
- ❖ *Supervision:* Both activities help strengthen the supervisory skills of those involved and, through the feedback to facility staff, are valuable instruments to address key management questions. Follow-up visits collect useful information on outcome indicators at a fixed time after IMCI training (e.g. 1 or 6 months) that managers can immediately use for action. On the other hand, surveys provide a cross-sectional picture about the overall situation at one point in time irrespective of the time of training and furnish data on key outcome indicators that can be used for longer-term planning and future comparison.

A quick review of the follow-up data after IMCI training available from the MOHP for most visits conducted in the period from 1999 to 2001 tends to confirm the importance of the IMCI follow-up tool to guide managers' decision initially. In fact, the areas where the provider performance was found to be sub-optimal in follow-up visits were also identified as weak in this survey. In general, when a task was performed correctly or adequately in less than 85% of cases according to the follow-up visit results, the same task was found to be weak also in the survey, with a few exceptions. It should be noted that the rates of follow-up visit and survey results may differ for the same item as the sample size and the methodology also differ. The key point is that both approaches were able to identify similar areas needing action. Notable exceptions where some disagreement was found were: unavailability of mother counselling cards, problems in the referral system and lack of some of the essential drugs required for IMCI in about half of the facilities according to the follow-up results, while the survey yielded better findings. One possible explanation, in addition to those already described above, may be that after the follow-up visits actions were taken to improve some of the areas found weak. Furthermore, the follow-up visits relate to all the facilities in the country where staff have received IMCI training, while the survey concentrated only on facilities with a higher case-load, thus excluding small facilities, i.e. about half of those implementing the IMCI strategy (§ 3.2).

#### 4.5 LIMITATIONS OF THIS SURVEY

In any study, it is very important to identify and describe its limitations and take into account the original objectives, so that the findings can be interpreted and used properly. No study is exempted from limitations. Below are the main limitations found about this survey.

- ❖ *Surveyors and supervisors:* the criteria to select surveyors and supervisors included previous training in IMCI and facilitation skills and involvement in IMCI follow-up visits after training. This enabled the selection of staff very familiar with IMCI and supervision who needed to be trained only in the survey procedures. The limitation of this choice is in that people fully involved in IMCI may in principle be unintentionally more biased than people not involved in it. However, it would have been almost impossible to conduct a survey of this type – requiring excellent familiarity with the IMCI clinical guidelines as a prerequisite for surveyors – using staff not trained in IMCI. To reduce the effects of this bias, attention was placed on the supervision of survey activities and interpretation of data.
- ❖ *Generalization of results:* for any survey, it must be very clear to which population the results apply, to avoid inappropriate generalizations for which the data would be unsuitable. Based on the objectives of this survey, *the results refer only to the quality of care provided by IMCI-trained health providers to children age 2 months up to 5 years old in facilities with an estimated daily case-load of four or more cases.* The results therefore do not describe the quality of care that a sick child would be likely to receive in an IMCI facility in general but focus only on the care received from IMCI-trained providers. In this respect, *these results are not comparable with similar surveys conducted in other countries,* wherever the findings have applied to sick children seen by any provider, whether trained in IMCI or not, in facilities in which the IMCI strategy had been introduced. Compared with those surveys, therefore, the results in Egypt would obviously be better. Only in the case of facilities staffed with only one health provider would the findings in Egypt reflect also the care provided by the facility as a whole: this was the case in 29 facilities out of the 50 sampled.
- ❖ *Representation of data:* the results refer to the whole sample, consisting of the total of all facilities in all districts covered by the survey and meeting the enrolment caseload criteria. The sample was not stratified by governorate, district or type of facility, to limit it to a manageable size; therefore no stratified analysis was carried out. The distribution of facilities in the sample by type and geographical location was kept similar to that in the sampling frame from which the sample was drawn. An important point is that the enrolment caseload criterion (at least four daily cases below 5 years old) resulted in the exclusion from the sample of about half of all facilities covered by the IMCI strategy in the country: this represents a major limitation of the survey. Within the time and financial resources allocated, however, this was unavoidable. Thus, these survey data do not apply to small facilities.
- ❖ *Availability of drugs:* the presence of just one course of treatment was sufficient to meet the definition of drug availability in this survey. Although observations of survey teams were additional useful information, future surveys should apply definitions on drug availability more appropriate to each setting, for example amounts related to the recorded caseload.
- ❖ *Staff turnover:* as many as 10 out of the 50 facilities originally selected had to be replaced by other facilities – included in a replacement list, because no IMCI-trained doctor was available at the time of the visit. This information indirectly underlines the importance of the problem of staff turnover, whether temporary or permanent, and its implications for an in-service training strategy in the long term.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

This survey has found key supportive elements of the *health system* in facilities where the IMCI strategy has been implemented, particularly in terms of organization of work and clear distribution of tasks among doctors and nurses, and availability of the essential drugs required for IMCI, supplies and equipment. The data on case management shows that providers trained in IMCI follow a *systematic approach to a sick child*, according to the standard IMCI guidelines of the Ministry of Health and Population, and that *drugs are used rationally*. This situation is likely to have been strongly promoted and supported not only by training courses but also through the skill reinforcement and follow-up visits after IMCI training. An important role may have been played by the feedback meetings at the end of the follow-up visits that have seen the full involvement of the central IMCI team, trainers and key staff of the governorate, districts and facilities concerned. The IMCI approach to childcare appears to be *much appreciated by the caretakers* of the sick children ('clients'), whose perception of quality care relies on a number of criteria that go beyond the mere drug treatment of a sick patient. In this way, *the IMCI strategy acts as a powerful channel to improve the quality of services within the communities that these serve in Egypt*. *The strong support provided by the Ministry of Health and Population at all levels* has made this possible and *is essential during the current expansion phase of implementation of the strategy*.

The analysis of the results of the survey also identified some clinical and communication skills and tasks that require further emphasis in future training and follow-up visits after training, as outlined in Annex 1, which is an integral part of the recommendations of this report. The possibility should be explored of revising the recommendations on indications for definite follow-up, which currently include most of the children seen. The analysis also suggests that it would be beneficial to expand the scope of the IMCI strategy *from the current focus on illness to that of child care*, both curative and preventive, and *establish better links with mother care*.

Finally, the survey highlighted a number of important issues that the recommendations described below with their rationale ('facts') aim to address prospectively in order to sustain and further improve quality care for sick children.

### **5.1 TRAINING**

#### *5.1.1 Turnover of trained staff*

*Facts:* Ten of the 50 facilities selected for the survey had to be replaced by other facilities during the survey as the providers trained in IMCI were not present at the time, either because of transfer to other places or temporary absence. In large facilities staffed with several doctors, only some had been trained in IMCI: children taken to the same facility on the same day may then receive different care according to whether or not they are seen by the IMCI trained staff.

***Recommendation:* A revised approach should be developed in planning for training to address the issue of turnover of trained staff and improve the existing training coverage, in order to provide equal opportunities for quality care to all children under 5 years old seen at the same facility.**

### 5.1.2 The challenge of long-term sustainability

*Facts:* In addition to the issue of the turnover of trained staff and of further increasing in the same facility the training coverage achieved with the initial courses, an important training challenge is expanding to new areas at the same time. These aims require intensive in-service training efforts and significant human and financial resources over the years. Taking the question of long-term sustainability into due consideration, the IMCI approach has already been introduced in a few medical schools in Egypt. The first batch of graduates that have been exposed to this approach will soon complete their medical training and be ready to be assigned to health facilities in the field. There is a need to assess their clinical and communication skills on child care at this point to identify those areas that may require some reinforcement. This would form the basis for the development of a curriculum for IMCI refresher training which they could receive when being posted to health facilities.

*Recommendation:* **Clinical and communication skills of medical graduates who have been exposed to the IMCI concepts in medical school should be assessed to develop a standard curriculum for refresher training.**

## 5.2 IRON-DEFICIENCY ANAEMIA

*Facts:* The prevalence of anaemia in the representative sample of children in this survey, as well as the similar rates found in community surveys, are of concern as anaemia does have an impact on the health and development of children and may concern also their mothers. The IMCI guidelines provide for supplementary iron to be given also to children with no clinical signs of anaemia as an approach to tackle the problem. There is a need to assess the impact of this approach, so as to address this issue effectively. The surveys reviewed have measured haemoglobin but may have not related it to iron supplementation.

*Recommendation:* **Consideration should be given to measuring the public health impact of the current iron supplementation policy to address the issue of anaemia in children (and their mothers).**

## 5.3 CARE-SEEKING AND HOME CARE PRACTICES

*Facts:* Most of the cases taken to facilities were simple cases with cough, fever or diarrhoea. The data clearly show that their caretakers lack knowledge about the key danger signs that should guide their care-seeking behaviour. This leads on one hand to over-utilization of services and on the other hand to potential delays in seeking consultation for those who most need it. Despite the fact that breastfeeding is commonly practised, feeding practices are largely sub-optimal. Many caretakers also lack knowledge about child home care, including continuing feeding and giving extra fluids during the child's illness. The value of distributing home care cards to all mothers routinely is uncertain and worth investigating, as this approach may not be sustainable in the long term. On the other hand, the existing child health card appears to be a good opportunity to promote the IMCI home care messages, but it is not yet widely utilized.

*Recommendation:* **IMCI-related home care messages could be incorporated in the "child health card", the use of which should be promoted at any opportunity. Efforts to improve caretakers' care-seeking and home care practices, including feeding, should be a priority in the community.**

#### **5.4 DRUG EXPENDITURE**

*Facts:* During this survey, essential drugs required for IMCI were found to be available at most of the facilities visited. Also, the data suggest that IMCI training has furnished providers with skills to use drugs rationally. This is of particular importance, given the extensive overuse of drugs and self-medication practice in Egypt, as confirmed by community surveys. There is a need to prove to decision-makers that, through more rational drug prescribing, IMCI has the potential to reduce rather than increase public sector drug expenditure, despite the improved supply of drugs to facilities implementing IMCI, the number of which is bound to continue to increase over time.

*Recommendation:* **Consideration should be given to estimating childcare drug costs at health facilities based on IMCI and non-IMCI providers' current prescription practices.**

#### **5.5 SUPERVISION**

*Facts:* The survey data supports the need felt by the national IMCI team to strengthen supervision in order to maintain the achievements made. The supervisory training package just developed by the national team should be tested as soon as possible. The use of the proposed supervisory approach in the field should be carefully monitored before the package is finalized and used widely.

*Recommendation:* **Priority should be given to testing and close monitoring of the approach to strengthening supervision currently under development.**

# ANNEXES





**ANNEX 1. AREAS TO BE EMPHASIZED IN FUTURE IMCI CLINICAL TRAINING  
AND SKILL REINFORCEMENT AND FOLLOW-UP VISITS**

<b>Step</b>	<b>Targeted children</b>	<b>Condition</b>	<b>Areas to emphasize</b>	<b>Evidence from survey</b>
<b>Assessment</b>	All children	All	Case history and caretaker's answers should be carefully validated (unreliability of caretaker)	Discordant information provided by the same caretaker to provider and surveyor in several cases, leading to incorrect assessment and management of the child
	All children	ARI	Caretakers should be asked not only whether the child has cough but also whether the child has difficult breathing	Observation
	Children with cough or difficult breathing	ARI	The respiratory rate should be counted in a child who has remained calm for at least 10 minutes	Observation
			More practice is needed to <b>count the respiratory rate</b>	Unreliable ('inaccurate') counts in 34.5% of children in which count performed
	All children	Throat problem	All children should not only have their throat checked but also their <b>cervical lymph-nodes</b>	Cervical lymph-nodes not felt for in 16.2% of children
	Children with an ear problem	Ear problem	Both tasks should be performed: checking both ears <u>and</u> <b>feeling for tender swelling behind the ear</b>	(Both) ears not checked in 26.9% and feeling for tender swelling behind the ears not performed in 40.4% of children with ear problem
	Children with fever	Fever	<b>History of measles</b> within the last three months should be asked in all children with fever or history of fever	History of measles within the last three months not checked in 25.7% of children with fever or history of fever; the only child with measles in this survey was missed.

Step	Targeted children	Condition	Areas to emphasize	Evidence from survey
<b>Assessment</b> (continued)	All children	Anaemia	All children should be checked not only for palmar pallor but also for <b>mucous membrane pallor</b>	Mucous membrane pallor not assessed in 11.1% of children
			More practice is needed to assess palmar and mucous membrane pallor	No agreement on classification of cases with severe anaemia or anaemia in 38% of children
	All children	Malnutrition	All children should be checked properly for <b>visible severe wasting and oedema of both feet</b>	Visible severe wasting not (or not properly) assessed in 26.4% of children; oedema of both feet not (or not properly) checked in 23.3% of children
	Children less than 2 years old and with low weight and/or anaemia	Feeding assessment	Particular attention should be made not to miss <b>assessment of feeding practices</b> in children with low weight and/or anaemia	Feeding assessment not performed in 16.9% of children age less than 2 years and with low weight and/or anaemia
	All children	Other problems	Asking about and <b>checking for 'other problems'</b> in all children should be emphasized	Caretakers not asked about the presence of other problems in 30.7% of cases
<b>Health card</b>	All children	Health card	Child's <b>health card</b> should be routinely asked for and checked	Health card not asked for in 41.6% of cases
<b>Treatment and counselling</b>	Children needing urgent admission to hospital	Cases with a severe classification	All children with a severe classification needing urgent admission to hospital should receive the <b>first dose of 'pre-referral treatment'</b> at the hospital outpatient or emergency department	Two of the three severe cases that did not receive a pre-referral dose of antibiotic were seen at hospital outpatient departments
	Children needing oral antibiotics	IMCI conditions requiring antibiotics	Caretakers of children prescribed antibiotics should be advised also on <b>duration of treatment</b> , even if they are to come back for follow-up in 2 days	Advice on duration of treatment was not given in 11.9% of cases with an IMCI condition needing and prescribed oral antibiotics; caretakers of 34.5% of children prescribed oral antibiotics did not know for how long to give the antibiotic to the child; caretakers of 37.9% of children who were prescribed an antibiotic said they would stop treatment at any time if the child got better

Step	Targeted children	Condition	Areas to emphasize	Evidence from survey
<b>Treatment and counselling</b> (continued)	Children with diarrhoea	Diarrhoea	Communication skills to <b>advise on ORS treatment</b> should be enhanced through more supervised practice	Caretakers of 33.3% of children given ORS were unable to describe how to prepare and administer ORS correctly
	Children age 6 to 30 months with no clinical anaemia	No anaemia	<b>Iron supplements</b>	A quarter (24.2%) of children in the target age group did not receive iron supplements
	All children	Any condition	<b>Advice on when to take the child back</b> to the facility immediately	78.8% of caretakers were unable to mention <i>all</i> the three home care rules, especially the specific early danger signs to watch out at home
	Children less than 2 years old and children with low weight and/or anaemia	Feeding	Practice on <b>counselling on complementary feeding</b> should be strengthened during training and follow-up visits, especially for the age group 6 to 11 months and children with low weight and anaemia.	Caretakers of about half (42.9%) of children 6 to 11 months old were not correctly advised to continue to breastfeed and give complementary foods three times a day
	All children	Any condition	Use of mother's counselling card should be closely monitored and improved during follow-up visits	The mother counselling card was not used to advise caretakers of 26.3% of children
	Caretaker-mothers		Training should start emphasizing the need to <b>counsel on their health mothers</b> of sick children who have only a mild illness	Four mothers in five (78.6%) among the caretakers of children not needing urgent referral did not receive some advice on their health

## **ANNEX 2. MAIN STEPS OF THE IMCI PROCESS IN EGYPT**

December 1996 – June 2000

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### **1996**

- December
- MOH briefing on IMCI by WHO

### **1997**

- February
- Endorsement of the IMCI strategy by the Minister of Health & Population
  - National IMCI Task Force established and national IMCI co-ordinator appointed
  - Two Working Groups created (Adaptation and Planning & Implementation)
- July
- National IMCI Orientation Meeting and Preliminary Planning Workshop

### **1998**

- March
- National IMCI Planning & Adaptation Workshop
  - 3 Districts selected (Sharq District, Alexandria Governorate; Menouf District, Menoufeya Governorate; Sahel Seleem, Assiut Governorate)
- August
- Consensus meeting on IMCI clinical guidelines
- December
- Finalization of the IMCI adapted guidelines
  - District planning workshops

### **1999**

- February to September
- Central-level IMCI training courses (no.= 3)
- April
- First IMCI pre-service workshop (Alexandria University)
- July – August
- Baseline survey on community practices
- August
- Establishment of Working Group on Family & Community practices
- September
- Development of IMCI training materials for nurses in Arabic (4-day course)
- September to November
- District-level IMCI training courses
    - 11-day IMCI training courses for doctors
    - 4-day IMCI training courses for nurses
- November
- First follow-up visit after training

### **2000**

- April
- Review of Early Implementation Phase
- June
- Beginning of expansion to other districts and governorates

**DRUGS:** All drugs needed for IMCI included in national Essential Drug List (EDL), except for syrup formulations of nalidixic acid – not available in Egypt – and Multivitamin syrup. The National Drug Policy allows the use of all drugs needed for IMCI at PHC facilities, except for IM chloramphenicol and gentamicin (that are however made available to health facilities implementing IMCI).

### ANNEX 3. IMCI TRAINING AND IMPLEMENTATION COVERAGE

Table 1. **Training activities since inception through February 2002**

Type	Level	# courses	# participants	
			Nationals	Foreigners
Case Management	National	6	120	5
	Regional	2	17	35
	Dist / Drs	33	741	5
	Dist / Nrs	33	812	
Facilitation	National	8	79	
	Regional	1	5	? 11
Supervisory	National	4	45	1
University	Regional	1	12	14
	National	2	33	
Sum		90	1864	71

Table 2. **Egypt IMCI "District" case management training profile and implementation**

From inception through February 2002

Governorate	Total # Districts	Total # HFs	IMCI implementing			IMCI HF % of		Date trn'g started	1999		Year 2000		Year 2001		Jan-Feb 2002		Total	
			Dists	HFs	of	Dist. HFs	Gov'ate HFs		Drs	Nrs	Drs	Nrs	Drs	Nrs	Drs	Nrs	Drs	Nrs
Alexandria	7	70	2	18	18	100.0%	25.7%	19 Sep 99	22	25	63	53	24	23			109	101
Damietta	4	84	1	22	24	91.7%	26.2%	10 Feb 01					22	25			22	25
Gharbiya	8	233	2	47	47	100.0%	20.2%	06 May 01					50	49			50	49
Ismailiya	7	51	7	51	51	100.0%	100.0%	05 Aug 01					41	48	16	24	57	72
Menoufiya	10	228	6	103	103	100.0%	45.2%	10 Oct 99	24	24	42	24	92	120			158	168
Assiut	13	228	4	102	102	100.0%	44.7%	24 Oct 99	22	25	17	24	119	120			158	169
Bani-Suef	7	151	3	41	66	62.1%	27.2%	29 Oct 00			25	25	24	26			49	51
Fayoum	6	144	2	23	73	31.5%	16.0%	21 Jul 01					23	24	23	25	46	49
Minia	9	291	1	45	45	100.0%	15.5%	08 Oct 00			25	26	25	25			50	51
Quena	11	284	4	48	62	77.4%	16.9%	01 Jyl 01					24	25	24	27	48	52
<b>Totals</b>	<b>82</b>	<b>1764</b>	<b>32</b>	<b>500</b>	<b>591</b>	<b>84.6%</b>	<b>28.3%</b>		<b>68</b>	<b>74</b>	<b>172</b>	<b>152</b>	<b>444</b>	<b>485</b>	<b>63</b>	<b>76</b>	<b>747</b>	<b>787</b>

Tot # of trained HPs:	Doctors	643
	Nurses	709
	SUM	1352

NB: the training database does not include number of trainees by type of HF

## **ANNEX 4. SCHEDULE OF SURVEY ACTIVITIES**

December 2001 – April 2002

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- **PLANNING**

<i>Planning meeting</i>	2 – 6 December 2001
<i>Testing of revised survey forms</i>	17 January 2002
<i>Finalization of survey forms</i>	21 January 2002
<i>Finalization of survey plans</i>	13 February 2002

- **TRAINING**

<i>Surveyor training</i>	10 - 15 March 2002
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- **FIELD WORK**

<i>Data collection</i>	16 - 27 March 2002
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- **DATA ENTRY AND ANALYSIS**

<i>Data entry and cleaning</i>	28 - 31 March 2002
<i>Data analysis</i>	1 - 10 April 2002

- **PRESENTATION OF MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

<i>Preparation for review meeting</i>	14 – 15 April 2002
<i>Review meeting</i>	16 April 2002

## ANNEX 5. GEOGRAPHICAL AREAS AND HEALTH FACILITIES SELECTED FOR THE SURVEY

The tables below show the original list of health facilities selected before fieldwork. The 10 facilities among them that were replaced during the survey are listed in Annex 6.

### LOWER EGYPT

Governorate	District		Hospitals		Urban facilities		Rural facilities	
	ID	Name	Name	ID	Name	ID	Name	ID
<b>Lower Egypt</b>								
Alexandria	01	Montazah			Toson MCH	01		
	02	Sharq			Semouha HC	02	Abees 2	03
Damietta	03	Kafr Sa'ad					Kafr al-Morab'aen	04
Gharbiya	04	Basiun	Basiun DH (*)	05			Shubra Tana	06
							Nagreeg	07
	05	Kafr el-Zayyat					Questa	08
						Monshat Soliman	09	
Ismailiya	06	Abu Sweer			Abu-Sweer HC	10		
	07	Ismailiya					al-Manaief	11
	08	Fayed			Fayed HC	12	Kasfareet	13
Menoufiya	09	el-Elbagour	el-Bagour DH	14			Absheesh	15
							Sobk el-Dahhak	16
							Kafr el-Khadra	17
							Meet el-Wasta	18
	10	Berket el-Sab'a					Tanbasha	19
	11	el-Sadat					Abu Nashaba	20
	12	Sers el-Layyan			Sers MCH	21		
	13	el-Shouhada					Drageel	22
							al-Iraquiya	23
	14	Menouf	Menouf Gen H	24			Gezaie	25
							Shoubra Bloula	26
							Kamshoush	27

DH = District hospital  
FH = Fever hospital



**UPPER EGYPT**

Upper Egypt								
Assiut	15	Dairut					Baweet	28
							Nazlet Daher	29
	16	Manfalut					Bani-Sha'aran	30
							Rameeh	31
	17	el-Quosiya	el-Quosiya FH	32			Bani-Zeed Buoq	33
	18	Sahel Seleem					el-Gamaila	34
							Bo'weet	35
Bani-Suef	19	Beba			Beba HC	36	Tansa IH	37
	20	Nasser	Nasser DH	38			Ashmant IH	39
							Tansa al-Malaq	40
Fayoum	21	Abshwai					Senaro al-Quibliya	41
	22	Itsa					Qualamshah	42
al-Minia	23	Samalut					al-Gaza'ier	43
							Bani-Samrug	44
							Shousha	45
							Nazlet el-mouden	46
Quena	24	Armant	Armant DH	47	Armant el-Heet HC	48		
	25	Quos					al-Aquab	49
							al-Maghzan	50
Total			Hospitals=6		Urban facilities=7		Rural facilities=37	
(*) DH= District hospital			FH=Fever hospital					

**ANNEX 6. LIST OF HEALTH FACILITIES REPLACED DURING FIELD WORK**

<b>HF code</b>	<b>Name of original HF</b>	<b>Type</b>	<b>Name of replacement</b>	<b>Type</b>	<b>Reason</b>
<b>9</b>	Monshat Suliman	Rural	Asdeemah	Rural	Physician transferred
<b>18</b>	Meet al-Wasta	Rural	Ba'I Al-Arab	Rural	Physician on sick leave
<b>20</b>	Abu Nashaba	Rural	Al-Tarranah	Rural	Physician died
<b>28</b>	Baweeet	Rural	Dairut Al-Shareef	Rural	Physician transferred
<b>31</b>	Romeeh	Rural	Al-Hawatkah	Rural	Physician transferred
<b>34</b>	Al-Gamaila	Rural	Al-Tanagha Sharqia	Rural	Physician transferred
<b>36</b>	Beba UHC	Urban	Al-Mallahiya	Rural	Physician on sick leave
<b>43</b>	Al-Gazai'er	Rural	Itsa Al-Balad	Rural	Physician attending a training course
<b>44</b>	Bani-Samrag	Rural	Al-Baiaho	Rural	Physician on maternity leave
<b>50</b>	Al-Makhzan	Rural	Al-Oliquat	Rural	Physician transferred

UHC = Urban health centre

**ANNEX 7. LIST OF SURVEYORS AND SUPERVISORS**

<b>Team</b>	<b>Responsibility</b>	<b>Name</b>	<b>Qualification/post</b>
A	Supervisor	Dr Fekry Basiouny	Paediatrician, Gharbeia
	Surveyor 1	Dr Mahmoud El-Kholy	Paediatrician, Minia
	Surveyor 2	Dr Ali El-Sheikh	Paediatrician, Menoufeia
B	Supervisor	Dr Mohamed Abdelmoniem	IMCI central staff
	Surveyor 1	Dr Ali Mostafa	Family medicine practitioner, IMCI supervisor, Assiut
	Surveyor 2	Dr Samy Mohamed El-Sayyed	Paediatrician, Menoufeia
C	Supervisor	Dr (Mrs) Mona Rakha	Paediatrician, IMCI central staff
	Surveyor 1	Dr Mamdouh Abdelhaleem	Paediatrician, Menoufeia
	Surveyor 2	Dr (Mrs) Mona Hafez	Paediatrician, Healthy Mother/Healthy Child project
D	Supervisor	Dr Al-Sayyed Nouh	Paediatrician, IMCI central staff
	Surveyor 1	Dr Nour Maquawy	Paediatrician, Minia
	Surveyor 2	Dr (Mrs) Nagwa Abu-Ali	Family medicine practitioner, Alexandria
E	Supervisor	Dr Sameer e-Naggar	Paediatrician, ARI central staff
	Surveyor 1	Dr Mohamed e-Sayyed	Paediatrician, IMCI supervisor, Assiut
	Surveyor 2	Dr Hussein Gamal	Paediatrician, Minia
F	Supervisor	Dr (Mrs) Omnia Ragab	Paediatrician, IMCI coordinator, Minia
	Surveyor 1	Dr (Mrs) Madeha Nasrat	Paediatrician, Alexandria
	Surveyor 2	Dr (Mrs) San'a Ragab	Paediatrician, Alexandria

## ANNEX 8. SURVEYOR TRAINING SCHEDULE

Alexandria  
10 – 15 March 2002  
8.30 – 16.30

### Sunday, 10 March (DAY 1)

- Welcome, purpose of the workshop and introduction of participants *Dr Said Madkour*
- Administrative information “ “
- Introduction to the survey: survey objectives and training agenda “ “
- Survey methodology *Dr Sergio Pièche*
- Introduction to survey forms “ “
- Introduction to survey Q-by-Q instructions “ “
  - *Enrolment card*
  - *Form 1: Observation of case management*
- Classroom practice with exercises and role-plays “ “
- Briefing on 1<sup>st</sup> visit to health facility “ “

### Monday, 11 March (DAY 2):

- ☞ 1<sup>st</sup> practice at health facility: using Enrolment Form and Form 1
- Review of practice in groups and plenary *Supervisors*
- ☞ Meeting with supervisors: Enrolment Form and Form 1 *Dr Sergio Pièche*

### Tuesday, 12 March (DAY 3):

- Form 2: Exit interview *Dr Sayed Nouh*  
Classroom practice
- Form 3: Re-examination of child *Dr Mona Rakha*  
Classroom practice
- Form 4: Equipment and supply *Dr Mohamed*
- Briefing on 2<sup>nd</sup> visit to health facility *Dr Sergio Pièche*
- ☞ Meeting with supervisors: Forms 2, 3 & 4; *“ “*  
Providing feedback to health facility staff *“ “*

### Wednesday, 13 March (DAY 4):

- ☞ 2<sup>nd</sup> practice at health facility: using all forms
- Review of practice in groups and plenary *Supervisors*
- Briefing on 3<sup>rd</sup> visit to health facility *Dr Sergio Pièche*
- ☞ Meeting with supervisors: Checking surveyor reliability and forms; *“ “*  
Summarising qualitative observations *“ “*

### Thursday, 14 March (DAY 5):

- ☞ 3<sup>rd</sup> practice at health facility: using all forms
- Review of practice in groups and plenary *Supervisors*
- ☞ Meeting with supervisors: Checking surveyor reliability and forms *Dr Sergio Pièche*  
Supervisors' daily meetings with teams

### Friday, 15 March (DAY 6):

- Drills on Q-by-Q instructions and survey procedures *Dr Sergio Pièche*
- Training evaluation *Dr Mohamed*
- Survey itinerary, team composition and final arrangements *Dr Said Madkour*
- Meeting with team supervisors *Dr Sayed Nouh*

## ANNEX 9. PARTICIPANT TRAINING EVALUATION

15 March 2002

(N = 18 questionnaires)

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### 1) How do you rate the training overall?

Very good [15]      Good [3]      Just right [ ]      Inadequate [ ]

### 2) How confident do you feel in using the survey forms by now?

Very confident [13]      Confident [5]      Not too confident yet [ ]      Not confident [ ]

### 3) How clear do you feel about the survey procedures?

Very clear [16]      Clear [2]      Not too clear yet [ ]      Unclear [ ]

### 4) Do you feel that you have had enough practice with the form/s that you are going to use in the survey?

Yes [18]      No [ ]

*Practice with examples:*      Adequate [16]      Too many [2]      Too few [ ]

*Practice with role plays:*      Adequate [17]      Too many [1]      Too few [ ]

*Case demonstration at hospital on Monday:*      Very helpful [15]      Helpful [3]      Not helpful [ ]

*Practice with actual cases at hospital:*      Adequate [18]      Too many [ ]      Too few [ ]

### 5) In general, were all issues raised addressed clearly in the training?

Yes [18]      No [ ]

### 6) Which training method did you enjoy most? (Tick only ONE choice)

Examples [1]      Role-plays [ ]      Practice with actual cases [17]      Drills [ ]

### 7) How did you find the Q-by-Q explanations?

Very useful [14]      Useful [4]      Not very useful [ ]      Not useful [ ]

### 8) Do you think that the duration of this training course was:

Adequate [15]      Too long [3]      Too short [ ]

### 9) Do you think the venue of the training was:

Suitable [18]      Not suitable [ ]

### 10) If you have any suggestions or comments, also to improve similar training in the future, please list them on the back of this page.

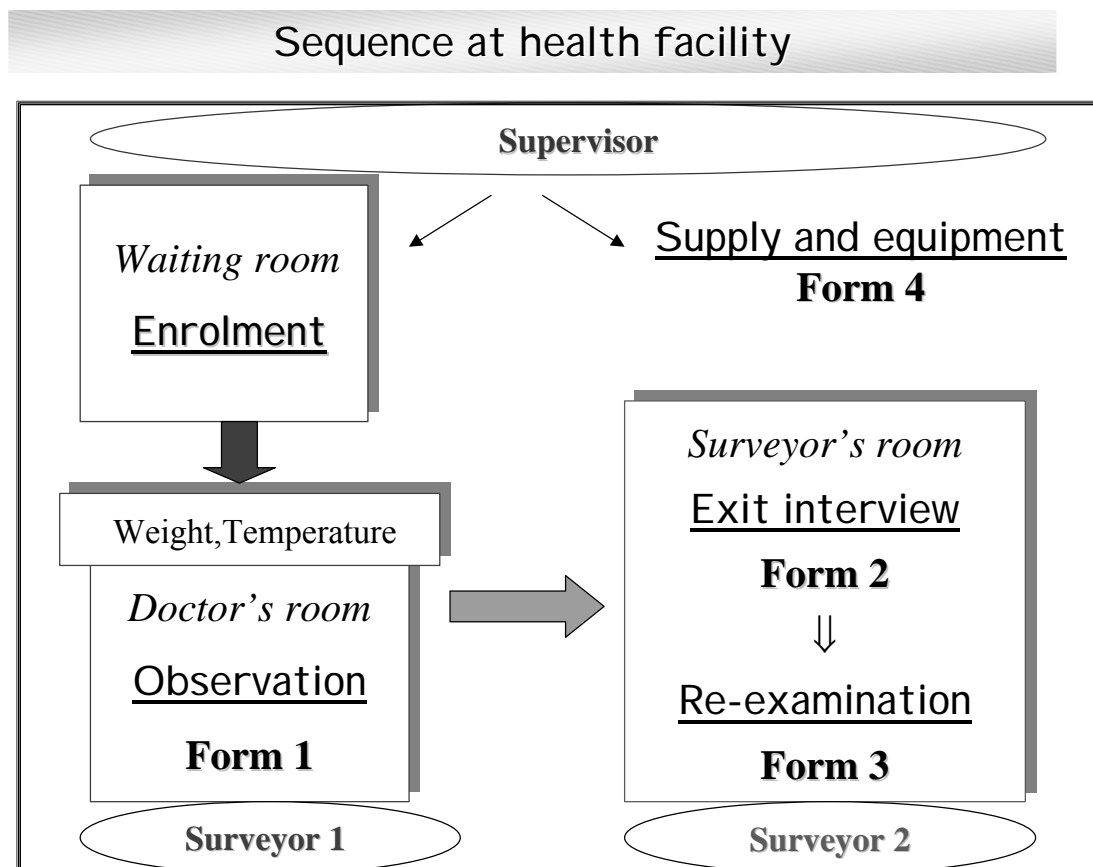
**ANNEX 10. SURVEY TEAMS AND ITINERARY**

**Survey teams**

<b>Teams</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
Supervisor	Fekry Basiouny	M'd A/Moneim	Mona Rakha	Alsayed Nouh	Sameer el-Naggar	Omnia Ragab
Surveyor 1	M'ud elKhouly	Aly Mostafa	Mamdouh A/Haleem	Nour Maquawi	M'd el-Saied	Madeha Nasrat
Surveyor 2	Aly el-Sheikh	Samy el-Sayed	Mona Hafez	Nagwa Abu-Aly	Hussein Gamal	Sana'a Ragab

<b>Survey itinerary by Governorate (facility code)</b>						
Sat 16/3	Travel of teams to Quena, Assuit and Bani-Suef governorates					
Sun 17/03	Quena (47)		Assiut (28)	Assiut (29)	Bani-Suef (36)	Bani-Suef (36)
Mon 18/03	Quena (48)		Assiut (30)	Assiut (31)	Bani-Suef (36)	Bani-Suef (36)
Tue 19/03	Quena (49)	Minia (43)	Assiut (32)	Assiut (33)	Bani-Suef (36)	Fayoum (41)
Wed 20/03	Quena (50)	Minia (44)	Assiut (34)	Assiut (35)	Travel	Fayoum (42)
Thu 21/03	Travel Back	Minia (45)	Minia (46)	Travel	Menoufiya (14)	Travel
Fri 22/03						
Sat 23/3	Ismailiya (10)	Alexandria (1)	Gharbiya (5)	Menoufiya (15)	Menoufiya (16)	Menoufiya (17)
Sun 24/03	Ismailiya (11)	Alexandria (2)	Gharbiya (6)	Menoufiya (18)	Menoufiya (19)	Menoufiya (20)
Mon 25/03	Ismailiya (12)	Alexandria (3)	Gharbiya (7)	Menoufiya (21)	Menoufiya (22)	Menoufiya (23)
Tue 26/03	Ismailiya (13)	Gharbiya (9)	Gharbiya (8)	Menoufiya (24)	Menoufiya (25)	Menoufiya (26)
Wed 27/03				Menoufiya (27)	Damietta (4)	

**ANNEX 11. FACILITY PROCEDURES ON DATA COLLECTION**



## ANNEX 12. NATIONAL FEEDBACK MEETING: AGENDA AND PARTICIPANTS

Cairo  
16 April 2002 – 10:00 a.m.

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### AGENDA

<b>Opening: Welcome remarks</b>	➤ <b>Dr Esmat Mansour, PHC</b> Undersecretary ➤ <b>Dr Suzanne Farhoud, WHO/EMRO</b> ➤ <b>USAID</b>
<b>Introduction</b>	<b>Dr Said Madkour</b> , National IMCI co-ordinator
<b>Objectives of the survey</b>	<b>Dr Said Madkour</b>
<b>Survey methodology</b>	<b>Dr Sergio Pièche</b> Child and adolescent health and development (CAH), WHO/EMRO
<b>Survey findings:</b>	
• <b>Sample characteristics</b>	<b>Dr Sergio Pièche</b>
• <b>Quality of clinical care:</b>	
- <i>Assessment &amp; classification</i>	- <b>Dr Mona Rakha</b>
- <i>Treatment</i>	- <b>Dr Mohamed Abdel Moneim</b>
- <i>Home care</i>	- <b>Dr Ahmed Nagaty</b>
• <b>Factors influencing care</b>	<b>Dr Sayed Nouh</b>
<b>Conclusions</b>	<b>Dr Sergio Pièche</b>
<b>Recommendations</b>	<b>Dr Sergio Pièche</b>

### LIST OF PARTICIPANTS

#### Ministry of Health and Population

*Dr Mahmoud Abul-Nasr	First Undersecretary, Primary & Preventive Care Sector
Dr Esmat Masour	Undersecretary, Central Administration for Primary Health Care (PHC)
Dr Azza el-Hoseiny	Undersecretary, Central Administration for Research & Development
* Dr Mostafa Ibraheem	Undersecretary, Central Administration for Pharmaceuticals
* Dr Hana'a Abdeltawab	Director General, Health Education
* Dr Laila Soliman	Director General, Primary Health Care (PHC) Department
Dr Ahmed Zaki Ahmed	Staff of the Primary Health Care (PHC) Department
Dr Ahmed el-Hinnawi	Director General, Integrated Medical zones
* Dr Hanem Abdelazeem	Director General, Chest Diseases (TB)
Dr Zeinab Ebaid	Director General, Pharmaceuticals Central Administration
* Dr Bahiya Ahmed	Director General, Nursing Department
Dr Nagwa Khallaf	Executive director, Acute Respiratory Infections Programme
Dr Khaled Nasr	Assistant Director General, Mother and Child Health (MCH) Department
* Nagwa Al-Ashry	Staff of the Mother and Child Health (MCH) Department, in

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\* *Persons invited and unable to attend*



charge of micro-nutrients

**Governorates**

***Menoufeia***

Dr Reda Algendy Undersecretary for Health  
Dr Ehsan elKholy IMCI Coordinator

***Gharbeia***

Dr Sayyed Hammoud Undersecretary for Health  
Dr Mohamed Soliman IMCI Coordinator

***Minia***

Dr Mohamed Ismail Undersecretary for Health  
Dr Omnia Ragab IMCI Coordinator and IMCI health facility survey team supervisor

***Assiut***

\* Dr Ferial Ahmed Undersecretary for Health  
Dr Mohamed Farghaly IMCI Coordinator  
Dr Mohamed Alsayed IMCI Assistant Co-ordinator and IMCI health facility survey surveyor

***Alexandria***

Dr Salama Abdelmoneim Undersecretary for Health  
Dr Azza Abu-Zeid IMCI Coordinator

***Quena***

Dr Abdelraouf Zoheiry Undersecretary for Health  
Dr Abbas Mostafa IMCI Coordinator

***Ismailiya***

Dr Mohamed Alsharkawy Director General for Health  
Dr Mohamed Nasry IMCI Coordinator

***Fayoum***

Dr Ibraheem Al-Refaie Director General for Health  
Dr Mohamed Anwar IMCI Co-ordinator

***Bani-Suef***

Dr Adel Alfazzary Director General for Health  
Dr Saied Abu-elkheer IMCI Coordinator and IMCI health facility survey surveyor

***Damietta***

Dr Hasan El-Sayegh IMCI Coordinator

### **Medical schools**

Prof Fadia Mohamed	Chairman, Paediatrics Department, Cairo University
Prof Mamdouh Refa'at	Chairman, Paediatrics Department, Menoufiya University
* Prof Fathi Nageeb	Paediatrics, Vice dean, Bani-Suef School of Medicine
* Prof Aly Zarzour	Community Medicine, Vice Dean, Assiut School of Medicine
Prof Adelazeez Soliman	Chairman, Paediatrics Department, Al-Azhar University, Cairo
Prof Mahmoud Almougy	Paediatrics, Al-Azhar University, Cairo
* Prof Laila Aly	Paediatrics, Al-Azhar University for girls, Cairo
Dr Hosein Qoura	Lecturer in Paediatrics, Al-Azhar University, Damietta
* Prof Amina Abdelwahab	Paediatrics, Suez Canal University, Ismailiya
* Prof Maged Khattab	Family Medicine, Suez Canal University, Ismailiya

### **IMCI health facility survey supervisors**

Dr Said Madkour	Director General, Childhood Programmes Department, and national IMCI co-ordinator
Dr Shawqy Abu-Quorah	Pharmacist, national IMCI team
Dr Mohamed Abdelmoneim	National IMCI team
Dr Mona Rakha	National IMCI team
Dr Alsayed Nouh	National IMCI team
Dr Samie Elnaggar	National Acute Respiratory Infections (ARI) programme
Dr Fekri Ghareeb	IMCI Supervisor, Gharbeia governorate

### **International, multilateral and bilateral organizations**

#### **World Health Organization (WHO)**

Dr Suzanne Farhoud	Regional Adviser, Child and Adolescent Health and Development (CAH), Eastern Mediterranean Regional Office (EMRO), Cairo
Dr Sergio Pièche	Medical officer, Child and Adolescent Health and Development (CAH), Eastern Mediterranean Regional Office (EMRO), Cairo, and technical adviser on the survey
* Dr Zoheir Hallaj	A/Representative, WHO, Egypt
Dr Ahmed Nagaty	IMCI programme officer, WHO, Egypt

#### **USAID**

Dr Nahed Matta	Team leader, Health mother/Healthy child project, USAID, Egypt
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#### **JSI**

Dr Reginald Gibson	Chief of Part, Health Mother/Health Child Project, John Snow, Inc. (JSI), Egypt
Dr Mohsen Alsaieed	IMCI co-ordinator, Health Mother/Health Child Project, John Snow, Inc. (JSI), Egypt

#### **UNICEF**

* Dr Tarek Abdel-Rahman	Health Officer, UNICEF, Cairo
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## ANNEX 13. FINDINGS RELATED TO THE WHO GENERIC LIST OF IMCI PRIORITY INDICATORS (P) AND SUPPLEMENTAL MEASURES (S) AT HEALTH FACILITY LEVEL

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*A validated classification is a classification made by the surveyor after re-examining the child.  
The indicators listed below refer to children 2 months up to 5 years of age*

### CASE MANAGEMENT

#### ❖ ASSESSMENT

**P1. Child checked for three general danger signs:** **94.9%** of children were checked for the three general danger signs.

**Numerator:** Number of sick children aged 2 months up to five years seen who are checked for three danger signs (is the child able to drink or breastfeed, does the child vomit everything, has the child had convulsions)

**Denominator:** Number of sick children aged 2 months up to five years seen

**S11. Child not visibly awake checked for lethargy:** **Both (100%)** the two children who were not visibly awake (i.e. who were not playing, smiling, or crying with energy) were checked for lethargy.

**Numerator:** Number of sick children not visibly awake when assessed by the health provider (who are not playing, smiling, or crying with energy) who are checked for lethargy.

**Denominator:** Number of sick children not visibly awake seen.

**P2. Child checked for the presence of cough, diarrhoea and fever:** **99.0%** of children were checked for the presence of cough, diarrhoea, and fever.

**Numerator:** Number of sick children seen whose caretakers were asked about the presence of cough, diarrhoea, and fever

**Denominator:** Number of sick children seen

**P3. Child weight checked against a growth chart.** **100%** of children were weighed the same day and had their weight checked against a recommended growth chart.

**Numerator:** Number of sick children seen who have been weighed the same day and have their weight checked against a recommended growth chart

**Denominator:** Number of sick children seen

**P4. Child vaccination status checked.** **99.7%** of children had their vaccination status checked.

**Numerator:** Number of sick children seen who have their vaccination card or vaccination history checked.

**Denominator:** Number of sick children seen

**P5. Index of integrated assessment:** *mean of 9.4 assessment tasks performed out of 10 tasks per sick child assessed*

**Definition:** Arithmetic mean of 10 assessment tasks performed for each child (checked for three danger signs, checked for the three main symptoms, child weighed and weight checked against a growth chart, checked for palmar pallor, and checked for vaccination status).

**Calculation:**

- checked for "ability to drink or breastfeed", "vomits everything", and "convulsions": 1 point each
- checked for presence of "cough & fast/difficult breathing", "diarrhoea", and "fever": 1 point each
- child weighed the same day and child's weight used against a recommended growth chart: 1 point each
- child checked for palmar pallor: 1 point
- child vaccination status checked (card or history): 1 point

**P6. Child under two years of age assessed for feeding practices:** *Caretakers of 85.5% of children under two years of age were asked about breastfeeding, complementary foods, and feeding practices during this episode of illness.*

**Numerator:** Number of sick children under two years of age whose caretakers are asked if they breastfeed this child, whether the child takes any other food or fluids other than breastmilk, and if during this illness the child's feeding has changed.

**Denominator:** Number of sick children under two years of age seen

**S3. Child with low weight and/or anaemia assessed for feeding problems:** *74.7% of sick children with low weight and/or anaemia were assessed for feeding problems.*

**Numerator:** Number of sick children with a validated classification of very low weight and no severe classification whose caretaker are asked if the mother breastfeeds the child, if the child takes food or fluids other than breastmilk, and if during this illness the child's feeding has changed.

**Denominator:** Number of sick children with a validated classification of very low weight and/or anaemia

**S1. Child checked for other problems:** *69.3% of children brought to the facility were checked for "other problems".*

**Numerator:** Number of children brought to the facility for one or more of the main symptoms (cough/fast/difficult breathing, diarrhoea, fever) or for "ear problems" or for a "throat problem" and with an "other problem", whose caretaker were asked to describe this other problem.

**Denominator:** Number of children brought to the facility for one or more of the main symptoms (cough/fast/difficult breathing, diarrhoea, fever) or for "ear problems" or for a "throat problem".

## ❖ CLASSIFICATION

### S4. **Child with low weight correctly classified: 87%** of children with low weight were correctly classified.

**Numerator:** Number of children with a validated classification of very low weight who are classified as very low weight.

**Denominator:** Number of children with a validated classification of very low weight

### S5. **Child correctly classified: (\*adapted definition) 72.7%** of classifications given by the health provider for existing conditions matched the classifications<sup>#</sup> given by an IMCI-trained surveyor for the same conditions (validated classification)

**Numerator:** Number of validated classifications<sup>#</sup> for existing conditions (very severe disease or severe pneumonia or pneumonia, and/or severe dehydration or some dehydration, and/or severe persistent diarrhoea or persistent diarrhoea, and/or dysentery, and/or streptococcal or non-streptococcal sore throat, and/or mastoiditis or acute or chronic ear infection, and/or very severe febrile disease or fever-possible bacterial infection, and/or measles, and/or severe malnutrition or low weight, and/or severe anaemia or anaemia) that match the classifications given by the health provider.

**Denominator:** Number of classifications<sup>#</sup> for existing conditions

<sup>#</sup> 'Red-coded' and 'yellow-coded' classifications, including also the 'green-coded' classifications of non-streptococcal sore throat and measles.

## ❖ TREATMENT AND ADVICE

### S12. **Child with severe illness correctly treated: One (16.7%)** of the 6 children with severe classifications needing urgent referral received pre-referral treatment and referral.

**Numerator:** Number of children with validated classifications of severe disease needing urgent referral (very severe disease or severe pneumonia, severe dehydration, severe persistent diarrhoea, very severe febrile disease, severe complicated measles, mastoiditis, severe malnutrition or severe anaemia) who receive pre-referral dose of the recommended antibiotic and referral

**Denominator:** Number of children with validated classifications of severe disease needing urgent referral

### P7. **Child needing an oral antibiotic prescribed the drug correctly: 73.5%** of children who did not need urgent referral and who needed an oral antibiotic were prescribed the drug correctly.

**Numerator:** Number of sick children with validated classifications, who do not need urgent referral, who need an oral antibiotic (pneumonia, and/or dysentery, and/or acute ear infection) who are correctly prescribed them, including dose, number of times per day, and number of days

**Denominator:** Number of sick children with validated classifications who do not need urgent referral, who need an oral antibiotic.

- S6. Child with pneumonia correctly treated: 72.2%** of children with pneumonia were prescribed antibiotic treatment correctly.
- Numerator:** Number of children with a validated classification of pneumonia and no severe classification who are given/prescribed treatment with an appropriate antibiotic (including correct amount, times per day, and number of days)
- Denominator:** Number of children with a validated classification of pneumonia and no severe classification
- S7. Child with dehydration correctly treated:** *The only child with diarrhoea and some dehydration did not receive ORS at the facility.*
- Numerator:** Number of children with a validated classification of diarrhoea with some dehydration and no severe classification who receive ORS at the facility.
- Denominator:** Number of children with a validated classification of diarrhoea with some dehydration and no severe classification
- S9. Child with anaemia correctly treated: (\*adapted definition) 85.5%** of children with anaemia were prescribed iron treatment.
- Numerator:** Number of children with a validated classification of anaemia and no severe classification who are given/prescribed iron treatment.
- Denominator:** Number of children with a validated classification of anaemia and no severe classification
- S10. Child receives first dose of oral treatment at facility: 56.9%** of children, who did not need urgent referral, who needed an oral antibiotic received the first dose(s) at the facility.
- Numerator:** Number of children with validated classifications, who do not need urgent referral, who need an oral antibiotic (pneumonia, dysentery, acute ear infection or other problems) who receive the first dose(s) at the health facility.
- Denominator:** Number of children with validated classifications, who do not need urgent referral, who need an oral antibiotic
- P8. Child not needing antibiotic leaves the facility without antibiotic: 95.4%** of children who did not need urgent referral and who did not need an antibiotic left the facility without having received or having been prescribed antibiotics.
- Numerator:** Number of children with validated classification who do not need urgent referral and do not need an antibiotic for one or more IMCI classifications or other problems (no pneumonia: cough or cold, diarrhoea with or without dehydration, persistent diarrhoea, fever-bacterial infection unlikely, measles, non-streptococcal sore throat, no throat problem, chronic ear infection, no ear infection, anaemia / low weight, and/or no anaemia / not low weight, and/or other problems) who leave the facility without receiving antibiotics or a prescription for antibiotics for those validated classifications.
- Denominator:** Number of children seen who do not need urgent referral and who do not need an antibiotic for one or more IMCI classifications or other problems

**S13. Child prescribed oral medication whose caretaker is advised on how to administer the treatment: 94.9%** of children not needing urgent referral and who received or were prescribed an antibiotic [and/or an antimalarial] and/or ORS, who received at least two treatment counselling messages.

**Numerator:** Number of children with validated classifications not needing urgent referral and who received or were prescribed an antibiotic [and/or an antimalarial] and/or ORS, who receive at least two treatment counselling messages (explanation on how to administer treatment, demonstration on how to administer treatment, open-ended question to check caretaker understanding).

**Denominator:** Number of children with validated classifications not needing urgent referral, who received or were prescribed an antibiotic [and/or an antimalarial] and/or ORS

**P10. Child needing vaccinations leaves facility with all needed vaccinations: (\*adapted definition) 93.3%** of children needing vaccinations (based on vaccination card or history) left the health facility with all needed vaccinations or advice to come back for vaccination on the scheduled vaccination day (according to national immunization schedule and policy).

**Numerator:** Number of children who need vaccinations (based on vaccination card or history) who leave the health facility with all needed vaccinations or advice to come back on the scheduled vaccination day

**Denominator:** Number of children seen who need vaccinations (based on vaccination card or history)

#### ❖ ADVICE ON HOME CARE

**P9. Caretaker of sick child is advised to give extra fluids and continue feeding: the caretakers of 91.4%** of sick children were advised to give extra fluid and continue feeding.

**Numerator:** Number of sick children with validated classifications, who do not need urgent referral, whose caretakers are advised to give extra fluid and continue feeding

**Denominator:** Number of sick children with validated classifications, who do not need urgent referral

**S14. Sick child whose caretaker is advised on when to return immediately: the caretakers of 88.6%** of sick children received at least three counselling messages on when to return immediately.

**Numerator:** Number of sick children, who do not need urgent referral, whose caretakers received at least three of the following counselling messages on when to return immediately to a health facility: if the child is not able to drink or breastfeed, becomes sicker, develops a fever, has difficult breathing, has fast breathing, has blood in the stool, or is drinking poorly.

**Denominator:** Number of sick children seen who do not need urgent referral

**S15. Child with low weight whose caretaker received correct counselling:** (*\*adapted definition*)  
*The caretakers of 70.8% of children with low weight and/or anaemia were provided with age-appropriate feeding messages#.*

**Numerator:** Number of children with a validated classification of low weight and/or anaemia, who do not need urgent referral, whose caretakers are provided with age-appropriate feeding messages#.

**Denominator:** Number of children with a validated classification of low weight and/or anaemia, who do not need urgent referral.

# For definition of age-appropriate feeding advice used in this survey see note under Table A26, Annex 14

**S16. Child leaving the facility whose caretaker was given or shown a mother's card:** *The caretakers of 73.7% of children, who did not need urgent referral, were shown a mother's counselling card by the health provider.*

**Numerator:** Number of children, who do not need urgent referral, whose caretakers have been shown a mother's card by the health provider during the visit.

**Denominator:** Number of sick children seen who do not need urgent referral.

#### ❖ CARETAKER KNOWLEDGE ABOUT ORAL TREATMENT

**P11. Caretaker of child who is prescribed ORS, and/or an oral antibiotic knows how to give the treatment:** *caretakers of 60.3% of children prescribed ORS, and/or an oral antibiotic could describe correctly how to give the treatment.*

**Numerator:** Number of sick children prescribed ORS, and/or an oral antibiotic whose caretakers can describe how to give the correct treatment including the amount, number of times per day, and number of days

**Denominator:** Number of sick children prescribed ORS and/or an antibiotic and/or an antimalarial

#### ❖ REFERRAL

**P12. Child needing referral is referred:** *3 (50%) of the 6 children needing referral were referred by the health providers.*

**Numerator:** Number of sick children with a validated classification of severe disease needing referral (one or more danger signs, severe pneumonia or very severe disease, and/or severe dehydration with any other severe classification, and/or severe persistent diarrhoea, and/or very severe febrile disease, and/or severe complicated measles, and/or mastoiditis, and/or severe malnutrition or severe anaemia) who were referred by the health providers

**Denominator:** Number of sick children with a validated classification of severe disease needing referral



## **HEALTH SYSTEM SUPPORT**

- P13. Health facility received at least one supervisory visit that included observation of case management during the previous three months:** *(\*adapted definition) 36% of health facilities received at least one visit of routine supervision that included the observation of case management during the previous three months.*
- Numerator:** Number of health facilities that received at least one visit of routine supervision (excluding the follow-up visits to health providers shortly after their training that are part of IMCI training) that included the observation of case management during the previous three months
- Denominator:** Number of health facilities surveyed
- P14. Index of availability of essential oral treatments:** *a mean of 5.8 out of 6 essential oral drugs for home treatment of sick children were present on the day of visit.*
- Definition:** Arithmetic mean of essential oral drugs recommended for home treatment of diarrhoea, dysentery, pneumonia, fever, and anaemia available at each facility the day of visit.
- Calculation:**
- ORS, 1 point
  - recommended antibiotic for pneumonia, 1 point
  - recommended antibiotic for dysentery, 1 point
  - vitamin A, 1 point
  - iron, 1 point
  - paracetamol, 1 point
- P15. Index of availability of injectable drugs for pre-referral treatment:** *a mean of 3 out of 3 injectable antibiotics for pre-referral treatment of sick children and young infants were available in each facility on the day of visit.*
- Definition:** Arithmetic mean of recommended injectable pre-referral treatment for children and young infant with severe classification needing immediate referral.
- Calculation:**
- chloramphenicol, 1 point
  - gentamicine, 1 point
  - benzylpenicillin, 1 point
- P16. Health facility has the equipment and supplies to support full vaccination services:** *All (100%) non-hospital health facilities had the equipment and supplies to provide full vaccination services on the day of survey.*
- Numerator:** Number of health facilities that have the equipment and supplies to support full vaccination services (functioning refrigerator or cold chain, and functioning sterilizer and needles/syringes or disposable needles/syringes) available on the day of survey
- Denominator:** Number of health facilities surveyed

**S17. Health facility has essential equipment and materials: 92% of health facilities had all needed equipment and materials available on the day of the survey.**

**Numerator:** Number of health facilities with all needed equipment and materials (accessible and working weighing scales for adults and children, timing device, source of clean water, spoons, cups and jugs to mix and administer ORS) available on the day of the survey

**Denominator:** Number of health facilities surveyed

**S18. Health facility has IMCI chart booklet and mothers' counselling cards#: 94% of health facilities had IMCI chart booklet available for use by health providers and mothers' counselling cards for use during mothers' counselling and/or for distribution on the day of the survey.**

**Numerator:** Number of health facilities with at least one legible IMCI chart booklet available for use by health providers managing children and at least one mother counselling card for use during counselling of caretakers of sick children.

**Denominator:** Number of health facilities surveyed

#Counselling card given or shown to the caretaker during counselling and that includes at least country-appropriate and age-specific feeding advices and the danger signs when to bring the child immediately back to a health facility.

**P18. Health facilities with at least 60% of providers managing children trained in IMCI: (\*adapted definition) 77.3% of first-level health facilities had at least 60% of doctors managing children trained in IMCI.**

**Numerator:** Number of non-hospital health facilities with at least 60% of doctors managing children who are trained in IMCI

**Denominator:** Number of health facilities surveyed with at least one doctor trained in IMCI

## ANNEX 14. FINDINGS: TABLES AND GRAPHS

### REPORT OF BREATHING PROBLEMS AND PNEUMONIA

Table A1. **Sensitivity and specificity of caretakers' report of breathing problems or 'pneumonia' for 40 children with "Very severe disease"/"Severe pneumonia" or "Pneumonia"** (as classified by the surveyor) among 230 children with an acute respiratory condition

Symptom reported by caretakers	Total	
	Classification of cases by surveyor	
	Cases with pneumonia or Serious illness n = 40	Cases with only cough or cold (no pneumonia or serious illness) n = 190
Breathing problem/pneumonia reported	<b>Sensitivity</b> 11 (27.5%) <sup>1</sup>	19 (10.0%)
Only cough and no breathing problem/ pneumonia reported	29 (72.5%)	<b>Specificity</b> 171 (90%) <sup>2</sup>
Accuracy <sup>3</sup> of symptom "breathing problem"/"pneumonia" in detecting pneumonia	(11+171)/(40+190) = <b>79.1%</b>	

<sup>1</sup>Sensitivity of symptom "breathing problem" or "pneumonia", as reported by caretakers, for pneumonia or serious illness in this selected population of sick children taken to health facilities [true positives / (true positives + false negatives)]

<sup>2</sup>Specificity [true negatives / (true negatives + false positives)]

<sup>3</sup>Accuracy [(true positives + true negatives) / all]

- Likelihood ratio: 2.7 [sensitivity / (1 - specificity)]

Table A2. **Predictive values for pneumonia or severe illness of caretakers' report of fast or difficult breathing or 'pneumonia'** (based on surveyor classification of 230 ARI cases)

Severity of illness by surveyor	Total	
	Symptoms or condition reported by caretaker	
	Breathing problem or 'pneumonia' <sup>3</sup> n = 30	Only cough n = 200
Severe illness or pneumonia <sup>1</sup>	<b>Positive predictive value</b> 11 (36.7%) <sup>4</sup>	29 (14.5%)
No pneumonia <sup>2</sup>	19 (63.3%)	<b>Negative predictive value</b> 171 (85.5%) <sup>5</sup>

<sup>1</sup>"Very severe disease", "severe pneumonia" or "pneumonia"

<sup>2</sup>Cough or cold or other non-serious ARI

<sup>3</sup>Children in whom a breathing problem or 'pneumonia' was reported by the caretaker

<sup>4</sup>Positive predictive value [true positives / (true positives + false positives)]

<sup>5</sup>Negative predictive value [true negatives / (true negatives + false negatives)]

## QUALITY OF CLINICAL CARE: ASSESSMENT

Fig. A1

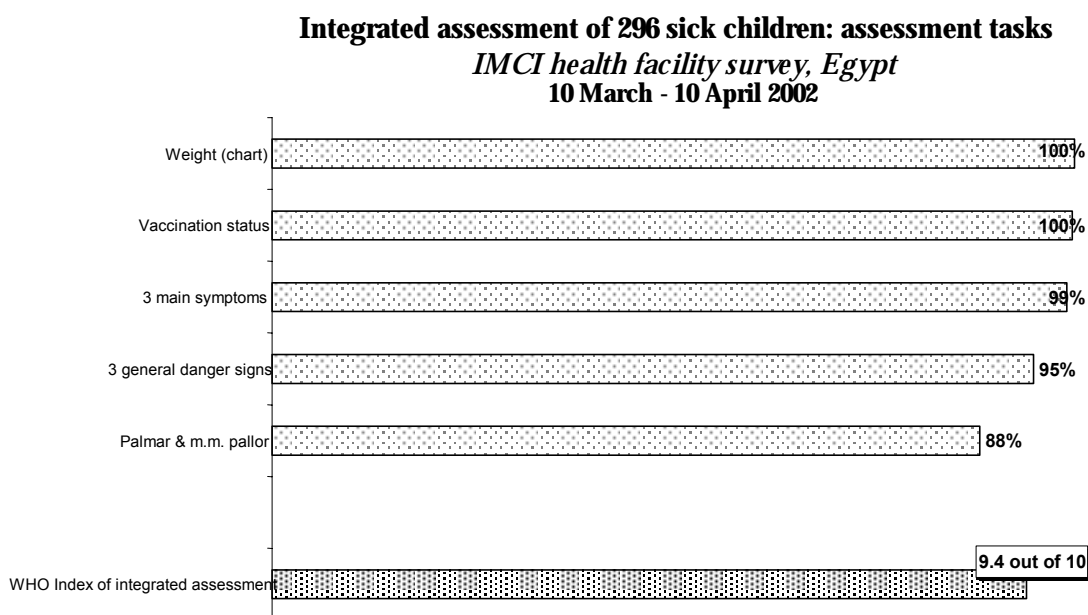


Fig. A2

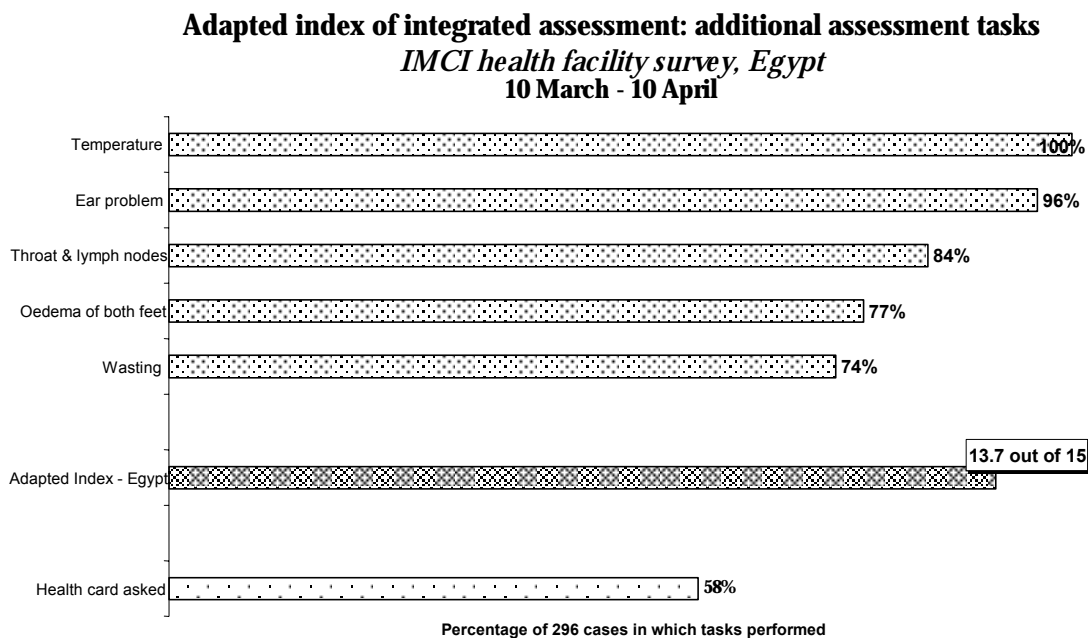


Table A3. **Assessment of feeding practices in children under two years old (all cases) or in children with anaemia and/or low weight from 2 months up to 5 years old**<sup>32</sup>

Task	Cases (%) in whom task done
Children under 2 years old - not referred by provider - assessed for feeding practices: breastfeeding, complementary foods and changes in feeding during this episode of illness (n = 193) <sup>1,2</sup>	165 (85.5%)*
3 Children under 2 years old - not referred by provider - with low weight and/or anaemia assessed for feeding practices (n = 57) <sup>3</sup>	45 (78.9%)
3 Children 2 years old or older - not referred by provider - with low weight and/or anaemia assessed for feeding practices (n = 26) <sup>4</sup>	17 (65.4%)*
3 Children below 5 years old with low weight and/or anaemia- not referred by provider - assessed for feeding practices (n = 83) <sup>4</sup>	62 (74.7%)
3 <i>IMCI target group for feeding assessment</i> : Children under 2 years old - not referred by provider - and older children with low weight and/or anaemia assessed for feeding practices (n = 219) <sup>4</sup>	182 (83.1%)

<sup>1</sup> Of the caretakers of 193 cases not referred by the provider, 190 (98.4%) were asked about breastfeeding, 191 (99%) were asked about complementary foods and 166 (86%) were asked whether feeding practices had changed during the illness

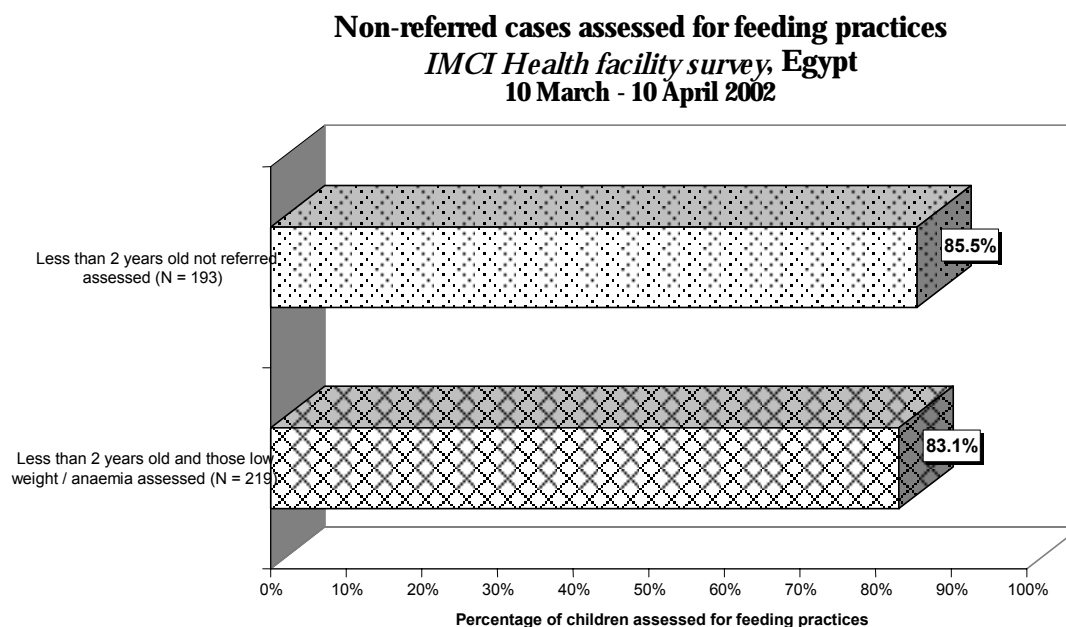
<sup>2</sup> Three cases referred by the provider are excluded from this denominator

<sup>3</sup> 5 of the 12 cases not assessed had been misclassified (see \* below)

<sup>4</sup> Same definition as above used for children with low weight or anaemia less than 2 years old; for older children, feeding practices were considered as assessed if caretakers were asked about complementary foods and changes in feeding practices during this episode of illness

\* The difference in assessing feeding practices in children less than 2 years old and those 2 years old with low weight and/or anaemia is statistically significant at  $P < 0.05$ . However, 8 of the 9 cases of anaemia who were not assessed for feeding practices, had been misclassified by the provider as cases with no anaemia and, therefore, would not have required a feeding assessment if that classification had been correct.

Fig. A3



<sup>32</sup> See footnote (1)

Table A4. Use of correct methodology for selected assessment tasks by the observed providers

Task	Children in whom task to be performed	Children in whom task performed	Cases in whom task <correctly> performed
Weight taken <sup>1</sup>	n = 296	296 (100%)	290/296 <sup>1</sup> (98.0%)
Weight recorded		296 (100%)	-
Weight taken and weight recorded		296 (100%)	-
Temperature taken <sup>2</sup>	n = 296	295 (99.7%)	293/295 <sup>2</sup> (99.3%)
Children with cough or difficult breathing: > Counts respiratory rate <sup>3</sup>	n = 230	223 <sup>4</sup> (97.0%)	223/223 <sup>3</sup> (100%)
Children with diarrhoea: > Offers something to drink	n = 101	94 <sup>6</sup> (93.1%)	-
> Pinches abdomen skin <sup>5</sup>		95 <sup>6</sup> (94.0%)	90 <sup>5</sup> /95 (94.7%)
Checking for throat problem: > a. Checks throat	n = 296	287 (97.0%)	-
> b. Checks lymph-nodes		248 (83.8%)	-
> Checks both		248 (83.8%)	-
Children with ear problem: > a. Looks at both ears	n = 52	38 <sup>7</sup> (73.1%)	-
> b. Looks for tender swelling behind ear		31 <sup>7</sup> (59.6%)	-
> Looks for both		31 <sup>7</sup> (59.6%)	-
Children with fever: > Checks for measles within the last 3 months	n = 187	139 <sup>8</sup> (74.3%)	-
Checking for clinical signs of anaemia: > Looks for palmar pallor	n = 296	293 (99.0%)	-
> Looks for mucous membrane pallor		263 (88.9%)	-
> Looks for both		263 (88.9%)	-

<sup>1</sup> Weight considered as taken correctly if child weighed undressed or lightly clothed and using scale appropriate for child (as defined during surveyor training)

<sup>2</sup> Temperature taken correctly if thermometer shaken first, then correctly placed under child's axilla and kept in place for at least 2 minutes

<sup>3</sup> The respiratory rate was considered as counted correctly if the child was calm, the count was for a full minute and the child's chest was undressed or lightly clothed. Many counts were, though, unreliable.

<sup>4</sup> Of the 8 cases in whom the respiratory rate was not counted: 7 caretakers told the provider that the child had no cough, while in 1 the provider did not check for the presence of cough

<sup>5</sup> Skin pinched correctly if abdomen skin pinched and skin held for one second between the thumb and the 1<sup>st</sup> finger according to the technique agreed upon during surveyor training

<sup>6</sup> The caretakers of 2 cases told the provider that the child had no diarrhoea

<sup>7</sup> In 13 of the cases in whom the ear problem was not assessed: 12 caretakers told the provider that the child had no ear problem, while in 1 case the provider did not check for the presence of the ear problem

<sup>8</sup> In 9 of the 48 cases in whom measles was not checked: 8 caretakers told the provider that the child had no fever and in 1 case the information was missing

Fig. A4

**Use of correct methodology for selected assessment tasks**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**

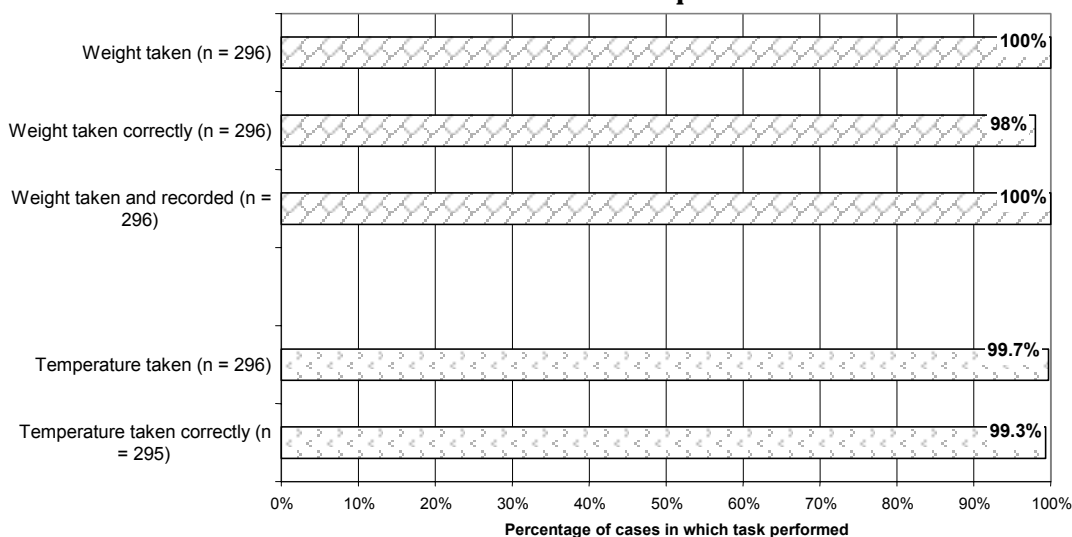
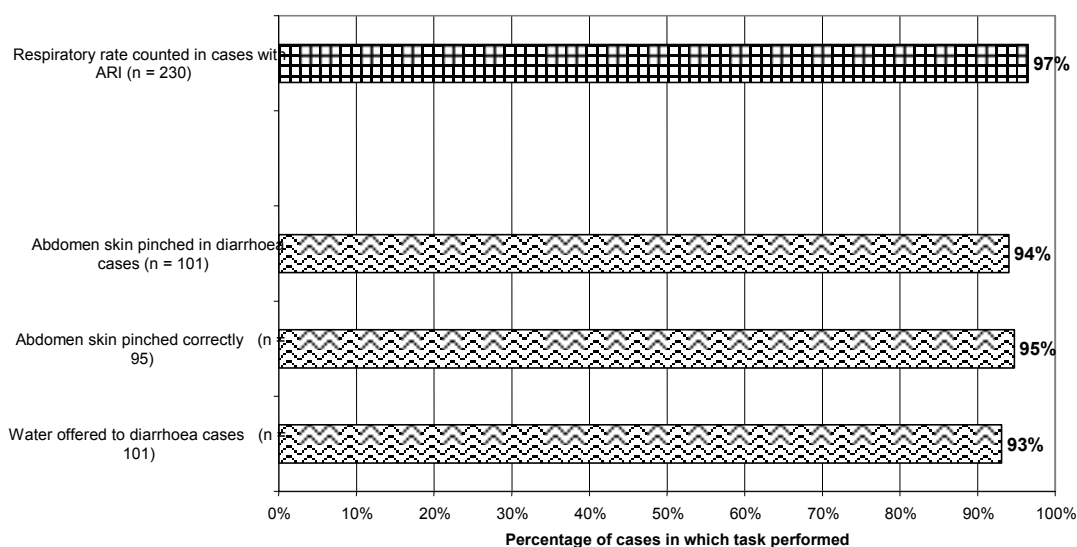


Fig. A5

**Use of correct methodology for selected assessment tasks in cases with ARI and diarrhoea**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**



**Table A5. Counting the respiratory rate in children with cough or difficult breathing: reliable counts and implications for classification of non-severe pneumonia**

<b>Respiratory rate counts and their implications</b>	<b>No. (%)</b>
> Children in whom the respiratory rate was counted by both surveyor and provider	n = 223
• Respiratory rate counts considered as:	
> <i>Reliable</i> <sup>a</sup>	146 (65.5%)
> <i>Unreliable</i> <sup>e</sup>	77 (34.5%)
Differences in counts of 10 or more breaths per minute (range from 10 to 39)	35 (15.7%)
• “Pneumonia” cases incorrectly classified by the provider as “no pneumonia” as a result of provider’s unreliable count (“ <u>under-classification</u> ”):	
> Total pneumonia cases missed (all ages)	4
- In <i>infants</i> (less than 12 months old);	3
- In <i>older children</i>	1
• “No pneumonia” cases incorrectly classified by the provider as “pneumonia” as a result of provider’s unreliable count (“ <u>over-classification</u> ”):	
> Total cases over classified as pneumonia (all ages)	8
- In <i>infants</i> (less than 12 months old);	4
- In <i>older children</i>	4

<sup>1</sup> Exclusively for the purpose of this analysis, a count was considered reliable when the difference in count between the provider and the surveyor for the same child was not greater than 5 breaths per minute. This arbitrary level was based on experience from previous health facility surveys on acute respiratory infections, that have shown that about two thirds of counts usually are within this difference. The difference in counting the respiratory rate between health providers and surveyors was in the range between -39 (i.e., the provider counted 39 breaths per minute less than the surveyor for the same child) and +21 (i.e., the provider counted 21 breaths per minute more than the surveyor for the same child).

Fig. A6

**Accuracy in counting the respiratory rate (n = 223)**  
**IMCI Health facility survey, Egypt**  
**10 March - 10 April**

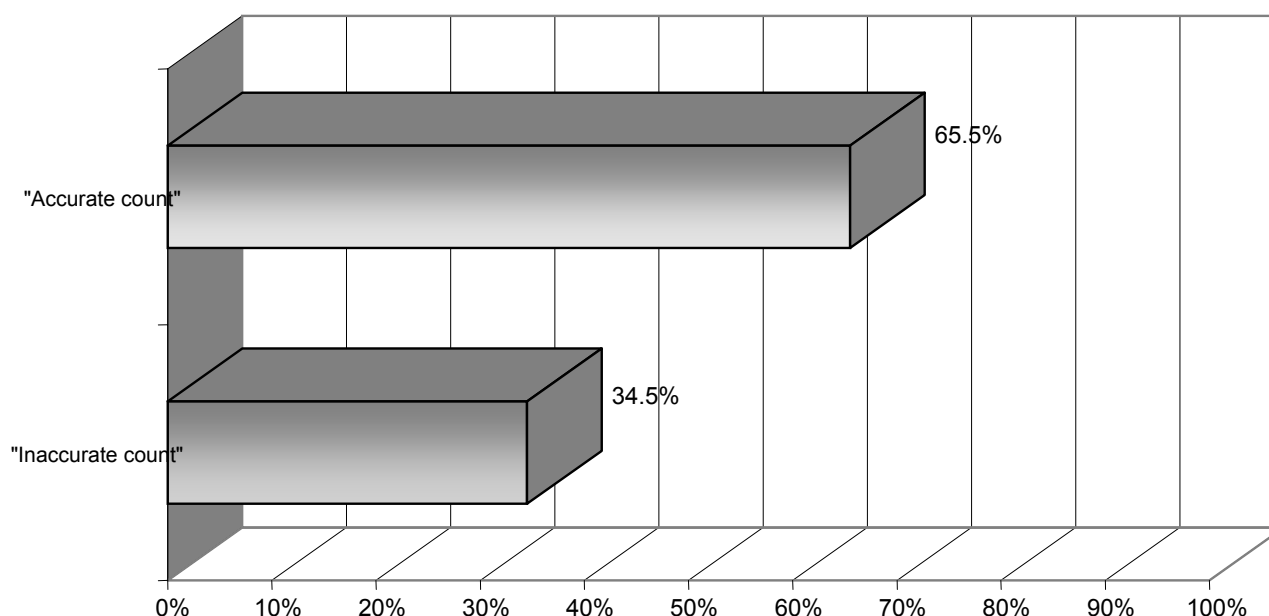




Fig. A7  
**Use of correct methodology for selected assessment tasks: throat and ear problem**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**

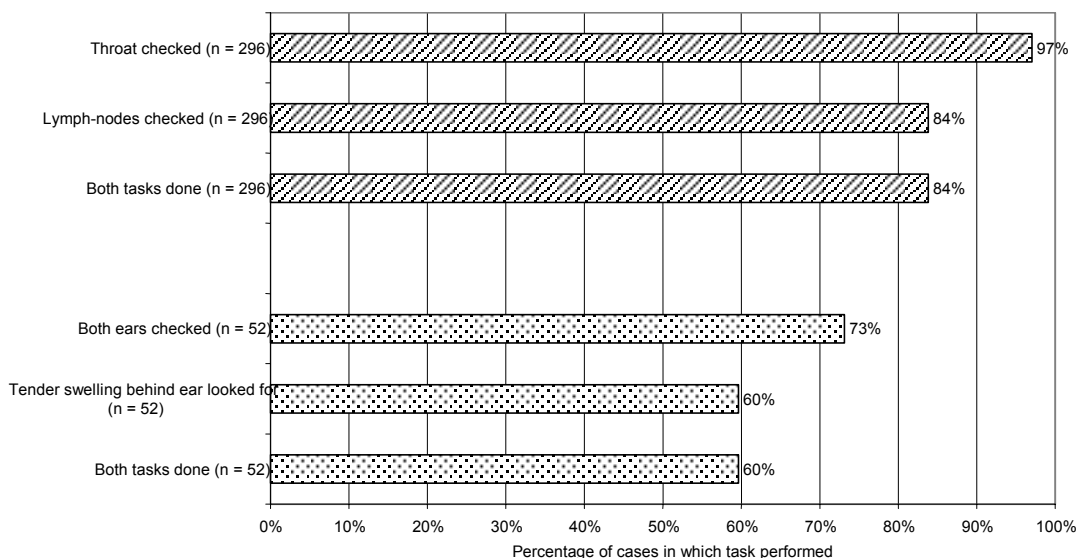
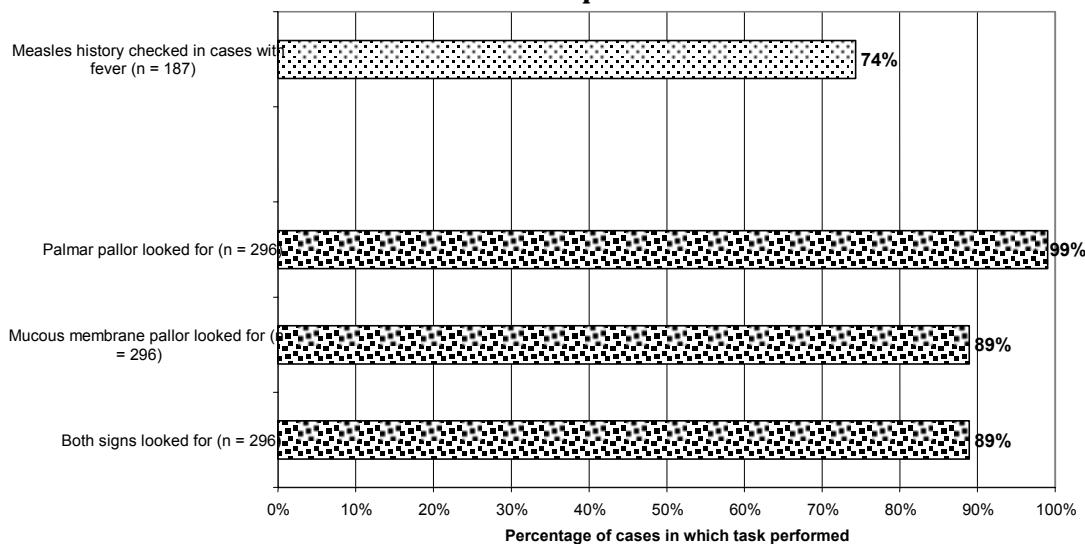


Fig. A8

**Use of correct methodology for selected assessment tasks: measles and anaemia**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**



**QUALITY OF CLINICAL CARE: CLASSIFICATION**

Fig. A9

**Overall agreement of provider classifications with surveyor classifications on conditions present (n = 278 conditions)**

*IMCI Health facility survey, Egypt  
10 March - 10 April 2002*

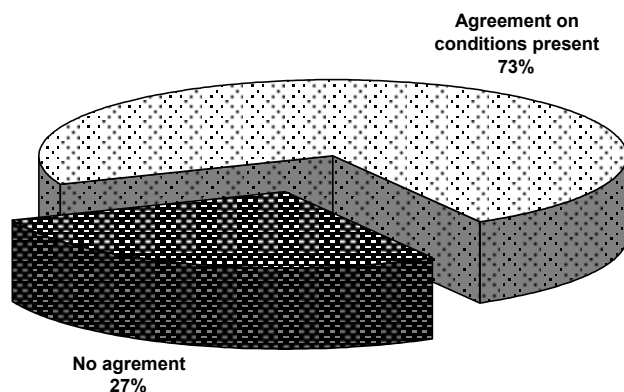


Fig. A10

**Providers' identification of feeding problems in 176 cases with feeding problems**

*IMCI Health facility survey, Egypt  
10 March - 10 April 2002*

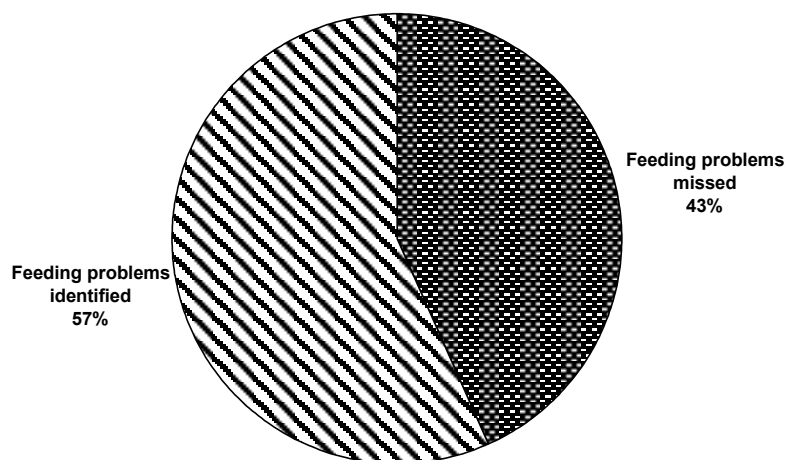


Table A6. **Agreement of provider's case classification with surveyor's classification for children with cough or difficult breathing** (n = 230)

Surveyor	Health provider				Total n = 230
	<i>VSD<sup>1</sup>/Severe Pneumonia</i>	<i>Pneumonia</i>	<i>No Pneumonia</i>	Cough not assessed	
<i>VSD<sup>1</sup>/Severe Pneumonia</i>	3 <b>(75%)</b>	1	0	0	4 (1.7%)
<i>Pneumonia</i>	0	29 <b>(83%)</b>	5	2	36 (15.7%)
<i>No Pneumonia</i>	0	9	175 <b>(92%)</b>	6	190 (82.6%)

Agreement between health provider's and surveyor's classifications for cases with cough or difficult breathing: 207/230 **(90%)**

Agreement on cases with pneumonia or severe illness: 32/40 **(80%)**.

[All 8 cases misclassified were under classified. This has clinical implications]

<sup>1</sup>VSD: Very severe disease

*Shaded areas above show agreement*

Table A7. **Agreement of provider's case classification with surveyor's classification for children with diarrhoea** (n = 101)

Surveyor	Health provider				Total n = 101
	<i>Severe dehydration</i>	<i>Some dehydration</i>	<i>No dehydration</i>	Diarrhoea not assessed	
<i>Severe dehydration</i>	0	0	0	0	0 (0.0%)
<i>Some dehydration</i>	0	0 <b>(0%)</b>	1	0	1 (1.0%)
<i>No dehydration</i>	0	1	96 <b>(96%)</b>	3	100 (99.0%)

Agreement between health provider's and surveyor's classifications for cases with diarrhoea: 96/101 **(95%)**

Agreement on cases with severe or some dehydration: 0/1 **(0%)**.

[The only case with some dehydration was under classified. This has clinical implications]

There was full agreement on the case with persistent diarrhoea and 7 cases with bloody stools: 8/8 **(100%)**

*Shaded areas above show agreement*

Table A8. **Agreement of provider's case classification with surveyor's classification for children with fever** (n = 187)

Surveyor	Health provider				Total n = 187
	<i>Very severe febrile disease</i>	<i>Fever - possible bacterial infection</i>	<i>Fever - bacterial infection unlikely</i>	Fever not assessed	
<i>Very severe febrile disease</i>	0	0	0	0	0 (0.0%)
<i>Fever – possible bacterial infection</i>	0	44 ( <b>86%</b> )	5	2	51 (27.3%)
<i>Fever – bacterial infection unlikely</i>	0	10	119 ( <b>87%</b> )	7	136 (72.7%)

Agreement between health provider's and surveyor's classifications for cases with fever: 163/187 (**87%**)

Agreement on cases with very severe febrile disease or possible bacterial infection: 44/51 (**86%**).

[All the 7 cases with possible bacterial infection misclassified were under classified. This has clinical implications.]

The only child with measles was missed: 0/1

*Shaded areas above show agreement*

Table A9. **Agreement of provider's case classification with surveyor's classification for throat problem** (all 296 children to be examined; 72 found with a throat problem)

Surveyor	Health provider				Total n = 296
	<i>Streptococcal sore throat</i>	<i>Non-streptococcal sore throat</i>	<i>No throat problem</i>	No classification given	
<i>Streptococcal sore throat</i>	11 ( <b>100%</b> )	0	0	0	11 (3.7%)
<i>Non-streptococcal sore throat</i>	1	35 ( <b>57%</b> )	24	1	61 (20.6%)
<i>No throat problem</i>	0	18	201 ( <b>90%</b> )	5	224 (75.7%)

Agreement between health provider's and surveyor's classifications for cases with throat problem: 46/72 (**64%**)

*Shaded areas above show agreement*

Table A10. **Agreement of provider's case classification with surveyor's classification for children with an ear problem** (n = 52)

Surveyor	Health provider				Total n = 52
	Acute ear infection	Chronic ear infection	No ear infection	Ear problem not assessed	
Acute ear infection	7 (100%)	0	0	0	7 (13.5%)
Chronic ear infection	0	2 (100%)	0	0	2 (3.8%)
No ear infection	2	1	27 (63%)	13 <sup>1</sup>	43 (82.7%)

Agreement between health provider's and surveyor's classifications for cases with ear problem: 36/52 (69%)  
 Agreement on cases with mastoiditis, acute or chronic ear infection: 9/9 (100%).

<sup>1</sup> In 12 of these 13 cases the caretaker told the provider that the child had no ear problem

*Shaded areas above show agreement*

Table A11. **Agreement of provider's case classification with surveyor's classification on nutritional status** (all 296 children to be assessed)

Surveyor	Health provider				Total n = 296
	Severe malnutrition	Low weight	Not low weight	Nutritional status not classified	
Severe malnutrition	0 (0%)	0	1	0	1 (0.4%)
Low weight	0	14 (87%)	2	0	16 (5.4%)
Not low weight	0	0	276 (99%)	3	279 (94.2%)

Agreement on the nutritional status: 290/296 (98%)  
 Agreement on cases with severe malnutrition or low weight: 14/17 (82%).

*Shaded areas above show agreement*

Table A12. **Agreement of provider's case classification with surveyor's classification on anaemia** (all 296 children to be assessed)

Surveyor	Health provider				Total n = 296
	Severe anaemia	Anaemia	No anaemia	Anaemia not classified	
Severe anaemia	0 (0%)	1	0	0	1 (0.4%)
Anaemia	0	49 (63%)	28	1	78 (26.4%)
No anaemia	0	15	199 (92%)	2	217 (73.3%)

Agreement on presence or absence of anaemia: 248/296 (84%)  
 Agreement on cases with severe anaemia or anaemia: 49/79 (62%).

*Shaded areas above show agreement*

**QUALITY OF CLINICAL CARE:  
MANAGEMENT OF SEVERE CASES AND USE OF INJECTABLE DRUGS**

Table A13a. **Management of severe cases needing urgent referral**

Type of cases	No. (%)
Cases needing urgent referral:	6/296 (2.0%)
> <i>Referred</i> (correctly identified by the provider)	3/6 (50.0%) <sup>1</sup>
> <i>Receiving appropriate pre-referral treatment</i>	1/4 (25.0%) <sup>2</sup>
> <i>Correctly managed</i> <sup>3</sup>	1/6 (16.7%)
Cases referred by the provider:	n = 3
> <i>Given explanation about the need for referral</i>	3 (100%)
> <i>Accepting referral</i>	3 (100%)

<sup>1</sup> Of the 3 cases missed: 1 had "severe pneumonia" and was misclassified as "pneumonia", 1 had severe malnutrition and would have been sent home, one had "severe anaemia" and was misclassified as "anaemia"

<sup>2</sup> Appropriate pre-referral treatment here refers only to the parenteral administration of a pre-referral dose of the recommended antibiotic. This treatment applied only to 4 of the 6 cases needing urgent referral, as, while 4 cases had "severe pneumonia", the other 2 had severe malnutrition and severe anaemia, respectively. Of the 3 cases that did not receive the pre-referral dose of parenteral antibiotic, one had been misclassified as "pneumonia" and the other 2 had been seen at the outpatient department of a hospital and admitted to the hospital with no treatment. The IMCI guidelines/Egypt, however, recommend that severe cases seen at hospitals should be treated as other medical emergencies: they should receive a dose of antibiotic immediately upon admission to avoid delays in treatment in the same way as cases referred by health centres.

<sup>3</sup> Cases needing urgent referral referred and given appropriate pre-referral treatment

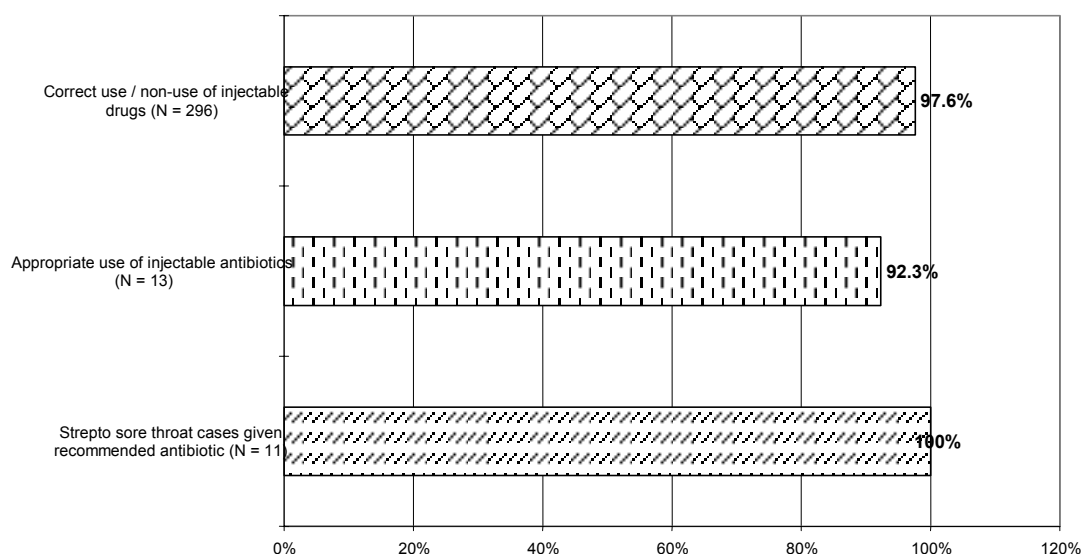
Table A13b. **Use of injectable drugs**

Type of cases	No. (%)
Cases correctly given/not given an injectable drug <sup>1</sup>	289/296 (97.6%)
Appropriate use of injectable antibiotics <sup>2</sup>	12/13 (92.3%) <sup>2</sup>
Cases with streptococcal sore throat given the recommended parenteral antibiotic (benzathine penicillin)	11/11 (100%)

<sup>1</sup> Cases requiring an injectable drug given it and cases not requiring an injectable drug not given it

<sup>2</sup> Cases who were appropriately given an injectable antibiotic out of all those given an injectable antibiotic One cases was given an injectable antibiotic as it was incorrectly classified as a streptococcal sore throat by the provider

Fig. A11  
**Use of injectable drugs**  
*IMCI Health facility survey, Egypt*  
10 March - 10 April 2002



**QUALITY OF CLINICAL CARE:  
ORAL ANTIBIOTIC TREATMENT**

Table A14. **Oral antibiotic treatment prescribed correctly to children with an “IMCI condition” not requiring urgent referral and needing oral antibiotics**

Cases	No. (%)
Children with an IMCI condition not requiring urgent referral and needing oral antibiotics:	n = 49
> <i>Prescribed oral antibiotics</i>	42 (85.7%)
> <i>Prescribed oral antibiotics correctly</i> (all three below)	36 (73.5%)
- Of those prescribed antibiotics:	n = 42
> <i>Prescribed correct amount</i> (dose)	40 (95.2%)
> <i>Prescribed correct number of times per day</i> (frequency)	42 (100%)
> <i>Prescribed correct number of days</i> (duration)	37 (88.1%) <sup>1</sup>
Pneumonia cases:	n = 36
> <i>Prescribed recommended oral antibiotics</i>	29 (80.6%) <sup>2</sup>
> <i>Prescribed oral antibiotics correctly</i>	26 (72.2%) <sup>3</sup>
Dysentery cases:	n = 7
> <i>Prescribed recommended oral antibiotics</i>	7 (100%)
> <i>Prescribed oral antibiotics correctly</i>	6 (86.7%) <sup>4</sup>
Children not needing antibiotics (for an IMCI or non-IMCI reason) and not requiring referral:	n = 238
> <i>Prescribed no antibiotics</i>	227 (95.4%)
> <i>Prescribed antibiotics unnecessarily</i>	11(4.6%) <sup>5</sup>

<sup>1</sup> In all the 5 cases considered incorrect, the duration of treatment was not indicated or given. Similarly, in other 8 cases given antibiotics by the provider for any reasons (based on his/her classification of the case) and in which the prescription on duration of antibiotic treatment was incorrect, the duration of treatment was not indicated.

<sup>2</sup> All the 7 “pneumonia” cases that were not prescribed an antibiotic had been misclassified by the provider as “no pneumonia” cases

<sup>3</sup> For the 3 cases that were given antibiotics but incorrectly, the duration of treatment was not indicated

<sup>4</sup> Duration of treatment not indicated

<sup>5</sup> Of these 11 cases: 9 children given antibiotics as misclassified by provider as “pneumonia” cases, 1 misclassified as “acute ear infection” and 1 for other reasons than IMCI conditions in which antibiotic not indicated

**QUALITY OF CLINICAL CARE:  
OTHER ORAL TREATMENT AND VACCINATION**

Table A15. **Other treatments**<sup>#</sup>

Cases	No. (%)
Children with diarrhoea and some dehydration given ORS at the facility	0/1 (0%) <sup>1</sup>
Children given paracetamol	101/296 (34.1%)
> Children with an axillary temperature $\geq 38.0^{\circ}C$	28/29 (96.6%)
> Children with sore throat or acute ear infection with a temperature $< 38^{\circ}C$ and not needing urgent referral	39/57 (68.4%)
> Children with anaemia not needing urgent referral prescribed iron	65/76 (85.5%) <sup>2</sup>
> Children 6-30 months old with no anaemia and not needing urgent referral prescribed iron	94/124 (75.8%)
> Children needing vitamin A given vitamin A	4/6 (66.7%) <sup>3</sup>
Children needing vaccinations and not referred by provider:	n = 15
> Leaving the facility with all needed vaccinations given	10 (66.7%)
> Leaving the facility with all needed vaccinations given or advice to come back for vaccination on scheduled vaccination day <sup>4</sup>	14 (93.3%)

<sup>#</sup> Concerning other medicines given than those recommended by the IMCI guidelines, five cases were prescribed a cough syrup considered not harmful by the national ARI programme, one case was prescribed a cough medicine (mucolytic) considered potentially harmful and one case was prescribed an antispasmodic (phenobarbital) considered potentially harmful

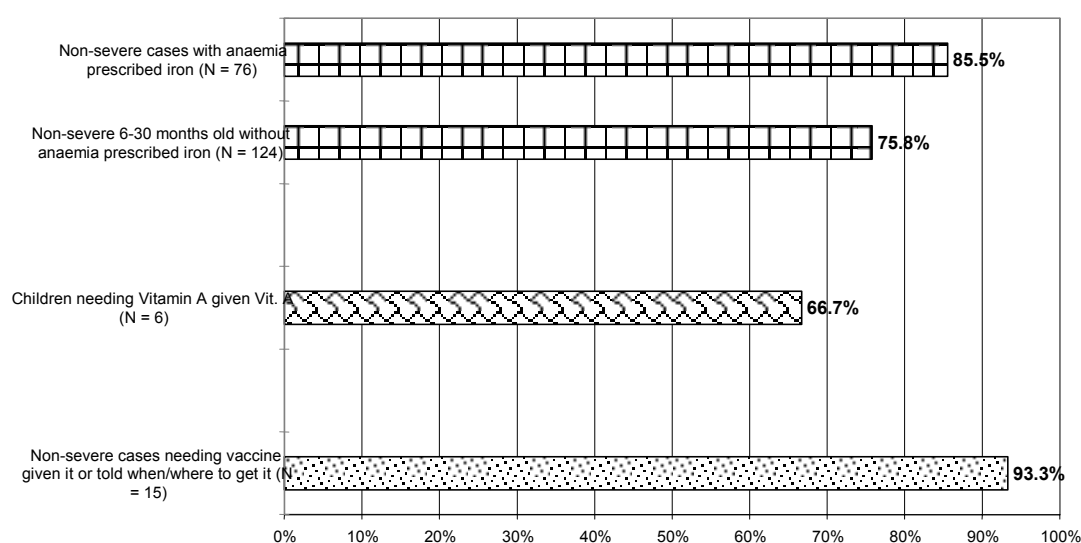
<sup>1</sup> Child misclassified as case with no dehydration

<sup>2</sup> All 11 cases that did not receive iron were misclassified as cases with no anaemia

<sup>3</sup> The 2 cases that needed vitamin A ("measles" and "severe malnutrition", respectively) did not receive vitamin A as they had been misclassified

<sup>4</sup> This indicator is more relevant to Egypt than the previous indicator, as according to the national policy not all facilities in Egypt provide immunization services (e.g., hospitals do not) and those which do provide them may often provide them only on scheduled days.

Fig. A12  
**Other treatments**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**





**QUALITY OF CLINICAL CARE:  
ADVICE GIVEN ON ORAL TREATMENT AND CARETAKER RECALL**

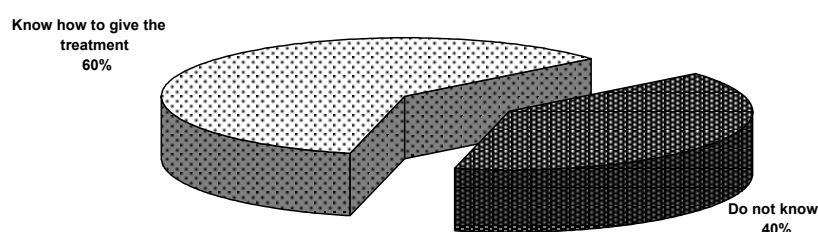
Table A16. **Antibiotic and/or ORS treatment: advice given by provider and caretaker recall**

Advice	No. (%)
Caretakers of children prescribed oral <u>antibiotics</u> , irrespective of the indication:	n = 58
> 1. <i>Given advice on dose, frequency and duration of treatment</i>	45 (77.6%)
> 2. <i>Given demonstration on how to give it</i>	54 (93.1%)
> 3. <i>Asked open-ended question to check for understanding</i>	55 (94.8%)
- For whom at least 2 of the above 3 counselling tasks were performed	55 (94.8%)
- Given first dose of antibiotic at the facility	33 (56.9%)
> 1. <i>Knowing the dose to be given each time</i>	51 (87.9%)
> 2. <i>Knowing the number of times a day to be given</i>	55 (94.8%)
> 3. <i>Knowing for how many days to be given</i>	38 (65.5%)
• Able to describe correctly how to give antibiotics (i.e., knowing all 3 above)	35 (60.3%)
Caretakers of children with diarrhoea not needing urgent referral given <u>ORS</u> :	n = 99
> 1. <i>Given advice on dose, frequency and duration of treatment</i>	98 (99.0%)
> 2. <i>Given demonstration on how to give it</i>	94 (94.9%)
> 3. <i>Asked open-ended question to check for understanding</i>	89 (89.9%)
- For whom at least 2 of the above 3 counselling tasks were performed	94 (94.9%)
> 1. <i>Knowing how much water to mix with 1 ORS sachet to prepare solution</i>	96 (97.0%)
> 2. <i>Knowing when to give ORS to the child each day</i>	80 (80.8%)
> 3. <i>Knowing how much ORS to give to the child each time</i>	71 (71.7%)
• Able to describe correctly how to give ORS (i.e., knowing all 3 above)	66 (66.7%)
• Caretakers of children not needing urgent referral and given/prescribed an oral antibiotic and/or ORS for whom at least 2 of the 3 treatment counselling tasks were performed	129/136 (94.9%)
• Caretakers of children prescribed an oral antibiotic and/or ORS knowing how to give the treatment/s <sup>1</sup>	82/136 (60.3%)

<sup>1</sup> Caretaker knows dose, frequency and duration of antibiotic and/or ORS treatment

Fig. A13

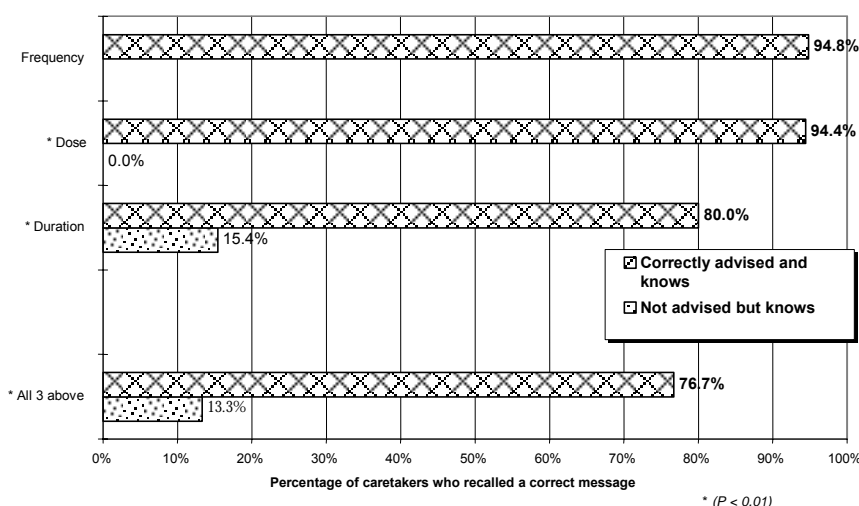
**Caretakers of 136 children prescribed oral antibiotics and/or ORS  
who knew how to give the treatment/s**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**



**QUALITY OF CLINICAL CARE:  
CARETAKER RECALL AND COMPLIANCE WITH ORAL TREATMENT**

Fig. A14

**Relationship of provider's advice on antibiotic treatment and caretaker's correct recall**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**



**Table A17. Relationship of provider's correct advice on antibiotic treatment with caretaker correct recall of the advice for cases not referred by the provider**

Advice	Correct advice given and recalled correctly by caretaker	Advice incorrect or not given but mentioned correctly by caretaker	Total (n = 58 cases not referred and given antibiotics)
Dose	51/54 (94.4%)*	0/4 (0%)*	51 (87.9%)
Frequency	55/58 (94.8%)	-	55 (94.8%)
Duration	36/45 (80.0%)*	2/13 (15.4%)*	38 (65.5%)
All 3 above	33/43 (76.7%)*	2/15 (13.3%)*	35 (60.3%)

\*The difference is statistically significant at P<0.01

**Table A18. Relationship of caretaker's recall of correct instructions on antibiotic treatment with caretaker's intention to continue treatment as advised if the child gets better (n = 58)**

Instructions on antibiotic treatment recalled by caretaker	Caretaker intentions about continuing treatment as advised if child gets better			
	Stop medicine	Continue but reduce dose	Continue as advised	Other
Correct (n = 35)	12 (34.3%)	4 (11.4)	18 (51.4%)	1 (2.9%)
Incorrect (n = 23)	10 (43.5%)	1 (4.3%)	8 (34.8%)	4 (17.3%)

**Table A19. Potential compliance with advice on duration of treatment**

Cases prescribed an antibiotic	n = 58 (%)
Caretaker intentions on continuing treatment in case child gets better:	
- Would stop treatment	22 (37.9%)
- Would continue but reduce the dose	5 (8.6%)
- Would continue as advised	26 (44.8%)
- Other options or would not know	5 (8.7%)

**QUALITY OF CLINICAL CARE:  
ADVICE ON FOLLOW-UP AND CARETAKER RECALL**

Table A20. **Advice on follow-up** (definite follow-up)

<b>Cases</b>	<b>No. (%)</b>
Caretakers of children not needing urgent referral needing definite follow-up:	211/290 (72.8%)
> Advised to come back for follow-up	144/211 (68.2%)
Agreement of provider's advice on definite follow-up with surveyor's advice on definite follow-up for children not needing urgent referral	123/211 (58.3%)
- In 2 days	36/43 (83.7%)
- In 5 days	80/157 (51.0%)
- In 14 days	7/11 (60.0%)

Fig. A15  
**Agreement of provider's advice on definite follow-up with surveyor's advice on definite follow-up**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**

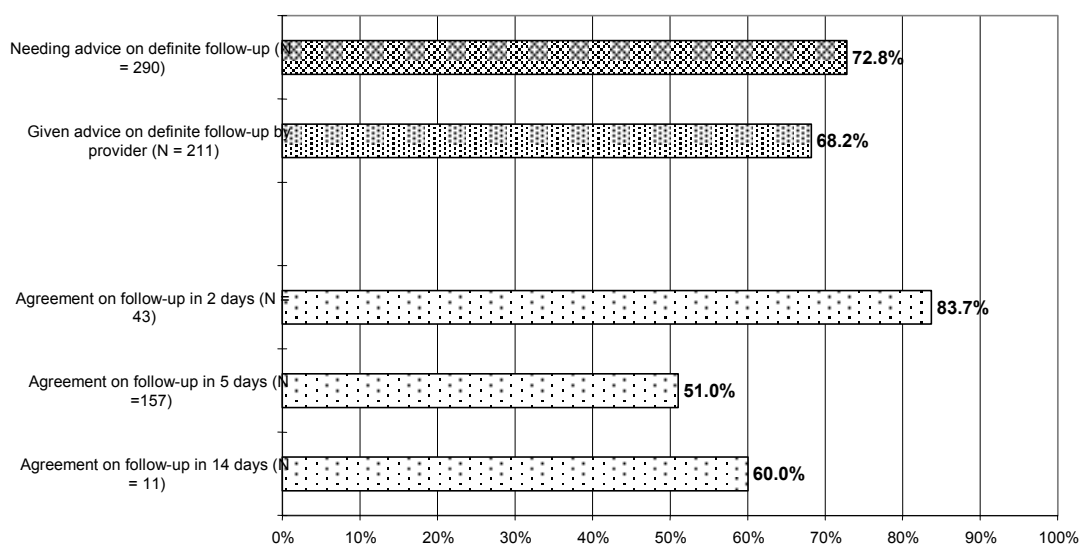
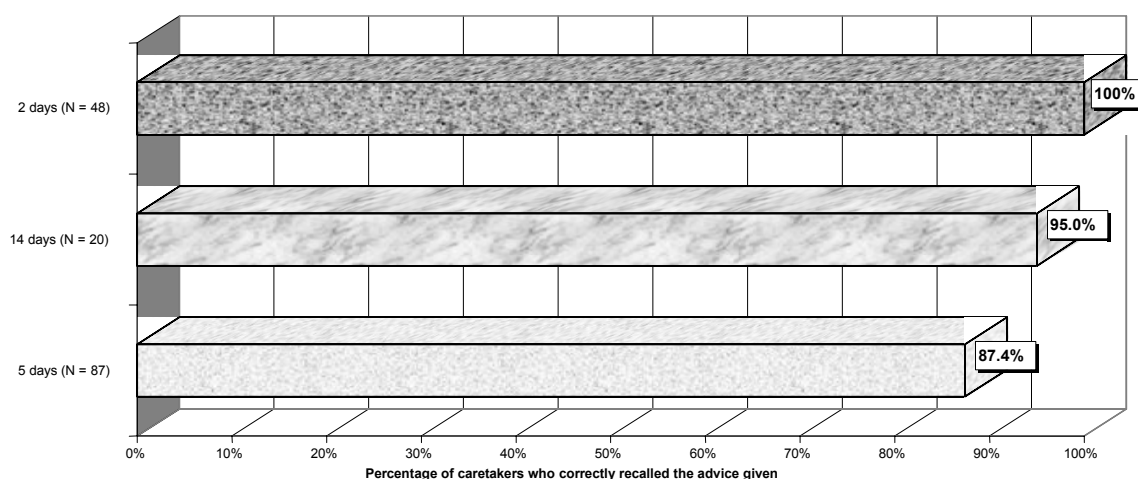


Table A21. **Relationship of provider's advice on follow-up with caretaker correct recall of the advice** (n = cases advised on definite follow-up by provider)

<b>Days within which follow-up advised by provider</b>	<b>Caretaker correct recall of follow-up advice</b>
2 days	48/48 (100%)
5 days	76/87 (87.4%)
14 days	19/20 (95.0%)

Fig. A16

**Caretaker's correct recall of advice on definite follow-up given by provider**  
*IMCI Health facility survey, Egypt*  
 10 March - 10 April 2002



**QUALITY OF CLINICAL CARE:  
ADVICE ON HOME CARE AND CARETAKER KNOWLEDGE**

Table A22. **Advice on home care given by provider and use of the mother-counselling card on home care**

Cases	No. (%)
Caretakers of children not needing urgent referral advised by the provider:	n = 290
> <i>To give extra fluids</i>	277 (95.5%)
> <i>To continue feeding</i>	269 (92.8%)
Both messages on extra fluids and continue feeding	265 (91.4%)
> Caretakers of children not needing urgent referral advised by the provider to take the child back to the facility immediately if the child:	n = 290
- 1. <i>Is unable to drink</i>	246/290 (84.8%)
- 2. <i>Becomes sicker</i>	253/290 (87.2%)
- 3. <i>Develops a fever</i> (for those not having fever by history or temperature)	95/109 (87.2%)
• All the three above for children with no fever and the first 2 for children with fever	236/290 (81.4%)
> Caretakers of children classified as “ <u>cough or cold: no pneumonia</u> ” not needing urgent referral advised by the provider to take the child back to the facility immediately if the child:	n = 188
- 4. <i>Develops fast breathing</i>	154 (81.9%)
- 5. <i>Develops difficult breathing</i>	160 (85.1%)
> Caretakers of children with “ <u>diarrhoea and no signs of dehydration</u> ”, not needing urgent referral, advised to take the child back to the facility immediately if the child:	n = 100
- 6. <i>Has blood in stools</i> (for those with no bloody stools)	75/93 (80.6%)
- 7. <i>Drinks poorly</i>	7/100 (7.0%)
> Caretakers of children not needing urgent referral advised by the provider to take the child back to the facility immediately:	n = 290
• On at least three of the above 7 signs	257 (88.6%)
> <i>Caretakers advised on all the three home care rules</i> (to give extra to drink <i>and</i> continue feeding <i>and</i> at least three signs on when to return immediately)	n = 290 241 (83.1%)
Caretakers of children not referred by provider shown the mother card during counselling	216/293 (73.7%)

Fig. A17

**Caretakers advised by providers on signs to return immediately**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**

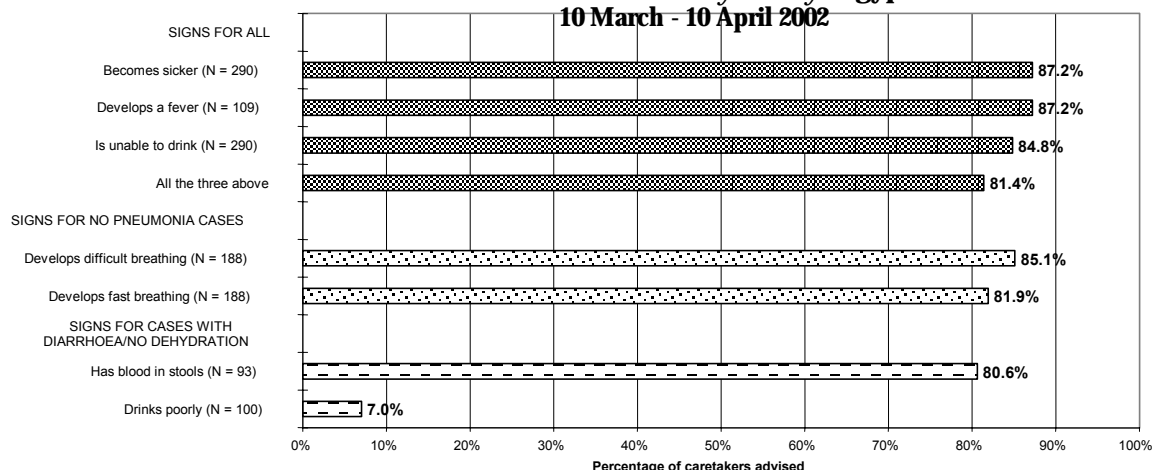


Table A23. **Caretaker knowledge about home care**

<b>Cases</b>	<b>No. (%)</b>
Caretakers of children not referred by the provider knowing about the need:	n = 292 <sup>1</sup>
> <i>To give extra to drink</i> to their sick children	212 (72.6%)
> <i>To continue feeding</i> their sick children	270 (92.5%)
• <i>To give extra fluids and continue feeding</i> their sick children during illness	164 (56.2%)
> Caretakers of children not referred by the provider knowing the signs that indicate the need to seek care immediately:	n = 292
> 1. <i>Child is unable to drink or breastfeed</i>	68 (23.3%)
> 2. <i>Child becomes sicker</i>	88 (30.1%)
> 3. <i>Child develops a fever</i>	269 (92.1%)
• All the 3 signs above	20 (6.8%)
> Caretakers of children with “ <u>cough or cold: no pneumonia</u> ” not referred by the provider knowing the specific ‘respiratory’ signs indicating the need to seek care immediately:	n = 190
- 4. <i>Develops fast breathing</i>	28 (14.7%)
- 5. <i>Develops difficult breathing</i>	67 (35.3%)
> Caretakers of children with <u>diarrhoea and no signs of dehydration</u> , not referred by the provider knowing the specific ‘diarrhoea’ signs indicating the need to seek care immediately:	n = 100
- 6. <i>Has blood in stools</i>	24 (24.0%)
- 7. <i>Drinks poorly</i>	0 (0.0%)
> Caretakers of children not referred by the provider knowing at least two signs to seek care immediately	n = 292 189 (64.7%)
> Caretakers of children not referred by the provider knowing the three rules of home care (give extra to drink, continue feeding and at least three signs on when to seek care immediately)	n = 292 62 (21.2%)
Other signs mentioned by caretakers which would worry them and prompt them to seek care for a sick child:	n = 292
- (Plain) diarrhoea	151 (51.7%)
- Vomiting	99 (33.9%)
- (Simple) cough	63 (21.6%)
- Convulsions	47 (16.1%)

<sup>1</sup> 1 interview missing for a child brother of a child referred urgently to hospital: the mother had to leave with both children urgently

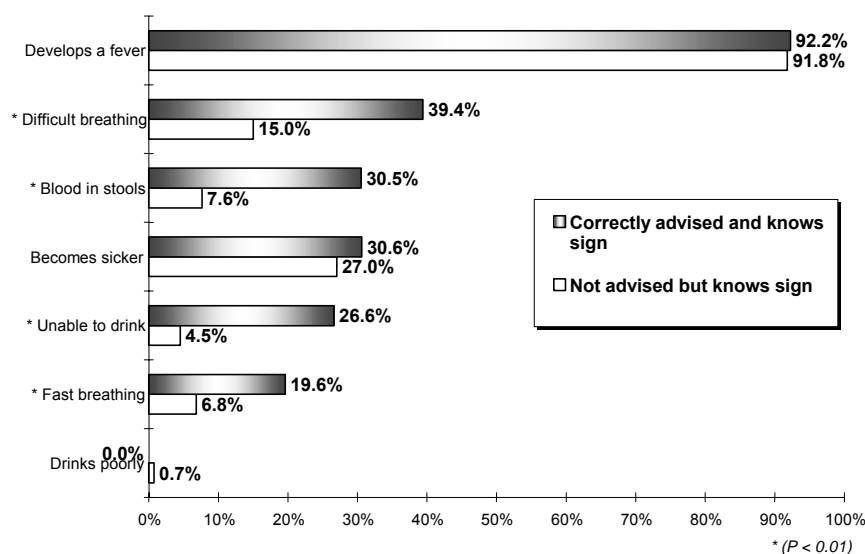
Table A24. **Comparison between provider's advice on signs to return immediately with caretaker knowledge of signs to seek care promptly, irrespective of child illness, for cases not referred by provider** (n = 292 available interviews)

Signs to return immediately	Sign advised by provider and mentioned by caretaker	Sign not advised by provider but mentioned by caretaker	Total (n = caretakers interviewed)
Child is unable to drink	66/248 (26.6%)*	2/44 (4.5%)*	68/292 (23.3%)
Child becomes sicker	78/255 (30.6%)	10/37 (27.0%)	88/292 (30.1%)
Child develops a fever	213/231 (92.2%)	56/61 (91.8%)	269/292 (92.1%)
Child develops fast breathing	40/204 (19.6%)*	6/88 (6.8%)*	46/292 (15.7%)
Child develops difficult breathing	78/198 <sup>1</sup> (39.4%)*	14/93 <sup>1</sup> (15.0%)*	92/291 <sup>1</sup> (31.6%)
Child has blood in stool	25/82 (30.5%)*	16/210 (7.6%)*	41/292 (14.0%)
Child drinks poorly	0/9 <sup>1</sup> (0%)	2/282 (0.7%)	2/291 <sup>1</sup> (0.7%)

<sup>1</sup> Information missing on the record for this specific item

\* The difference is statistically significant at P<0.01

Fig. A18  
**Comparison between provider's advice and caretaker's knowledge about care-seeking**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**



**QUALITY OF CLINICAL CARE:  
FEEDING PATTERNS AND AGE-APPROPRIATE FEEDING ADVICE**

Table A25. **Feeding patterns in children below two years old or older with low weight or anaemia enrolled in the survey** (not needing urgent referral and interviewed: n =216)

Feeding pattern	Age group		
	2 up to 4 months old <sup>33</sup>  n = 26	4 up to 6 months old <sup>33</sup>  n = 31	Total for children 2 up to 6 months old <sup>33</sup>  n = 57
Exclusively breastfed	14 (53.8%)	12 (38.7%)	26 (45.6%)
Not exclusively breastfed	12 (46.2%)	18 (58.1%)	30 (52.6%)
Not breastfed	-	1 (3.2%)	1 (1.8%)
Feeding pattern	AGE GROUP		
	6 up to 12 months old <sup>33</sup>  n = 56	1 year up to 2 years old <sup>33</sup>  n = 77	2 years old or older with low weight and/or anaemia  n = 26
Exclusively breastfed	3 (5.4%)	-	-
Not exclusively breastfed	49 (87.5%)	53 (68.8%)	1 (3.8%)
Not breastfed	4 (7.1%)	23 (29.9%)	24 (92.3%)
No information	-	1 (1.3%)	1 (3.8%)

Table A26. **Age-appropriate advice on feeding** (cases not referred by provider whose caretakers were interviewed)

Age groups	Cases given age-appropriate feeding advice <sup>1</sup>
Children less than 6 months old:	45/57 (78.9%)
> Children from 2 up to 4 months old	22/26 (84.6%)
> Children from 4 up to 6 months old	23/31 (74.2%)
Children 6 to 11 months old	32/56 (57.1%)
Children 12 to 23 months old	55/77 (71.4%)
Children 2 years old or older with low weight and/or anaemia	21/26 (80.8%)
<i>Children less than 2 years old and those with low weight and/or anaemia</i>	<b>153/216 (70.8%)</b>

<sup>1</sup> Advice given by provider considered in this survey as appropriate as follows:

- > Children less than 6 months old exclusively breastfed: advised to breastfeed at least 8 times a day and not to give complementary foods;
- > Children less than 4 months old breastfed but not exclusively: advised to breastfeed at least 8 times a day and not to give complementary foods;
- > Children from 4 up to 6 months old breastfed but not exclusively: advised to breastfeed at least 8 times a day exclusively or to breastfeed at least 8 times a day and give complementary foods 1-2 times a day;
- > Children less than 6 months old not breastfed: advised to give complementary foods 5 or more times a day (this practical approach was considered acceptable when re-lactation would appear less feasible);
- > Child 6 to 11 months old breastfed, whether exclusively or not: advised to continue to breastfeed (as much as the child wants) and to give complementary foods 3 times a day;
- > Child 6 to 11 months old not breastfed: advised to give complementary foods 5 times a day;
- > Child 12 to 23 months old or 2 years old and older with low weight and/or anaemia: advised to give complementary foods 5 times a day.

<sup>33</sup> See footnote (1)



**QUALITY OF CARE: HEALTH SYSTEMS  
CARETAKER SATISFACTION WITH HEALTH SERVICES**

Table A27. **Caretaker satisfaction with services** (cases not referred)

<b>Caretaker satisfaction with services</b>	<b>No. (%)</b>
	n = 292 <sup>1</sup>
Very satisfied	116 (39.7%)
Satisfied	162 (55.5%)
Unsatisfied	14 (4.8%)
Reasons for satisfaction (either very satisfied or satisfied)	n = 278
- Examination of the child	240 (86.3%)
- Treatment given	162 (58.3%)
- What learnt	48 (17.3%)
- Immunization services	42 (15.1%)
- Time spent by provider	18 (6.5%)
- Had opportunity to ask questions	17 (6.1%)
- Provider's good attitude	14 (5.0%)
- Provide follow-up visits	11 (4.0%)
Reasons for dissatisfaction	n = 14
- Way providers communicate	10 (71.4%)
- Treatment given	9 (64.3%)
- Examination of the child	6 (42.9%)
- Time spent by provider	1 (7.1%)

<sup>1</sup> 1 interview missing as brother of a child referred urgently and mother had to leave with both children

Fig. A19  
**Caretaker's level of satisfaction with services**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**

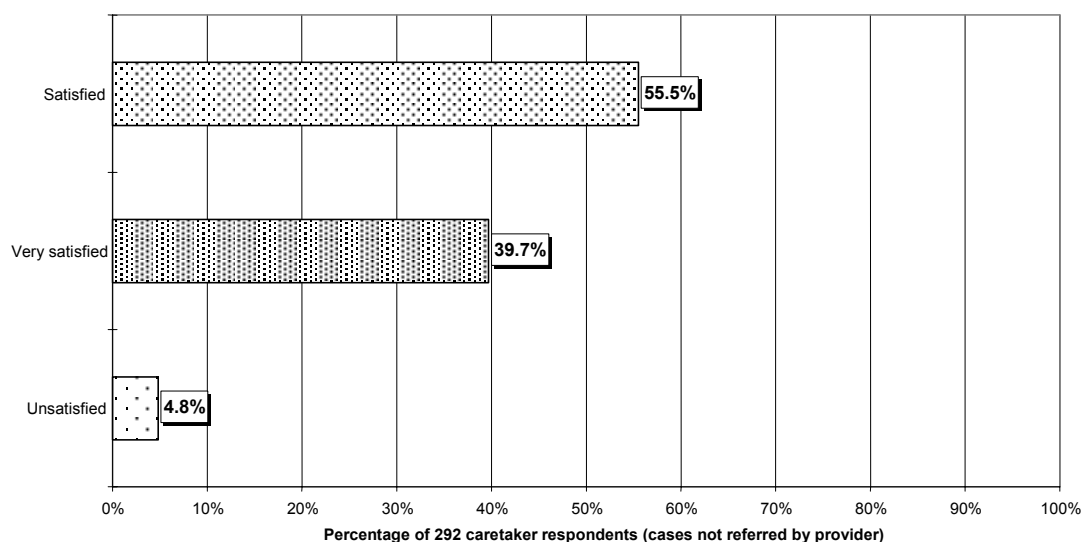
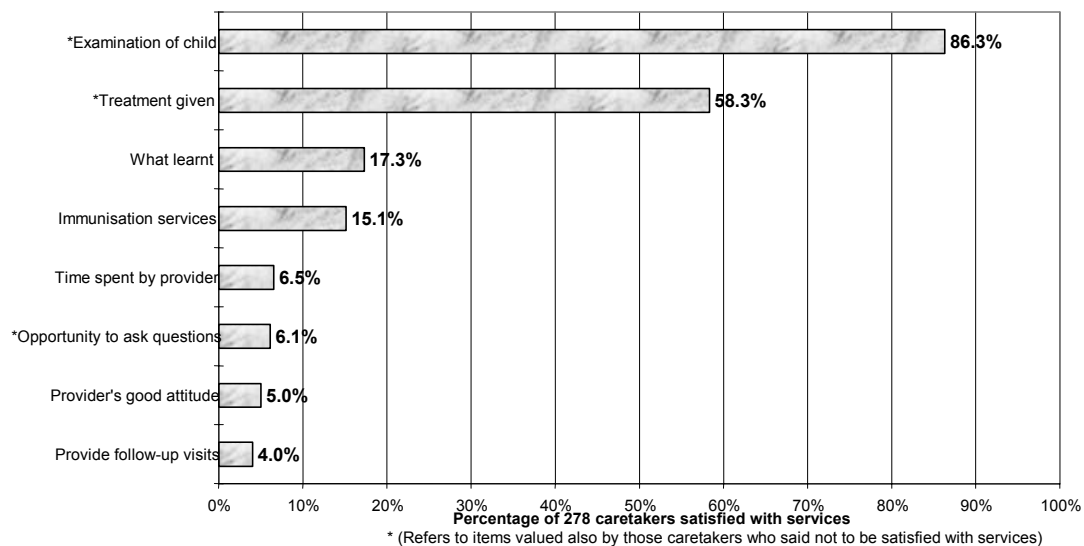


Fig. A20  
**Reasons for caretaker satisfaction with services**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**

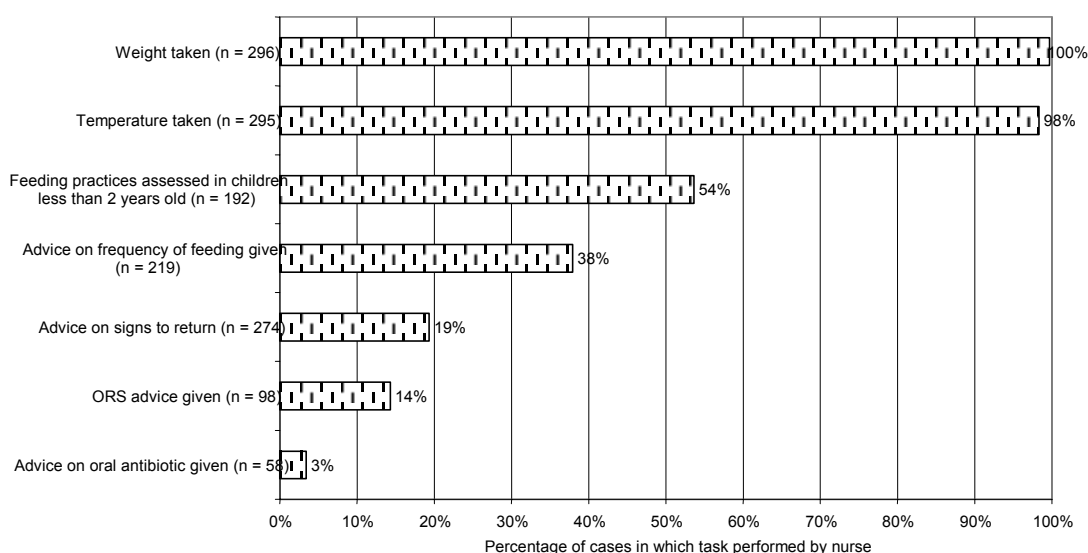


**QUALITY OF CARE: HEALTH SYSTEMS  
ORGANIZATION OF WORK**

Table A28. **Organization of work: distribution of tasks between doctors and nurses**

<b>Task</b>	<b>No. of children in the sample in whom task performed</b>	<b>No. (%) of children in whom task performed by nurse</b>
Taking child weight	n = 296	295 (99.7%)
Taking temperature	n = 295	290 (98.3%)
Assessing feeding practice in children less than 24 months old	n = 192	103 (53.6%)
Giving advice on ORS	n = 98	14 (14.3%)
Giving advice on oral antibiotic	n = 58	2 (3.4%)
Providing advice on number of times to feed or breastfeed the child	n = 219	83 (37.9%)
Providing advice on signs indicating the need to return promptly	n = 274	53 (19.3%)

Fig. A21  
**Organization of work: tasks carried out by nurses**  
*IMCI health facility survey, Egypt*  
**10 March - 10 April 2002**



**QUALITY OF CARE: HEALTH SYSTEMS  
IMCI TRAINING COVERAGE**

Table A29. **IMCI training coverage in the facilities visited, by type of provider and facility**

<b>Type of provider</b>	<b>Hospitals</b>	<b>Urban health centres</b>	<b>Rural health facilities</b>	<b>Total</b>
Doctor	21/51 ( <b>41.2%</b> )	16/40 ( <b>40.0%</b> )	46/67 ( <b>68.7%</b> )	83/158 ( <b>52.5%</b> )
Nurse	15/34 ( <b>44.1%</b> )	17/78 ( <b>21.8%</b> )	54/274 ( <b>19.7%</b> )	86/386 ( <b>22.3%</b> )
Total	36/85 ( <b>42.3%</b> )	33/118 ( <b>28.0%</b> )	100/341 ( <b>29.3%</b> )	169/544 ( <b>31.1%</b> )

Table A30. **Cases managed by doctors who have received training in IMCI in different periods**

<b>Period of IMCI training</b>	<b>No. (%) of cases managed by doctors trained in a given period</b>
Within the previous 6 months	57 (19.2%)
From 6 to 11 months earlier	137 (46.3%)
From 1 year to 17 months earlier	73 (24.7%)
From 18 months to 23 months earlier	3 (1.0%)
From 2 years to 29 months earlier	24 (8.1%)
30 or more months earlier	2 (0.7%)
Total	296 (100%)

**QUALITY OF CARE: HEALTH SYSTEMS  
AVAILABILITY OF DRUGS**

Table A31. **Indexes of availability of drugs for IMCI**

Category of drugs	Index
Index of availability of <i>essential oral treatments</i> , namely amoxicillin, cotrimoxazole, ORS, Vitamin A, iron and paracetamol (Max index = 6)	5.8 <sup>1</sup>
Index of availability of the 12 <i>non-injectable</i> drugs for IMCI, including the 6 drugs listed above and the following: nalidixic acid, tetracycline eye ointment, gentian violet, salbutamol solution or metered dose inhaler, salbutamol syrup and sodium valproate solution (Max index = 12)	11.2 <sup>2</sup>
Index of availability of <i>injectable drugs for pre-referral treatment</i> for children and young infants needing urgent referral, namely chloramphenicol, benzylpenicillin and gentamicin (Max index = 3)	3.0 <sup>3</sup>

<sup>1</sup> Arithmetic mean of the 6 essential oral drugs recommended for home treatment of pneumonia, dysentery, diarrhoea, fever and anaemia. 43 (86%) of the 50 facilities had all the 6 drugs; 6 facilities had 5 of the 6 drugs available (4 had no vitamin A, 1 had no iron and 1 had no paracetamol) and 1 facility had only three of the 6 drugs available

<sup>2</sup> Arithmetic mean of the 12 non-injectable drugs required for IMCI. 25 (50%) of the 50 facilities had all 12 drugs; 18 (36%) had 11 and 7 (14%) had 10 or less

<sup>3</sup> Arithmetic mean of the 3 recommended injectable drugs for pre-referral treatment of children under five years old with severe classification

Fig. A22

**Availability of ORS and antibiotics recommended for IMCI**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**

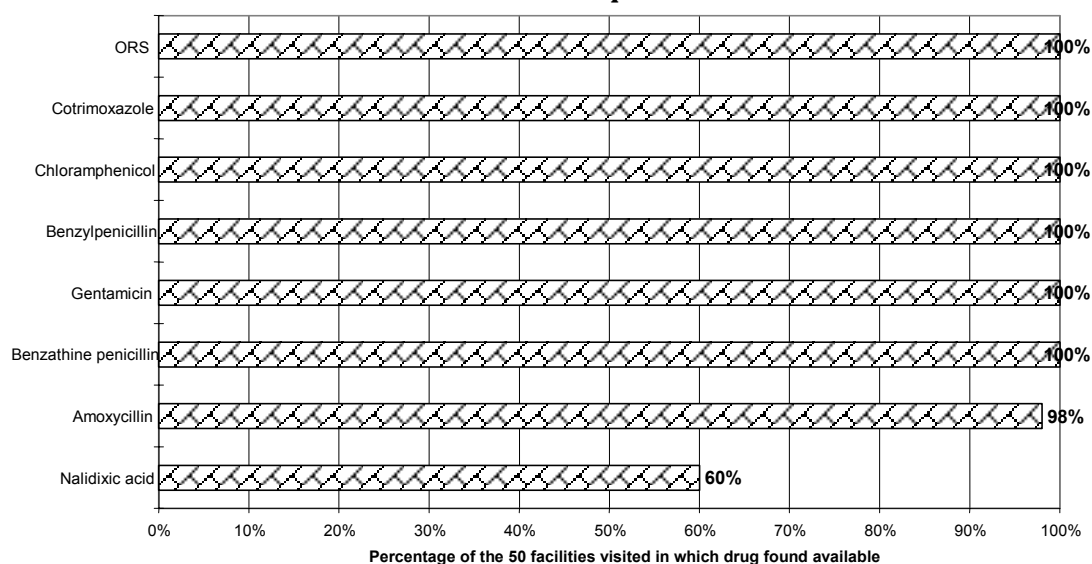


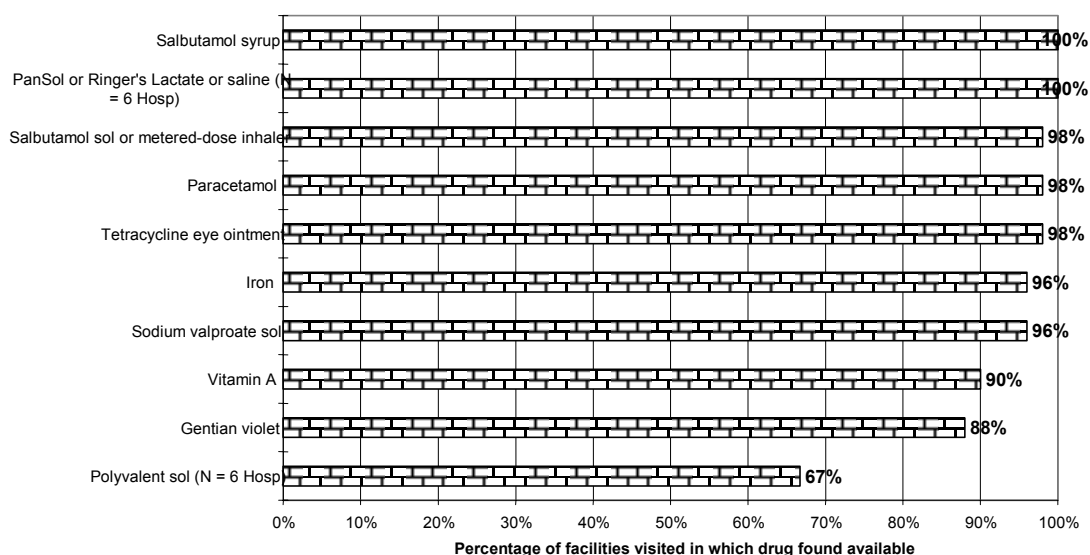
Table A32. **Availability of individual drugs recommended for IMCI in health facilities**

<b>Drugs</b>	<b>No. (%)</b> <b>n = 50</b>
Amoxicillin	49 (98%)
Cotrimoxazole	50 (100%)
ORS	50 (100%)
Vitamin A	45 (90%)
Iron	48 (96%)
Paracetamol	49 (98%)
Nalidixic acid	30 (60%)
Tetracycline eye ointment	49 (98%)
Gentian violet	44 (88%)
Salbutamol solution or metered dose inhaler	49 (98%)
Salbutamol syrup	50 (100%)
Sodium valproate solution	48 (96%)
Chloramphenicol	50 (100%)
Benzylpenicillin	50 (100%)
Gentamicin	50 (100%)
Benzathine penicillin (for treatment of streptococcal sore throat)	50 (100%)
<b>HOSPITALS:</b>	<b>n = 6</b>
Polyvalent solution <sup>1</sup>	4/6 (66.7%)
PanSol or Ringer's Lactate Solution or saline <sup>1</sup>	6/6 (100%)

<sup>1</sup> Acceptable IV solutions for rehydration of diarrhoea cases with severe dehydration

Fig. A23

**Availability of other drugs recommended for IMCI**  
**IMCI Health facility survey, Egypt**  
**10 March - 10 April 2002**



**QUALITY OF CARE: HEALTH SYSTEMS  
AVAILABILITY OF EQUIPMENT AND SUPPLY**

Table A33. **Availability of equipment and supply items for IMCI in health facilities**

Items	No. (%) n = 50
Accessible and working adult scale*	49 (98%)
Accessible and working baby scale*	49 (98%)
Working timing device*	50 (100%)
Supplies to mix ORS (cups, spoons)*	48 (96%)
Source of clean water (tap water)*	50 (100%)
Mother counselling card on home care for use by provider#	48 (96%)
Mother counselling card on home care for distribution to caretakers	39 (78%)
IMCI chart booklet#	49 (98%)
Working nebuliser	50 (100%)
Wooden tongue depressor	49 (98%)
Thermometer	49 (98%)
IMCI recording forms	50 (100%)
IMCI daily register	49 (100%) <sup>1</sup>

<sup>1</sup>Information missing for one facility

\* Facilities with basic equipment and materials (items marked with \*): 46/50 (92%).

# Facilities with mother counselling card and IMCI chart booklet: 47/50 (94%).

Fig. A24

**Availability of supply and equipment item for IMCI**  
*IMCI Health facility survey, Egypt*  
**10 March - 10 April 2002**

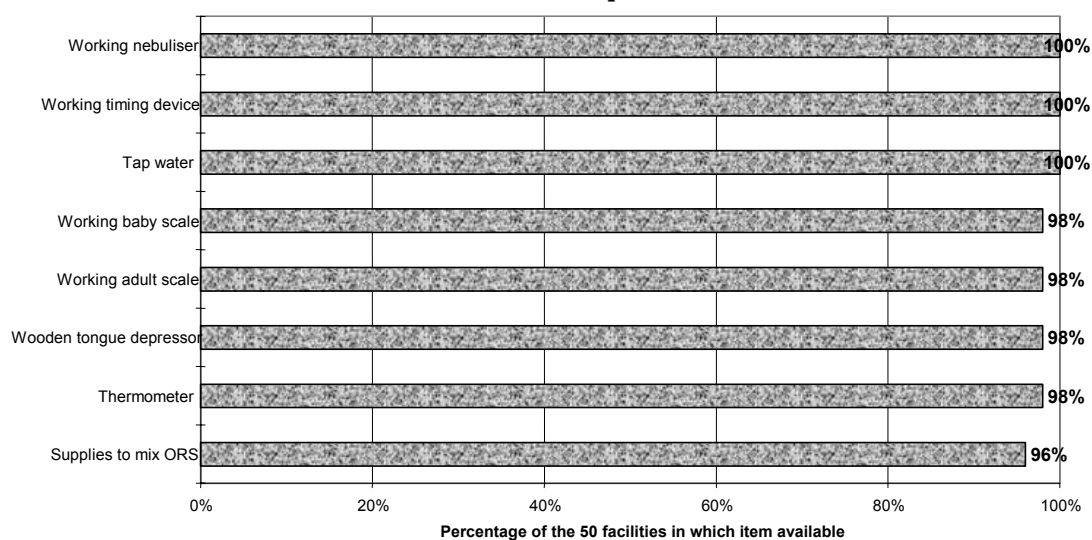


Fig. A25

**Availability of supply and equipment item for IMCI**  
**IMCI Health facility survey, Egypt**  
**10 March - 10 April 2002**

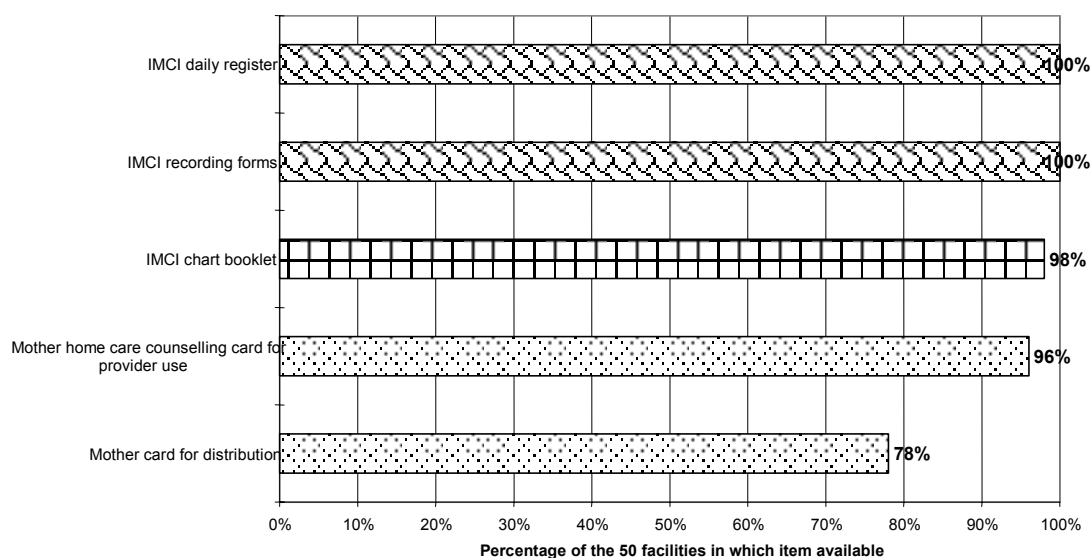


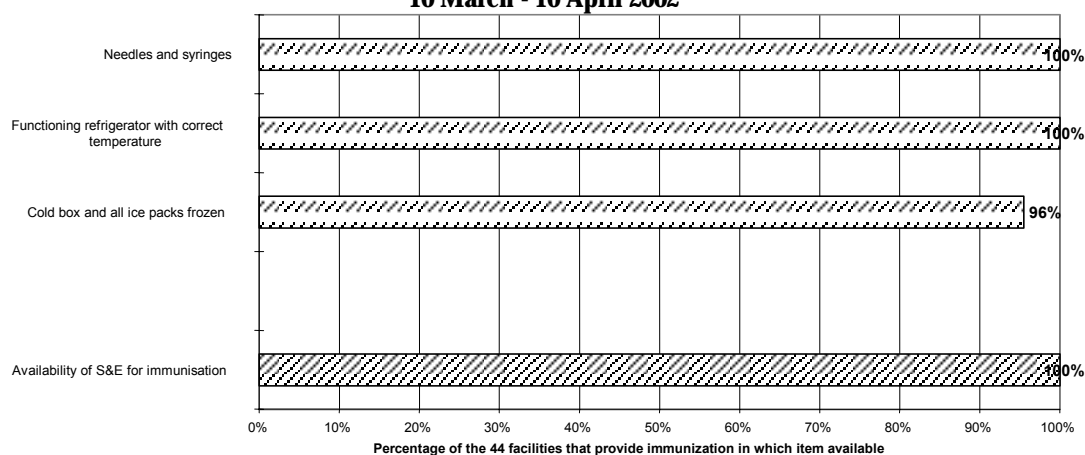
Table A34. **Availability of equipment and supply for vaccination in facilities providing EPI services (n = 44)<sup>1</sup>**

Items	No. (%) n = 44
1. Needles and syringes for vaccinations	44 (100%)
2. Functioning refrigerator with correct temperature	44 (100%)
3. Cold box and all ice packs frozen	42 (95.5%)
Availability of equipment and supply for vaccination (1. And either 2. or 3. above)	44 (100%)

<sup>1</sup> The proposed WHO index of availability of key vaccines was not calculated because, as a procedure, facilities providing immunization services may receive the vaccines just for the immunization session. Vaccines would therefore not be found necessarily during the other days of the week. Thus, information on availability of vaccines on the day of the visit during the survey would have been misleading in the case of Egypt

Fig. A26

**Availability of equipment and supply for vaccination in facilities providing EPI services**  
**IMCI Health facility survey, Egypt**  
**10 March - 10 April 2002**





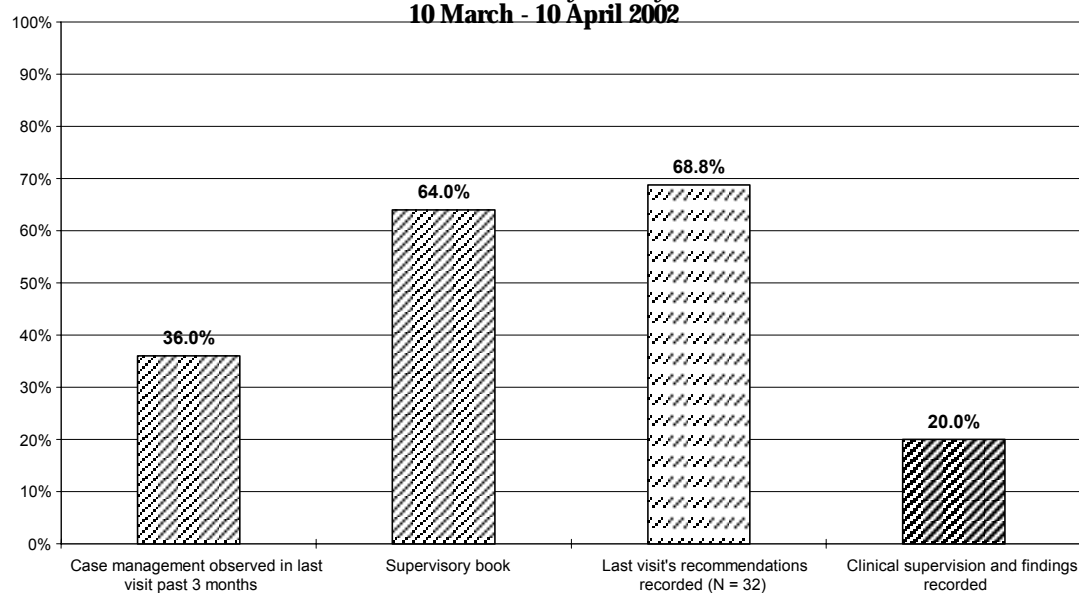
**QUALITY OF CARE: HEALTH SYSTEMS  
FACILITY SERVICES AND SUPERVISION**

Table A35. **Facility services and supervision**

Service	No. (%) n = 50
Clinical services available 7 days a week at the facility	49 (98%)
Facilities with a supervisory book	32 (64%)
a) Last supervisory visit in the past 3 months including observation of case management	18 (36%)
b) Last visit's recommendations recorded on the supervisory book	n = 32 22 (68.8%)
Facilities that received clinical supervision with findings recorded	10 (20%)
Time to go to the referral hospital:	
Median	15 minutes
Maximum	50 minutes

Fig. A27

**Supervision in the 50 facilities visited**  
**IMCI Health facility survey, Egypt**  
**10 March - 10 April 2002**



**QUALITY OF CARE: HEALTH SYSTEMS  
RECORDS**

Table A36. **Review of records for the month of January 2002: percentage of all (sick) outpatient visits which were for children below five years old**

Facility type	Outpatients under fives No.	Outpatients all ages No.	Percentage of all outpatient visits done by under fives
Hospital	3292	19400	17.0%
Urban health centres	5846	16780	34.8%
Rural health facilities	8567	33704	25.4%
Total	17705	69884	25.3%

Table A37. **Review of records for the month of January 2002: percentage of all (sick) outpatient visits in under fives done by female children**

Facility type	Outpatients under fives - female No.	Outpatients under fives both genders No.	Percentage of all outpatient under five visits done by females
Hospital	1382	2546	54.3%
Urban health centres	2992	5846	51.2%
Rural health facilities	3932	8427	46.6%
Total	8306	16819	49.4%

Table A38. **Review of records for the month of January 2002: percentage of all "well baby / immunization" visits in under fives done by female children**

Facility type	Well child/immunization (under fives) - female No.	Well child/immunization visits both genders No.	Percentage of all well child/immunization visits (under five) done by females
Hospital	0 <sup>1</sup>	0 <sup>1</sup>	-
Urban health centres	1831	3581	51.1%
Rural health facilities	5372	11053	48.6 %
Total	7203	14634	49.2%

<sup>1</sup> Hospitals provide no well child consultation and immunization services

Table A39. **Review of records for the month of January 2002: percentage of all (sick) outpatients visits in under fives done by children less than two months old**

<b>Facility type</b>	<b>Outpatient visits - children less than two months old No.</b>	<b>Outpatient visits-Under fives No.</b>	<b>Percentage of all outpatient under five visits done by children less than two months old</b>
Hospital	297	3292	9.0%
Urban health centres	498	5846	8.5%
Rural health facilities	426	7180	5.9%
<b>Total</b>	<b>1221</b>	<b>16318</b>	<b>7.5%</b>

Table A40. **Review of records for the month of January 2002: percentage of outpatient sick and well baby visits in under fives done for well child or immunization services**

<b>Facility type</b>	<b>Well child and immunization visits (under fives) No.</b>	<b>Outpatient sick and well child/immunization visits (under fives) No.</b>	<b>Percentage of all under five outpatient sick and well visits done for well child or immunization services</b>
Hospital	0 <sup>1</sup>	1389	0% <sup>1</sup>
Urban health centres	3581	9427	38.0%
Rural health facilities	11053	19620	56.3%
<b>Total</b>	<b>14634</b>	<b>30436</b>	<b>48.1%</b>

<sup>1</sup> Hospitals provide no well child consultation and immunization services

**APPENDIX**  
**SURVEY FORMS**

**Enrolment Card**

Date: \_\_\_\_/\_\_\_\_/2002

Facility Name: \_\_\_\_\_ Facility type: [1]HOSP [2]UHC [3]RHF Facility code: |\_|\_|

Child's Name: \_\_\_\_\_ Child's ID: |\_|\_| **Questionnaire #** |\_|\_|\_|\_|  
HF code | Child ID

Child's birthdate: |\_|\_|/|\_|\_|/|\_|\_|\_|\_| Age (months): |\_|\_| Child sex: [1] M [2] F

EC1. Include *only* children 2 months up to 5 years, i.e. born after \_\_\_\_ March 1997 and before \_\_\_\_ January 2002.  
(today's date) (today's date)EC2. Ask caretaker whether this is the first (initial) visit for this illness of the child at this facility. **DO NOT INCLUDE** follow-up visits for the same episode of illness. 1<sup>st</sup> visit?: [1] Yes [2] No → ⊙ STOP hereEC3. Ask reasons for bringing child to health facility and tick ✓ all signs mentioned (then probe, asking: '*Any other problems?*'). Enrol only children who have at least one of the signs listed from (A) to (I):

- (A) Diarrhoea (B) Vomiting (C) Fever (D) Cough  
 (E) Fast/difficult breathing/ pneumonia (F) Noisy breathing (G) Throat problem  
 (H) Ear problem (I) Unable to drink, breastfeed/convulsions/lethargic, unconscious  
 (J) Other: *specify* \_\_\_\_\_

Read statement on this survey to caretaker and ask for her/his consent: [1] Consent given [2] Consent not given  
(supervisor initials: \_\_\_\_)**Weight:** |\_|\_|. |\_|\_| **Form 1:** Observation [ ] **Form 2:** Caretaker interview [ ] **Form 3:** Re-examination [ ]

**Form 1. OBSERVATION CHECKLIST—CHILD (2 months - 5 years)**

District: \_\_\_\_\_ Surveyor ID: |\_\_| |\_\_| Date: \_\_\_/\_\_\_/ 2002

Facility: Name \_\_\_\_\_ Code: |\_\_| |\_\_| Type: [1] HOSP [2] UHC [3] RHF

Health provider: Name \_\_\_\_\_ ID: |\_\_| |\_\_| Sex: [1] M [2] F

When trained in IMCI: |\_\_| |\_\_| |\_\_| |\_\_|  
Month || Year

Child: Name \_\_\_\_\_ ID: |\_\_| |\_\_| Sex: [1] M [2] F

Birth date: \_\_\_/\_\_\_/\_\_\_ Age (months): |\_\_| |\_\_|

**ASSESSMENT MODULE** (*Record what you hear or see*)

➤ **WEIGHT**

**A1. Does the health provider, or another staff, weigh the child today?**

[1] Yes [2] No ➔ *Skip to question # A4* [8] don't know ➔ *Skip to question # A4*

🔔 *If YES (weight taken):*

☞ **A1a. Who has taken the weight?.....** [1] Physician [2] Nurse

☞ **A1b. Is the weight taken correctly?**

[1] Yes [2] No [8] don't know

☞ **A1c. Is the weight recorded?**

[1] Yes [2] No

*Record the weight, if taken, on the enrolment card*

➤ **TEMPERATURE**

**A4. Does the health provider, or another staff, check the axillary temperature of the child today (with thermometer)?**

[1] Yes [2] No ➔ *Skip to question # A6* [8] don't know ➔ *Skip to question # A6*

🔔 *If YES (temperature taken):*

☞ **A4a. Who has taken the temperature?.....** [1] Physician [2] Nurse

☞ **A4b. Is the temperature taken correctly?**

[1] Yes [2] No [8] don't know

➤ **DANGER SIGNS**

**A6. Does health provider ask *and* correctly check whether the child is able to drink or breastfeed?**

[1] Yes [2] No

**A7. Does health provider ask *and* correctly check whether the child vomits everything?**

[1] Yes [2] No

**A8. Does health provider ask *and* correctly check whether the child has convulsions (related to this episode of illness)?** *[If child is convulsing now, tick "Yes"]*

[1] Yes [2] No

**A9. Is the child visibly awake (e.g., playing, smiling, crying with energy)?**

[1] Yes → Skip to question # A11 [2] No

☞ A10. 🚫 *If child NOT visibly awake: does health provider check for lethargy or unconsciousness (try to wake up the child)?*

[1] Yes [2] No

**A11. Does health provider ask for COUGH or DIFFICULT BREATHING?**

[1] Yes [2] No → Skip to question # A12

☞ A11a. 🚫 *If YES: Does the child have cough or difficult breathing?*

[1] Yes [2] No → Skip to question # A12 [8] don't know → Skip to question # A12

*If child has cough or difficult breathing:*

☞ A11b. Does the health provider count the respiratory rate?

[1] Yes [2] No → Skip to question # A12

☞ *If rate counted: A11c. Respiratory rate counted correctly?* [1] Yes [2] No

☞ A11d. Write the respiratory rate/min counted by the health provider: |\_|\_|

**A12. Does health provider ask for DIARRHOEA?**

[1] Yes [2] No → Skip to question # A120

☞ A12a. 🚫 *If YES: Does the child have diarrhoea?*

[1] Yes [2] No → Skip to question # A120 [8] don't know → Skip to question #A120

*If child has diarrhoea:*

☞ A12b. Does the health provider offer the child something to drink or observe breastfeeding?

[1] Yes [2] No

☞ A12c. Does the health provider pinch the abdomen skin?

[1] Yes [2] No → Skip to question # A120

☞ A12d. 🚫 *If YES: Does the health provider pinch the skin correctly?*

[1] Yes [2] No

**A120. Does health provider check the child's THROAT?**

[1] Yes [2] No

**A120a. Does health provider check the child's lymph nodes on the front of the neck?**

[1] Yes [2] No

**A121. Does health provider ask if the child has an EAR PROBLEM?**

[1] Yes [2] No → Skip to question # A13

☞ **A121a.** 🦻 If YES: Does the child have an ear problem?

[1] Yes [2] No → Skip to question # A13 [8] don't know → Skip to question # A13

If child has an ear problem:

☞ **A121b. Does health provider look at both ears of the child?**

[1] Yes [2] No

☞ **A121c. Does health provider look for tender swelling behind the child's ear?**

[1] Yes [2] No

**A13. Does health provider ask for FEVER (or refer to temperature if taken previously)?**

[1] Yes [2] No → Skip to question # A14

☞ **A13a.** 🦺 If YES: Does the child have fever ( $\geq 37.5^{\circ}\text{C}$  axillary temperature) or history of fever?

[1] Yes [2] No → Skip to question # A14 [8] don't know → Skip to question # A14

If child has fever:

☞ **A13b. Does health provider ask if child had MEASLES within the last 3 months?**

[1] Yes [2] No

**A14. Does health provider check for visible severe WASTING?**

[1] Yes [2] No [8] don't know

**A15a. Does health provider look for PALMAR PALLOR?**

[1] Yes [2] No [8] don't know

**A15b. Does health provider look for MUCOUS MEMBRANE PALLOR?**

[1] Yes [2] No [8] don't know


**A16. Does health provider look for OEDEMA of both feet?**

[1] Yes [2] No [8] don't know

**A17. Does health provider check child's WEIGHT against a growth chart?**

[1] Yes [2] No → Skip to question # A18a



 *If YES (weight plotted):*

 **A17a. Who has checked the weight against a growth chart?**  
 [1] Physician [2] Nurse [3] Both

**A18a. Does health provider ask for the child’s health or VACCINATION CARD?**


[1] Yes [2] No → *Skip to question # A20*

**A19. Does the caretaker have the child’s health or vaccination card?**

[1] Yes [2] No → *Skip to question # A20*

**A19a. Does health provider check the child’s health or vaccination card?**

[1] Yes → *Skip to question # A21* [2] No

 **A20. If caretaker does NOT have the vaccination card or health provider does not check it: Does health provider try to find out from the caretaker whether the child has ever received:**

- a. An injection in the left shoulder against tuberculosis (BCG)? ... a. [1] Yes [2] No
- b. Drops against polio? ..... b. [1] Yes [2] No
- c. An injection against DPT (left thigh)? ..... c. [1] Yes [2] No
- c1. An injection against HB (right thigh)? ..... c1. [1] Yes [2] No
- d. An injection in the right arm against measles.? ..... d. [1] Yes [2] No [3] NA
- d1. An injection in the right arm against MMR? ..... d1. [1] Yes [2] No [3] NA
- e. Vitamin A blue capsule with nipple? ..... e. [1] Yes [2] No [3] NA

**A21. Does health provider ask about breastfeeding?**

[1] Yes [2] No

**A22. Does health provider ask whether the child takes any other foods/fluids?**

[1] Yes [2] No

**A23. Does health provider ask whether feeding changed during illness?**

[1] Yes [2] No

**A23a. Who has asked these questions on feeding?** [1] Physician [2] Nurse [3] Both [4] None

**A24. Does health provider ask whether the child has “OTHER PROBLEMS”?**

[1] Yes [2] No

**CLASSIFICATION MODULE**

**C1. Does health provider give one or more classifications for the child?**

- [1] Yes
- [2] No

→ Probe: Ask what his/her conclusions are about the child. If health provider does not know, skip to Treatment Module

Record all classifications given in the table below:

To be completed by supervisor:

	YES	NO
C05. Very severe disease .....	[1]	[2]
C10. Severe pneumonia/very severe disease	[1]	[2]
C11. Pneumonia .....	[1]	[2]
C12. No pneumonia (cough or cold) .....	[1]	[2]
C20. a Severe dehydration .....	[1]	[2]
b Some dehydration .....	[1]	[2]
c No dehydration .....	[1]	[2]
C21. Severe persistent diarrhoea .....	[1]	[2]
C22. Persistent diarrhoea .....	[1]	[2]
C23. Dysentery .....	[1]	[2]
C24. Streptococcal sore throat .....	[1]	[2]
C25. Non-streptococcal sore throat .....	[1]	[2]
C26. No throat problem .....	[1]	[2]
C30. Very severe febrile disease .....	[1]	[2]
C31. Fever – possible bacterial infection .....	[1]	[2]
C32. Fever – bacterial infection unlikely .....	[1]	[2]
C34. Severe complicated measles .....	[1]	[2]
C35. Measles with eye/mouth complications	[1]	[2]
C36. Measles .....	[1]	[2]
C40. Mastoiditis .....	[1]	[2]
C41. Acute ear infection .....	[1]	[2]
C42. Chronic ear infection .....	[1]	[2]
C43. No ear infection .....	[1]	[2]
C50. a Severe malnutrition .....	[1]	[2]
b Severe anaemia .....	[1]	[2]
C51. a Anaemia .....	[1]	[2]
b Low weight .....	[1]	[2]
C52. A. No anaemia .....	[1]	[2]
b. Not low weight.....	[1]	[2]
C60. Other (specify).....	[1]	[2]
C61. Other (specify).....	[1]	[2]

Based on the re-examination of the child (Form 3), tick surveyor classifications:

(105) Very severe disease

(110) Severe pneumonia/ Very sev. Disease

(111) Pneumonia

(112) No pneumonia (cough or cold)

(120) (a) Severe dehydration

      (b) Some dehydration

      (c) No dehydration

(121) Severe persistent diarrhoea

(122) Persistent diarrhoea

(123) Dysentery

(124) Streptococcal sore throat

(125) Non-streptococcal sore throat

(126) No throat problem

(130) Very severe febrile disease

(131). Fever – possible bacterial infection

(132) Fever – bacterial infection unlikely

(134) Severe complicated measles

(135) Measles with eye/mouth complication

(136) Measles

(140) Mastoiditis

(141) Acute ear infection

(142) Chronic ear infection

(143) No ear infection

(150) a Severe malnutrition

      b Severe anaemia

(151) a Anaemia

      b Low weight

(152) a No anaemia

      b Not low weight

(160) Other (specify).....

(161) Other (specify).....

(165) Follow-up visit required in \_\_\_\_days  
[if not required, enter 0]

NOTE: NUMBERS ABOVE ARE INTENTIONALLY NOT CONSECUTIVE.

TREATMENT MODULE

<b>Supervisor</b>	
<i>Correct?</i>	
[1] YES [2] NO	
<input type="checkbox"/> T1a1	<input type="checkbox"/>
<input type="checkbox"/> T2b1	<input type="checkbox"/>
<input type="checkbox"/> T2c1	<input type="checkbox"/>

T1. Does health provider administer or prescribe injection(s)?

[1] Yes [2] No → Skip to question # T3

☞ T2. If YES: Record all injections given:

b. Antibiotic: [1] Yes – bs. specify \_\_\_\_\_ [2] No

c. Other injection: [1] Yes – cs. specify \_\_\_\_\_ [2] No

T3. Does the health provider prescribe or give ORS sachets?

[1] Yes [2] No → Skip to question # T5

☞ T4. If YES: Does health provider actually administer ORS – solution - to the child at the facility?

[1] Yes [2] No [8] don't know

T5. Does the health provider advise immediate referral for the child?

[1] Yes [2] No → Skip to question # T6

If YES (health provider advises immediate referral):

☞ T5b. Does the health provider explain to the caretaker the reasons for referral?

[1] Yes [2] No

☞ T5a. Does the caretaker accept referral for the child?

[1] Yes →   
 ▶ If health provider gives any oral treatment to the child before referral, record the oral treatment given in question T7, then go to question CM12 at the end of the questionnaire.

▶ If no oral treatment is administered to the child before referral, go to question CM12 at the end of the questionnaire

[2] No

T6. Does the health provider administer or prescribe oral treatment?

[1] Yes [2] No → Skip to Communication Module, question # CM5

☞ T7. IF YES: Record all oral treatment given:

a. Antidiarrheal/antimotility ..... a.[1] Yes [2] No

b. Metronidazole syrup ..... b.[1] Yes [2] No

e. Paracetamol ..... e.[1] Yes [2] No

f. Recommended\* **antibiotic** tablets/syrup ..... f. [1] Yes [2] No  
 (\*: amoxicillin, cotrimoxazole, erythromycin, nalidixic acid)

g. Other **antibiotic** syrup .....g. [1] Yes [2] No

g1. Salbutamol syrup .....g1.[1] Yes [2] No

h. Vitamin A ..... h.[1] Yes [2] No

i. Multi-vitamins ..... i. [1] Yes [2] No

j. Other vitamins ..... j. [1] Yes [2] No

k. Mebendazole ..... k.[1] Yes [2] No

l. Iron syrup ..... l. [1] Yes [2] No

n. Others [1] Yes – n1. specify: \_\_\_\_\_ [2] No

T8. Is an oral antibiotic given or prescribed by the health provider? (see # T7)

[1] Yes [2] No → Skip next question and go to Communication Module

T9. IF YES (i.e. an oral antibiotic is given or prescribed): **Record what the health provider says:**

<u>First antibiotic</u>		<u>Second antibiotic:</u>
a. Name: _____ b. Formulation: _____ c. Amount each time: _____ d. Number of times per day: _____ e. Total days: _____	<b>Supervisor</b> Correct? [1] YES [2] NO  <input type="checkbox"/> T9c1 <input type="checkbox"/>  <input type="checkbox"/> T9d1 <input type="checkbox"/>  <input type="checkbox"/> T9e1 <input type="checkbox"/>	f. Name: _____ g. Formulation: _____ h. Amount each time: _____ i. Number of times per day: _____ j. Total days: _____
		<b>Supervisor</b> Correct? [1] YES [2] NO  <input type="checkbox"/> T9h1 <input type="checkbox"/>  <input type="checkbox"/> T9i1 <input type="checkbox"/>  <input type="checkbox"/> T9j1 <input type="checkbox"/>

**FORM 1: SUPERVISOR CODING**

	Information needed	Where to find data	Codes		
A	If antibiotics were prescribed, is there a non-IMCI reason that justifies the antibiotic treatment? [e.g., skin infection, urinary tract infection]	Based on re-examination (Form 1, page 5, questions 160 and 161)	[1] Yes	[2] No	[8] NA <i>(no AB)</i>
B	If oral antibiotics were prescribed (whatever the reason) were they prescribed correctly?	YES in T8 and CORRECT for T9c1, d1 and e1 (and T9h1, i1 and j1 if 2 antibiotics)	[1] Yes	[2] No	[8] NA <i>(no AB)</i>
D	If the child was referred (whatever the reason) did the child receive an appropriate pre-referral antibiotic treatment?	YES in T5a and CORRECT (appropriate pre-referral treatment) for T1a1 and T2b1	[1] Yes	[2] No	[8] NA <i>(child not referred)</i>

**Communication Module**

*In some settings, tasks are shared and the drug dispenser counsels the caretaker on the treatment given and also administers the first dose. The child should then be followed to the drug dispenser to complete the observation.*

- ▶ If NO oral antibiotic or ORS is prescribed or given (T3=No, T6=No or T7=No), skip to question # CM5.

**CM1. Does the health provider explain how to administer oral treatment?**

- a. Antibiotic ..... a. [1] Yes [2] No  
c. ORS ..... c. [1] Yes [2] No

**CM2. Does the health provider demonstrate how to administer the oral treatment?**

- a. Antibiotic ..... a. [1] Yes [2] No  
c. ORS ..... c. [1] Yes [2] No

**CM3. Does the health provider ask an open-ended question to check if the caretaker understands how to administer the oral treatment?**

- a. Antibiotic ..... a. [1] Yes [2] No  
c. ORS ..... c. [1] Yes [2] No

**CM4. Does the health provider give or ask the mother to give the first dose of the oral drug at the facility?**

- a. Antibiotic ..... a. [1] Yes [2] No

**CM4x. Who has provided this advice on oral treatment? [1] Physician [2] Nurse****CM5. Does the health provider advise *and* explain when to return for a ('definite') follow-up visit?**

- [1] Yes [2] No → Skip to question # CM7

☞ **CM6. If YES: In how many days does the health provider advise the caretaker to come back?**

- [1] Two days [2] Five days [3] 14 days [4] 30 days [5] Other: \_\_\_\_\_ days

**CM7. Does the health provider explain the need to give more to drink (liquid or breastmilk) at home?**

- [1] Yes [2] No

**CM8. Does the health provider explain the need to continue feeding or breastfeeding at home?**

- [1] Yes [2] No

**CM9. Does the health provider advise on the frequency (no. of times) of feeding and/or breastfeeding?**

- [1] Yes [2] No → Skip to question # CM10

🔊 If YES (health provider advises how many times to feed and/or breastfeed the child):

☞ **CM9a. How many times/24 hours did the health provider advise to feed the child?**

|\_|\_| times per 24 hours (Write 0 if nothing is mentioned about food and 77 if advice is "as much as the child wants")

☞ **CM9b. How many times/24 hours did the health provider advise to breastfeed the child?**

|\_|\_| times per 24 hours (Write 0 if nothing is mentioned about breastfeeding and 77 if advice is "as much as the child wants")

☞ **CM9c. Who has provided this advice on feeding and/or breastfeeding?**

- [1] Physician [2] Nurse [3] Both

**CM10. Does the health provider tell the caretaker to bring the child back immediately for the following signs? Tick all that apply.**

- a. Child is not able to drink or breastfeed .....a. [1] Yes [2] No
- b. Child becomes sicker .....b. [1] Yes [2] No
- c. Child develops a fever .....c. [1] Yes [2] No
- d. Child develops fast breathing .....d. [1] Yes [2] No
- e. Child develops difficult breathing .....e. [1] Yes [2] No
- f. Child develops blood in the stool .....f. [1] Yes [2] No
- g. Child drinks poorly .....g. [1] Yes [2] No
- h. Other, specify \_\_\_\_\_ h. [1] Yes [2] No

**CM10x. Who has provided this advice on when to bring the child back?**

- [1] Physician [2] Nurse [3] Both [4] None

**CM11. Did the health provider ask at least one question about the mother’s health (ask about her own health, access to family planning or vaccination status)?**

- [1] Yes [2] No [8] NA (Not Applicable if caretaker is not the child’s mother)

**CM12. Did the health provider use the IMCI chart booklet at any time during the management of the child?**

- [1] Yes [2] No [8] don’t know

**ⓘ NOW: CHECK THE FORM AND MAKE SURE IT IS COMPLETE!**

**END OF OBSERVATION**

*The surveyor may need to ask the health provider about the classification made and the treatment given during the consultation, but only if these two components were not stated during the consultation. The surveyor must complete this form before the next child observation.*

**SUPERVISOR: Complete coding for Form 1 (drug treatment)**

**Form 2: EXIT INTERVIEW—CARETAKER OF CHILD  
(2 months-5 years)**

District: \_\_\_\_\_ Surveyor ID: |\_\_| | Date: \_\_\_/\_\_\_/ 2002

Facility: Name \_\_\_\_\_ Code: |\_\_| | Type: [1] HOSP [2] UHC [3] RHF

Child: Name \_\_\_\_\_ ID: |\_\_| | Sex: [1] M [2] F

Birth date: \_\_\_/\_\_\_/\_\_\_ Age (months): |\_\_| |

Caretaker: Sex: [1] M [2] F

Relationship to child: [1] Mother [4] Father [2] Other relative [3] Other:

\_\_\_\_\_ (e.g.: neighbour)

**1. How satisfied are you with the care provided to children in this facility?** *Read all options to the caretaker.*


[1] Very satisfied [2] Satisfied [3] Unsatisfied [8] don't know → Skip to question # 3

**1b. Why?** *Tick all reasons that apply. Do not prompt (do not read options).*

- [1] Time health provider spent with child
- [2] I was given a chance to ask questions
- [3] Way the health provider examined the child
- [4] Treatment given (or not given)
- [5] What I learnt from the health provider
- [6] Other \_\_\_\_\_
- [8] Don't know

**3. Did the health provider give you or prescribe any oral medicines for <CHILD's NAME> at the health facility today?**

[1] Yes [2] No → Skip to question # 16 [8] don't know → Skip to question # 16

 *If YES, ask the caretaker to show you the prescription or the medicines. Look at the prescription or the actual medicines and record:*


 **4. ► if oral antibiotics are included**

- [1] Yes (antibiotics included)
- [2] No (no antibiotic included) → Skip to question # 16


 **► Record name and formulation of the antibiotic:**

**4a.** Name: \_\_\_\_\_

**4b.** Formulation: \_\_\_\_\_

*Then ask the caretaker the following questions about the antibiotic ( record only what the caretaker says, not what is written on the prescription):*

 **5. How much of this medicine will you give to <NAME> each time?** \_\_\_\_\_

 **6. How many times will you give it to <NAME> each day?** |\_\_| | times

 **7. For how many days will you give it to <NAME> ?** |\_\_| | days

**Supervisor: Correct?**

[1]=YES [2]=NO

5S1

6S1

7S1

- ☞ **7o. If <NAME> gets better before then, what will you do with the medicine?**
  - [1] Will stop the medicine
  - [2] Will continue the medicine, but will reduce the dose
  - [3] Will continue the medicine as prescribed
  - [4] Other (*specify*: \_\_\_\_\_)
  - [8] Don't know

- ☞ **7x. ► Record whether a second antibiotic is included:**
  - [1] Yes (a second antibiotic is included)
  - [2] No (no, only one antibiotic is included) → *Skip to question # 16*

☞ ► **Record name and formulation of second antibiotic:**

**7a.** Name: \_\_\_\_\_

**7b.** Formulation: \_\_\_\_\_

*Then ask the caretaker the following questions about the second antibiotic (record only what the caretaker says, not what is written on the prescription):*

**Supervisor: Correct?**

[1]=YES [2]=NO

- ☞ **7c. How much of the medicine will you give to <NAME> each time? \_\_\_\_\_**

7cS1

- ☞ **7d. How many times will you give it to <NAME> each day?          times**

7dS1

- ☞ **7e. For how many days will you give it to <NAME> ?          days**

7eS1

**16. ► Record whether ORS prescribed or given:**

- [1] Yes (ORS prescribed or given)
- [2] No (no ORS prescribed or given) → *Skip to question # 19a*

🔊 *If YES (ORS prescribed or given):*

**Supervisor: Correct?**

[1]=YES [2]=NO

- ☞ **17. How much water will you mix with one ORS packet? \_\_\_\_\_**

17S1

- ☞ **18. When will you give ORS to <NAME> each day? \_\_\_\_\_**

18S1

- ☞ **19. How much ORS will you give to <NAME> each time? \_\_\_\_\_**

19S1

**19a. Now that <NAME> is unwell:**

**Will you give him/her more, *about the same* or *less* fluids - including breastmilk - to drink?**

- [1] More      [2] About the same      [3] Less      [8] don't know

**19b. And will you give him/her more, *about the same* or *less* food - including breastmilk -?**

- [1] More      [2] About the same      [3] Less      [8] don't know

**19c. ASK THIS QUESTION IF CHILD IS LESS THAN 24 MONTHS OLD (if not, skip to question # 19d):**

**How many times/24 hours did the health provider advise you to breastfeed <NAME>?**

- [1] 8 times or more
- [2] As much as the child wants
- [3] Other (*specify*: \_\_\_\_\_)
- [8] Did not tell me or don't know



19d. How many times/24 hours did health provider advise you to feed <NAME>?

- [1] 1-2 times
- [2] 3 times
- [3] 5 times
- [4] Other (specify: \_\_\_\_\_)
- [8] Did not tell me or don't know

20. Did the health provider tell you to bring <NAME> back to this facility on a specific day?

- [1] Yes
- [2] No → Skip to question # 21
- [8] don't know → Skip to question # 21

☞ 20a. 🚨 If YES: In how many days should you bring <NAME> back? |\_\_|\_\_| days

21. Sometimes children who are sick should be taken right away to a health facility: What symptoms would worry you that would make you take your child to a health facility right away? Do not prompt - keep asking for more signs/symptoms until the caretaker cannot recall any additional ones.

- a. Child not able to drink or breastfeed.....a [1] Mentioned [2] Not mentioned
- b. Child becomes sicker .....b [1] Mentioned [2] Not mentioned
- c. Child develops a fever .....c [1] Mentioned [2] Not mentioned
- d. Child has fast breathing .....d [1] Mentioned [2] Not mentioned
- e. Child has difficult breathing/pneumonia ....e [1] Mentioned [2] Not mentioned
- f. Child has blood in the stools .....f [1] Mentioned [2] Not mentioned
- g. Child is drinking poorly .....g [1] Mentioned [2] Not mentioned
- h. Other (specify): \_\_\_\_\_
- i. Other (specify): \_\_\_\_\_
- j. Other (specify): \_\_\_\_\_

23. Did you receive or were you shown this card today? Show mother's IMCI counselling card.

- [1] Yes
- [2] No
- [8] don't know

**📌 NOW: CHECK THE FORM AND MAKE SURE IT IS COMPLETE!**

END OF EXIT INTERVIEW

*Thank the caretaker for answering your questions and ask if he/she has any questions. Be sure that the caretaker knows how to prepare ORS for a child with diarrhoea, when to return for vaccination, how to give the prescribed medications, and when to return if the child becomes worse at home.*

**SUPERVISOR: Complete coding for Form 2  
(oral drugs and ORS)**

**ASSESS** (Circle all signs present )

**CLASSIFY** (Tick all relevant classifications)

<p><b>DOES THE CHILD HAVE ANY GENERAL DANGER SIGN? Yes___ No___</b></p> <p>NOT ABLE TO DRINK OR BREASTFEED          VOMITS EVERYTHING          HISTORY OF CONVULSIONS          LETHARGIC OR UNCONSCIOUS          CONVULSING NOW</p> <p><b>DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes___ No___</b></p> <p>•For how long? ___ Days          • =&gt; <b>Count the breaths in one minute.</b>      ___ breaths per minute. <b>Fast breathing?</b>          •Look for chest indrawing.          •Look and listen for stridor.          •Look and listen for wheeze.</p>	<p>[ ] 305 VERY SEVERE DISEASE</p> <p>[ ] 310 SEVERE PNEUMONIA/VERY SEVERE DISEASE</p> <p>[ ] 311 PNEUMONIA</p> <p>[ ] 312 NO PNEUMONIA (Cough or cold)</p>
<p><b>DOES THE CHILD HAVE DIARRHOEA? Yes___ No___</b></p> <p>For how long? ___ Days</p> <p>• Is there blood in the stools?          • Look at the child's general condition. Is the child:              Lethargic or unconscious?              Restless and irritable?          •Look for sunken eyes.          •Offer the child fluid. Is the child:              Not able to drink or drinking poorly?              Drinking eagerly, thirsty?          •Pinch the skin of the abdomen. Does it go back:              Very slowly (longer than 2 seconds)?              Slowly?</p> <p><b>CHECK FOR THROAT PROBLEM</b></p> <p>• Does the child have fever? (by history or feels hot/temperature 37.5°C or above)          • Does the child have sore throat?          • Feel enlarged tender lymph node on the front of the neck          • Look for red (congested) throat          • Look for white or yellow exudate on the throat and tonsils</p> <p><b>DOES THE CHILD HAVE AN EAR PROBLEM? Yes___ No___</b></p> <p>•Is there agonizing ear pain?          •Is there ear discharge?              If Yes, for how long? ___ Days          • Look for pus draining from the ear.          • Feel for tender swelling behind the ear.</p>	<p>[ ] 320 a. SEVERE DEHYDRATION              b. SOME DEHYDRATION              c. NO DEHYDRATION</p> <p>[ ] 321 SEVERE PERSISTENT DIARRHOEA</p> <p>[ ] 322 PERSISTENT DIARRHOEA</p> <p>[ ] 323 DYSENTERY</p> <p>[ ] 324 STREPTOCOCCAL SORE THROAT</p> <p>[ ] 325 NON-STREPTOCOCCAL</p> <p>[ ] 326 NO THROAT PROBLEM</p> <p>[ ] 340 MASTOIDITIS</p> <p>[ ] 341 ACUTE EAR INFECTION</p> <p>[ ] 342 CHRONIC EAR INFECTION</p> <p>[ ] 343 NO EAR INFECTION</p>

**ASSESS** (Circle all signs present)

**CLASSIFY** (Tick all relevant classifications)

**DOES THE CHILD HAVE FEVER?** Yes \_\_\_ No \_\_\_  
(by history or feels hot/temperature 37.5°C or above)

- For how long? \_\_\_ Days
- If more than 5 days, has fever been present every day?
- Has child had measles within the last three months?
  - Look or feel for stiff neck.

Look for signs of MEASLES:

- Generalized rash **and**
  - One of these: cough, runny nose, or red eyes.

- 330 VERY SEVERE FEBRILE DISEASE
- 331 FEVER – POSSIBLE BACTERIAL INFECTION
- 332 FEVER – BACTERIAL INFECTION UNLIKELY

**If the child has measles now or within the last 3 months:**

- Look for mouth ulcers.  
If Yes, are they deep and extensive?
- Look for pus draining from the eye.  
Look for clouding of the cornea.

- 334 SEVERE COMPLICATED MEASLES
- 335 MEASLES WITH EYE/MOUTH COMPLICATION
- 336 MEASLES

**CHECK FOR MALNUTRITION AND ANEMIA**

- Look for palmar and mucous membrane pallor.  
Severe palmar and / or mucous membrane pallor?  
Some palmar and / or mucous membrane pallor?
- Look for visible severe wasting.
- Look for oedema of both feet.
  - Determine weight for age: Low \_\_\_ Not Low \_\_\_

- 350 b. SEVERE MALNUTRITION
- a. SEVERE ANAEMIA
- 351 b. LOW WEIGHT
- a. ANAEMIA
- 352 b. NOT LOW WEIGHT
- a. NO ANAEMIA

**CHECK THE CHILD'S IMMUNIZATION AND VITAMIN A SUPPLEMENTATION STATUS.**

(Circle immunizations and vitamin A needed today).

Before 3 months: **BCG** \_\_\_\_\_

2 months: **OPV1** \_\_\_\_\_ **DPT1** \_\_\_\_\_ **HBV1** \_\_\_\_\_

4 months: **OPV2** \_\_\_\_\_ **DPT2** \_\_\_\_\_ **HBV2** \_\_\_\_\_

6 months: **OPV3** \_\_\_\_\_ **DPT3** \_\_\_\_\_ **HBV3** \_\_\_\_\_

9 months: **OPV4** \_\_\_\_\_ **Measles** \_\_\_\_\_ **Vitamin A (1st dose)** \_\_\_\_\_

18 months: **OPV Booster** \_\_\_\_\_ **DPT Booster** \_\_\_\_\_ **MMR9 months:** \_\_\_\_\_ **Vitamin A (2nd dose)** \_\_\_\_\_

**ASSESS CHILD'S FEEDING if child has ANAEMIA OR LOW WEIGHT or is less than 2 years old.**

- Do you breastfeed your child? Yes \_\_\_ No \_\_\_  
If Yes, how many times in 24 hours? \_\_\_\_\_ times.
- Do you breastfeed during the night? Yes \_\_\_ No \_\_\_
- Does the child take any other food or fluids? Yes \_\_\_ No \_\_\_  
If Yes, what food or fluids? \_\_\_\_\_  
How many times per day? \_\_\_\_\_ times.
- What do you use to feed the child? \_\_\_\_\_
- If low weight for age: How large are servings? \_\_\_\_\_
- Does the child receive his own serving? \_\_\_\_\_
- Who feeds the child and how? \_\_\_\_\_
- During the illness, has the child's feeding changed? Yes \_\_\_ No \_\_\_  
If Yes, how? \_\_\_\_\_

- FEEDING PROBLEMS
1. Is child breastfed? [1]Yes [2]No → If NO skip to question 3  
According to child age, based on national IMCI feeding recommendations:
  2. Is breastfeeding frequency as recommended? [1]Yes [2]No
  3. Is other feeding frequency as recommended? [1]Yes [2]No [8]NA
  4. Is type of food given to child appropriate? [1]Yes [2]No [8]NA

NA = Not applicable if child exclusively breastfed

**ASSESS OTHER PROBLEMS:**

5. Return for follow-up in:   days (Enter 0 if no follow-up is needed)

- 360 OTHER (Specify: \_\_\_\_\_)
- 361 OTHER (Specify: \_\_\_\_\_)

**6. ► Record if the child needs Vitamin A today:**[1] Yes (Vitamin A needed) [2] No (not needed) → If *NO* skip to question # 9**7. 📢 IF YES, ASK THE CARETAKER:****Have you been told today that you need to take back <NAME> for measles or MMR immunization** (to receive Vitamin A)?

[1] Yes [2] No

**9. ► Record if child's health or vaccination card is available:**

[1] Yes (available) [2] No (not available)

**10. ► Record if child needs to receive any immunization today:**

[1] Yes (immunization needed)

[2] No (not needed) → If *NO*, ⊙ STOP here.*IF YES, ASK THE CARETAKER:***11. Did <NAME> receive a vaccination today or has the health provider referred <NAME> to the immunization room?**[1] Yes (vaccination received or child referred to immunization room) → ⊙ STOP here

[2] No (vaccination not given or child not referred)

**12. 📢 IF NO: Has the health provider told you to bring back <NAME> to receive a vaccination on another day?**

[1] Yes [2] No

**ⓘ SUPERVISOR: COPY CLASSIFICATIONS IN APPROPRIATE BOX ON FORM 1,  
PAGE 5**

**Form 4. EQUIPMENT AND SUPPLY CHECKLIST**

District: _____	Surveyor ID:  __ __	Date: ____/____/ 2002
Facility: Name _____	Code  __ __	Type: [1] HOSP [2] UHC [3] RHF

*Discuss with the head of facility to determine the number of health providers who usually have child case-management responsibilities:*

Table 1: Characteristics of health providers with case management responsibilities

Category	No. assigned to case management of children	No. managing children trained in IMCI	No. trained in IMCI present today
Physician			
Nurse			
Total			

*Ask a health provider to show you around the facility. Look and physically check items to complete the following questions. These questions are for you to answer, based on what you see and find.*

**EQUIPMENT AND SUPPLIES MODULE**

**E1. Does the facility have the following equipment and materials?**

- a. Accessible and working adult scale? ..... a. [1] Yes [2] No
- b. Accessible and working baby scale? ..... b. [1] Yes [2] No
- c. Working timing device? ..... C. [1] Yes [2] No
- d. Supplies to mix ORS, cups and spoons ..... d. [1] Yes [2] No
- e. Tap water ..... e. [1] Yes [2] No
- h. Mothers’ IMCI counselling cards for use by health provider?.....h.[1] Yes [2] No
- j. Mothers’ IMCI counselling cards for distribution to caretakers? j. [1] Yes [2] No
- i. IMCI chart booklet? .....i. [1] Yes [2] No
- l. Working nebuliser? .....l. [1] Yes [2] No
- m. Wooden tongue depressors? .....m. [1] Yes [2] No
- n. Thermometer?.....n. [1] Yes [2] No
- o. IMCI recording forms? .....o. [1] Yes [2] No
- p. IMCI daily register? .....p. [1] Yes [2] No
- k. Accessible\* means of transportation for patients requiring referral...k. [1] Yes [2] No

-----  
 \*Accessible here refers to transportation that is both physically accessible (e.g., distance) and economically accessible (= affordable) to most people living in the catchment area of this facility.

**E2. Does the facility have needles and syringes appropriate for vaccinations?**

- [1] Yes    [2] No → *Skip to question # E4a*    [8] Not applicable (facility does not provide vaccination) → *Skip to question # D1*

**E2a.  IF YES (appropriate needles): How do health providers use these needles?**

- [1] Single use  
[2] Multiple uses

**E4a. Does the facility have a functioning refrigerator?**

- [1] Yes    [2] No → *Skip to Availability of Drugs Module*

**E4b.  IF YES: Is there a working thermometer inside the refrigerator?**

- [1] Yes    [2] No → *Skip to question # E5*

**E4.  IF YES: Is the refrigerator's temperature between 2<sup>o</sup>C and 8<sup>o</sup>C at the time of visit?**

- [1] Yes    [2] No

**E5. Does the facility have ice packs and cold boxes?**

- [1] Yes    [2] No → *Skip to Availability of Drugs Module*

**E5a.  IF YES: Are ice packs frozen?**

- [1] Yes    [2] No

**AVAILABILITY OF DRUGS MODULE**

Check the drug stocks. Answer the following questions based on what you see.

**D1. Does the facility have the following drugs available at the time of the visit?**

- |   |    |         |        |
|---|----|---------|--------|
| a. <b>ORS</b> .....   | a. | [1] Yes | [2] No |
| b. <b>Amoxicillin</b> 80ml susp. (125mg or 250mg/5 ml) –<br>First line antibiotic for pneumonia:.....               | b. | [1] Yes | [2] No |
| c. <b>Cotrimoxazole</b> susp– Second line antibiotic for pneumonia<br>and First line antibiotic for dysentery:..... | c. | [1] Yes | [2] No |
| e. <b>Nalidixic acid</b> 500mg tab. - Second line antibiotic for dysentery: ....                                    | e. | [1] Yes | [2] No |
| h. <b>Vitamin A</b> blue caps with nipple (100,000 IU).....   | h. | [1] Yes | [2] No |
| i. <b>Iron</b> syrup 30mg/5ml or Drops 25mg/ml .....  | i. | [1] Yes | [2] No |
| j. <b>Paracetamol</b> syrup 120mg/5 ml .....  | j. | [1] Yes | [2] No |
| l. <b>Tetracycline eye ointment</b> .....   | l. | [1] Yes | [2] No |
| m. <b>Gentian violet</b> (0.5%) .....   | m. | [1] Yes | [2] No |
| n. <b>Salbutamol</b> solution or metered dose inhaler (MDI).....  | n. | [1] Yes | [2] No |
| o. <b>Salbutamol</b> syrup 2mg/5 ml.....  | o. | [1] Yes | [2] No |
| p. <b>Sodium Valproate</b> solution.....  | p. | [1] Yes | [2] No |

**D2. Does the facility have the following injectable drugs available at the time of the visit?**

- |  |     |         |        |
|--|-----|---------|--------|
| a. <b>Chloramphenicol IM</b> .....                                       | a.  | [1] Yes | [2] No |
| c. <b>Benzylpenicillin IM</b> .....                                      | c.  | [1] Yes | [2] No |
| d. <b>Gentamycin IM</b> .....  | d.  | [1] Yes | [2] No |
| e. Sterile water for injection .....                                     | e.  | [1] Yes | [2] No |
| f1. Polyvalent solution for severe dehydration .....                     | f1. | [1] Yes | [2] No |
| f2. PanSol or Ringer's Lactate Solution or saline for severe dehydration | f2. | [1] Yes | [2] No |
| g. <b>Benzathine penicillin</b> for streptococcal sore throat .....      | g.  | [1] Yes | [2] No |

**FACILITY SERVICES MODULE**

Ask the following questions to the health provider who has been observed during case management. If there are several health providers who have been observed managing cases in the same facility, discuss the following questions with all of them and try to reach a consensus for each question. Add comments on the back of the form if you have any problems.

**S1. How many days per week is the facility open (including emergency services)?** |\_\_| days/week

**S2. How many days per week are child health services provided?** |\_\_| days/week

**S5. How many times during the last three months did the facility receive a supervisory visit?** |\_\_|\_\_| times

→ If no visit in the last 3 months, enter 0 and skip to question S7a

☞ **S6. How many of these supervisory visits were follow-up after training to health providers who have been recently trained in IMCI?**  
|\_\_|\_\_| visits

ASK THE HEALTH PROVIDER/S QUESTION S7, BASED ON THE MOST RECENT SUPERVISORY VISIT THAT WAS NOT AN IMCI FOLLOW-UP VISIT AFTER TRAINING:

☞ **S7. Did the supervisor observe case management of a sick child the last time he/she visited the facility?**

[1] Yes      [2] No      [8] doesn't know

**S7a. Does the facility have a supervisory book?**

[1] Yes      [2] No → Skip to question # S9      [8] doesn't know → Skip to question # S9

☞ **S7b.  If YES: Does the record of the latest supervisory visit in the last three months in the book include also any recommendations to facility staff?**


[1] Yes      [2] No      [3] No record of visit found

**S9. How long does it take for the patient to get to the referral hospital using the most common\* local transport?** |\_\_|\_\_| hours |\_\_|\_\_| minutes

\*Common here refers to the means of transport commonly taken by and affordable to most people in this area

**S10. Have you ever wanted to refer a very severely ill child but been unable to do so?**

[1] Yes      [2] No → Skip to question # S11

☞ **S10a.  IF YES, Why?** \_\_\_\_\_  
\_\_\_\_\_

**S11. If you had to refer 10 children to the hospital, how many of them do you think will end up going to the hospital?** |\_\_|\_\_| children



**FACILITY RECORDS MODULE**

*Ask the health provider responsible for records to help you identify records for all visits to the health facility. Do not include inpatient records. Use these records to answer the questions below. If not enough information is available to answer a question, mark NI (not enough information).*

Note: The availability of records may vary by level of health facility. Procedures to be used for arriving at estimates of attendance should be determined in each site. These procedures must be practical!

➤ **CHECK THE RECORDS OF THE MONTH OF JANUARY 2002 AND FILL IN THE TABLE BELOW**

		<i><b>OUTPATIENT</b></i>		<i><b>Well child</b></i>
		<i><b>Insured</b></i>	<i><b>Uninsured</b></i>	<i><b>Immunization</b></i>
<b>R1.</b>	<b>What is the total number of visits to the health facility for OUTPATIENT services (ALL AGES) during the previous month?</b>	_ _ _ _	_ _ _ _	_ _ _ _
<b>R2.</b>	<b>How many of these visits were made by children from 0 up to 5 years old (under-five)?</b>	_ _ _ _	_ _ _ _	_ _ _ _
<b>R3.</b>	<b>How many of these under-five child visits were made by female children?</b>	_ _ _ _	_ _ _ _	_ _ _ _
<b>R4.</b>	<b>How many of these under-five visits were made by children between the ages of 0 to 2 months (under-two)?</b>	_ _ _ _	_ _ _ _	_ _ _ _

*Count total for each type of service. Children may visit more than one service during one visit to the facility.*