Toolkits for Strengthening Primary Health Care

January 2005

Prepared by:

PHRplus/Albania
Mission

Partners for Health Reformplus is USAID’s flagship project for health policy and health system strengthening in developing and transitional countries. The five-year project (2000-2005) builds on the predecessor Partnerships for Health Reform Project, continuing PHR’s focus on health policy, financing, and organization, with new emphasis on community participation, infectious disease surveillance, and information systems that support the management and delivery of appropriate health services. PHRplus will focus on the following results:

- Implementation of appropriate health system reform.
- Generation of new financing for health care, as well as more effective use of existing funds.
- Design and implementation of health information systems for disease surveillance.
- Delivery of quality services by health workers.
- Availability and appropriate use of health commodities.

January 2005

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Submitted to: USAID/Tirana

and: Karen Cavanaugh, CTO
Health Systems Division
Office of Health, Infectious Disease and Nutrition
Center for Population, Health and Nutrition
Bureau for Global Programs, Field Support and Research
United States Agency for International Development
In Albania, the PHRplus Project developed and tested a series of tools designed to introduce family medicine concepts and strengthen primary health care (PHC) services. Toolkits were developed and tested in four pilot PHC centers in one region, and are now ready to be used in additional PHC settings in Albania or adapted for use elsewhere. PHC facility managers will find the toolkits useful reference materials when developing strategies and tools to improve quality of care and monitor and evaluate PHC strengthening efforts.

This series comprises three toolkits: (1) PHC Service Delivery Toolkit; (2) PHC Quality Improvement (QI) Toolkit; and (3) PHC Health Information Systems (HIS) Toolkit. Each Toolkit and accompanying forms are hyper-linked on the table of contents to facilitate navigation through the document.
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<td>clinical practice guideline</td>
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<tr>
<td>CQI</td>
<td>continuous quality improvement</td>
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<td>DAN</td>
<td>data access nodes</td>
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<tr>
<td>GP</td>
<td>general practitioner</td>
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<td>HII</td>
<td>Health Insurance Institute</td>
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<tr>
<td>HIS</td>
<td>health information system</td>
</tr>
<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
</tr>
<tr>
<td>ISI</td>
<td>information system infrastructure</td>
</tr>
<tr>
<td>LAN</td>
<td>local area network</td>
</tr>
<tr>
<td>MCQ</td>
<td>multiple-choice questionnaire</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NGO</td>
<td>non-governmental organization</td>
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<tr>
<td>PHC</td>
<td>primary health care</td>
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<tr>
<td>PHRplus</td>
<td>Partners for Health Reform plus Project</td>
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<tr>
<td>QA</td>
<td>quality assurance</td>
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<tr>
<td>QI</td>
<td>quality improvement</td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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Acknowledgments

This series of toolkits to improve PHC services was developed by the PHRplus Project with funding from USAID/Albania. Local stakeholders were involved in the development and testing of these tools in pilot facilities in the Berat region of Albania. PHRplus worked closely with British general practitioners affiliated with the NGO PRIME (Partnership in International Medical Education), as well as with family medicine faculty from Tirana Medical School, and PHRplus Consultant Dr. Maksim Jani to develop the Service Delivery and Quality Improvement toolkits. Health Information Systems tools were adapted from USAID-funded Partnerships for Health Reform (PHR) Project tools developed in Egypt and periodically revised in close collaboration with regional stakeholders. The PHRplus Project gratefully acknowledges the input and review of these tools from our counterparts, as well as the helpful input received from the USAID Mission in Tirana as they were designed, tested, and refined.
Executive Summary

Purpose of the Toolkits

In Albania, the PHRplus Project developed and tested a series of tools designed to introduce family medicine concepts and strengthen primary health care (PHC) services. Toolkits were developed and tested in four pilot PHC centers in one region, and are now ready to be used in additional PHC settings in Albania or adapted for use elsewhere. PHC facility managers and projects supporting the strengthening of PHC services will find the toolkits useful reference materials as they develop their own strategies and tools to improve quality of care and monitor and evaluate PHC strengthening efforts.

Description of the Toolkits

This series comprises three toolkits: (1) PHC Service Delivery Toolkit; (2) PHC Quality Improvement (QI) Toolkit; and (3) PHC Health Information Systems (HIS) Toolkit. The series was designed to provide a comprehensive set of reference materials to help PHC providers, family medicine trainers, and health care managers and supervisors strengthen PHC service delivery. While each tool or toolkit can be used separately, PHRplus experience in Albania has demonstrated that activities aimed at strengthening PHC are strongly inter-connected and may need to be implemented in a comprehensive and coordinated fashion. Implementation often requires shifts in cultural paradigms for providers, so results may be best achieved by implementing processes in a step-by-step manner, with one tool (e.g. clinical practice guidelines) leading to development of another (training curricula on content and use of guidelines). PHRplus experience in Albania demonstrated that improvements in quality of care were possible despite lack of monetary incentives for the participating medical staff. However, central and regional health authorities should be encouraged to more actively monitor quality of care and implement management and finance reforms that provide incentives for providers to continuously improve quality so initial provider enthusiasm is not lost.

The first toolkit in this series is aimed at developing an appropriate list of PHC services for Albania, developing clinical guidelines and standards for PHC providers for these services, and equipping providers with the knowledge and skills necessary to implement the guidelines and improve quality of care. PHRplus worked closely with British general practitioners affiliated with the NGO PRIME, family medicine faculty from Tirana Medical School, and nursing faculty from Vlore University to develop this toolkit. This toolkit ensures that pilot PHC facilities have the necessary inputs to improve quality – a defined scope of services, minimum standards of care and straightforward clinical practice guidelines, and necessary refresher training for PHC providers.
<table>
<thead>
<tr>
<th>Sample List of PHC Services</th>
<th>A sample list of services to be provided by a PHC facility in Albania</th>
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<tr>
<td>Sample PHC Physician Retraining Curriculum</td>
<td>A description of the content and format of PHC physician retraining</td>
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<td>Sample PHC Nurse Retraining Curriculum</td>
<td>A description of the content and format of PHC nurse retraining</td>
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<tr>
<td>Quick References</td>
<td>One-page quick reference sheets based on Albanian clinical practice guidelines on common conditions for use by PHC providers (clinical practice guidelines are available only in Albanian)</td>
</tr>
<tr>
<td>Referral Guidelines</td>
<td>Summary guidelines for common conditions describing when to refer to specialists or hospital for use by PHC providers</td>
</tr>
<tr>
<td>Referral Policy and Procedure</td>
<td>Policy and procedure developed to govern the referral process from PHC providers to specialists or hospitals (agreed on by PHC providers and specialists)</td>
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</table>

The PHRplus Project also provided technical assistance to PHC managers and practitioners to develop and implement facility-based quality improvement systems and regional-level quality assurance processes. A second toolkit in the series helps to establish sustainable processes at PHC facilities that are needed to improve quality – quality committees, routine measurement of quality improvement using chart audit, patient satisfaction surveys, and monthly reports and meetings to review findings. The PHC QI system resulted in patients noticing differences in quality of care and providers feeling more empowered to create systems to improve quality themselves.

| Terms of Reference – PHC QI Committee | Terms of reference for a facility-level QI committee including purpose, objectives, members, and meeting schedule |
| Terms of Reference – Regional/Central QI Board | Terms of reference for regional or central QI committee including purpose, objectives, members, and meeting schedule |
| Sample QI Report | A monthly report from a PHC facility providing a summary assessment of quality based on information from medical chart audits, patient satisfaction surveys, and the PHC health information system, as well as recommendations on improving quality |
| Medical Charts | Sample sections for revised PHC medical charts, including patient registration information, basic medical information, patient history, and a visit note |
| Chart Audit Forms | Sample forms to guide routine audit of medical charts, including a form to assess basic charting technique, as well as forms for asthma, diabetes, hypertension, acute respiratory infection, and tonsillitis |
| Patient Satisfaction Survey | A sample patient satisfaction survey for PHC patients and clients |
The PHC HIS is a simple Access database with user-friendly interfaces. The system is based on an encounter form completed by a primary care provider for each patient visit and produces easy-to-read monthly reports. The encounter form collects information on patient characteristics, provider, visit characteristics, diagnosis, and disposition (referrals, prescriptions, lab tests). The system has been designed to be easy to use with simple encounter forms, user-friendly data entry, unsophisticated data transfer and consolidation, and simplified routine reporting. The result is a simple, well-designed PHC HIS that is rapidly being expanded in Albania and may have applications in other country settings.

<table>
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<th>A short introduction to the development history and structure of the PHC HIS in Albania</th>
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<td>System Orientation</td>
<td>A “walk-through” of the system to demonstrate its functions and uses using sample data and screen shots</td>
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<td>Description of PHC HIS Infrastructure</td>
<td>A short description of the “nuts and bolts” of the system, with explanations of the technical specifications, system hierarchy, data entry, data transfer, data security, reporting, and system administration</td>
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<td>Sample Calculation of System Requirements</td>
<td>Rough calculations based on population that may allow health authorities and managers to project potential costs of implementing the PHC HIS in their region</td>
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<td>Encounter Form and List of Procedure Codes</td>
<td>The form used by PHC providers to record each patient encounter for entry into the system</td>
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<td>Procedures for Completing the Encounter Form</td>
<td>A simple explanation for PHC providers to guide them through completing the encounter form, including reference material on coding</td>
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<td>Procedure for Data Entry</td>
<td>A simple explanation for data entry personnel on creating “batches” of entries, entering encounter form data in batches into the system using a numeric keypad, and double entry procedures to ensure accuracy</td>
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<td>Sample Reports</td>
<td>A routine set of monthly reports that can be automatically generated by the system</td>
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1. Introduction

Purpose of the Toolkits

In Albania, the PHRplus Project developed and tested a series of tools designed to introduce family medicine concepts and strengthen primary health care (PHC) services. Toolkits were developed and tested in four pilot PHC centers in one region, and are now ready to be used in additional PHC settings in Albania or adapted for use elsewhere. PHC facility managers and projects supporting the strengthening of PHC services will find the toolkits useful reference materials as they develop their own strategies and tools to improve quality of care and monitor and evaluate PHC strengthening efforts.

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2. PHC Service Delivery Toolkit

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Sample List of PHC Services

Clinical Services

Adult Care

Basic Diagnosis and Treatment of Illnesses and Diseases

This category covers the most common illnesses and diseases of adults accessing services at the primary health care (PHC) level. Clinical Practice Guidelines (CPGs) (and accompanying Quick Reference Tools) have been developed for the disease categories listed below. They were chosen because of the relative frequency with which they are seen at the PHC level.

- Hypertension
- Chest pain
- Angina/Ischemic heart disease
- Heart failure
- Diabetes
- Urinary tract infections
- Anemia
- Asthma/COPD
- Acute low back pain
- Depression
- Fatigue
- Adult respiratory infection
Pediatric Care

**Basic Diagnosis and Treatment of Illnesses and Diseases**

This category covers the most common illnesses and diseases of adults accessing services at the primary health care level. Clinical Practice Guidelines (and accompanying Quick Reference Tools) have been developed for the disease categories listed below. They were chosen because of the relative frequency with which they are seen at the PHC level.

- Acute tonsillitis
- Bronchiolitis
- Lower respiratory tract infections
- Otitis media
- Diarrhea
- Febrile convulsions
- Temperature management

**Well Child Care**

A clinical practice guideline and quick reference has been developed for:

- Childhood Growth and Development Monitoring

**Women’s Health and Reproductive Health Care**

For women’s health and reproductive health, PHRplus has developed CPGs for:

- Antenatal Care
- Labor & Intrapartum
- Postnatal Care
- Clinical diagnosis and treatment of common problems during pregnancy and delivery
- Normal pregnancy
- Normal delivery (only applies to the Lapardha Center)
- Family planning

Trainings in female anatomy, sexually transmitted diseases, family planning, prevention screenings (breast exams, Pap Smears), were done for midwives at the pilot centers in conjunction with the Community Campaign. Additionally, training was done in cooperation with the JSI SEATS program in the areas of family planning, sexually transmitted diseases, and breast feed and prenatal care. Midwives work with protocols developed by JSI.
Emergency Care

As part of the Continuing Medical Education program PHRplus provided comprehensive materials and training in:

- Initial management and stabilization of emergency problems

Mini-Laboratory Services

The minimal services available at the PHC level include:

- Urine dipstick
- Whole blood glucose testing
Sample PHC Physician Retraining Curriculum

Introduction

Postgraduate training in Family Medicine has only recently been introduced into Albania and the vast majority of Doctors working in Primary Care had no specific training in this specialty. Opportunities for the continuing education for GP’s have been extremely limited. Much work needs to be done in this area and this program has been designed as the pilot study of the first phase of a retraining schedule suitable for use across the country.

Aims of the Program

The goal is to improve the quality of care by improving the services already in existence and introducing new ones.

The ultimate aim is to impart the necessary knowledge, skills, attitudes and professional values to practice appropriate medicine within the community in accordance with the ‘Service Development Module’ document (attached) using the suggested clinical practice guidelines (CPGs).

The course will provide a firm platform from which to further develop the practice of Family Medicine and the habit of Life Long Learning.

Principles

This curriculum is devised to comply with modern education theory, – the principals of which are, -

1. To establish an effective learning climate, where learners feel safe and comfortable expressing themselves.
2. To involve learners in mutual planning of relevant methods and curricular content.
3. To involve learners in diagnosing their own needs – this will help to trigger internal motivation.
4. To encourage learners to formulate their own learning objectives, – this gives them more control of their learning.
5. To encourage learners to identify resources and devise strategies for using the resources to achieve their objectives.
6. To support learners in carrying out their learning plans.
7. To involve learners in evaluating their own learning, – this can develop their skills of critical reflection.

BMJ 2003 326 213

Partners for Health Reformplus
Structure and Curriculum of Training Programme

The program consists of 150 hours training in Berat and four full weeks in Tirana in a university attachment.

Each six hour training day in Berat was divided into three two hour sessions, 9-11, 11.30-1.30 and 2.30-4.30 with a coffee break and a simple lunch provided. Some of these sessions were concerned with the principles and practice of Primary Care and others were programmed and structured around the presentation of a CPG and the discussion of this by the participants and, where appropriate, by local specialists or other PHCT members. The goal was to be responsive to the participants’ requirements and suggestions.

Typically this consisted of:

- an introductory lecture and presentation of the subject (one hour)
- workshop and practice work – group work, role playing, working with models, working with patients etc, – (two hours).
- Questions, discussions and summary of the day and evaluation of the session, (one hour).

Subjects for CPGs were selected by a process of consultation, taking into account local and national priorities. They were prepared by taking into account experience in other countries and local human and material resources. These are being modified as a result of the experience gained within the pilot study.

A member of the training consultancy team was responsible for each session. At least one week prior to the presentation, each presenter submitted a detailed plan of the program (see attached proforma) and necessary written materials to enable other participants to be invited and the main participants to prepare themselves for the session.

The program was aimed to give maximum potential for the availability of local resources. Local specialists and appropriate members of the Primary Health Care Team were encouraged to attend certain parts of the program.

During the shorter, unstructured part of the day, participants brought up actual clinical cases and problems. Role play was used during the training, and during the course of the program, each participant made at least one short presentation of a relevant and problem orientated subject, selected by mutual agreement. Opportunity was taken in this time for a review of practical skills or any matters arising from the previous week’s course. The session also included a written evaluation by participants at its conclusion.

At least one week before each training day, participants were given any necessary paper work to prepare themselves for the session. They also received any necessary upgrades to previous modules.

Participants also sought out learning experiences in their everyday work, and brought cases to the group for presentation or discussion.

Some one-to-one observation of participants in their consultations was carried out in order to help them identify areas to be strengthened.
Participants were given a log-diary in which to record attendance at the course, topics covered and skills acquired. A section of the log provided space to record learning needs encountered and measures taken to fill that need.

The training in Tirana consisted of two groups of eight, one for four weeks in June and one for four weeks in September. It was based on a rotation system with two subgroups of four doctors each. The structure of this period was as follows, –

- Two weeks in Internal Medicine, one week each in Paediatrics and Obstetrics & Gynaecology.
- Four tutorial sessions per week, two hours each, Monday to Thursday, 12.0-2.0.
- Two lectures per week, one hour each for two groups together (eight doctors) on Fridays, 9.0-10.0 and 10.15-11.15.
- One workshop per week, (all doctors together) on Fridays with a summary of the week, 11.30-1.00.
- One Round Table per week (medicine and society) two groups together, eight doctors, 1.15-2.45.

Assessment of programme

There are three key components to the retraining: knowledge, skills and attitudes.

- Increase in knowledge will be assessed both informally during the training period and in a more quantitative manner by the use of multiple choice questionnaires (MCQs). An anonymised but numbered MCQ will be undertaken by all participants during the first four weeks. This will be provided by experts from the Department of Family Medicine in Tirana (with help from UK associates if necessary). The MCQ will be repeated at the end of the course and both overall and individual progress of participants will be assessed.
- Skills improvement will be assessed during the one-to-one observation period and during hospital attachments as well as during the unstructured part of the Friday sessions.
- Attitudes will be assessed in the same way with additional material coming from the comments on the weeks assessment sheets and on final course assessment by participants.

Future development/ongoing training

This curriculum covers those conditions identified in the initial consultation by PHRplus although there are certain major areas and important topics in primary care which are not specifically covered. Whilst some of these may be dealt with during the two hour, chiefly unstructured sessions and in the Tirana attachment, it is recommended that an ongoing program of continuing medical education is needed subsequent to the course. This could take the form of a one day per month programme in Berat and/or attachments at Tirana University Hospital.

The following subjects should be included in this.

- HIV
- TB
- Dermatology, including skin cancer
Ophthalmology, especially the management of red eye.
Dementia
Cerebro-vascular accidents
Nutrition and the treatment and prevention of obesity
Thyroid disease
Hepatitis
Joint problems, arthritis
Terminal care
Menopause
Minor surgery lacerations, minor trauma and management of soft tissue infections
Headache, facial pain
Drug abuse, smoking and alcohol
Proforma for Preparatory Material

Aim(s)

Objective(s)

Synopsis of lecture/presentation

Suggested preparation

*Eg. Reading material if available, selected case studies, review of health centre statistics etc.*

Material to be precirculated

*Eg. CPG, Case studies*

List of material to be brought to the Presentation
<table>
<thead>
<tr>
<th>Session</th>
<th>Date</th>
<th>Topic for the Session</th>
<th>Other Participants and Contributors</th>
<th>Number of Doctors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 28</td>
<td>Change management and the overview of family medicine including the interfacing of primary and secondary care, Part One</td>
<td>All GPs, heads of departments and specialists</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>Jan 29</td>
<td>Change management and the overview of family medicine including the interfacing of primary and secondary care, Part Two</td>
<td>All GPs, heads of departments and specialists</td>
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</tr>
<tr>
<td>3</td>
<td>Feb 21</td>
<td>Family medicine: the definition and philosophy, core competences as per the new European definition. Introduction to clinical practice guidelines and the training course</td>
<td>Course participants and specialists</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>Feb 28</td>
<td>Primary care: the diagnostic process and the principles of the management of the patient in</td>
<td>Course participants</td>
<td>17</td>
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<td>5</td>
<td>March 7</td>
<td>Anticipatory care: primary, secondary and tertiary prevention, health promotion</td>
<td>Course participants and members of the primary health care (PHC) team</td>
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<tr>
<td>6</td>
<td>March 14</td>
<td>Chest pain: the diagnostic process and principles of the management as described in models in Session 4</td>
<td>Course participants, cardiologists and other interested specialists</td>
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</tr>
<tr>
<td>7</td>
<td>March 21</td>
<td>Family planning and sexual health</td>
<td>Course participants, midwives and nurses</td>
<td>17</td>
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<tr>
<td>8</td>
<td>March 28</td>
<td>Communication skills in primary care</td>
<td>All GPs, heads of departments and specialists</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>March 28</td>
<td>Clinical skills in primary care</td>
<td>All GPs, heads of departments and specialists</td>
<td>17</td>
</tr>
<tr>
<td>10</td>
<td>May 23</td>
<td>Growth development and monitoring of the children, how to do it, the factors that influence normal growth and development, how to involve the parents, the family and the community</td>
<td>Course participants and nurses</td>
<td>16</td>
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<tr>
<td>11</td>
<td>April 11</td>
<td>Respiratory infections in children and adults the diagnostic process and management using the model of the Session 4, prevention as described in Session 5</td>
<td>Course participants, Paediatricians and Pulmonologists</td>
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<tr>
<td>12</td>
<td>April 18</td>
<td>Low back pain: what does it mean for the patient. How it affects his everyday activity, using the holistic model of Session 4, prevention as described in Session 5</td>
<td>Course participants, Neurologists and Rheumatologists. Physiotherapists</td>
<td>14</td>
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<tr>
<td>13</td>
<td>April 25</td>
<td>Fever during infancy and childhood: the diagnostic process and management using the model of Session 4, prevention as described in Session 5. Febrile seizures and their management</td>
<td>Course participants and Paediatricians and nurses</td>
<td>17</td>
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<tr>
<td>14</td>
<td>May 16</td>
<td>Obstetric care in general practice, Part One: hygiene during pregnancy, nutrition during pregnancy, involvement of women, the family and the community</td>
<td>Course participants, midwives and Obstetricians</td>
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<td>15</td>
<td>May 16</td>
<td>Obstetric care in general practice, Part Two: Haemorrhages of the first and third semester, management of the pregnant woman considering all the elements as described in Session 4. Postpartum care, normal puerperium care, puerperal sepsis, postpartum hemorrhages</td>
<td>Course participants Obstetricians and midwives</td>
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<tr>
<td>16</td>
<td>April 25</td>
<td>Diarrhea: the diagnostic process and management using the model of the Session 4, prevention as described in Session 5. Rectal bleeding</td>
<td>Course participants. Paediatricians, Gastroenterologists and other interested specialists</td>
<td>12</td>
</tr>
<tr>
<td>Session 18 May 29</td>
<td>Principles of chronic disease management, including screening and patient education for improved health in the community, Part One</td>
<td>All GPs, heads of departments and specialists and suitable members of the PHC team</td>
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<tr>
<td>Session 19 May 30</td>
<td>Principles of chronic disease management, including screening and patient education for improved health in the community, Part Two. Including Audit</td>
<td>All GPs, heads of departments and specialists and suitable members of the PHC team</td>
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<td>Session 20 June 6</td>
<td>Diabetes: the diagnostic process and management using the principles of Sessions 18, 19, the model of the Session 4, prevention as described in Session 5</td>
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<td>Session 21 June 20</td>
<td>Asthma: the diagnostic process and management using the principles of Sessions 18, 19, the model of Session 4, prevention as described at Session 5</td>
<td>Course participants, Allergologists Pneumologists and suitable members of the PHC team</td>
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<tr>
<td>Session 22 June 6</td>
<td>Hypertension: the diagnostic process and management using the principles of Sessions 18, 19, the model of Session 4, prevention as described in Session 5</td>
<td>Course participants, Cardiologists, Nephrologists and suitable members of the PHC team</td>
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<td></td>
</tr>
<tr>
<td>Session 23 June 13</td>
<td>Abdominal pain: including epigastric pain and dyspepsia</td>
<td>Course participants, surgeons and Gastroenterologists</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>July and Sept</td>
<td>Rotational training in Tirana and one-to-one teaching in PHC centres</td>
<td>Separate Programme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 24 Sept 26</td>
<td>Integration of the principles of family medicine to include mental health and the promotion of well being for the patient and the community. Part One.</td>
<td>All GPs, heads of departments and specialists</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Session 25 Sept 27</td>
<td>Integration of the principles of family medicine to include mental health and the promotion of well being for the patient and the community. Part Two.</td>
<td>All GPs, heads of departments and specialists</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>
Structure and Curriculum of Training Programme

The program consists of 150 hours training in Berat and four full weeks in Tirana in a university attachment.

Each six hour training day in Berat was divided into three two hour sessions, 9-11, 11.30-1.30 and 2.30-4.30 with a coffee break and a simple lunch provided. Some of these sessions were concerned with the principles and practice of Primary Care and others were programmed and structured around the presentation of a CPG and the discussion of this by the participants and, where appropriate, by local specialists or other PHCT members. The goal was to be responsive to the participants’ requirements and suggestions.

Typically this consisted of:

- an introductory lecture and presentation of the subject (one hour)
- workshop and practice work – group work, role playing, working with models, working with patients etc., – (two hours).
- Questions, discussions and summary of the day and evaluation of the session, (one hour).

Subjects for CPGs were selected by a process of consultation, taking into account local and national priorities. They were prepared by taking into account experience in other countries and local human and material resources. These are being modified as a result of the experience gained within the pilot study.

A member of the training consultancy team was responsible for each session. At least one week prior to the presentation, each presenter submitted a detailed plan of the program (see attached proforma) and necessary written materials to enable other participants to be invited and the main participants to prepare themselves for the session.

The program was aimed to give maximum potential for the availability of local resources. Local specialists and appropriate members of the Primary Health Care Team were encouraged to attend certain parts of the program.

During the shorter, unstructured part of the day, participants brought up actual clinical cases and problems. Role play was used during the training, and during the course of the program, each participant made at least one short presentation of a relevant and problem orientated subject, selected by mutual agreement. Opportunity was taken in this time for a review of practical skills or any matters arising from the previous week’s course. The session also included a written evaluation by participants at its conclusion.

At least one week before each training day, participants were given any necessary paper work to prepare themselves for the session. They also received any necessary upgrades to previous modules.

Participants also sought out learning experiences in their everyday work, and brought cases to the group for presentation or discussion.

Some one-to-one observation of participants in their consultations was carried out in order to help them identify areas to be strengthened.
Training in Tirana

### Obstetrics & gynecology

<table>
<thead>
<tr>
<th>Topic</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care</td>
<td>tutorial</td>
</tr>
<tr>
<td>Normal vaginal delivery</td>
<td>tutorial</td>
</tr>
<tr>
<td>The dystocias</td>
<td>tutorial</td>
</tr>
<tr>
<td>Vaginal examination, Insertion of Speculum, taking an HVS and a cervical smear.</td>
<td>tutorial</td>
</tr>
<tr>
<td>Abnormal vaginal bleeding</td>
<td>lecture</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>lecture</td>
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</tbody>
</table>

### Pediatrics

<table>
<thead>
<tr>
<th>Topic</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Pediatric examination..</td>
<td>tutorial</td>
</tr>
<tr>
<td>Acute respiratory infections in children. Observation of Vital signs.</td>
<td>tutorial</td>
</tr>
<tr>
<td>ENT examination, Otitis media, use of the otoscope,</td>
<td>tutorial</td>
</tr>
<tr>
<td>According to the participants wish</td>
<td>tutorial</td>
</tr>
<tr>
<td>Management of ARI</td>
<td>lecture</td>
</tr>
<tr>
<td>Management of diarrhoea Use of Oral Rehydration</td>
<td>lecture</td>
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</tbody>
</table>

### Internal medicine

<table>
<thead>
<tr>
<th>Topic</th>
<th>Type</th>
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<tbody>
<tr>
<td>Anemia</td>
<td>tutorial</td>
</tr>
<tr>
<td>Ischemic heart disease</td>
<td>tutorial</td>
</tr>
<tr>
<td>Heart failure</td>
<td>tutorial</td>
</tr>
<tr>
<td>Urinary tract infections</td>
<td>tutorial</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>tutorial</td>
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<tr>
<td>Geriatrics</td>
<td>tutorial</td>
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<tr>
<td>According to the participants wish</td>
<td>tutorial</td>
</tr>
<tr>
<td>According to the participants wish</td>
<td>tutorial</td>
</tr>
<tr>
<td>Anemic disorders</td>
<td>lecture</td>
</tr>
<tr>
<td>Emergency situations.</td>
<td>lecture</td>
</tr>
<tr>
<td>According to the participants wish</td>
<td>lecture</td>
</tr>
<tr>
<td>According to the participants wish</td>
<td>lecture</td>
</tr>
</tbody>
</table>

### Round tables

<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited speakers from the Health Insurance Institute</td>
</tr>
<tr>
<td>Invited speakers from the Ministry of Health</td>
</tr>
<tr>
<td>Invited speakers from the Chamber of Doctors</td>
</tr>
<tr>
<td>According to the participants wish</td>
</tr>
</tbody>
</table>

Partners for Health Reformplus
## Sample PHC Nurse Retraining Curriculum

<table>
<thead>
<tr>
<th>Date</th>
<th>Sessions topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Effects of the environment on community health. The role of the nurse in protection of community health</td>
</tr>
<tr>
<td>23 May</td>
<td></td>
</tr>
<tr>
<td>Session 2</td>
<td>Management of patients with respiratory problems</td>
</tr>
<tr>
<td>30 May</td>
<td></td>
</tr>
<tr>
<td>Session 3</td>
<td>Child monitoring and development. Teenagers</td>
</tr>
<tr>
<td>6 June</td>
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</tr>
<tr>
<td>Session 4</td>
<td>Water and health in community. Monitoring contamination, transmission of water-borne illness. Health staff responsibilities for the security of clean water</td>
</tr>
<tr>
<td>13 June</td>
<td></td>
</tr>
<tr>
<td>Session 5</td>
<td>Vital signs. Injections. Referral protocols.</td>
</tr>
<tr>
<td>20 June</td>
<td></td>
</tr>
<tr>
<td>Session 6</td>
<td>Cardiovascular problems. Cardiovascular specialists and hematologists</td>
</tr>
<tr>
<td>27 June</td>
<td></td>
</tr>
<tr>
<td>Session 7</td>
<td>Water-borne diseases (hepatitis, abdominal typhus, cholera, dysentery)</td>
</tr>
<tr>
<td>4 July</td>
<td></td>
</tr>
<tr>
<td>Session 8</td>
<td>Metabolic and endocrinological problems</td>
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<tr>
<td>11 July</td>
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</tr>
<tr>
<td>Session 9</td>
<td>The law for the organization of public health services</td>
</tr>
<tr>
<td>18 July</td>
<td>Health organizations and institutions in the Republic of Albania, their public health duties</td>
</tr>
<tr>
<td>Session 10</td>
<td>Digestive and gastrointestinal problems</td>
</tr>
<tr>
<td>25 July</td>
<td></td>
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<tr>
<td>1 August</td>
<td></td>
</tr>
<tr>
<td>Session 12</td>
<td>Sexual transmitted diseases (hepatitis and SIDA)</td>
</tr>
<tr>
<td>5 September</td>
<td></td>
</tr>
<tr>
<td>Session 13</td>
<td>Renal and urinary tract problems</td>
</tr>
<tr>
<td>12 September</td>
<td></td>
</tr>
<tr>
<td>Session 14</td>
<td>Stress and pain management</td>
</tr>
<tr>
<td>19 September</td>
<td></td>
</tr>
<tr>
<td>Session 15</td>
<td>Dealing with dying patients, patients with cancer</td>
</tr>
<tr>
<td>26 September</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Sessions topics</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Session 16</td>
<td>Airborne diseases and infection from streptococcus (Meningitis, encephalitis, etc)</td>
</tr>
<tr>
<td>3 October</td>
<td></td>
</tr>
<tr>
<td>Session 17</td>
<td>Nursing care of adults and elders</td>
</tr>
<tr>
<td>10 October</td>
<td></td>
</tr>
<tr>
<td>Session 18</td>
<td>Immunology problems (immunity system, immune-pathology and immune-deficiency, allergic problems and reumatology)</td>
</tr>
<tr>
<td>17 October</td>
<td></td>
</tr>
<tr>
<td>Session 19</td>
<td>Zoonotic diseases (brucellosis, anthrax)</td>
</tr>
<tr>
<td>24 October</td>
<td></td>
</tr>
<tr>
<td>Session 20</td>
<td>Principles and requests in patient management. Rehabilitation principles and practices. Health Center Management Nurse communication skills</td>
</tr>
<tr>
<td>31 October</td>
<td></td>
</tr>
<tr>
<td>Session 21</td>
<td>Neuro-sensorial problems (eye and ear disorders, neurologic disorders), patient management</td>
</tr>
<tr>
<td>5 November</td>
<td></td>
</tr>
</tbody>
</table>
# CONTENTS AND AUTHORS

## HEALTH CARE FOR ADULTS
- Hypertension
- Chest Pain
- Angina
- Heart Failure
- Diabetes Mellitus
- Asthma and COPD
- Acute Low Back Pain
- Anemia
- Acute respiratory Tract Infections in Adults
- Urinary Tract Infections
- Fatigue
- Depression

## HEALTH CARE FOR CHILDREN
- Temperature Management
- Febrile convulsions
- Diarrhea
- Acute Tonsillitis
- Acute Otitis Media
- Bronchiolitis
- Lower Respiratory Tract Infections
- Growth and Development

## OB-GYN HEALTH CARE
- Normal Antenatal Care
- Normal Puerperal Care
- Management of Complications

## AUTHORS
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
- Dr. Geoff Pye
HYPERTENSION

**RISK FACTORS:**
1. DIABETES
2. RAISED LIPIDS
3. SMOKING
4. AGE > 60 YEARS
5. FAMILY HISTORY OF CARDIOVASCULAR DISEASE
   - MEN < 55, WOMEN < 60
6. SEX: MEN AND POSTMENOPAUSAL WOMEN

**LIFESTYLE MODIFICATIONS:**
1. STOP SMOKING
2. DIET: REDUCE WEIGHT
3. REDUCE ALCOHOL TO 14 IU WEEK
4. INCREASE ACTIVITY: 30 MINS AEROBIC EXERCISE X 3 WEEK
5. TARGET ORGAN DAMAGE
   - 1. HEART: LV HYPERTROPHY, ANGINA, PREVIOUS MI, CABG, HEART FAILURE
   - 2. STROKE OR TIA
   - 3. PERIPHERAL ARTERIAL DISEASE
   - 4. RETINOPATHY

**TARGET ORGAN DAMAGE**
1. DIABETES ± OTHER RISK FACTORS ± TARGET ORGAN DAMAGE
2. DIABETES ± OTHER RISK FACTORS ± TARGET ORGAN DAMAGE
3. DIABETES ± OTHER RISK FACTORS ± TARGET ORGAN DAMAGE

**INITIAL SCREENINGS:**
1. CBC
2. ELECTROLYTES
3. CREATININE
4. LIPIDS
5. URINALYSIS
6. EKG
7. CXR

**IF ON DIURETIC OR ACE INHIBITOR (6 MONTHLY):**
1. CBC
2. CREATININE
3. ELECTROLYTES

**TARGET BP**
- STAGES 1 & 2: 140 \ 90
- STAGE 3: >160 \ >100
- >65 YEARS: 140–160 \ 65–70
- RENAL FAILURE: 125 \ 75

**SECONDARY HYPERTENSION:**
- PATIENTS UNDER 35 YEARS
- BP NOT CONTROLLED ON 2 or 3 DRUGS
- INCREASING PROTEINURIA
- RENAL IMPAIRMENT (CREatinina > 180)
- MALIGNANT HYPERTENSION

**NO RESPONSE OR SIDE EFFECTS**
1. SUBSTITUTE ANOTHER DRUG FROM A DIFFERENT CLASS
2. REFERRAL

**INADEQUATE RESPONSE**
1. ADD ANOTHER DRUG FROM A DIFFERENT CLASS
2. ESPECIALLY DIURETIC
3. REFERRAL

**CAUSES OF SECONDARY HYPERTENSION:**
1. RENAL PARENCHIMAL DISEASE
2. RENOVASCULAR DISEASE
3. PRIMARY ALDOSTERONISM
4. CUSHING'S SYNDROME
5. PHAEOCHROMOCYTOMA
6. COARCTATION

**October 2003**
ANGINA

STAGE 1
INFREQUENT ATTACKS WITH PRECIPITATING FACTORS

STAGE 2
MORE FREQUENT ANGINA LIMITING ACTIVITIES

STAGE 3
SYMPTOMS STILL NOT CONTROLLED

STAGE 4
STILL SYMPTOMATIC DESPITE TREATMENT

STAGE 5
SYMPTOMS NOT CONTROLLED

TESTS:
URINANALYSIS
BLOOD SUGAR IF POSITIVE GLUC.
EKG
CXR
CBC
LIPIDS
TFT's
RFT's
IF INDICATED

RISK FACTORS:
1. PREVIOUS MI
2. COMORBIDITY eg: DIABETES
3. ALCOHOLISM
4. UNCONTROLLED HT
5. A/F, VALVE DISEASE, LV DYSFUNCTION, ?ANTICOAG.
6. UNDER 50's FOR CORONARY ANGIOGRAM
7. UNDER 60's FOR EXERCISE TEST
8. EXTENSIVE VASCULAR DISEASE, STROKE, TIA, ANAEMIA, COPD
9. FAMILY HISTORY CHD/SUDDEN DEATH
MALES < 50, FEMALES < 55

GTN SPRAY
ASPIRIN 75 mg

LIPID LOWERING AGENT IF INDICATED
ADD LONG - ACTING NITRATE TO AVOID TOLERANCE (ISMN 60 mg CR)

PATIENT OK WITH β - BLOCKER
YES
ADD ATENOLOL, METOPROLOL or BISOPROLOL
NO

ADD CALCIUM CHANNEL BLOCKER, eg: DILTIAZEM or AMLODIPINE

REFER FOR INVESTIGATION AND / OR REVASCULARISATION
**Causes:**

1. **HYPERTENSION**
2. **VALVULAR HEART DISEASE**
3. **CORONARY ARTERY DISEASE**
4. **MYOCARDIAL DISEASE:**
   - a. MYOCARDIAL INFARCT
   - b. TOXINS, ALCOHOL, CYTOTOXIC DRUGS
   - c. VIRAL MYOCARDITIS
   - d. HEMOCHROMATOSIS
   - e. AMYLOIDOSIS
   - f. LIPID STORAGE DISORDER
   - g. IDIOPATHIC HYPERTROPHIC CARDIOMIOPATHY
   - h. CONGENITAL LESIONS
5. **HIGH CARDIAC OUTPUT STATES:**
   - a. ANAEMIA
   - b. THYROTOXICOSIS
   - c. PREGNANCY
   - d. LIVER DISEASE
   - e. BERI – BERI
   - f. A – V FISTULA

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**STAGE**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Treatment</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. <strong>HIGH RISK OF HEART FAILURE</strong> (NO SYMPTOMS OF FAILURE)</td>
<td>ACE Inhibitors</td>
<td>TFT’s</td>
</tr>
<tr>
<td>Example:</td>
<td><strong>Previous MI</strong></td>
<td><strong>EKG</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Hypertension</strong></td>
<td><strong>DiET, SMOKING, ALCOHOL,</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Hyperlipidemi</strong></td>
<td><strong>Electrolytes</strong></td>
</tr>
<tr>
<td><strong>† Exercise (Moderate)</strong></td>
<td><strong>INFLUENZA Vaccines</strong></td>
<td><strong>Regular CBC</strong></td>
</tr>
<tr>
<td><strong>ACE Inhibitors</strong></td>
<td><strong>PNEUMOCOCCUS Vaccines</strong></td>
<td><strong>Electrolytes</strong></td>
</tr>
</tbody>
</table>

| B. **STRUCTURAL HEART DISEASE** (NO SYMPTOMS OF FAILURE) | ACE Inhibitors | Cardiology Opinion |
| ? Signs – † JVP | **β - Blockers** (Good in IHD) |
| Pulmonary Rales | Peripheral Oedema |

| C. **STRUCTURAL HEART DISEASE** PLUS SYMPTOMS OF FAILURE | ACE Inhibitors | TFT’s |
| a. **Dyspnoea, Orthopnoea, Paroxysmal Nocturnal Dyspnoea, Oedema.** | THIAZIDE | **Regular ECHO** |
| b. Persistent volume overload | Diuretics | **RFT’s** |
| c. Persistent Dyspnoea (Particularly in HT, Mitral Regurgitation) | Loop or K+ Sparing | **Electrolytes** |
| | Diuretics or Combine | (1 Month after starting Therapy, 6-Monthly when stabilized) |
| | Vasodilator: ISDN, HYDRALAZINE |

| D. **REFRACTORY HEART FAILURE** | Arrhythmias | I.V. Therapy |
| Requiring Specialist Interventions | Thrombo – Embolic Events | Anticoagulation |
| | Acute Decompensation | CABG |
| | Drug Toxicity | Heart Transplant |
| | | REFER CARDIOLOGIST |
DIABETES MELLITUS

( = FASTING BLOOD GLUCOSE > 110 (6 – 1) AND OR 2 HOURS POST GLUCOSE LOAD > 180 (10 – 0))

1. APPROPRIATE FREQUENCY OF SELF-MONITORED BLOOD GLUCOSE MEASUREMENT
2. APPROPRIATE DIET
3. RECOGNITION, PREVENTION AND TREATMENT OF HYPOGLYCAEMIC SYMPTOMS
4. CONTINUOUS EDUCATION
5. 6 MONTHLY ASSESSMENT

DIET:
1. ↑ COMPLEX CARBOHYDRATES TO 50% DIET (BREAD, POTATOES, RICE, CEREALS)
2. ↓ FRIED OR FATTY FOOD, SKIMMED MILK
3. ↓ ALCOHOL
4. ↓ SALT
5. ↓ WEIGHT
6. STOP SMOKING
7. ↑ EXERCISES

RISK FACTORS:
1. CENTRAL OBESITY
2. FAMILY HISTORY
3. GESTATIONAL DIABETES OR DELIVERY LARGE BABY > 4 kg
4. ETHNIC GROUPS: LATIN, BLACK, AMERICAN INDIAN, PACIFIC ISLANDER
5. AGE OVER 60 YEARS

LONG-TERM COMPLICATIONS:
1. RETINOPATHY → BLINDNESS – CHECK YEARLY
2. NEPHROPATHY → RENAL FAILURE (CREAT >130)
3. NEUROPATHY → FOOT ULCERS → INFECTION → AMPUTATION
4. AUTONOMIC DYSFUNCTION
5. HIGH RISK CARDIOVASCULAR, PERIPHERAL VASCULAR AND CEREBROVASCULAR DISEASE.

SELF MONITORED BLOOD GLUCOSE 80–120 BEFORE MEALS 100–140 AT BEDTIME 180 2 HOURS AFTER MEAL

HbA1c < 6.5 if HEALTHY
< 8.0 if CARDIOVASCULAR DISEASE EVENT
< 9.0 if < 5 YEARS PREDICTED SURVIVAL

SECONDARY CAUSES – METABOLIC SYNDROME
1. HYPERTENSION
2. CENTRAL (UPPER BODY) OBESITY
3. RAISED LIPIDS
4. HIGH RISK OF VASCULAR DISEASE
5. EXOCRINE PANCREAS DISEASES: PANCREATITIS, PANCREATECTOMY, NEOPLASIA, CYSTIC FIBROSIS, HAEMOCHROMATOSIS
6. ENDOCRINOPATHIES: CUSHING’S SYNDROME; ACROMEGALY, PHAEOCHROMOCYTOMA, GLUCAGONOMA, HYPERTHYROIDISM
7. DRUGS: STEROIDS, THYROXINE, THIAZIDES, DIURESIS, β–ADRENERGIC AGONISTS

REFERRAL:
1. CHILDREN – SAME DAY
2. NEWLY DIAGNOSED DIABETICS ESPECIALLY INSULIN – DEPENDENT
3. DIABETIC NOW PREGNANT
4. GESTATIONAL DIABETIC
5. PROTRACTED VOMITING/KETONURIA
6. HYPERTENSION OR RAISED LIPIDS DIFFICULT TO CONTROL
7. TARGETS NOT MET
8. COMPLICATIONS

REVIEW:
1. SEE 6 MONTHLY:
   - URINE PROTEIN
   - HbA1c
   - LIPIDS
   - CREATININE
2. ANNUALLY FULL EXAM:
   - FUNDOSCOPY
   - BP
   - SKIN
   - PERIPHERAL NERVES
   - WEIGHT

PRE-DIABETES = RISK FACTOR + GLUCOSE > 100
1. ASPIRIN 325 mg/day
2. HbA1c + 2 Hr POST GLUCOSE BLOOD SUGAR
3. TREAT RISK FACTORS
4. EDUCATION

DIET:
1. ↑ COMPLEX C H2O TO 50 % DIET
2. ↓ FRIED OR FATTY FOOD, SKIMMED MILK
3. ↓ ALCOHOL
4. ↓ SALT
5. ↓ WEIGHT
6. STOP SMOKING
7. ↑ EXERCISES

RISK FACTORS:
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< 8.0 if CARDIOVASCULAR DISEASE EVENT
< 9.0 if < 5 YEARS PREDICTED SURVIVAL
**ASTHMA AND COPD** (Chronic Obstructive Pulmonary Disease)

### Equipment Needed:
- Peak Flow Meter Nebuliser

### Perennial or Seasonal Symptoms
- History of Rhinitis, Sinusitis, Nasal Polyps
- Atopic Dermatitis
- Family History of Asthma or Allergy

### At Risk Patient:
1. Previous Severe Attack
2. African American
3. Poor Follow-up or Prevention Facilities
4. Depression or Psychosocial Behavioural Problem
5. Pregnancy in Asthmatic
6. Elderly
   - (On Non-Steroidal Anti-Inflammatory or β-Blocker)
   - Avoid Theophylline

#### Uncontrolled Asthma in Adults:
- $P < 110$, Resp $< 25$, PF $> 50%$ Predicted or Best Nebuliser Salbutamol, Asses After 30 Mins If PF 50 – 75% Give 30 – 60 mg Oral Prednisolone

#### Acute Severe Asthma in Adults:
- Speech Difficult, $P > 110$, Resp $> 25$, PF $< 50%$
  - $O_2$ 40 – 60% If Available, Oral Prednisolone 60 mg Nebulised Salbutamol, Asses 30 Min, If Not OK

#### Life-Threatening Asthma in Adults:
- Silent Chest, Cyanosis, Bradycardia, $PF < 33%$
  - Oral Prrendisone 60mg, $O_2$ Nebuliser with β2 Agonist + Ipratropium

### Asthma
- Management: Bronchodilator As Necessary
  - 1. Previous Severe Attack
  - 2. African American
  - 3. Poor Follow-up or Prevention Facilities
  - 4. Depression or Psychosocial Behavioural Problem
  - 5. Pregnancy in Asthmatic
  - 6. Elderly (On Non-Steroidal Anti-Inflammatory or β-Blocker)

### COPD
- Management: Bronchodilator As Necessary
  - 1. Severe COPD
  - 2. Right Heart Failure
  - 3. Suspect Pulmonary Bullae (Heavy Smoker for Years)
  - 4. $< 40$ Years Old With COPD

### At Home Management
- Patient Education
- Avoid Provoking Factors
- Start at Stage Which is Most Appropriate
- Choose Best Inhaler Device
- Adjust Treatment to Give Good Control
- Reduce Treatment If Control Good
- Review All Patient Regularly (1–6 Monthly as Necessary)

### Peak Flow Meter for Patient

### Classification:
- MILD:
  - FEV1 60 – 80%
  - Mild Dyspnoea
  - Smoker’s Cough
  - Ipratropium
- MODERATE
  - Dyspnoea + Wheeze
  - Or Mild Exertion
  - Cough ± Sputum
  - Down Breath Sound, Wheeze
- SEVERE
  - 1. As above
  - Dyspnoea At Rest
  - 2. 3rd Drug
  - Lungs Distended
  - Peripheral Oedema
  - Cyanosis, Polycythemia
  - 4. Nebuliser

### Treatment of Acute Exacerbation:
- Admit to Hospital
- 7 days Antibiotics if 2 Criteria
- Currently On Oral Steroids
- Previous Response to Steroids
- No Response to Bronchodilators
- First Attack of Obstruction

### Review 6 – Monthly
- CXR
- Stop Smoking

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October 2003
ANAEMIA

BLOOD LOSS
- TRAUMA
- MENSES or OBSTETRIC
- GASTRO-INTESTINAL
  - UPPER:
    1. VARICES
    2. GORD
    3. PU
    4. CANCER
    5. DRUGS (NSAID’S)
  - LOWER:
    1. HAEMORRHOIDS
    2. ULCERATIVE COLITIS
    3. CROHN’s
    4. CHRONIC DIARRHOEA

DECREASED BLOOD PRODUCTION
- INADEQUATE INTAKE
  - IRON DEFICIENCY:
    1. RESTRICTED DIET eg: VEGAN
    2. MALNUTRITION
- MENSES or OBSTETRIC TRAUMA

POOR ABSORPTION
- 1. BOWEL SURGERY
- 2. ULCERATIVE COLITIS
- 3. CROHN’s
- 4. CHRONIC DIARRHOEA
- 1. B12
- 2. FOLATE
- 3. TAPE – WORM

INCREASED UTILISATION
- BONE MARROW:
  1. DRUGS
  2. APLASTIC ANAEMIA
  3. MARROW INFILTRATION
  4. MYELOSCLEROSIS
  5. ALCOHOL
  6. LIVER DISEASE
  7. SEPSIS
  8. LEUKAEMIA LYPHOMA

INCREASED BLOOD DESTRUCTION
- CHRONIC DISEASE:
  1. RENAL FAILURE
  2. HYPOTHYROIDISM
  3. ADDISONS
  4. PAN HYPO – PITUITARISM
  5. HIV

HAEMOLYTIC ANAEMIAS:
- 1. THALASSAEMIA
- 2. SICKLE CELL
- 3. HEREDITARY SPHEROCYTOSIS

PREGNANCY ADOLESCENCE INFANCY
- 1. BLOOD PICTURE
- 2. FURTHER TESTS etc.
- 3. REFERRAL

CLINICAL FEATURES
- SMOOTH, SHINY TONGUE, ANGULAR STOMATITIS
- BLOOD PICTURE
- SOURCE OF BLEEDING OCCULT BLOOD?
  ENDOSCOPY, SIGMOIDOSCOPY
- PERIPHERAL NEUROPATHY
  ↓ VIBRATION SENSE
  ↓ REFLEXES
- MCV, LOW FERRITIN, HIGH TIBC
- NORMAL MCV
- ↑ MCV, B12 etc.
- ↑ MCV
- ↑ or ↓ MCV
- ↑ BILIRUBIN RETICULOCYTES
  MCV NORMAL
  OR ↓ IN THALASSAEMIA

STOOL FOR PARASITES, COLONOSCOPY
- STOOL FOR PARASITES
- ? BONE MARROW etc.
- ? ABDOMINAL MASS
- LYMPHADENOPATHY
- HEPATO\SPLENOMEGALY

FURTHER TESTS etc.
- TFT’S etc.
- RFT’s
- REFER
- REFER
According to International Medical Evidence, 80 – 90% of these infections are viral, and antibiotics are of no benefit at all. The combination of 2 or 3 symptoms (detailed in the boxes filled with grey) from the groups A, B and C suggests the presence of a viral infection.
URINARY TRACT INFECTION (U.T.I.)

FREQUENCY, DYSURIA, URGENCY, NOCTURIA = LOWER U.T.I.
FEVER, NAUSEA, MALAISE, LOIN PAIN = UPPER U.T.I.

CEPHALOSPORIN OR CO-AMOXICLAV

X 7 DAYS

REFER

AT RISK OF UPPER U.T.I.
1. PREGNANCY
2. DIABETES
3. RENAL IMPAIRMENT
4. PREVIOUS U.T.I.

MSU

REVIEW

TRIMETHOPRIM 200 mg bd X 3 DAYS

PROPHYLACTIC NITROFURANTOIN 50 mg AT NIGHT

RECURRANCE

TRIMETHOPRIM 200 mg bd X 3 DAYS

MSU, PSA ECHO PROSTATE, ? CREATININE

PROPHYLACTIC TRIMETHOPRIM 50 mg \ DAY

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DEPRESSION

LOW MOOD, GUILT, WORST IN MORNING, EARLY MORNING WAKENING

MAKE DIAGNOSIS

SELECT AND START TREATMENT

REVIEW EVERY 1 – 2 WEEKS TO WEEK 6

ASSESS RESPONSE WEEK 6

- CLEARLY BETTER
- A LITTLE BETTER
- NO BETTER or SIDE – EFFECTS

- CONTINUE TREATMENT 6 MORE WEEKS
- CONTINUE TREATMENT (ADJUST DOSE)
- ADD TO or CHANGE TREATMENT

REVIEW 1 – 2 WEEKS

- CLEARLY BETTER
- ASSESS RESPONSE (WEEK 12)
- NO BETTER

COMPLETE REMISSION ?

- NO

- CONTINUE MEDICATION for 3 – 9 MONTHS ? MAINTENANCE TREATMENT

REMEMBER SUICIDE RISK

CHOICE OF MEDICATION
TRICYCLIS VERSUS SSRI’s:

1. BOTH ARE AS EFFECTIVE AS EACH OTHER
2. FEWER SIDE – EFFECTS WITH SSRI’s:

TRICYCLICS:
- SEDATING – MAY BE GOOD
- DRY MOUTH
- CONSTIPATION
- IMPOTENCE
- URINARY RETENTION

SSRI’s:
- NON – SEDATING
- LOSS OF APPETITE
- NAUSEA
- HEADACHE
- OCCAS BOWEL DISTURBANCE

3. BOTH TAKE 2 – 3 WEEKS for BENEFIT
4. REPORTS OF ↑ SUICIDE RISK WITH SSRI’s, NOT SUPPORTED BY EVIDENCE.
5. TRICYCLICS MUCH CHEAPER

PREFER PSYCHIATRIST

KEY DIAGNOSTIC CRITERIA :

1. LOW MOOD
2. PESSIMISM
3. SENSE OF FAILURE
4. DISSATISFACTION
5. GUILT
6. SELF – DISLIKE
7. SOCIAL WITHDRAWAL
8. INDECISIVENESS
9. SELF – IMAGE CHANGE
10. WORK DIFFICULTY
11. FATIGABILITY
12. ANOREXIA
13. SLEEP DISTURBANCE
- EARLY MORNING WAKENING
14. Feels worst in morning
15. Feels worst in morning

REVIEW EVERY 1 – 2 WEEKS TO WEEK 6

- NO BETTER or SIDE – EFFECTS
- A LITTLE BETTER
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COMPLETE REMISSION ?

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PREFER PSYCHIATRIST
MEASURE RECTALLY, ABNORMAL ≥ 38°C

**DANGERS:**
1. FEBRILE CONVULSION
2. DEHYDRATION
3. COLLAPSE
4. COMA

**SERIOUS SIGNS:**
1. RECOLOURATION TIME OF SKIN > 3 SEC.
2. JAUNDICE
3. PERIORAL CYANOSIS
4. ↓ LEVEL OF CONSCIOUSNESS
5. CONVULSIONS
6. DEHYDRATION
7. RESPIRATORY DISTRESS
8. GROANING, WEAKNESS
9. REFUSING DRINK
10. POOR SOCIAL CONDITIONS

**INFECTION:**
1. 75% VIRA
2. OCCULT BACTERAEMIA (USUALLY PNEUMOCOCCUS)
3. BACTERIAL MENINGITIS
4. URINARY TRACT INFECTIONS
5. OTITIS MEDIA

**INFECTIONOUS CAUSES:**
1. 75% VIRAL
2. OCCULT BACTERAEMIA (USUALLY PNEUMOCOCCUS)
3. BACTERIAL MENINGITIS
4. URINARY TRACT INFECTIONS
5. OTITIS MEDIA

**FIND CAUSE:**
- ENT
- PULMONARY
- UTI
- VIRAL VACCINES
- CBC, etc

**CHEST X – RAY URINALYSIS**

**TOLERATING WELL?**

**TREAT PYREXIA**
1. UNDRESS PATIENT
2. ROOM 18 – 20°C
3. COOL BATH
4. ORAL FLUIDS
5. COLD COMPRESS

**ANTEPYRETICS:**
- PARACETAMOL
- IBUPROFEN FOR 24 HOURS

**GENERAL EXAMINATION AND ASSESSMENT**

**ONE or MORE SIGNS OF SERIOUS INFECTION**

**CARDIOPULMONARY DISEASE**

**< 1 MONTH OLD**

**TREAT PYREXIA**

**NORMAL RESULTS**

**ABNORMAL RESULTS**

**SPECIFIC CAUSE**

**SPECIFIC MANAGEMENT**

**ALWAYS CHECK FOR MENINGISM**

**FOLLOW – UP**

**ADMIT TO HOSPITAL**

**INDICATED TESTS:**
- CBC, etc
**FEBRILE CONVULSIONS**

**AGE 6 MONTHS TO 6 YEARS ASSOCIATED WITH FEVER > 38°C**
(USUALLY FAMILY HISTORY OF FC. FEMALES MORE OFTEN THAN MALES)

**IMMEDIATE TREATMENT:**
1. AIRWAY: – DECUBITUS LATERALIS POSITION, EXTEND NECK, OPEN MOUTH, ANT. LUXATION OF JAW
   ? ASPIRATE GASTRIC CONTENTS, ? OXYGEN
2. THERMAL CONTROL: TAKE OFF CHILD’S CLOTHES, VENTILATE ROOM
3. OTHER POSSIBLE MEASURES: – ? INTRAVENOUS FLUIDS, ? RECTAL DIAZEPAM 0.1 – 1 mg/kg

**FEBRILE CONVULSION**

1. AGE 1 – 5 YEARS
2. LASTS < 10 MINUTES
3. GENERALISED TONIC \ CLONIC
4. NO POST – ICTAL DEFICIT
5. NO NEUROLOGICAL DEFICIT
6. NORMAL NEUROLOGICAL EXAMINATION

**FEBRILE CONVULSION**

1. AGE < 1 YEAR
2. CONVULSION LASTS > 10 MINUTES.
3. UNILATERAL CONVULSION
4. POST – ICTAL NEURO DEFICIT
5. PSYCHOMOTOR RETARDATION PRIOR TO CONVULSION
6. ABNORMAL NEUROLOGICAL EXAMINATION

**ANY ONE OR MORE OF THESE CRITERIA**

**ADMIT TO HOSPITAL**

**COMPLICATED FEBRILE CONVULSION**

**LOOK FOR CAUSE OF FEVER**

1. ? OTITIS MEDIA, ? TONSILLITIS, ? UTI etc.
2. ? ANTIBIOTICS

**SIMPLE FEBRILE CONVULSION**

**CONTINUE GENERAL MEASURES**

**EPILEPSY INCIDENCE AND FC:**
EPILEPSY RISK AFTER FC IS 2 – 4%
7% IF 1 PRECIPITATING FACTOR
22% IF 2 PRECIPITATING FACTORS
49% IF 3 PRECIPITATING FACTORS

**RECURRENT FEBRILE CONVULSION:**
1. 33% CHILDREN WITH FC HAVE A RECURRENT
2. RISK INCREASED IF THERE IS A FAMILY HISTORY OF FC.
3. RISK HIGHER IF MOTHER HAD FC.
4. INCREASED RISK OF RECURRENT IF PARENTS OR SIBLINGS HAD EPILEPSY
5. SHORTER THE FEBRILE EPISODE CAUSING THE FC, THE GREATER THE RISK FOR RECURRENT
6. RISK OF RECURRENT IS NOT RELATED TO WHETHER FC WAS SIMPLE OR COMPLICATED
7. 9% OF CHILDREN HAVE AT LEAST 3 FEBRILE CONVULSIONS
8. 75% RECURRANCES ARE WITHIN 1 YEAR AFTER FIRST FC AND 90% ARE WITHIN 2 YEARS
9. IF CHILD IS < 1 YEAR OLD AT FIRST FC, RISK OF RECURRENT IS 50%.
   IF CHILD IS > 4 YEARS OLD AT FIRST FC, RISK OF RECURRENT IS 10%
PAEDIATRICS

SEVERITY OF DEHYDRATION

<table>
<thead>
<tr>
<th>MILD DEHYDRATION</th>
<th>MODERATE DEHYDRATION</th>
<th>SEVERE DEHYDRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>LIQUID DIARRHOEA ? COLIFORM SYNDROME</td>
<td>LIQUID DIARRHOEA ? COLIFORM SYNDROME</td>
<td>LIQUID DIARRHOEA ? COLIFORM SYNDROME</td>
</tr>
<tr>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>UNSUITABLE SOCIAL AND LIVING CONDITIONS</td>
<td>UNSUITABLE SOCIAL AND LIVING CONDITIONS</td>
<td>UNSUITABLE SOCIAL AND LIVING CONDITIONS</td>
</tr>
</tbody>
</table>

DIARRHOEA

CHILD WITH ACUTE DIARRHOEA

FULL CLINICAL EVALUATION – GROWTH, NUTRITION etc.

ABNORMAL

REFER

NORMAL CHILD ? DIETARY CAUSE

YES

CORRECT DIET

NOT DIETARY CAUSE

YES

REFER

NOT SURGICAL CAUSE

DEFINE CLINICAL TYPE AND SEVERITY OF DEHYDRATION

CAUSES:

1. BACTERIAL :
   a. SALMONELLA
   b. SHIGELLA
   c. E. COLI
   d. CAMPYLOBACTER

2. VIRAL :
   ROTAVIRUSES

3. PROTOZOAN:
   GIARDIA

4. FUNGAL:
   CANDIDA

ASSESS : 1. GRAVITY OF DIARRHOEA
2. DISORDER OF ELECTROLYTES
3. NUTRITION
4. PASSING URINE
5. SIGNS OF INFECTION

ORAL REHIDRATION SOLUTIONS :

1. FIRST 4 – 6 HOURS
   50 – 100 ml/ kg/ 24 hours
2. 6 – 12 HOURS
   10 ml/ kg FOR EVERY BOUT OF DIARRHOEA

October 2003
ACUTE OTITIS MEDIA

RISK FACTORS:
1. LARGE NUMBER OF CHILDREN IN FAMILY
2. LARGE GROUP COMMUNITY
3. ALLERGIC ENVIRONMENT
4. FAMILY HISTORY
5. NOT BREAST – FED
6. LOW SOCIO – ECONOMIC LEVEL
7. IRON – DEFICIENCY
8. PASSIVE SMOKING
9. CHRONIC TONSILLITIS
10. EUSTACHIAN DYSFUNCTION
11. IMMUNO – DEFICIENCY

OTHER CAUSES OF OTALGIA:
1. OTITIS EXTERNA
2. SERO – MUCOUS OTITIS
3. CHRONIC OTITIS
4. ACUTE PAROTITIS
5. DENTAL PROBLEMS
6. TONSILLITIS (REFERRED PAIN)
7. CERVICAL LYMPHADENOPATHY
8. TB

ORGANISMS:
1. PNEUMOCOCCUS
2. HAEMOPHILUS INFLUENZAE
3. STAPHYLOCOCCUS
4. VIRUSES
5. ENTEROBACTERIA

ACUTE OTITIS MEDIA

RHINITIS, COUGH + PAIN, PYREXIA, CRYING + OTALGIA, DEAFNESS

DRUM, INDRAWN + EFFUSION NOT INFLAMED

70%

VIRAL

? ANTIBIOTICS

YES, if:
1. < 2 YEARS OLD
2. FEBRILE + OTALGIA
[3. OTITIS WITH OTORRHOEA]

ANTIBIOTICS:
< 2 YEARS 10 days
> 2 YEARS 5 days

AMOXICILLIN
AUGMENTIN
ERYTHROMYCIN (CEFUROXIME)

PROBABLY PNEUMOCOCCAL

PROBABLY HAEMOPHILUS I.

APPROXIMATELY 30% OTOCNJUNCTIVITIS

TEMP. > 38 °C OTALGIA

PROBABLY PNEUMOCOCCAL

AUGMENTIN

REVIEW 48 HOURS

RECOVERY 50%

FAILURE 5 – 10%

SEROUS OTITIS MEDIA 20 – 40%

3 WEEKS FOLLOW – UP

ISQ

REFER ? GROMMETS

REFER ENT

ADMIT TO HOSPITAL

1. PURULENT = ACUTE OTITIS MEDIA
2. BLOOD CONSIDER
3. CLEAR HEAD INJURY

OTORRHOEA:

OSTRhäOEA:

? COMPLICATIONS

MASTOIDITIS
PARALYSED FACIAL NERVE
MENINGITIS
BRAIN ABSCESS
ACUTE LABYRINTHITIS
PAEDIATRICS

FEVER, PHARYNGEAL HYPERAEMIA
ENLARGED TONSILS, DYSPHAGIA
ANOREXIA, PURULENT EXUDATE
REGIONAL LYMPHADENITIS
(PETECHIAE ON SOFT PALATE = VIRAL)

UNDER AGE OF 3 YEARS:
ALMOST ALL ARE VIRAL

OVER AGE OF 3 YEARS:
70% ARE VIRAL
30% ARE BACTERIAL –
ALMOST ALL STREPT. A
(BUT REMEMBER DIPHTHERIA)

RAPID STREPT. ANTIGEN TEST:
WILL GIVE A POSITIVE DIAGNOSIS FOR
STREPTOCOCCAL TONSILLITIS,
BUT IS NOT WIDELY AVAILABLE

DIFFERENTIAL DIAGNOSIS:
1. DIPHTHERIA
2. INFECTIOUS MONONUCLEOSIS
3. ACUTE EPIGLOTTITIS
4. PHARYNGITIS
5. RHINOPHARYNGITIS
6. HERPANGINA
(COCKSACKIAE)

ABSOLUTE INDICATIONS:
1. DYSPHAGIA
2. UPPER AIRWAY OBSTRUCTION
   (NOCTURNAL APNOEA)
3. ? TUMOUR – ASYMMETRY
4. HAEMORRHAGE

RELATIVE INDICATIONS:
1. > 5 ATTACKS \ YEAR
2. PERITONSILLAR ABSCESS
3. MOUTH BREATHING AND SNORING
4. SPEECH PROBLEMS DUE TO LARGE
   TONSILS IN CHILD > 6 YEARS

IMPROVED
RECOVERY

NO IMPROVEMENT
MODIFY TREATMENT

REVIEW after 2 Days
IMPROVED
NO CHANGE

EVALUATE INDICATIONS
for TONSILLECTOMY

REFER
**PAEDIATRICS**

**RISK GROUPS:**
1. CONGENITAL HEART
2. CHRONIC RESPIRATORY PATHOLOGY eg: MUCOVISCIDOSIS
3. IMMUNO DEFICIENCY
4. PREMATURE
5. < 6 WEEKS OLD
6. UNFAVOURABLE SOCIO – ECONOMIC CONDITIONS
7. MALNUTRITION

**BRONCHIOLITIS**

**Average Age 8 Months, Viral Infection**
Common, Incubation Period 5 Days
Characterised by Cough, Wheeze, Pyrexia
Signs: T° > 38° C, Wheeze on Auscultation, Rib Recession, Sometimes Rales, Otitis

**DANGER SIGNS:**
1. Respiratory Rate > 60 / min
2. Intercostal Recession
3. Severe Dyspnoea \ Apnoea
4. Hypoxic Cyanosis
5. ↓ Level of Consciousness
6. Profuse Sweating
7. Under 3 Months Old

**BRONCHIOLITIS**

**NO RISK FACTORS CLINICALLY MILD**

1. Place in Dorsal Position
2. Eliminate Secretions
   a) Make More Liquid
      i) ↑ Oral Fluids
   b) β₂ Sympathomimetic Inhalations
   c) Crocodile Compression
3. Bronchodilators
   a) Inhaled or Oral
      β₂ Sympathomimetics
   b) Subcutaneous Adrenaline

**SEVERE**

**YES – ONE or MORE DANGER SIGNS**

Admit to Hospital

**ONE or MORE RISK FACTORS**

Antibiotics if Suspect Secondary Infection

Follow – up 2 Days

- Improving
  - Continue as Above

- Not Improving
  - Refer

**Complications of Bronchiolitis:**
Asthma
COPD
Secondary Infection

**Antibiotics if Suspect Secondary Infection**

- No Response
  - ? Steroids
  - ? Refer
PAEDIATRICS

CAUSES

LOWER RESPIRATORY TRACT INFECTION

BREAST FEEDING INFANTS:
1. MAJORITY VIRAL:
   a. ADENOVIRUS
   b. PARAINFLUENZAE
   c. MEASLES
2. BACTERIAL:
   a. H. INFLUENZAE
   b. PNEUMOCOCCUS
   c. STAPHYLOCOCCUS
     (RARE BUT CAUSES DAMAGE)
   d. CHLAMYDIA
     (NEONATES)

OLDER CHILDREN:
1. VIRAL:
   a. PARAINFLUENZAE
   b. MYXOVIRUS
   c. RHINOVIRUS
2. BACTERIAL:
   a. PNEUMOCOCCUS
   b. MYCOPLASMA
   c. H. INFLUENZAE

SYMPTOMS AND SIGNS OF PNEUMONIA

NO

SEVERE?

YES

CHEST X – RAY

SIGNES OF SEVERE INFECTION

NO

YES

TREATMENT BASED ON AGE AND AETIOLOGY

< 2 YEARS

> 2 YEARS

ANTIBIOTIC AND SYMPTOMATIC TREATMENT

RE-EVALUATE 48 HOURS

SYMPTOMATIC TREATMENT ± ANTIBIOTIC

1. ? STEROIDS or ANTIINFLAMMATORY
   2. AMOXICILLIN

THERAPEUTIC FAILURE AND PHYSICAL CONDITION HOW SEVERE

TREAT 10 DAYS RE – EVALUATE 3 WEEKS

MODIFY ANTIBIOTIC THERAPY, CHANGE TO MACROLITE, CEFUROXIME, ERYTHROMYCINE

RE-EVALUATE 48 HOURS

CLINICAL IMPROVEMENT

TREAT 10 DAYS

THERAPEUTIC FAILURE BUT PHYSICALLY AND SOCIALLY SATISFACTORY

ANTIBIOTIC AND SYMPTOMATIC TREATMENT

RE-EVALUATE 48 HOURS

BETTER

NOT BETTER

RISK FACTORS:
1. COMORBIDITY
   a. MUCOVISCIDOSIS
   b. CONGENITAL HEART LESION
   c. IMMUNODEFICIENCY
2. SOCIAL CONDITIONS
   a. DIFFICULT TO TREAT AT HOME
   b. POOR FOLLOW – UP

ADMIT TO HOSPITAL:
1. CHILDREN <3 MONTHS (AND ? <6 MONTHS)
2. RADIOLOGICAL EVIDENCE OF
   a. MASSIVE PNEUMONIA
   b. PLEURAL EFFUSION
   c. PNEUMOTHORAX
   d. MEDIASTINAL ADENOPATHY

SYMPTOMATIC TREATMENT

USEFUL for:

1. RESPIRATORY RATE >60 INFANTS
   > 30 OLDER CHILDREN
2. CYANOSIS OR ↓ RESPIRATION
3. HYPERCAPNIA
4. NOT EATING
5. CIRCULATORY COLLAPSE
6. ↓ CONSCIOUSNESS
7. DEHYDRATION

ADMIT TO HOSPITAL:

FEBRUARY 2003
## PAEDIATRIC DEVELOPMENTAL MILESTONES

### GROWTH

<table>
<thead>
<tr>
<th>AGE</th>
<th>WEIGHT</th>
<th>HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIRTH</td>
<td>ALBANIAN BABIES 3 – 3.2 Kg (BOYS 150 g &gt; GIRLS)</td>
<td>50 – 51 cm normal ≥ 47 cm</td>
</tr>
<tr>
<td></td>
<td>NORMAL BIRTH WEIGHT ≥ 2.5 Kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WEIGHT LOST AFTER BIRTH REGAINED BY DAY 12</td>
<td></td>
</tr>
<tr>
<td>6 MONTHS</td>
<td>BIRTH WEIGHT DOUBLED</td>
<td>72 – 75 cm</td>
</tr>
<tr>
<td>1 YEAR</td>
<td>BIRTH WEIGHT TRIPPLED</td>
<td></td>
</tr>
<tr>
<td>3 YEARS</td>
<td>BIRTH WEIGHT QUADRUPLED</td>
<td>AT 2 YEARS 81 – 84 cm</td>
</tr>
<tr>
<td>ANNUALLY</td>
<td>AFTER AGE OF 2 YEARS, 2 Kg GAINED EACH YEAR</td>
<td></td>
</tr>
</tbody>
</table>

### FACTORS AFFECTING GROWTH:
1. NUTRITION
2. INFECTION
3. LIVING CONDITIONS (eg: HYGIENE)
4. PHYSICAL ACTIVITY
5. DRUGS
6. CULTURE, ECONOMIC AND SOCIAL CONDITIONS
7. EFFECTIVE RELATIONS WITH OTHERS

### PAEDIATRIC DEVELOPMENTAL MILESTONES

<table>
<thead>
<tr>
<th>0 – 4 WEEKS</th>
<th>2 MONTHS</th>
<th>4 MONTHS</th>
<th>6 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CUDDLES</td>
<td>1. SMILES RESPONSIVELY</td>
<td>1. SQUEALS, LAUGHS, BABBLES</td>
<td>1. COOS, COPIES, BABBLE</td>
</tr>
<tr>
<td>2. REGARDS FACE</td>
<td>2. LISTENS TO BELLS/VOICES</td>
<td>2. REACHES FOR OBJECT, GRASPS</td>
<td>2. REACHES FOR OBJECT, GRASPS</td>
</tr>
<tr>
<td>3. SYMMETRICAL MOVEMENTS</td>
<td>3. VOCALIZES</td>
<td>3. GRASPS</td>
<td>3. TRANSFERS</td>
</tr>
<tr>
<td>4. FOLLOWS TO MIDLINE WITH EYES AND FIXES</td>
<td>4. WHEN PRONE, LIFTS HEAD, NECK, UPPER CHEST WITH FOREARM SUPPORT</td>
<td>4. OPENS HANDS, PUTS HANDS TOGETHER, HITS AT OBJECTS</td>
<td>4. NO HEAD LAG ON PULL TO SIT</td>
</tr>
<tr>
<td>5. RESPONDS TO SOUND/VOICE</td>
<td>5. SOME HEAD CONTROL IN UPRIGHT POSITION</td>
<td>5. HEAD ERECT ON SITTING, HOLDS HEAD WELL, IN PRONE POSITION HEAD UPRIGHT, RAISES BODY ON HANDS</td>
<td>5. SITS, MINIMAL SUPPORT</td>
</tr>
<tr>
<td>6. HEAD UP WHEN PRONE AT 1 MONTH</td>
<td>7. CONSOLED WHEN CRIES</td>
<td>6. ROLLS OVER</td>
<td>6. STANDS WHEN PLACED, BEARS WEIGHT</td>
</tr>
<tr>
<td>7. FLEXED POSTURE</td>
<td>8. STAYS AWAKE &gt; 1 hour</td>
<td>7. RECOGNISES PARENT</td>
<td>7. IF LITTLE SOCIAL CONTACT, AVOIDS EYE CONTACT, INFREQUENT VOCALISATION</td>
</tr>
<tr>
<td>8. CONSOLED WHEN CRIES</td>
<td>10. PARENT/CHILD INTERACTION</td>
<td>8. COMFORTS SELF</td>
<td>? LACK OF ATTENTION OR DELAYED DEVELOPMENT</td>
</tr>
</tbody>
</table>
# Paediatric Developmental Milestones

<table>
<thead>
<tr>
<th>9 MONTHS</th>
<th>12 MONTHS</th>
<th>15 MONTHS</th>
<th>18 MONTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Looks for fallen object</td>
<td>1. Bangs two blocks together</td>
<td>1. Indicates things he/she wants</td>
<td>1. Drinks from glass</td>
</tr>
<tr>
<td>5. Sits without support</td>
<td>5. Social games</td>
<td>5. 3 – 10 words</td>
<td>5. Walks up steps with help</td>
</tr>
<tr>
<td>11. Plays interactive games</td>
<td></td>
<td></td>
<td>11. Stacks 3 blocks</td>
</tr>
<tr>
<td>12. First teeth</td>
<td></td>
<td></td>
<td>12. Kisses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13. Imitates words</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2 YEARS</th>
<th>3 YEARS</th>
<th>4 YEARS</th>
<th>5 YEARS</th>
<th>6 – 8 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Kicks ball</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10. Horizontal and circular lines with pen</td>
<td>8. Uses plural words</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Names family</td>
<td></td>
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</tbody>
</table>
**NORMAL ANTENATAL CARE**

An adequate Antenatal Care reduces 17 times the Mother mortality rate, 6 times the Perinatal mortality rate and 3 times the Low Birth Weight.

Encourage pregnant women to do at least 6 antenatal consultations, which are recommended to be done in the following periods if the pregnancy is considered repeatedly normal:

<table>
<thead>
<tr>
<th>Consultation's elements</th>
<th>I Consultation</th>
<th>II Consultation (w. 12)</th>
<th>III Consultation (w. 16 – 18)</th>
<th>IV Consultation (w. 20 – 24)</th>
<th>V Consultation (w. 28)</th>
<th>VI Consultation (w. 34 – 38)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aims &amp; Objectives</strong></td>
<td></td>
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</tr>
<tr>
<td>Positive diagnoses of the intrauterine pregnancy</td>
<td>Careful evaluation of the Lab test results</td>
<td>Confirm the normal ongoing of pregnancy</td>
<td>Evaluate for early diagnoses of pregnancy disorders of the III-rd Trimester</td>
<td>Evaluate &amp; monitor the fetal wellbeing (according to the Albanian Law, the fetus in this moment is considered viable)</td>
<td>Evaluate for early diagnoses of pregnancy disorders of the III-rd Trimester</td>
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</tr>
<tr>
<td>Pregnancy age and excepted day of delivery</td>
<td>Determination of the pregnancy Risk Group (write it in the medical record)</td>
<td>Check fetal development</td>
<td>Check fetal development</td>
<td>Ensure maternal wellbeing</td>
<td>Ensure maternal wellbeing</td>
<td>Ensure maternal wellbeing</td>
</tr>
<tr>
<td>Ask for basic Lab Tests</td>
<td>Further management of pregnancy according to the Risk Group</td>
<td>Ultrasound screening of fetal malformations (to be done before 24-th week).</td>
<td>Ultrasound screening of fetal malformations (to be done before 24-th week).</td>
<td>Ensure maternal wellbeing</td>
<td>Ensure maternal wellbeing</td>
<td>Ensure maternal wellbeing</td>
</tr>
<tr>
<td><strong>Clinical &amp; obstetrical Examination</strong></td>
<td></td>
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</tr>
<tr>
<td>Personal History</td>
<td>Personal History (to be completed)</td>
<td>Personal History (to be completed)</td>
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<tr>
<td>Family History</td>
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</tr>
<tr>
<td>General Physical Examination and pelvic examination (with patient’s consent only)</td>
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<tr>
<td><strong>Lab Tests</strong></td>
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<tr>
<td>CBC, HgB Urinalyses</td>
<td>CBC, HgB Urinalyses</td>
<td>CBC, HgB Urinalyses</td>
<td>CBC, HgB Urinalyses</td>
<td>CBC, HgB Fasting Blood Glucose Urinalyses</td>
<td>CBC, HgB Fasting Blood Glucose Urinalyses</td>
<td>CBC, HgB Fasting Blood Glucose Urinalyses</td>
</tr>
<tr>
<td>Culture of urine specimen</td>
<td>Direct microscopy of vaginal secretions</td>
<td>Direct microscopy of vaginal secretions</td>
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<td>Direct microscopy of vaginal secretions</td>
<td>Direct microscopy of vaginal secretions</td>
</tr>
<tr>
<td>Direct microscopy of vaginal secretions</td>
<td>Anti Rhesus Immunization (if mother Rh – and father Rh +)</td>
<td>Second Obstetrical Ultrasound</td>
<td>Third Obstetrical Ultrasound</td>
<td>Anti Rhesus Immunization (if mother Rh – and father Rh +)</td>
<td>Anti Rhesus Immunization (if mother Rh – and father Rh +)</td>
<td>Anti Rhesus Immunization (if mother Rh – and father Rh +)</td>
</tr>
<tr>
<td>Blood type &amp; Rhesus Factor</td>
<td>Optional: serological tests for: Toxoplasmosis, Rubella, CMV, HbsAg, HIV test</td>
<td></td>
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<tr>
<td><strong>Immunization &amp; prophylaxis</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Anti-Tetanus Vaccine (I-st doses)</td>
<td>Anti-Tetanus Vaccine (II-nd doses), Anti D</td>
<td>Anti-Tetanus Vaccine (II-nd doses), Anti D</td>
<td>Anti-Tetanus Vaccine (II-nd doses), Anti D</td>
<td>Anti-Tetanus Vaccine (II-nd doses), Anti D</td>
<td>Anti-Tetanus Vaccine (II-nd doses), Anti D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gammaglobuline (if indicated)</td>
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| Normal Antenatal Care
# NORMAL POSTPARTUM CARE

The puerperium is considered the time between the end of the III-rd Period of Labor, till the time when all organs are back to the normal structure and function.

<table>
<thead>
<tr>
<th>Consultation’s Elements</th>
<th>Care during the First Postpartum Hour</th>
<th>Consultation before discharging from Health Center</th>
<th>Postnatal Consultation on days 3, 5 and 7 (especially in primiparas)</th>
<th>Consultation between day 7 and the 6-th week postpartum</th>
<th>Consultation of the 6-th week postpartum</th>
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<tr>
<td><strong>Aims &amp; Objectives</strong></td>
<td>Ensure that the patient is and remain in good clinical condition (monitor carefully for early postpartum complications). Prevent the early postpartum hemorrhage.</td>
<td>Permit the discharge from Health Center if the necessary conditions are fulfilled. Ensure a normal puerperal period.</td>
<td>Ensure a normal puerperal period. Take care of the breasts &amp; breastfeeding, especially in primiparas.</td>
<td>Ensure a normal puerperal period. Consider carefully all the complaints of women in postpartum period.</td>
<td>Ensure a normal puerperal period. Offer an adequate method of Family Planning.</td>
</tr>
<tr>
<td><strong>Clinical &amp; Obstetrical Examination</strong></td>
<td>Patient’s general condition. Ask and consider the patient’s complaints. Physical Examination (vital signs etc). Obstetrical Examination of delivery tract (look for tears &amp; hemorrhage)</td>
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<tr>
<td><strong>Procedures</strong></td>
<td>The patient can be washed, drink and eat. The young mother should be encouraged to stay with the newborn infant (if the newborn condition permits this).</td>
<td>Take off the episiotomy sutures (if non-absorbable)</td>
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<tr>
<td><strong>Lab Tests</strong></td>
<td>CBC, Hgb Coagulation Investigations Urinalyses</td>
<td>If the immediate postpartum lab tests are normal, then it is not necessary to do more tests, if the clinical condition has remained stable. CBC, Hgb, Coagulation Investigations, Urinalyses (if the patient haven’t done them)</td>
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<td>CBC, Hgb, Coagulation Investigations, Urinalyses (if the patient haven’t done them)</td>
<td>CBC, Hgb Urinalyses Direct microscopy of vaginal secretions PAP Smear (refer if not available)</td>
</tr>
<tr>
<td><strong>Immunization &amp; Prophylaxis</strong></td>
<td>Anti D Gammaglobuline (if indicated), within the first 72 hours postpartum. Messes &amp; Rubella immunization (if the patient has not been vaccinated before)</td>
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<tr>
<td><strong>Counseling &amp; Education</strong></td>
<td><strong>Educate</strong> the patient for recognizing symptoms of Puerperal Sepsis, Postpartum Bleeding &amp; Mastitis. <strong>Counsel</strong> to avoid intercourse and vaginal tampons for 4 weeks. <strong>Schedule appointment for Family Planning</strong> Counsel the patient to follow an appropriate diet, especially if breastfeeding. No medication without prescription if breastfeeding. Counsel the young mothers to repose as needed.</td>
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**Normal Postpartum Care**
**HISTORY & PHYSICAL EXAMINATION:**
- Menstrual delay
- Positive pregnancy test
- Clinical evidence of pregnancy
- Presence of vaginal bleeding

**Pregnant woman < 20 weeks with vaginal bleeding**
- Menstrual delay < 20 days
- And one of the following symptoms
  - Low BP (or with this tendency), tachycardia, clinical evidence of acute progressive anemia

**Pregnant woman > 20 weeks with vaginal bleeding**
- Menstrual delay > 20 days
- And
- Reassuring general clinical condition (stable BP and Heart Rate)

**Treat with I/V perfusions**
- REFER urgently to OB/GYN Hospital

**Careful evaluation of:**
- General conditions, BP, Pulse
- Quantity and quality of bleeding (dark, pure or with coagula)
- Physical evaluation of abdomen for possible peritonism
- Physical evaluation of uterus for elevated basal tonus/contractions
- Auscultation and evaluation of Fetal Heart Beat
- Determine the duration of bleeding
- Evaluate for clinical evidence of acute progressive anemia

**Fetal assessment:**
- FHB if pregnancy > 28 weeks
- FM – felt regularly

**What should be done with these patients?**
- A careful monitoring of vital signs and general conditions (BP, Pulse)
- Repeat assessment if quantity and quality of bleeding
- Ask for further tests as follows:
  - CBC, Hgb, Hct, coagulation investigations, blood type (ABO, Rhesus)
  - Assess FM (teach the patient)
  - Assess FHB (if gestation > 28 weeks)
  - Refer if maternal and fetal indications occur (excessive bleeding, maternal demise, altered FM, non-reassuring FHB)

**Treat immediately with I/V perfusions**
- (Lactated Ringer, NaCl, Dextrose 5%)
- Placing I/V canule in 1 or 2 veins.

**URGENT REFERAL**
- in an OB/GYN hospital where the emergency Cesarean Delivery can be performed

**What should be done with these patients?**
- A careful monitoring of vital signs and general conditions (BP, Pulse)
- Repeat assessment if quantity and quality of bleeding
- Ask for further tests as follows:
  - CBC, Hgb, Hct, coagulation investigations, blood type (ABO, Rhesus)
  - Assess treatment and do specific Care for these patients
  - Do frequent Fetal Assessments:
    - Assess FM (teach the patient)
    - Assess FHB (if gestation > 28 weeks)
    - Refer if maternal and fetal indications occur (excessive bleeding, maternal demise, altered FM, non-reassuring FHB)

**Management of uterine bleeding during pregnancy**

**Threatened Abortion (confirmed)**
- Close monitoring of:
  - Quantity of bleeding
  - General condition of mother (BP, Pulse)
- Specific Antenatal Care
  - Bed rest
  - Progesterone (200mg/day till 12-th week)
  - Spesmolytics (as needed)
  - Anti D Gammaglobuline (if indicated)
- REFER to OB/GYN for further evaluation and if complicated.

**Missed Abortion (ultrasound)**

**Threatened Abortion**
- Close monitoring of:
  - Quantity of bleeding
  - General condition of mother (BP, Pulse)
- Specific Antenatal Care
  - Bed rest
  - Progesterone (200mg/day till 12-th week)
  - Spesmolytics (as needed)
  - Anti D Gammaglobuline (if indicated)
- REFER to OB/GYN for further evaluation and if complicated.

**Missed Abortion (ultrasound)**

**Incomplete Abortion**
- Close monitoring of:
  - Quantity of bleeding
  - General condition of mother (BP, Pulse)
- Specific Antenatal Care
  - Bed rest
  - Progesterone (200mg/day till 12-th week)
  - Spesmolytics (as needed)
  - Anti D Gammaglobuline (if indicated)
- REFER to OB/GYN for further evaluation and if complicated.

**Inevitable Abortion**
- Close monitoring of:
  - Quantity of bleeding
  - General condition of mother (BP, Pulse)
- Specific Antenatal Care
  - Bed rest
  - Progesterone (200mg/day till 12-th week)
  - Spesmolytics (as needed)
  - Anti D Gammaglobuline (if indicated)
- REFER to OB/GYN for further evaluation and if complicated.

**Excessive uterine bleeding**

**Good**
- Mild uterine bleeding

**Bad**
- Excessive uterine bleeding

**Fetal assessment:**
- FHB if pregnancy > 28 weeks
- FM – felt regularly

**Good fetal condition:**
- Non-reassuring FHB
- Reduced LF

**Fetal demise:**
- Non-reassuring FHB
- Reduced LF

**Refer**
- if maternal and fetal indications occur (excessive bleeding, maternal demise, altered FM, non-reassuring FHB)
**Primary Postpartum Bleeding**

- **Postpartum Bleeding (within the first 24 hours)**
  - If placenta completely delivered, assess the uterine contracture: palpate the uterine fundus.
  - If placenta retention, refer after:
    - Assessing carefully the vital signs.
    - Placing an I/V perfusion and continuously giving liquids.
  - If uterine atony:
    - Well contracted uterus.
    - Evidence of uterine atony.
  - Traumatic bleeding.
  - Atonic bleeding.

**Immediate management:**
- **Uterine massage**
- Assess the vital signs:
  - BP, Pulse
  - Color of the skin (acute anemia)
- Give one uterotonic drug (oxytocine 5 IU i/m, i/v or methylergometrine 0.5 mg i/m or i/v)
- Assess the quantity and quality of bleeding.

**Uterine Rupture**
- Bleeding doesn’t stop And/or It is sufficient to jeopardize the mother
- Refer after:
  - Assessing carefully the vital signs.
  - Placing an I/V perfusion and continuously giving liquids.

**Secondary Postpartum Bleeding and Puerperal Sepsis**

- **Patient with bleeding between the first 24 hours, till 6 weeks postpartum**
  - Enlarged uterus / delayed uterine involution.
  - Normal uterus; are there signs of genital infection?
  - Assess & monitor:
    - Vital signs: BP, Pulse, Color of skin (acute anemia).
    - Quantity and quality of bleeding: administer I/V liquids (if necessary)
  - Refer immediately after:
    - Administering broad spectrum antibiotherapy.
    - Placing an I/V canula and beginning the administration of perfusions (NaCl, Lactated Ringer, etc).

- **Patient in bad condition**
  - Patient in good clinical condition
  - Refer immediately after:
    - Administering broad spectrum antibiotherapy.
    - Placing an I/V canula and administering I/V liquids.

- **Patient in good condition**
  - Patient in bad condition
  - Refer immediately after:
    - Administering broad spectrum antibiotherapy.
    - Placing an I/V canula and administering I/V liquids.

- **Manage as follows**: Isolate the patient, administer broad spectrum antibiotherapy.

**Manage the patient as follows**: Isolate the patient, administer broad spectrum antibiotherapy.

**Effective hydration (I/V if necessary)**

- Assess carefully patient’s condition (vital signs, clinical evidence of anemia etc)

**Presence of signs and symptoms of genital infection in women during puerperal period**
- Does the patient have an abnormal uterine bleeding?

- **Yes**
  - The discharge (lochia) with no evidence of abnormal postpartum bleeding.
  - Manage the patient as follows:
    - Isolate the patient.
    - Administer broad spectrum antibiotherapy.
    - Effective hydration (I/V if necessary).

- **No**
  - Refer (no urgent) after:
    - Administering broad spectrum antibiotherapy.
    - Placing an I/V canula and beginning the administration of perfusions (NaCl, Lactated Ringer, etc).

**Educate** the patient in distinguishing symptoms of mother demise.

**Reevaluate** after 48 hours for treatment scores.
Referral Guidelines

Hypertension

Refer to specialist for any of the following:

- Secondary hypertension
- Patients under 35 years
- BP not controlled on 3 drugs
- Increasing proteinuria
- Renal impairment (creatinine > 180)
- Malignant hypertension

Chest Pain

Refer to specialist if any of the following are suspected:

- Pulmonary embolus
- Pneumothorax
- MI
- Pericarditis
- Prinzmetal angina
- Cardiomyopathy
- Aortic aneurysm

Angina (Ischemic Heart Disease)

Refer to specialist in any of the following situations:

- Previous MI
- Comorbidity – eg Diabetes, COPD
- Uncontrolled HT
- Arrhythmia, valve disease, LV dysfunction
- Under 50’s for coronary angiogram
- Under 60’s for exercise test
Medication resistance
Extensive vascular disease, stroke, TIA
Anaemia
Family history of CHD / sudden death, males < 50, females < 55
Diagnosis uncertain

Heart Failure

Refer to specialist if heart failure is complicated by:

- Arrhythmia
- Thrombo-Embolic Events
- Acute decompensation
- Drug toxicity
- Or if patient requires beta blockers, IV therapy, anticoagulation, investigation or CABG

Diabetes Mellitus

Refer to specialist in the following situations:

- Children – same day
- Newly diagnosed insulin-dependent diabetics
- Diabetic now pregnant
- Gestational diabetes
- Protracted vomiting /ketonuria
- Hypertensions or raised lipids difficult to control
- Targets not met
- Complications

Urinary Tract Infections

Refer to specialist in the following situations:

- Pregnant woman with second positive MSU or recurrence on prophylactic antibiotic
- Young adult when the infection is recurrent and sexuality transmitted disease suspected
- Elderly male, prostatism suspected
- Child with positive MSU
- Failure of appropriate treatment
Anemia

Refer to specialist:

▲ To find the source of upper or lower GI bleeding
▲ Endoscopy, colonoscopy, sigmoidoscopy
▲ When associated with hepato/splenomegaly, lymphadenopathy, abdominal mass
▲ When due to inflammatory bowel disease

Asthma and COPD

Refer to specialist in the following circumstances

Asthma

▲ Children using high dose of corticosteroids
▲ Poor control on maximum dosage of drugs
▲ Acute severe asthma not responding to treatment
▲ Life-threatening asthma

COPD (Chronic Obstructive Pulmonary Disease)

▲ Severe COPD
▲ COPD with heart failure
▲ Under 40
▲ Severe, decreasing FEV1
▲ Symptoms worse than fall in function tests
▲ Repeated infection
▲ Unclear diagnosis

Acute Low Back Pain

Refer to specialist in any of the following situations:

▲ Medication resistance
▲ Worse after treatment/management strategy
▲ Cauda equina syndrome
▲ X-Rays Scan, CBC, ESR when cancer or fracture suspected
▲ Evidence of non-spinal medical problem
Depression

Refer to specialist in any of the following situations:
- Medication resistance
- Relapse after full course of medication
- Suicide Risk

Fatigue

Refer to specialist in any of the following situations:
- Fatigue has pain as a factor related to bone tumor, cerebral tumor
- Prolapsed intervertebral disc, osteomyelitis, fractures, rheumatoid arthritis suspected
- Major disease suspected – eg cancer, diabetes, etc.

Acute tonsillitis

Absolute and relative indications for referral to specialist

Absolute:
- Dysphagia
- Nocturnal apnoea
- Asymmetry of tonsils
- Haemorrhage

Relative:
- No improvement after appropriate treatment
- > 5 attacks per year
- Peritonsillar abscess
- Mouth breathing and snoring
- Speech problems due to large tonsils in child > 6 years

Bronchiolitis

Refer to specialist:
- When the patient has one or more risk factors
- When the patient has one or more danger signs
- When no improvement 2 days after antibiotics
Lower Respiratory Tract Infections

Refer to specialist:
- When there are signs of severe infection clinically
- When there are risk factors present
- When there is radiological evidence of:
  - Massive pneumonia
  - Plural effusion
  - Pneumothorax
  - Mediastinal adenopathy
- When there is therapeutic failure and physical condition now severe
- When child is < 3 months (and < 6 months if physical condition poor)

Acute Otitis Media

Refer to specialist for the following complications:
- Mastoiditis
- Paralyzed facial nerve
- Persistent serous otitis media
- Therapeutic failure
- Refer to the hospital in the following conditions:
  - Meningitis
  - Brain abscess
  - Acute labyrinthitis

Diarrhoea

Refer to the hospital for any of the following conditions:
- Severe dehydration
- Failure of oral rehydration
- Surgical cause of diarrhoea
- Growth, physical, or nutritional abnormality
Febrile Convulsions

Refer to the hospital for any of these conditions:
- Complicated febrile convulsion
- Meningism

Temperature management

Refer to the hospital for any of these conditions:
- Serious signs
- Not tolerating fever well
- Meningism
- Signs of severe infection
- Cardiopulmonary disease
- Less than 1 month old

Antenatal Care

Refer to the OB/GYN specialist the following conditions related to pregnancy:
- Patients with other medical problems (Renal disease, heart problems, hepatic, pulmonary, rheumatological, neurological, psychiatric problems etc)
- Pregnant patients with hyperglycemia (every type of Diabetes)
- Patients with High Risk or Very High Risk score
- Patients with the following pregnancy related disorders:
  - Preeclampsia
  - Threatened Preterm Labor
  - Active Preterm Labor
  - Post term Pregnancy (refer in the beginning of the 41-th week)
  - Polyhydramnios
  - Oligoamnios
  - Evidence of Intrauterine Growth Restriction
  - Preterm Rupture of the Membranes
  - Prelabor Rupture of the Membranes
  - Patients with Rhesus negative blood type, especially if there is evidence of Rhesus Isoimmunisation or problematic Obstetrical history
  - Abnormal Fetal Presentation (breech, transversal etc, evaluated at term or during active Preterm Labor)
△ Previous Cesarean Delivery (refer at the beginning of the 37-th week)
△ Previous Myomectomy (refer at the beginning of the 37-th week, do this for every women undergone to gynecological operations)
△ Patient with Infertility history
△ Multiple Pregnancy
△ Patients < 85 kg
△ Wherever there is evidence of delivering a big fetus (> 4 kg) without evidence of antenatal disease, refer at term (37-th week)
△ Patient with every type of disorders that impact the integrity of pelvic bones, including fractures of the lower limbs, TB etc (to be referred at 36 – 37-th week, or during active preterm labor)
△ All types of pelvic viciature to be referred at term (37-th week) without occurrence of active labor.
△ Patients that manifest any type of delay during the first period of labor (dilatation)

Bleeding during pregnancy

Refer to the OB/GYN Hospital if one of the following occurs:
△ All patient with less than 20 days of menstrual delay
△ Poor general condition
△ Heavy bleeding with no pelvic examination
△ Incomplete Abortion
△ Inevitable Abortion
△ Missed Abortion
△ Threatened Abortion if complicated or for evaluation
△ Reduced Fetal Movements
△ Concern Over Fetal Heart Beat

Primary Post – Partum Haemorrhage

Refer to the OB/GYN Hospital if one of the following occurs:
△ Retained Placenta
△ Persistent bleeding or danger to mother (after recommended management procedures)
△ Cervical tear with heavy bleeding or difficult to repair
△ Ruptured uterus
△ Poor general condition
Secondary Post – Partum Haemorrhage

Refer to the OB/GYN Hospital if one of the following occurs:

- Enlarged uterus / delayed involution
- Poor general condition
- Persistent bleeding

Puerperal Sepsis

Refer to the OB/GYN Hospital if one of the following occurs:

- Associated with abnormal bleeding
- Poor general condition
- Treatment failure
POLICY: Primary care physicians make referrals to specialists based on approved referral guidelines (attached) in combination with good clinical judgment.

PROCEDURE:

1. The primary care physician decides that a referral is needed.
2. The primary care physician completes the top portion of the referral form (attached) and gives to the patient to take to the specialist.
3. The primary care physician gives the patient information about available specialists and timing of consultants.
4. The patient arranges the specialist visit and gives the referral form to the specialist.
5. After seeing the patient, the specialist
   a) Completes the bottom portion of the form
   b) Keeps the top portion of the form on file
   c) Returns the bottom half of the page to the patient
6. The patient returns the completed form to the primary care physician, who puts the form in the patient’s medical record.
7. The primary care physician communicates directly with the specialist for clarification of the treatment plan as needed.

Approved by: ________________________________

Director of Primary Care

Date: ________________________________
The PHRplus Project provided technical assistance to PHC managers and practitioners to develop and implement facility-based quality improvement systems and regional-level quality assurance processes. A second toolkit in the series helps to establish sustainable processes at PHC facilities that are needed to improve quality – quality committees, routine measurement of quality improvement using chart audit, patient satisfaction surveys, and monthly reports and meetings to review findings. The PHC QI system resulted in patients noticing differences in quality of care and providers feeling more empowered to create systems to improve quality themselves.

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<tr>
<th>Terms of Reference – PHC QI Committee</th>
<th>Terms of reference for a facility-level QI committee including purpose, objectives, members, and meeting schedule</th>
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<tr>
<td>Terms of Reference – Regional/Central QI Board</td>
<td>Terms of reference for regional or central QI committee including purpose, objectives, members, and meeting schedule</td>
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<tr>
<td>Sample QI Report</td>
<td>A monthly report from a PHC facility providing a summary assessment of quality based on information from medical chart audits, patient satisfaction surveys, and the PHC health information system, as well as recommendations on improving quality</td>
</tr>
<tr>
<td>Medical Charts</td>
<td>Sample sections for revised PHC medical charts, including patient registration information, basic medical information, patient history, and a visit note</td>
</tr>
<tr>
<td>Chart Audit Forms</td>
<td>Sample forms to guide routine audit of medical charts, including a form to assess basic charting technique, as well as forms for asthma, diabetes, hypertension, acute respiratory infection, and tonsillitis</td>
</tr>
<tr>
<td>Patient Satisfaction Survey</td>
<td>A sample patient satisfaction survey for PHC patients and clients</td>
</tr>
</tbody>
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Terms of Reference - PHC QI Committee

Background:

The formal quality improvement initiative at Muzakaj Health Center started in December 2003, following a regional workshop at the Tomorri Hotel. The Muzakaj Health Center has been improving quality over the past two years through its participation in the PHRplus project.

General Purpose:

The CQI Committee has the overall responsibility for monitoring and reporting progress on Continuous Quality Improvement at the Muzakaj Health Center. The CQI Committee is chaired by the Center Director, and the committee reports to the Regional Quality Improvement Board. The CQI Committee identifies and approves specific quality initiatives and monitors and reports progress.

Overall Objectives:

- Review / revise / approve the clinical practice guidelines annually
- Develop QA plan & review / revise annually
- Set specific quality improvement objectives for the year
- Determine what will be monitored and how
- Approve special quality topics for special study
- Monitor / assure the integrity of the encounter form and health information system
- Monitor / assure the integrity of the patient satisfaction system
- Monitor / assure the integrity of the clinical chart audit
- Document the use of data in improving quality

Members:

- Chair/Leader: Donika Papa
- Secretary: Emarjola Bako
- Physician representatives: Marguarita Xheblati, Adelina Nohini
- Nursing representatives: Saolete Meleqi, Mimoza Bojarhi
Proposed meeting schedule:

- Monthly

Evaluation and Reporting Requirements

- Monthly report submitted to the Regional QI Board
- Annual report to include a list of accomplishments as well as routine reports on CQI activities.
Terms of Reference – Regional/Central QI Board

Background

The experience of the PHRplus pilot project created the right conditions (functioning QI work at facility level, evidence produced at the regional level and local demand for central participation) for the creation of a Central QI Board. The Board, initiated by the Deputy Minister of Health, is designed to provide strategic direction and oversight regarding the development and implementation of a system of quality improvement for primary health care (PHC).

Objectives

- Develop annual planning process and develop/revise strategic objectives for PHC quality;
- Make recommendations regarding the primary care service package;
- Approve the set of core indicators which should be monitored for PHC centers; and
- Review regional results of the QI system quarterly and provide feedback as needed.

Members

Key board members include the Director of Primary Care, the Director of Ambulatory Care, representative of the Health Insurance Institute (HII), representative of the Health Promotion Unit of the Institute of Public Heath, Chief of the Statistical Office of the MOH, as well as members of the PHRplus staff. PHRplus staff members participate as observers and to provide technical assistance.

Meeting Schedule and Specific Tasks

The Central QI Board established a Regional QI Board, which includes the local MOH and HII Directors as well as the chiefs of the pilot PHC centers. The Regional Board meets monthly to provide direction to the four pilot centers regarding the development of center specific quality improvement plans, review the monthly reports of the four pilot sites, and to prepare a quarterly report for the Central QI Group.

The local MOH and HII directors receive the PHC center reports through the monthly Regional QI Board meetings. Representatives from the Regional Board attend the Central Board meetings. The role of the Central QI Board is one of providing oversight and strategic direction for PHC quality and service direction. The Board is developing a set of indicators, which will allow a comparison by region on the performance of primary care. In the future, the Central Board will be able to evaluate performance of health center and regions.
The Continuous Quality Improvement (CQI) Process at the Lapardha Health Center is under development with the support of the PHRplus project. This is the first formal report on the CQI activities at the Health Center. The following reports summarize the findings and actions in three areas that are important for improving quality: clinical chart audit, patient satisfaction, and the health information system.

I. Quality audit medical record

The number of audit charts = 29  
Audit target = 20  

**Summary:**

The results of the medical charts technical audit are:

- The personal data of the patients were recorded.
- The reactions from medicines were recorded.
- The personal, family and social history were recorded.
- The notes in the charts were not legible and understandable.
- The notes in the charts were arranged systematically.
- The main diagnosis was written and underlined.
- The medication and doses were clearly described.
- The management plan was not written in all charts.
- There was no record of the discussion of the management plan with the patient or the result of this discussion in any of the charts reviewed.

The scores ranged from 11 to 16 points.

**Observations / Interpretation of Results:**

Scores from 11 to 16 were very good, especially considering the fact that the scoring sheet was being tested and under revision.

II. Patient Satisfaction Report

**Lapardha Health Center January**

The number of surveys = 62
The number of visit during the month = 871

% of patients who completed the surveys = 7.1%

Survey target = 10% = 87

**Summary:**
Most of the patients were very satisfied 31, satisfied 30, and almost satisfied 2.

 ▲ The patients requested lab analyses or echo (22), 24-hour emergency service (1), hot water in the obstetric hospital (1).

 ▲ Things that pleased the patients about their visits were: physicians were careful (35), the service was fast (24), the visits were free (13), the service was good and the problem was resolved (9).

 ▲ 14 patients were not pleased with the long waiting time in the Health Center.

**Comments:**
Patients may be requesting laboratory services because there used to be a lab at Lapardha, and they would rather not have to travel to Berat for lab tests. Lapardha has decided not to pursue adding a laboratory service at the present time, because of regulations regarding training of lab technician and physicians who perform lab tests.

**Steps that might be followed in using the information about the patient’s satisfaction in order to improve quality:**
The center is taking steps to reduce waiting time by scheduling particular dates and times for the chronic patients and for those who do return for check-ups.

**Steps to increase the number of patients that complete the surveys:**
The center has plans to include the staff in assisting the patients to complete the patient satisfaction surveys, which should increase the number of surveys completed.

---

### III. Health information’s system report January-2004

**Summary:**

 ▲ The total visits increased over the past year. The number of visits in January 2003 was 298, and in January 2004 was 871.

 ▲ The total number of visits for the 13 month period (January 2003 through Jan 2004) was 8,191

 ▲ In Jan 04, the average number of visits per day was 35.

 ▲ The average number of visits per day for the 13 month period was 25 (Jan 03-Jan 04)

 ▲ The total number of referrals was 215 - 3% (Jan 03-Jan 04)

 ▲ The % of home visits over the 13 month period was 34%, which is very high compared to the other health centers.
The reason of visits has not changed significantly over the year:
- Injections made up 57% of the visits in January, and is the most common reason for visits
- Acute visits made up 16%
- Chronic visits made up 13%

Diagnosis
- The most common diagnosis for physician visits is cardiovascular (25%)
- This diagnosis is followed by pulmonary system (23%)

Drugs
- Antibiotics comprised the highest percentage of drugs (56%)

Quality related observations
- The increased number of patients may indicate that patients are using the center rather than going to other health institutions. This number (871) may reflect improvement in quality of the services and the good performance of the clinic staff. This increase in patients is even most significant when you consider that the number of inhabitants covered by Lapardha Health Center was reduced by 2000 in October.
- The increased number of injections in January from previous months is probably explained by the seasonal illness. One concern is that in general, antibiotics and injections are used inappropriately because of patient pressure and culture.
- The high % of home visits for Lapardha shows good follow-up of care and personal involvement and commitment of the physician.
# REGISTRATION FORM

<table>
<thead>
<tr>
<th>Name: ___________________</th>
<th>Home Address: __________________</th>
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</thead>
<tbody>
<tr>
<td>Surname: __________________</td>
<td>Phone: __________________________</td>
</tr>
<tr>
<td>Date of Birth: ____________</td>
<td>Mobile: __________________________</td>
</tr>
<tr>
<td>Nationality: ______________</td>
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</tbody>
</table>

**Gender:**
- [ ] Male
- [ ] Female
- [ ] Single
- [ ] Married
- [ ] Divorced
- [ ] Widow

**Members of family (Names)**

- Spouse: ________
- Sister/s / Brother/s Child/ren: ___________
- Father: __________
- Mother: __________

**Occupation:** __________

- Work’s Place: __________
- Social Insurance No: __________

**Contact Person in case of emergency**

- Name: ____________________
- Phone: _____________________
- Relation with the patient: __________

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# MEDICAL INFORMATION (RECORD)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Allergies</th>
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<th>Blood Type</th>
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<td>[ ] B</td>
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<td>[ ] A</td>
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<td>[ ] Rh negative</td>
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<tr>
<td>[ ] Rh positive</td>
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<tr>
<td>[ ] Don’t know</td>
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</table>

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Vaccination Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
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<td>BCG</td>
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<td>DTP</td>
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<tr>
<td>Polio</td>
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<td>FR</td>
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<td>Tetanus</td>
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<td>DT</td>
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</tbody>
</table>
**PATIENT HISTORY**

***PLEASE COMPLETE ALL THE APPROPRIATE AREAS IN THIS FORM ***

<table>
<thead>
<tr>
<th>Name:</th>
<th>Surname:</th>
<th>Date of Birth:</th>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Medications currently used (Quantity in ml, mg, UI) – Dosage, Frequency</th>
<th>Allergies: Food, Medicines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Hospitalization/ Surgical History</th>
<th>Date</th>
<th>Do you see any other doctors for medical problems?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes ☐ No ☐ If yes, tell name?</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Habits</th>
<th>Smoking</th>
<th>Alcohol</th>
<th>Immunization history</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Do you smoke:</td>
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<tr>
<td>No ☐</td>
<td>Quit when?</td>
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<tr>
<td>Yes ☐</td>
<td>Packs/day?</td>
<td>No of years</td>
<td></td>
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<tr>
<td>Want to quit?</td>
<td>Yes ☐</td>
<td>May be ☐ No ☐</td>
<td></td>
</tr>
<tr>
<td>Special Diet?</td>
<td>Yes ☐ No ☐</td>
<td>Type:</td>
<td></td>
</tr>
<tr>
<td>Smoke:</td>
<td>Alcohol:</td>
<td>Type:</td>
<td>Were you vaccinated as an enfant?</td>
</tr>
<tr>
<td>No ☐</td>
<td>No ☐</td>
<td>Type:</td>
<td>Yes ☐ No ☐ Don’t know ☐</td>
</tr>
<tr>
<td>Yes ☐</td>
<td>Type:</td>
<td>Amount of drinks per day:</td>
<td>Have you had BCG vaccination?</td>
</tr>
<tr>
<td>Type:</td>
<td>Amount of drinks</td>
<td>Frequency per week:</td>
<td>Yes ☐ No ☐ Don’t know ☐</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>For women only:</th>
<th>Do you use birth control?</th>
<th>If yes what kind?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of last menstrual period:</td>
<td># of pregnancies:</td>
<td>If yes what kind?</td>
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<tr>
<td>- Length of cycles</td>
<td>- Length of Bleeding</td>
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<tr>
<td>Normal ☐</td>
<td>Abnormal ☐</td>
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<tr>
<td>Date of last PAP test? Yes ☐ No ☐</td>
<td># of children:</td>
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<tr>
<td>Date of last mammogram? Yes ☐ No ☐</td>
<td># of miscarriages:</td>
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<tr>
<td># of pregnancies:</td>
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<tr>
<td># of children:</td>
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<td># of miscarriages:</td>
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<td># of abortions:</td>
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</tbody>
</table>

“Please indicate if you or any close relative have suffered any of disease listed below”:

<table>
<thead>
<tr>
<th>Disease</th>
<th>You</th>
<th>Children</th>
<th>Father</th>
<th>Mother</th>
<th>Sister</th>
<th>Brother</th>
<th>Mother’s Parents</th>
<th>Father’s Parents</th>
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<tbody>
<tr>
<td>Diabetes</td>
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<td>High Blood Pressure</td>
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<td>Brain Hemorrhage</td>
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<td>Frequent Headaches</td>
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<td>Eye or vision problems</td>
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<td>Asthma or Chronic Bronchitis</td>
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<td>Intestinal or Stomach Problems</td>
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<td>Rheumatism of Joints</td>
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<td>Urinary Diseases (Epilepsy)</td>
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<td>Mental diseases or depression</td>
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<td>Osteoporosis</td>
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<td>Cancer (What type)</td>
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(Patient Name/Surname/ Signature) / / (Day / Month / Year)
### Health Center

**VISIT INFORMATION**

Name: ______________________                        Surname: ______________________

<table>
<thead>
<tr>
<th>DATE</th>
<th>Patient Complaints</th>
<th>Examination Results</th>
<th>Diagnosis, Treatment Plan</th>
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</thead>
<tbody>
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<td>DATE</td>
<td>Patient’ Claims Examination</td>
<td>Diagnosis, Treatment Plan</td>
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Chart Audit Forms
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<tr>
<th>The number of the Medical Record</th>
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<tbody>
<tr>
<td>Month:</td>
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<tr>
<td>Year:</td>
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</tbody>
</table>

1. Is the **patient’s personal information** recorded?

2. Are the **drug allergies** recorded in the Medical Record?

3. Is the patient’s **medical, family and social history** recorded?

4. Is the handwriting legible?

5. Do the notes of a medical consultation follow a logical order?

6. Are the **symptoms/complaints** recorded?

7. Are the **Physical Examination** findings recorded?

8. Is the **final diagnosis** clearly and visibly recorded?

9. Is the **treatment/management plan** clearly recorded?

10. Are the **medication’s doses** recorded?

11. Is the **discussion of the management plan** with the patient recorded?

12. If yes, is the **result of this discussion** recorded?

**Points**
**CPG – ORIENTED ASTHMA MANAGEMENT AUDIT FORM**

<table>
<thead>
<tr>
<th>Chart number</th>
</tr>
</thead>
</table>

| Month: | Year: |

<table>
<thead>
<tr>
<th>1</th>
<th>Are the CPG diagnose-determining criteria recorded?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Are the Risk Factors recorded?</td>
</tr>
<tr>
<td>3</td>
<td>Is the detailed chest physical examination recorded?</td>
</tr>
<tr>
<td>4</td>
<td>Is the possible co-morbidity recorded?</td>
</tr>
<tr>
<td>5</td>
<td>Is the diagnosis and Stage according to CPG?</td>
</tr>
<tr>
<td>6</td>
<td>Are the Lab tests asked and recorded according to CPG?</td>
</tr>
<tr>
<td>7</td>
<td>Are the lifestyle modification recommendations recorded?</td>
</tr>
<tr>
<td>8</td>
<td>Is the recommended treatment according to the CPG?</td>
</tr>
</tbody>
</table>

**Diagnose determining consultation**

**Max. 9 POINTS**

<table>
<thead>
<tr>
<th>Points:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>Is the detailed description of asthma symptoms recorded?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Are the recommendations for lifestyle modification followed?</td>
</tr>
<tr>
<td>3</td>
<td>The patient is not collaborating?</td>
</tr>
<tr>
<td>4</td>
<td>Are the medication’s side effects or its tolerance recorded?</td>
</tr>
<tr>
<td>5</td>
<td>Is the diagnosis and Stage according to CPG?</td>
</tr>
<tr>
<td>6</td>
<td>Are the clarifications for changes in medications recorded?</td>
</tr>
<tr>
<td>7</td>
<td>Is the recommended treatment according to the CPG?</td>
</tr>
</tbody>
</table>

**The 1st Follow up consultation**

**Max. 8 POINTS**

<table>
<thead>
<tr>
<th>Points:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>Is the detailed description of asthma symptoms recorded?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Are the recommendations for lifestyle modification followed?</td>
</tr>
<tr>
<td>3</td>
<td>The patient is not collaborating?</td>
</tr>
<tr>
<td>4</td>
<td>Is the diagnosis and Stage according to CPG?</td>
</tr>
<tr>
<td>5</td>
<td>Is the recommended treatment according to the CPG?</td>
</tr>
</tbody>
</table>

**Routine follow up consultation**

**Max. 7 POINTS**

<table>
<thead>
<tr>
<th>Points:</th>
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<table>
<thead>
<tr>
<th>1</th>
<th>Is the detailed description of asthma symptoms recorded?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Are the recommendations for lifestyle modification followed?</td>
</tr>
<tr>
<td>3</td>
<td>The patient is not collaborating?</td>
</tr>
<tr>
<td>4</td>
<td>Is the diagnosis and Stage according to CPG?</td>
</tr>
<tr>
<td>5</td>
<td>Is the recommended treatment according to the CPG?</td>
</tr>
</tbody>
</table>

**6-th month follow up consultation**

**Max. 8 POINTS**

| Points: |

<table>
<thead>
<tr>
<th>1</th>
<th>Is the detailed description of asthma symptoms recorded?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Are the recommendations for lifestyle modification followed?</td>
</tr>
<tr>
<td>3</td>
<td>The patient is not collaborating?</td>
</tr>
<tr>
<td>4</td>
<td>Is the diagnosis and Stage according to CPG?</td>
</tr>
<tr>
<td>5</td>
<td>Are the conclusions regarding asthma control recorded?</td>
</tr>
<tr>
<td>6</td>
<td>Is the recommended treatment according to the CPG?</td>
</tr>
</tbody>
</table>

**Appropriate referral:**

- No indications to refer
- Growing child under high doses of corticosteroids
- Uncontrolled Asthma under high doses of medications
- All asthma emergencies situations

*Note: Put a + in the correspondent box if the answer is YES. Leave it blank if the answer is NO.*
CPG – ORIENTED DIABETES MANAGEMENT AUDIT FORM

<table>
<thead>
<tr>
<th>Audit day</th>
<th>Physician</th>
<th>Audit done by:</th>
<th>Health Centre</th>
<th>(signature)</th>
</tr>
</thead>
</table>

Put a + in the correspondent box if the answer is **YES**. Live it blank if the answer is **NO**.

### Chart number

<table>
<thead>
<tr>
<th>Month:</th>
<th>Year:</th>
</tr>
</thead>
</table>

#### Diagnose determining consultation

1. Are the CPG diagnose-determining criteria recorded?
2. Is the BP measurement recorded?
3. Are the Risk Factors recorded?
4. Are the diabetes symptoms recorded?
5. Is the clinical examination of the “target organs” recorded?
6. Is the possible co-morbidity recorded?
7. Is the diagnosis recorded according to the CPG?
8. Are the Lab tests asked and recorded according to CPG?
9. Are the lifestyle modification recommendations recorded?
10. Is the recommended treatment according to the CPG?
11. Appropriate referral: **No indications to refer**

Max. **11 POINTS**

#### The 1st Follow up consultation

1. Is the detailed description of diabetes symptoms recorded?
2. Are the recommendations for lifestyle modification followed?
3. The patient is not collaborating?
4. Are the medication’s side effects or its tolerance recorded?
5. Is the diagnosis recorded according to the CPG?
6. Are the clarifications for changes in medications recorded?
7. Is the recommended treatment according to the CPG?
8. Appropriate referral: **No indications to refer**

Max. **8 PIKE**

#### Routine follow up consultation

1. Is the detailed description of diabetes symptoms recorded?
2. If **BP** and **weight** measurement recorded?
3. Are the recommendations for lifestyle modification followed?
4. The patient is not collaborating?
5. Is the diagnosis recorded according to the CPG?
6. Is the recommended treatment according to the CPG?
7. Appropriate referral: **No indications to refer**

Max. **7 PIKE**

#### 6-th month follow up consultation

1. Is the detailed description of diabetes symptoms recorded?
2. If **BP** and **weight** measurement recorded?
3. Is the clinical examination of the “target organs” recorded?
4. Are the recommendations for lifestyle modification followed?
5. The patient is not collaborating?
6. Is the diagnosis recorded according to the CPG?
7. Is the recommended treatment according to the CPG?
8. Appropriate referral: **No indications to refer**

Max. **8 PIKE**
Put a + in the correspondent box if the answer is YES. Live it blank if the answer is NO.

### CPG-ORIENTED HYPERTENSION MANAGEMENT AUDIT FORM

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<tr>
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<th>Month:</th>
<th>Year:</th>
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</thead>
<tbody>
<tr>
<td><strong>Diagnose determining consultation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Are there 3 appropriate BP measurements recorded?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are the Risk Factors recorded?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is the clinical examination of the “target organs” recorded?</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Is the diagnosis and Stage according to CPG?</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Are the Lab tests asked and recorded according to CPG?</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Are the lifestyle modification recommendations recorded?</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Is the recommended treatment according to the CPG?</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Appropriate referral: Secondary Hypertension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BP out of control, even if treated with 2 or 3 drugs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patients under 35 years old</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing proteinuria</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Renal impairment (creatinine &gt; 180)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Malignant hypertension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No indications to refer</td>
<td></td>
</tr>
</tbody>
</table>

Max. 8 POINTS | Points |
|--------------|--------|

| **The 1st Follow up consultation** | | |
| 1 | Is the BP measured and recorded? | |
| 2 | Are the recommendations for lifestyle modification followed? | |
| 3 | The patient is not collaborating? | |
| 4 | Are the medication’s side effects or its tolerance recorded? | |
| 5 | Is the diagnosis and Stage according to CPG? | |
| 6 | Are the clarifications for changes in medications recorded? | |
| 7 | Is the recommended treatment according to the CPG? | |
| 8 | Appropriate referral: Secondary Hypertension | |
| | BP out of control, even if treated with 2 or 3 drugs | |
| | Patients under 35 years old | |
| | Increasing proteinuria | |
| | Renal impairment (creatinine > 180) | |
| | Malignant hypertension | |
| | No indications to refer | |

Max. 8 POINTS | Points |
|--------------|--------|

| **Routine follow up consultation** | | |
| 1 | Is the BP measured and recorded? | |
| 2 | Is the diagnosis and Stage according to CPG? | |
| 3 | Are the recommendations for lifestyle modification followed? | |
| 4 | The patient is not collaborating? | |
| 5 | Is the recommended treatment according to the CPG? | |
| 6 | Appropriate referral: Secondary Hypertension | |
| | BP out of control, even if treated with 2 or 3 drugs | |
| | Patients under 35 years old | |
| | Increasing proteinuria | |
| | Renal impairment (creatinine > 180) | |
| | Malignant hypertension | |
| | No indications to refer | |

Max. 6 POINTS | Points |
|--------------|--------|
CPG – ORIENTED LOWER RESPIRATORY TRACT INFECTION MANAGEMENT AUDIT FORM

<table>
<thead>
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<th>Chart number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month:</td>
</tr>
<tr>
<td>Year:</td>
</tr>
</tbody>
</table>

**Diagnose determining consultation**

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are the Risk Factors recorded?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is the chest X ray examination asked and recorded?</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Is the treatment according to CPG (based on age, etiology)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Is the recommendation for 48 hours latter follow up recorded?</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Appropriate referral:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No indications for referral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of signs of severe infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of at least 1 Risk Factor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children less than 3 – 6 months old</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radiological evidence of severe damage (pleuritis, PNX)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe clinical situation; treatment failure</td>
<td></td>
</tr>
</tbody>
</table>

Max. 6 POINTS

**The 48 hours later Follow up consultation**

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are the medication’s side effects or its tolerance recorded?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Is the treatment according to CPG (based on age, etiology)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Are the clarifications for changes in medications recorded?</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Is the recommendation for 3 weeks latter follow up recorded?</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Appropriate referral:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No indications for referral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of signs of severe infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of at least 1 Risk Factor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children less than 3 – 6 months old</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radiological evidence of severe damage (pleuritis, PNX)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe clinical situation; treatment failure</td>
<td></td>
</tr>
</tbody>
</table>

Max. 6 POINTS

**The 3 weeks later Follow up consultation**

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Are the final conclusions recorded?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Appropriate referral:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No indications for referral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of signs of severe infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The presence of at least 1 Risk Factor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children less than 3 – 6 months old</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radiological evidence of severe damage (pleuritis, PNX)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe clinical situation; treatment failure</td>
<td></td>
</tr>
</tbody>
</table>

Max. 3 POINTS

Put a + in the correspondent box if the answer is YES. Live it blank if the answer is NO.
# CPG – ORIENTED TONSILLITIS MANAGEMENT AUDIT FORM

<table>
<thead>
<tr>
<th>Audit day</th>
<th>Physician</th>
<th>Audit done by:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Health Centre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(signature)</td>
</tr>
</tbody>
</table>

Put a + in the correspondent box if the answer is **YES**. Live it blank if the answer is **NO**.

## Chart number

<table>
<thead>
<tr>
<th>Month:</th>
<th>Year:</th>
</tr>
</thead>
</table>

## Diagnose determining consultation

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2. Is the description of the throat examination recorded?</td>
<td></td>
</tr>
<tr>
<td>3. Is the Tonsillitis diagnosis according to CPG:</td>
<td></td>
</tr>
<tr>
<td>- Viral Tonsillitis</td>
<td></td>
</tr>
<tr>
<td>- Bacterial Tonsillitis (Streptococcus)</td>
<td></td>
</tr>
<tr>
<td>- Pseudomembranous Tonsillitis (Diphtheria)</td>
<td></td>
</tr>
<tr>
<td>4. Is the treatment according to CPG (based on age, etiology)</td>
<td></td>
</tr>
<tr>
<td>- &lt; 3 years old; symptomatic treatment</td>
<td></td>
</tr>
<tr>
<td>- &gt; 3 years old; appropriate antibiotic + symptomatic treatment</td>
<td></td>
</tr>
<tr>
<td>5. Is the recommendation for 48 hours latter follow up recorded?</td>
<td></td>
</tr>
<tr>
<td>6. Appropriate referral: (to a pediatrician or ENT specialist)</td>
<td></td>
</tr>
<tr>
<td>- No indications to refer</td>
<td></td>
</tr>
<tr>
<td>- Clinically suspected Diphtheria</td>
<td></td>
</tr>
<tr>
<td>- Repeated treatment failure</td>
<td></td>
</tr>
<tr>
<td>- Peritonsillar Abscess</td>
<td></td>
</tr>
<tr>
<td>- Absolute indications for Tonsillectomy</td>
<td></td>
</tr>
<tr>
<td><strong>Points</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

## The 48 hours later Follow up consultation

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2. Are the medication's side effects or its tolerance recorded?</td>
<td></td>
</tr>
<tr>
<td>3. Is the treatment according to CPG (based on age, etiology)</td>
<td></td>
</tr>
<tr>
<td>- &lt; 3 years old; symptomatic treatment</td>
<td></td>
</tr>
<tr>
<td>- &gt; 3 years old; appropriate antibiotic + symptomatic treatment</td>
<td></td>
</tr>
<tr>
<td>4. Are the clarifications for changes in medications recorded?</td>
<td></td>
</tr>
<tr>
<td>5. Is the recommendation for 3 weeks latter follow up recorded?</td>
<td></td>
</tr>
<tr>
<td>6. Appropriate referral: (to a pediatrician or ENT specialist)</td>
<td></td>
</tr>
<tr>
<td>- No indications to refer</td>
<td></td>
</tr>
<tr>
<td>- Clinically suspected Diphtheria</td>
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<td>- Repeated treatment failure</td>
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<tr>
<td>- Peritonsillar Abscess</td>
<td></td>
</tr>
<tr>
<td>- Absolute indications for Tonsillectomy</td>
<td></td>
</tr>
<tr>
<td><strong>Points</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

## The 3 weeks later Follow up consultation

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the detailed description of the symptoms recorded?</td>
<td></td>
</tr>
<tr>
<td>2. Are the final conclusions recorded?</td>
<td></td>
</tr>
<tr>
<td>3. Appropriate referral: (to a pediatrician or ENT specialist)</td>
<td></td>
</tr>
<tr>
<td>- No indications to refer</td>
<td></td>
</tr>
<tr>
<td>- Clinically suspected Diphtheria</td>
<td></td>
</tr>
<tr>
<td>- Repeated treatment failure</td>
<td></td>
</tr>
<tr>
<td>- Peritonsillar Abscess</td>
<td></td>
</tr>
<tr>
<td>- Absolute indications for Tonsillectomy</td>
<td></td>
</tr>
<tr>
<td><strong>Points</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>
Patient Satisfaction Survey

Health Center: ______________________

Date of Visit: Date________ Month___________ Year: ______

Please, select only one of the answers in the questions below, the most important one:

1. What service did you receive in the health center today?
   - Visit
   - Injection
   - Vaccination
   - Microsurgery
   - Control
   - Antenatal care
   - Other ______________________

2. Were you satisfied with the service?
   - Very satisfied
   - Satisfied
   - Somehow satisfied
   - I don’t know
   - Somehow unsatisfied
   - Unsatisfied
   - Very unsatisfied

3. What were the things that pleased you about your visit?
   - Fast service
   - Free service
   - The service was good, the problem was resolved
   - Physician was careful
   - Medication/ prescription available

4. What were the things that did not please you about your visit?
   - Long waiting time
   - Cost too much / too expensive
   - Care was not good / my problem was not treated
   - Physician was not available
   - Medication / prescription not available
   - Other: ______________________________________

5. What additional services would you like to receive at this health center?
   - Family planning (Preservatives, contraceptives)
   - Health educations
   - Other (please specify)
The PHC HIS is a simple Access database with user-friendly interfaces. The system is based on an encounter form completed by a primary care provider for each patient visit and produces easy-to-read monthly reports. The encounter form collects information on patient characteristics, provider, visit characteristics, diagnosis, and disposition (referrals, prescriptions, lab tests). The system has been designed to be easy to use with simple encounter forms, user-friendly data entry, unsophisticated data transfer and consolidation, and simplified routine reporting. The result is a simple, well-designed PHC HIS that is rapidly being expanded in Albania and may have applications in other country settings.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Albania PHC HIS</td>
<td>A short introduction to the development history and structure of the PHC HIS in Albania</td>
</tr>
<tr>
<td>System Orientation</td>
<td>A &quot;walk-through&quot; of the system to demonstrate its functions and uses using sample data and screen shots</td>
</tr>
<tr>
<td>Description of PHC HIS Infrastructure</td>
<td>A short description of the “nuts and bolts” of the system, with explanations of the technical specifications, system hierarchy, data entry, data transfer, data security, reporting, and system administration</td>
</tr>
<tr>
<td>Sample Calculation of System Requirements</td>
<td>Rough calculations based on population that may allow health authorities and managers to project potential costs of implementing the PHC HIS in their region</td>
</tr>
<tr>
<td>Encounter Form and List of Procedure Codes</td>
<td>The form used by PHC providers to record each patient encounter for entry into the system</td>
</tr>
<tr>
<td>Procedures for Completing the Encounter Form</td>
<td>A simple explanation for PHC providers to guide them through completing the encounter form, including reference material on coding</td>
</tr>
<tr>
<td>Procedure for Data Entry</td>
<td>A simple explanation for data entry personnel on creating “batches” of entries, entering encounter form data in batches into the system using a numeric keypad, and double entry procedures to ensure accuracy</td>
</tr>
<tr>
<td>Sample Reports</td>
<td>A routine set of monthly reports that can be automatically generated by the system</td>
</tr>
</tbody>
</table>
Introduction to the Albania PHC HIS

Improving Collection and Use of Basic Health Information

The Albanian primary health care (PHC) health information system (HIS) was designed to inform and support interventions aimed at improving the quality of care and efficiency of PHC in Albania, beginning in four facilities in the Berat Region. Ministry of Health (MOH) information system channels collected a large amount of data that was aggregated in Tirana, but was rarely analyzed or used for health system planning or quality assurance. Regional, district, and facility level users did not receive feedback from central levels after analysis. Health departments did not have adequate capacity to analyze or use health information for informed planning or decision making, or to monitor quality of care. Thus, limited and unreliable health information and medical statistics in Albania impeded the provision of higher quality and more continuous patient care.

A PHC HIS was designed and introduced by the PHRplus Project in July 2002 to help facility, district, and regional managers to collect, analyze, and feed back the data necessary to make more informed clinical and managerial decisions. The Albania project began by adapting health information system tools developed and tested by PHRplus in Egypt. The adapted system initially introduced in four pilot health centers in Berat Region was based on a simple one-page encounter form that captured data on every patient visit. The system was designed to use a scannable patient encounter form. The encounter form included patient characteristics (name, age, sex, insurance status), provider (doctor ID, nurse ID), visit characteristics (first visit or repeat, reason for visit, length of visit), diagnosis group, and disposition (referrals, prescriptions, lab tests). Equipment needed to support the HIS included a computer network, scanner, and printer.

The PHC HIS proved effective in the initial four pilot sites, producing routine reports and disseminating them to target user groups to contribute to improved planning and monitoring. From July 2002 to May 2004, over 90,000 encounters were collected and analyzed. Routine reports by facility and by physician were generated monthly, and analyzed as part of the quality improvement activities in each health center.

Streamlining the PHC HIS for Roll Out

In April 2004, the local government asked for technical assistance from PHRplus to implement a similar system in all the urban centers in the Berat and Kuçova districts of Berat Region. PHRplus took the opportunity to improve the system before rolling it out. The project invited all stakeholders to participate in discussions about reforming the system to be more effective in the Albanian context, including staff of the pilot health centers, the statistical department of the Ministry of Health (MOH), head of the reproductive health section of the MOH, head of ambulatory care of the MOH, Director of Information Technology at the Health Insurance Institute (HII), the Institute of Public Health, and the Director of Primary Care of the MOH. The stakeholders, alongside PHRplus management and HIS experts, agreed to streamline the HIS based on the following principles:
Use a simple encounter form.
Capture essential PHC data to monitor PHC services.
Use a manual data entry process that requires the use of only a numeric keypad.
Require a double entry process to ensure the accuracy of a manual data entry method.
Ensure that the HIS is user friendly, requiring minimal technical skill to operate and maintain.
Design the HIS to work reliably without the need for technical intervention.
Focus the structure of the HIS around individual machines rather than through a network.
Produce a basic set of reports that can be quickly generated in a user-friendly manner and at the lowest level possible.
Design the system around the use of floppy disks for transferring data from each data entry computer “up the chain” to the central database to avoid relying on computer networks, dial up internet and e-mail connections, websites, handheld computers, etc.
Design the system to handle electricity disruption without significant data loss.

As a result of the improvements, the revised encounter form (see Attachment 5) is shorter and easier for doctors and nurses to complete. Information about the trimester of pregnancy and breastfeeding is included, which makes it possible to produce three routine MOH reports, thus eliminating paperwork. Two important changes make the HIS data more compatible with HII reports and procedures. The first is the addition of the HII unique patient code, which will allow information to be analyzed by patient, rather than just by visit or encounter. The second modification is the use of the same standard diagnosis codes that have been introduced by HII over the past six months (using standard ICD-9 codes).

The new form also includes a procedure code section, which provides a way to track activities and procedures, such as injections, immunizations, and wound care. Procedures can be very detailed, depending on the expected use of the information. For example, nurses enter a code for each type of immunization, providing a way to track this information. In addition, a cost can be assigned to each procedure, which will allow for analysis of PHC costs in the future.

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**Evaluating the Improved PHC HIS**

The newly redesigned HIS was tested in April 2004. After some quick training on the new system, the four original health centers began officially using the redesigned HIS in May 2004, with additional health centers in urban areas throughout the region added in phases. In August 2004, 18 health centers (46 physicians, 97 nurses) provided complete data for analysis at the health center, district, and regional levels. Four months of user experience indicates that:

- Costs for encounter forms have been cut in half
- Encounter forms are now completed in a third of the original time
- Data entry time has been cut by 40%
- Routine monthly reports are generated in less than five working days after month’s end
The system is now quickly spreading to the Skrapar district and to rural clinics throughout the Berat Region and is run completely by Albanians. Local health authorities are providing financial resources to print encounter forms and are providing staff for data entry.

Creating Ownership for the PHC HIS in Albania

Based on PHRplus experience to date, the prospects that the PHC HIS can be replicated throughout the entire country is very high. The system yields consistent data on PHC practices, at least at a basic level. The system infrastructure is well developed and flexible, does not require sophisticated technology, and ensures operation and back up given inconsistent electricity. The procedure/special codes section of the encounter form allows the system to collect additional information without changes to the computer program or encounter form. For example, currently laboratory services are not coded in the system, but with the addition of centers offering lab services we plan to add codes to capture these procedures. Further work with the MOH, HII, local authorities, and individual physicians and nurses is needed to identify how the HIS can best provide them with useful information and reports.

The robust work to adapt the system to country-specific conditions described above has suddenly made local ownership the system’s strongest point. After a presentation to the Deputy Minister of Health and other key stakeholders in mid-September, the central government is evaluating the system for scale-up throughout the country. The Deputy Minister affirmed that the system is excellent, practical, concrete, and suitable to the Albanian context. He further emphasized that the PHC HIS will not only improve monitoring of PHC at local levels, but will also provide evidence for strategic and budget planning in the MOH. He stated that he personally supports the roll out of the system throughout Albania, not only as the Deputy Minister, but also as an expert in information services.

Next Steps and Recommendations

The next step for the PHC HIS is to hold a workshop in Berat Region to demonstrate the system to representatives from other districts and regions. PHRplus also recommends establishing a technical group at the central level to decide on a basic data set required by PHC facilities. Based on the data requirements, the existing encounter form and list of procedure/special codes can be updated to ensure required data are captured. A second step would be to decide on clinical standards and related indicators to be monitored to track improvements to PHC quality of care over time. As mentioned above, further work with “data user groups” (MOH, HII, local authorities and health sector managers, and individual physicians and nurses) is needed to develop useful reports. Continued discussions will take place to provide concrete examples of uses of the information including comparing compliance to standards (e.g., minimum number of visits by physician, percentage of women having a prenatal visit during their first trimester of pregnancy, average number of well baby visits during the first year) and to monitor trends (e.g., percent of babies who are exclusively breastfed during the first six months, cases of chronic diseases seen by doctor, by health center, and within the region).

It is often tempting to design an HIS using the most advanced technology and thinking. The PHRplus HIS has been successfully implemented by keeping things simple and testing processes to ensure feasibility – collecting only data that will be used for quality monitoring and decision-making, developing easy systems for data collection, entry, analysis, and reporting, and using an appropriate level of technology.
Welcome to a demonstration of the Albanian Primary Care Health Information System. This demonstration includes instructions about the Installation, Data Entry and Report Generation.

**Installation**

If you already have the PHC HIS on your computer, double click on the HIS.exe on your desktop.

If you have a demonstration CD, insert it in your machine to install it. The demonstration may automatically ask if you want to install the demo. If it does not, double click the HISinstallDemo file to install.

The PHC HIS requires a computer minimum screen area of 1024 by 768 pixels. Some users may need to reset their computer screen area as following: Right click on the computer screen. Select the “Active Desktop” and then “Customize My Desktop”. You will see the Display Property screen. Go to the “Settings” tab and change the “Screen Area” into 1024 by 768 pixels or higher.

**Data Entry**

Click on the HIS icon on your desktop, which opens an Access Program. You come to the main screen (HIS Data Entry Screen). You may need to select “English” in the upper left-hand corner.
From this screen you can create a batch by clicking “Create Batches”. Batches are groups of completed encounter forms. Normally forms are “batched” to speed up data entry for visits that occur at the same health center, same physician and/or nurse, same visit date. A batch has been created for your convenience.

From the main or data entry screen, encounter forms are entered (pass 1) by selecting your batch and then re-entered (pass 2). A sample completed encounter form:
Data entry screen is shown below. To practice entering data a user must be selected. To move from field to field hit enter.

Click “Next Form” and the “Cancel Batch” to get back to the Data Entry Screen.

The toolbar at the top of the screen includes: Reports, Manager, Transfers, Documents, Demo.

“Reports” found here are for the data entry person, and are not available in the demo.
Report Generation

From the main (data entry) menu bar, select “Manager” and then “System Administration” to get the following HIS administration screen:
From the HIS Administration screen you can access the tables used by the system. From here you can add or modify system data, such as adding new physicians or facilities, procedures codes, etc.

For example, if you click on “Procedures” and check numeric order, you will see:

Close “Procedures” to get back to the HIS Administration Screen. On the HIS Administration Screen toolbar click “Reports”. This set of reports includes reports used to monitor and manage the data entry and system maintenance. Examples are shown on the following pages.
For example, if you select “report”, then “end of month” then “facility” then “Muzakaj” then “August” … :

![Image of software interface]

… You will see a series of reports for the Muzakaj Health Center, including one of the number of visits by each physician:

![Table of Total Visits By Month By Physician]

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelina Miki</td>
<td>92</td>
<td>116</td>
<td>125</td>
<td>136</td>
<td>168</td>
<td>187</td>
<td>182</td>
<td>168</td>
<td>225</td>
<td>139</td>
<td>131</td>
<td>158</td>
<td>181</td>
<td>1,864</td>
</tr>
<tr>
<td>Donka Foka</td>
<td>192</td>
<td>142</td>
<td>179</td>
<td>125</td>
<td>201</td>
<td>193</td>
<td>180</td>
<td>180</td>
<td>208</td>
<td>210</td>
<td>154</td>
<td>125</td>
<td>155</td>
<td>2,104</td>
</tr>
<tr>
<td>Hovensia Kok</td>
<td>257</td>
<td>165</td>
<td>316</td>
<td>268</td>
<td>323</td>
<td>367</td>
<td>236</td>
<td>232</td>
<td>359</td>
<td>267</td>
<td>272</td>
<td>341</td>
<td>3,412</td>
<td></td>
</tr>
<tr>
<td>Margareta Xha</td>
<td>276</td>
<td>2</td>
<td>328</td>
<td>384</td>
<td>401</td>
<td>399</td>
<td>376</td>
<td>423</td>
<td>408</td>
<td>482</td>
<td>424</td>
<td>417</td>
<td>186</td>
<td>4,148</td>
</tr>
<tr>
<td>Shpetar Ziu</td>
<td>119</td>
<td>328</td>
<td>224</td>
<td>217</td>
<td>285</td>
<td>287</td>
<td>301</td>
<td>245</td>
<td>332</td>
<td>287</td>
<td>267</td>
<td>174</td>
<td>231</td>
<td>3,376</td>
</tr>
</tbody>
</table>

Partners for Health Reformplus
If you select “Report”, then “End of Month” then “District” then “Kucova” then “August”, one of the reports you will see (after closing others that come first) is the rejected forms summary. This report shows how many forms were rejected and sent back for completion to each center, how many have been corrected and returned, and the % of rejects and the % of returns:

<table>
<thead>
<tr>
<th>Center</th>
<th>Visits</th>
<th>Rejects</th>
<th>Returns</th>
<th>Reject %</th>
<th>Return %</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Janari</td>
<td>966</td>
<td>26</td>
<td>6</td>
<td>2.7%</td>
<td>23.1%</td>
</tr>
<tr>
<td>Havaheas</td>
<td>684</td>
<td>18</td>
<td>11</td>
<td>2.6%</td>
<td>61.1%</td>
</tr>
<tr>
<td>Kucova Womens</td>
<td>186</td>
<td>4</td>
<td>4</td>
<td>2.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Liukan Prifti</td>
<td>1941</td>
<td>57</td>
<td>36</td>
<td>2.9%</td>
<td>63.2%</td>
</tr>
<tr>
<td>Tafil Skendo</td>
<td>1025</td>
<td>19</td>
<td>7</td>
<td>1.9%</td>
<td>36.8%</td>
</tr>
</tbody>
</table>

The last category found under “Reports” on the HIS Administration toolbar is HIS Reports”. Clicking “HIS Reports” opens a new program that contains the reports specifically designed for the PHRplus Project by Dr. Altin Azisslari. Examples are given on the following pages.
The main screen of the reports program is below. Note that on the left side you see “Snapshots Only”. Here you can access “snapshots” or pictures of reports opened and saved previously. On the right side of the screen you can run reports normally.

So if you click “Regular Reports” then “Periodic Reports” then “Facility” then “Llukan Prifti” then “Continue>>” …
... and choose “Set a period of your choice” and “Use the Month as criteria” and select the report period:

When you select “Continue>>”, you can select from a number of reports. The one selected here is “Frequency of Diagnosis”:
The first section of the “Frequency of Diagnoses” Report is shown below:

### PERIODIC REPORTS

#### FREQUENCY OF DIAGNOSES

**Facility:** Llukan Prifti  
**Date:** June 2004 - August 2004

<table>
<thead>
<tr>
<th>CLASS</th>
<th>CODE</th>
<th>DIAGNOSE</th>
<th>VISITS</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII</td>
<td>401</td>
<td>Essential hypertension</td>
<td>1630</td>
<td>608</td>
</tr>
<tr>
<td>III</td>
<td>250</td>
<td>Diabetes mellitus</td>
<td>334</td>
<td>187</td>
</tr>
<tr>
<td>VIII</td>
<td>466</td>
<td>Acute bronchitis and bronchiolitis</td>
<td>209</td>
<td>191</td>
</tr>
<tr>
<td>VIII</td>
<td>463</td>
<td>Acute tonsillitis</td>
<td>145</td>
<td>137</td>
</tr>
<tr>
<td>VIII</td>
<td>493</td>
<td>Asthma</td>
<td>142</td>
<td>81</td>
</tr>
<tr>
<td>IX</td>
<td>532</td>
<td>Duodenal ulcer</td>
<td>122</td>
<td>81</td>
</tr>
<tr>
<td>XIII</td>
<td>721</td>
<td>Spondylosis and allied disorders</td>
<td>75</td>
<td>68</td>
</tr>
<tr>
<td>IX</td>
<td>555</td>
<td>Regional enteritis</td>
<td>73</td>
<td>68</td>
</tr>
<tr>
<td>VI</td>
<td>345</td>
<td>Epilepsy</td>
<td>70</td>
<td>32</td>
</tr>
<tr>
<td>V</td>
<td>205</td>
<td>Schizophrenic disorders</td>
<td>69</td>
<td>31</td>
</tr>
<tr>
<td>XII</td>
<td>602</td>
<td>Contact dermatitis and other eczema</td>
<td>67</td>
<td>63</td>
</tr>
<tr>
<td>VIII</td>
<td>464</td>
<td>Acute laryngitis and tracheitis</td>
<td>61</td>
<td>58</td>
</tr>
<tr>
<td>VIII</td>
<td>490</td>
<td>Bronchitis, not specified as acute or chronic</td>
<td>60</td>
<td>54</td>
</tr>
</tbody>
</table>

Return to the HIS reports menu to continue viewing reports. Keep in mind that the reports are under development. Requests by users at the facility, district, region, and country levels will determine the reports to be programmed. In general, reports will be used to monitor trends, such as the % of babies who are exclusively breastfed during the first six months, or the number of patients with diabetes followed by a specific physician or health center.
Description of PHC HIS Infrastructure

The Information System Infrastructure (ISI) was developed in the process of creating the Primary Care Health Information System for the PHR\textit{plus} project in Albania. The ISI is a generic database management structure that is particularly useful in situations where:

\begin{itemize}
  \item There are numerous data-gathering sites that are geographically dispersed
  \item Data need to be accumulated and reportable as they move up the data management hierarchy (for example from Site to Community to District to Region to Country levels)
  \item The use of technology must be limited to the lower end of the development spectrum
\end{itemize}

While the ISI was developed for a health information project, its use is not limited to this purpose. Throughout this description we will use examples from the PHR\textit{plus} Primary Care Health Information System to add clarity. However, with proper modification the ISI can support most any type of information system project.

Technical Specifications

The ISI consists of two MS Access database files that contain the ISI forms, queries, and reports. These two files are designed to be limited in size so that any modified versions can be distributed to all computers in a project’s system via a 1.44 mb floppy disk. A third MS Access database contains all of the data tables required by the ISI and the specific information system project. In addition to these MS Access database files the ISI uses several Visual Basic executable programs. The ISI depends on the availability of other Microsoft Office applications (Word, Excel, PowerPoint) for exporting data, reports, and documents designed for users. The following specifications are minimums for any computer that would be used in a project’s information system that uses the ISI:

\begin{itemize}
  \item Windows 97 or higher
  \item 500 mb available hard drive space
  \item Floppy Disk Drive
  \item Keyboard with Keypad or a separate Keypad for all machines to be used for data entry
  \item MS Office Professional 2000 or higher (must include MS Access and PowerPoint)
  \item Sufficient machine speed and RAM to operate MS Office applications in a usable manner
\end{itemize}

Data Access Nodes

In this description of the ISI we will use the term Data Access Nodes (DAN) to refer to any computer in the project system that will be used to enter data, report on data and/or perform any of the administrative functions required by the ISI. Actually, a DAN can be either an individual computer (desktop or laptop) or a Local Area Network (LAN) with data maintained on a server that can be accessed by multiple computers. In the case of a LAN, this is considered to be one Data Access Node within the ISI hierarchy. Depending on the size of an information project there are likely to be many
DANs. Most, particularly at the lower levels of the hierarchy, will be individual computers. Possibly, depending on the technical sophistication of the project environment, one or more of the higher-level DANs might be a LAN.

Hierarchy of Data Access Nodes

DANs are organized in a strict Mother-Child hierarchy that might look like this:

![Diagram of hierarchy]

The significance of this hierarchy is twofold. First it controls the transfer of data throughout the system; both UP the hierarchy and DOWN the hierarchy (see Data Transfer Process for more description of this process). Second, it defines the locus of responsibility for the accumulation of data, primarily for the purpose of report generation. For example, DAN #4 will maintain all data that is entered at DAN #7 and DAN #8 as well as data entered at DAN #4. This allows DAN #4 to be able to generate reports on the combined data from DAN #4, #7 and #8.
This makes more sense when the hierarchy of the DANs is matched with a project’s specific hierarchy for data gathering and reporting responsibilities. For example, the hierarchy of the PHRplus Primary Health Information System Project looks like this:

![Diagram](image)

**Figure 2**

Data on patient encounters are gathered at various health centers or health posts (Sites) throughout the country. For data reporting and data analysis purposes it is desirable to be able to access the data for a specific Site, then for all of the Sites in a particular Community (when there are multiple Sites in a Community), then for all of the Sites in a District, then for all of the Sites in a Region and finally for all of the Sites in the Country.

Based on geographic and other operational considerations, the Project’s data responsibility hierarchy is then matched to the ISI hierarchy for DANs to produce a combined hierarchy that might look like this:

![Diagram](image)

**Figure 3**
In this situation, data from Site C is entered into a computer identified as DAN #8. As soon as all the data for a particular month have been entered, for example, it is possible for DAN #8 to generate reports on the activity at Site C. The data gathered by DAN #8 are periodically transferred to the computer DAN #4. The data for Site A and Site B, entered into DAN #7 is also transferred to DAN #4. This makes it possible for DAN #4 to generate reports on all of the Sites in Community A. And so on up the chain. At the top level, the Country level in this example, it will be possible to analyze data and generate reports for all sites in the system, by Region, by District, by Community.

One of the primary jobs of the ISI is to manage this relationship of DANs and its data transfer processes in a user friendly fashion so that, once the basic structure has been set up, the users of the system can add Computers, Sites, Communities, etc, and can change the structure of responsibilities of the DANs to match the changing realities of their particular information system project.

---

**Data Entry**

Another primary responsibility of the ISI is to provide for an efficient, user-friendly data entry process that can be implemented in an environment that is not yet ready for a very technologically sophisticated information system. The ISI is designed around a data entry process using a paper data gathering form that is designed to be easily and quickly completed by those responsible for this step. Completed forms are batched together and entered manually, with each batch entered twice (double entry) to maximize accuracy. The ISI data entry process has been designed to function completely by using only the keys on the number pad section of the keyboard, assuming the data are restricted to numeric values only. In most situations where computer technology is not commonplace, it is likely to be difficult to find data entry personnel who can touch-type. By limiting data entry to just the number pad, it is possible to train data entry personnel to a highly proficient level quite quickly.

A considerable amount of error checking can be built in to the data entry process in order to ensure that the data is valid and logical. For example, in the PHRplus PHC HIS, data are checked at time of data entry to see that the patient’s date of birth is not after the date of visit, or that prenatal care visits don’t occur with male patients, etc. When these situations are encountered, the ISI includes a feature for rejecting forms and tracking the return of corrected forms. Forms are also rejected when key data are missing.

---

**Data Transfer Process**

Data that are entered into one DAN will need to be transferred “up the chain” of the Mother-Child hierarchy in order to ensure that each DAN in the hierarchy has the data available to generate reports based on its responsibility within the Project hierarchy. The most important data that are transferred UP the Mother-Child chain, of course, are the Project data. In the example of the PHRplus PHC HIS, these are the data on the visit encounters that occur in each health center. Other data important to the ISI functions that are transferred up include data entry productivity data, form rejection data, system management data, and data on any ISI errors or reportable occurrences.

The transfer data are created by the Child DAN onto a floppy disk. The disk is carried to the Mother DAN and received. Receipt of the transfer data is documented by the Mother DAN and put on the floppy disk, which is then taken back to the Child DAN for confirmation. Until the Child DAN receives confirmation that the data have been received by the Mother DAN, it will continue to indicate that there are data ready for transfer. This approach ensures that no data are lost in the transfer process.
There is also an important element of the transfer process that requires data to go DOWN the Mother-Child chain. Primarily this need occurs when there changes to one of the Project data tables that are critical to the data entry or report-generating features. For example, in the PHRplus Project, this occurs when new physicians are added, new health centers are added, procedure codes or diagnosis codes are added or deleted, etc. Changes such as this typically are made on the top DAN and then need to be sent down the chain to all other DANs in the system. Transfers by a Mother DAN down the chain to its children DANs are usually going to become part of a transfer that is initiated because of the need to document the receipt of Project data being sent up the chain to the Mother by a Child. Documentation of the receipt of a downward transfer will usually not go back up to the Mother DAN until the Child DAN has its next need to transfer Project data UP to the Mother.

This ISI manages these transfers in a manner that is intended to minimize the need to make physical transfers of data from machine to machine while at the same time ensuring that all necessary transfers are properly confirmed. All transfer data are converted to sequential, comma delimited text files so that the file sizes are kept small. All transfers are structured to be no greater than 1.2 mb to ensure that they will fit on a floppy disk.

---

**Basic Reporting**

The ISI contains a basic set of reports that are intended to provide information necessary to monitor the functioning of the system. Any specific project will undoubtedly have many reports developed to make use of the Project data. These Project-specific reports are actually contained in a separate Access database and not considered to be part of the ISI. The ISI reports include:

- Forms entered by source (for example: by center, by physician, by nurse)
- Productivity of data entry personnel
- Data entry error rates
- Rejected forms rates and return rates

These reports are available on each DAN consistent with the defined Project responsibilities of that DAN. For example, a DAN that is responsible for one or more Sites can generate the above reports for those Sites. If a DAN is responsible for a particular District then it can generate the above reports for the District as a whole and for all sites within that District. A DAN that is responsible for a Region can generate reports for that Region, all Districts in that Region and all Sites within that Region.

This ISI provides for recording the name of the specific individual at each level of Project responsibility who is the Administrative Contact. The basic ISI reports are expected to be printed monthly and are labeled specifically to the attention of the Administrative Contact.

---

**Data Security**

Data security concerns have two main sources. First, it is possible that data in the Project data file can become corrupted as a result of power failures, inappropriate machine shut downs, bad hard disk sectors, or other reasons. The ISI has been programmed in a manner to minimize the exposure of the Project data to corruption, but it can still happen. The easiest way to recover from this type of situation, is to restore the Project data from a back-up copy.
On each DAN, when the main ISI application mdb is closed, a back-up copy of all Project data is automatically made on the hard drive of that machine. Backups are kept separate for Monday, Tuesday, Wednesday, and Thursday. Backups made on Friday are kept separate for the 1st Friday of the month, 2nd Friday of the month, 3rd Friday of the month, 4th Friday of the month, 5th Friday of the month. In the event of any data corruption or other data anomaly it is possible to restore the Project data to a point prior to the problem easily.

The second source of data security concern is an unrecoverable loss of the hard drive on a DAN. In situations where the electricity supply is unpredictable and/or of poor quality there is an increased possibility of this happening. If this occurs, all of the Project data and all backups of the Project data on that DAN are lost. Fortunately, the design of the ISI is such that a copy of all of the critical Project data for each DAN is available on its Mother DAN up to the point of the last data transfer. The ISI provides for the mechanism to rebuild the entire Project application on any DAN should this type of situation occur. Unfortunately, though, all data entered after the last transfer to the Mother DAN will not be recoverable. For this reason (and others) it is wise to have a Project policy of frequent data transfers. The PHRplus project expects data transfers to be done twice a week, on Mondays and Wednesdays.

The protection of last resort to recover any Project data that is lost after a recovery from a backup or from a rebuild is to reenter the data from the original data entry forms. The recommended procedure for handling data entry forms at each DAN is to keep the entered forms/batches for the current month separate from those of the prior month. Doing this makes it relatively easy to identify the forms/batches that are no longer in the Project data after a recovery/rebuild situation.

A unique situation exists with the DAN that is at the top of the hierarchy. This machine does not have a Mother from which it would be possible to rebuild if needed. For this DAN it is important to have a process of making an off-machine copy of the Project data. If this top DAN is an LAN situation then the ISI provides for the automatic backup of the Project data to one or more of the user machines in the LAN. This backup process works the same way as described above for the on-machine backup described for each DAN.

**User-Friendly Design**

All user interfaces in the ISI are through tightly controlled Access forms which provide the user with obvious or clear on-form directions. There is a liberal use of pop-up messages to inform the user of any unacceptable or off-standard situations that might occur. All forms, messages and reports are available to the user either in English or the local language. The ISI uses one single translation table that makes it easy to set up the ISI for any local language.

Ideally, the ISI would anticipate every possible error situation that might occur and either self-correct the situation or inform the user of the corrective action needed. At this point in the design of the ISI that is very close to true…but not 100%. The ISI programming traps every unanticipated error situation and handles it in a manner that is the least disruptive to the user. Typically this will involve an orderly closing of the application with an instruction to the user to reopen it. During this process the operational version of the ISI will be replaced with the secure master version and all links to the Project data will be refreshed. This will invariably return the user to a functional situation. If this occurred during the entry of a batch of forms, the batch will need to be re-entered. Information related to all unanticipated errors is logged and sent up the chain to the top DAN where it can be analyzed to identify any programming logic problem that needs to be fixed to prevent the error from occurring again.

Following a power failure, a situation can often result that locks a user out of a database application. The ISI detects this situation and corrects it automatically.
**Project Documents**

The ISI includes a feature that allows for any Microsoft Office document (Word, Excel, PowerPoint) to be maintained as a formal Project document. Whenever such a Project document is modified, the new version is sent down through the transfer process to all DANs in the system. This makes it possible for every DAN to always have immediate access to the latest version of a Project document. The ISI protects the Project documents from any accidental changes that might occur, restoring the document to its original state after each use. Examples of Project documents from the PHRplus Project include:

- Procedure for completing an encounter form
- Data entry procedure
- Batch slips
- Encounter form

**System Administration**

There are a number of system administration functions that need to be performed, usually on the top DAN, that are an integral part of the ISI although most need to be modified to fit the needs of a specific Project. These System Administration functions are contained in a separate application named HIS_MGT.mdb and is identified within the ISI as the System Administration function. It is accessed from the main ISI application (which is named HIS_DE.mdb).

One of the primary functions of this area of the ISI is to give the Project system administration users the ability to maintain the Project data tables in a user-friendly way and to then control the distribution of any changed Project data tables down to all other DANs in the system. In the PHRplus Project, for example, there are Project data tables for Regions, Districts, Facilities, Physicians, Nurses, Procedure Codes, Diagnosis Codes, and Registries. It is necessary from time to time for new records to be added to these tables, modified, inactivated, or deleted.

Other ISI system administration functions include a need from time to time to add new DANs to the system or to change the responsibilities of a DAN, to make language translations from English to the local language, create a demonstration copy of the Project system, modify Project documents, and review any unanticipated errors that may have occurred at any DAN. All of these functions are provided for in the System Administration area of the ISI.

Here also is the menu item link to the Project-specific reports application. This mdb application contains the reports that have been created to display and analyze the Project data.

**The Helper Feature**

Although the responsibility for data entry for a particular site (a health center in the PHRplus Project example) can be fixed to only one DAN in the system, it is possible for any DAN to help out another DAN by entering data related to that site. The need for this occurs commonly when a particular DAN gets backlogged with data entry forms and needs help to get all the data entered by the end of the month. Or a hardware problem might put a particular DAN out of action for a period of time and the easiest way to adjust is to temporarily have its data entered at a different DAN. A Project system might in fact have one or more computers set up as nothing but helper DANs with no defined responsibility of...
their own. They just help out with the data entry process for any DAN in the system that might need help at that time.

In the event that a DAN enters data for a site for which it is not responsible, the ISI will require that that data first be transferred to the responsible DAN before it is then transferred up the Mother-Child hierarchy. To illustrate, referring to Figure 3, if DAN #9 enters data for Site C then it will need to transfer that data to DAN #8 before the data are then transferred up the Mother-Child hierarchy to DAN #4. Because of this design of the ISI, DAN #8 will be assured of having all the data related to Site C and it will be able to therefore fulfill its responsibility to report on data for Site C. The data for Site C that was entered on DAN #9 will not be transferred up to DAN #6.

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**Auditing and Monitoring**

Note: At the time of this writing, the ISI auditing and monitoring features are still under development and not fully implemented. Additional system features to be added include:

- Auditing a random selection of data entry records against a primary data source document for confirmation, if such a source exists in a particular project. In the PHRplus there is a Registry document that can be used for this auditing purpose.
- Conducting a third-party audit of the data entry for randomly selected batches of data entry forms.
- Monitoring the frequency of data transfers to ensure that transfers actually happen in a timely manner for data security purposes.
- Monitoring the printing of the basic monthly reports to ensure that data is communicated in a timely manner to all levels within the Project.
- Monitoring of the backup function at each DAN.

The auditing and monitoring features will include an alert message at the appropriate system level to any off-standard situations detected as well as a system report for each audit/monitoring area.

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**Functional Limits**

The functional limits of the ISI design will depend a bit on the actual amount of Project data that is to be gathered by the system. For the PHRplus Project the following are considered to be functional limits at this time:

- A single computer (DAN) with a well-trained data entry user can accomplish the complete data entry process for 600 forms/visits in an eight-hour day or approximately 12,000 forms/visits per month. This assumes a full eight hours of machine operation per day.
- A single computer (DAN) should not be expected to maintain more than 3,000,000 project data records. This should keep the size of the Project database, well below the maximum size level of 1 gigabyte and should make it possible to fit the copy of the complete system on a 700mb CD without extraordinary measures.
- There can only be six levels in the Mother-Child hierarchy. The ISI can be modified to extend this limit but there are other practical reasons to keep this level as low as possible.
- There is no limit to the number of DANs that can exist in the Project system.
Sample Calculation of System Requirements

The resources listed below are needed for a region the size of Berat (estimated population of 192,000 with 384,000 visits per year).

**Equipment**
- 6 computers w MS Office Professional Software and HIS Software
- 6 workspaces with desk, chair, etc.
- 3 electrical support systems, including inverters and surge protectors
- 3 printers for printing reports once a month

**Supplies**
- 384,000 encounter forms printed per year
- 3-6 consecutive number stamps
- 1000 folders, used to collect encounter forms from individual physicians and nurses
- Paper for printing reports
- Printer cartridges

**Human Resources**
- 6 trained data entry personnel (20 hours of training with 4 hours per day average workload)
- Technical support for hardware problems when needed
- Identified person capable of creating new data reports on request
- Person to facilitate user group (20 hours of training with 10 hours per month workload)
- System administrator/auditor (40 hours of training with 20 hours per month workload)
- Training of physicians and nurses at each site on how to complete an encounter form

**Logistics**
- Organized process for getting completed forms to data entry
- Organized process for handling data transfer disks 1-2 times per week
- Organized process for getting printed monthly reports to responsible district and facility administrators
- Organized user group
## Encounter Form and List of Procedure Codes

![Encounter Form](image)

**Patient ID #**

**Visit Date:**

**Sex:**
- □ M
- □ F

**Insurance:**
- □ Y
- □ N

**Married:**
- □ Y
- □ N

**Home visit:**
- □ Y
- □ N

**Referral:**
- □ Y
- □ N

**Diagnosis**
- 1-st
- 2-nd
- 3-rd

**Well Baby Care:**

**Family Planning:**

**Procedure**

---

**Primary Reason for Visit:**

1. □ Acute
2. □ Chronic
3. □ Emergency
4. □ Follow-up
5. □ Check-up
6. □ Other
7. □ Contraceptives
8. □ Advice only

**Prenatal Care:**

- [ ] 0 – 13 weeks
- [ ] 14 – 28 weeks
- [ ] < 28 weeks
- [ ] after birth

**Note:** Please include a special/procedure code for the type of feeding for each child less than one year old

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Partners for Health Reformplus
List of Procedure Codes

Codes used for visit type 6 (Other)

**Injection codes**
- 100 Intramuscular injection antibiotic
- 101 Intramuscular injection other
- 102 Intravenous injection
- 103 Subcutaneous injection

**Wound care procedure codes**
- 300 Wound treatment (simple)
- 301 Surgical wound treatment

**Codes for maternity units**
- 050 Delivery
- 051 Control after delivery

**Codes used in special circumstances**
- 500 = blood pressure
- 501 = referral only
- 502 = weight only

NOTE: These codes would be used only if it is the only reason for a visit - to explain why the “Other” category was marked. It wouldn't be marked for blood pressure taken during another type of visit or a referral made during another type of visit.

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**Codes used for family planning – Visit types 7 & 8**
- 033 Spermicide
- 034 Diaphragm
- 035 Pills
- 036 Depo-Provera injection
037 IUD

038 Condom

039 Emergency contraceptive

040 Health education

041 Health education with clients in groups

Codes used for prenatal – Visits types 9,10, 11, 12)

001  First prenatal visit

002  Subsequent prenatal visit

Note: Either 001 or 002 must be included for any of these visits

Additional codes used during prenatal visits when appropriate:

003  Pregnancy greater than 38 weeks

010  Ultrasound examination during pregnancy

011  First dose antitetanus vaccine

012  Second dose antitetanus vaccine

Codes for pregnancy pathology:

(These codes are for use only by nurse-midwives, as doctor will use ICD9 international classification of diseases)

015 Preeclampsia/ Eclampsia

016 Anemia during pregnancy

017 Threatened abortion

018 Multiple pregnancy suspected or diagnosed

019 Rhesus Iso immunization in ongoing or previous pregnancy

020 Uterine bleeding during pregnancy

021 Pelvic mass

022 Diastolic pressure more than 90 mm Hg

023 Pregnant woman with insulin dependent diabetes mellitus

024 Pregnant woman with a renal disease
025 Pregnant woman with cardiac disease
026 Urinary tract infection during pregnancy
027 Cervical and vaginal infections during pregnancy
028 Sexually transmitted diseases during pregnancy
029 Using of abusive substances, including alcohol
030 Other pregnancy pathology

Codes for gynecological diseases
(These codes are used by nurses, midwives in woman wellness centers when they visit a woman who suffers from a gynecological illness) – Visit Type 6 – other:

**Upper genital tract infections:**
060 Endometritis
061 Parametritis
062 Other upper genital tract infection

**Lower genital tract infections:**
063 Vaginitis (includes yeast infection, or mycotic colpitis)
064 Cervicitis
065 Other lower genital tract infection

**Other**
066 Sexually transmitted infection (not pregnant)
067 Infertility (includes sterility)
068 Menopause
069 GYN tumors

Codes used for well baby care – Visit types 13, 14, 15:

**Immunization codes:**
210  BCG
211  Hep.B-1
213  DTP 1
214  Polio 1
215  Hep B-2
216  DTP 2
217  Polio 2
218  DTP 3
219  Polio 3
220  Hep B-3
221  Fru/Rub –1
222  DTP R-1
223  Polio R-1
224  Fru/Rub –2
225  R- DT
226  R- Td
227  Polio R-2

**Additional codes for children consultancy**

*Type of feeding (use for babies up to one year of age):*

240  Only breastfeeding
241  Mainly breastfeeding (includes some water, juice)
242  Breast milk + formula
243  Breast milk + cow’s milk
244  Formula only
245  Cow’s milk

*Reason for referral:*

246  Anemia
247  Rickets
248  Underweight
249 Developmental problems

**Other:**

250 Control prior to immunization

251 Control after immunization

252 Control for sick children
Procedures for Completing the Encounter Form

1. One encounter form should be completed for each patient entered in a health center registry. There are times when a patient is entered in several registries, for example, the pathology registry and the injection registry. Two encounter forms should be completed – to match the information in the registry.

2. Enter the code for the district
   a) 02 for Berat
   b) 17 for Kuçova

3. Enter the code for the health center:
   a) 01 for Lapardha
   b) 02 for Muzakaj
   c) 03 for Donika Kastrioti (Kushtrim)
   d) 04 for 28 Nentori (22 Totori)
   e) 05 for 10 Korrik (30 Vjetorri)
   f) 06 for Jani Vruho
   g) 07 for Clirim
   h) 08 for Uznove
   i) 09 for Women’s Consulting Room in the Policlinic
   j) 10 Women’s Consulting Room near Muzakaj
   k) 01 Havaleas
   l) 02 Llukan Prifti
   m) 03 Tafil Skendo
   n) 04 11 Janari
   o) 05 Women’s Consulting Room in Kucova

4. There is a folder for storing encounter forms near each registry. Please make sure the forms are in the right folder, which matches the registry. There is a number on the folder. Enter this number on the encounter form.

5. For a physician visit, enter the personal codes for the doctor and the assisting nurse.

6. For a nurse visit, enter only the code for the nurse.

7. Enter the date of the visit. Be sure to include a zero for days 01-09 and months 01-09. Use just the last 2 digits for the year.

8. Enter the patient code: Note: this code is the same code used by HII. All patients will have an
HII code in the future. If the patient does not have an HII number, which may be the case in a village, leave the code blank.

9. If the patient has an insurance number but did not bring his/her booklet, please try to find the number in the list of names and numbers in the center. Also, please instruct the patient to always bring his/her booklet when he/she comes for a visit. If after trying everything possible and it is not possible to determine the patient’s number, leave the code blank.

10. Write the patient’s name.

11. Enter the birthdate of the patient with two digits for the day, two digits for the month, and two digits for the year. Be sure to include a zero for days 01-09 and months 01-09. NOTE: If a patient is 100 years old or greater, write in four digits for the year of birth.

12. Check a box for the sex of the patient.

13. Check a box to indicator whether or not the patient has insurance.

14. Check a box for the marital status.

15. Check a box to indicate whether the visit was done at the patient’s home.

16. Check a box to indicate whether or not a referral was made.

17. Check only one of the 15 reasons for visit – the primary reason.

   a) Physicians generally use the first five reasons for visit. A diagnosis code must be added when these visits are checked. If the physician does not know the diagnosis, then the code “000” should be put in the diagnosis code section.

   i. **Acute** (1) means the first visit for an acute illness.

   ii. **Chronic** (2) means a routine visit for a chronic condition such as diabetes or hypertension.

   iii. **Emergency** (3) means a visit where something happened suddenly requiring immediate intervention, such as stabilization for transfer after an accident. Note: this applies more to rural sites than urban, since emergency cases normally go to the hospital in the cities.

   iv. **Follow-up** (4) means a visit needed to follow-up after an acute or emergency visit, or after a chronic visit if a problem was identified that needed follow-up.

   v. For example, if a child has tonsillitis and needs to come for a check-up after 24 hours, this is a “follow-up visit.”

   vi. **Check-up** (5) means a preventive care visit. This includes a routine history and physical, screening for diseases, advice about lifestyle.

b) Nurses generally use the “other” category when a patient comes only for a procedure (injection, wound care, etc.) and does not see the physician for one of the other visit types. Mark the visit type “other” (6) and always enter a procedure code. Note: Procedure codes are attached in the annex to this section.

c) Nurses usually do the visits for family planning, prenatal care, and well baby care, although these might be done by a physician as well.

   i. **Contraception / Advice** (7) means a visit where reproductive health information and counseling are given and where contraceptive methods are given to the patient. See annex for procedure code to use for each type of contraceptive.
ii. **Advice Only** (8) means a visit for family planning where only reproductive health information and counseling are given.

iii. **For prenatal care**, (9, 10, 11, 12), mark the number of weeks pregnant or mark that it is a visit made after delivery. Enter procedure code 1 if this is the first visit during the pregnancy. Enter procedure code 2 if this is a subsequent visit. If there are any pathologies present, enter the pathology as a procedure/special code. If a referral is made to the specialist, check “yes” under referral, and in addition, add a special code (reason for referral) in the procedure code section.

iv. **The category for “well baby care”** (visit type 13) is intended for use by nurses doing routine well baby care. In addition to marking the visit type, add a special code in the procedure section to indicate the type of feeding for babies up to one year of age. In addition, if the nurse refers the child to the doctor, a code should be added to indicate the reason.

18. Note: A diagnosis code should always be included for visit types 1-5. The diagnosis codes should match those used for HII prescriptions. Use code 000 if the diagnosis is pending or if the patient is healthy.

19. Procedure or special codes will be changed frequently. Please make sure you have the most recent list.

20. Once complete, put the encounter form in the folder designated for the specific registry.

21. NOTE: If there is a problem with a form, such as missing information or illegible writing, the form will be rejected and must be corrected. Rejected forms will be returned to each health center. The center chief (or designee) is responsible for distributing the incorrect forms to the appropriate physician or nurse. The physician or nurse should correct the form and put the corrected form in his/her encounter form folder with their other completed forms.
Procedure for Data Entry

1. Needed to set up the data entry
   a) Computer & program
      i. Each computer has a designated set of health centers
   b) Three sets of labeled folders for each registry or nurse’s notebook
   c) Consecutive number stamp
      i. NOTE: This is not required. A number can be hand-written on the forms.
   d) Batch slips
   e) Batch clips
   f) Rubber bands
   g) Boxes or containers for each computer.
      i. “To be numbered” box
      ii. “To be batched” box
      iii. “Ready for pass 1”
      iv. “Ready for pass 2”
      v. “Finished”
   h) Folder for rejects for each center

2. Folders – Three sets of clearly labeled folders (Health Center, #, description – usually doctor or nurse name)
   a) Set includes one for each registry or notebook filled out by the doctor or nurse
      i. Folders are exchanged when encounter forms are picked up or delivered to the HIS office
         1. Currently Afrim exchanges folders on Tuesday and Friday, in addition to making sure the center has blank forms. Any time he is not available to do this, the supervisor needs to make other arrangements. (In the future each center will have a specific procedure for getting blank forms and delivering completed forms.)
         ii. In the health center, the folder is kept near the registry to which it corresponds
   b) Set used during numbering and batching
   c) Extra set used for exchanging encounter forms that need to be picked up or any time a center brings their folders to the HIS office

3. Boxes / containers in the HIS office – a set for each computer
   a) Box for folders recently picked up and needing to be numbered
   b) Box for folders with numbered forms that need to be batched
   c) Box for batches ready for the first pass
   d) Box for batches ready for the second pass
   e) Box for finished batches for current month – clip removed, stapled or rubber banded together in case they need to be used for some reason
f) Box for finished batched for the previous month (Note: at the start of a new month, you throw again the oldest month)

4. Numbering of encounter forms
   a) Form is numbered in the upper left-hand corner of each form
   b) Consecutive numbers should be used up to 30,000. After 30,000, start again with # 1.

5. Batching
   a) Forms are sorted into batches according to facility, folder/registry, doctor, nurse, visit date
   b) Batches are clipped together with a batch slip
   c) In computer program, go to create batches
      i. Select appropriate facility, folder/registry, doctor, nurse
      ii. Enter visit date (if the same for the whole batch)
      iii. This results in a computer generated batch number
      iv. Note: batches with the same characteristics need to have additional information added in the notes field to make the batch description unique. The program alerts you when this is needed.
   d) Write batch number of the batch slip
   e) Put batch in “ready for pass 1” box

6. Pass 1, including reject process
   a) Computer used for data entry should have the sound enabled
   b) Select the batches with the
   c) Data entry person selects his/her name from the list of users
   d) Each field in the first form of the batch must be entered
   e) On subsequent forms the fields identified in the batching process do not need to be entered
   f) Data is entered using only the number keypad, with data entry person looking only at the encounter form.
   g) There should no need to look at the screen or the keypad, unless computer beeps indicate an error or problem
   h) If the program detects a problem, an error message appears on the upper right-hand corner of the screen
   i) If the problem is inaccurate data entry, click ok and you are returned to the field to re-enter the data
   j) If the problem is not a data entry error, click reject form (see computer generated list for reasons)
      i. **It is very important to reject forms that are not complete or that have illegible handwriting. Do NOT add information or guess.**
      ii. A form can be rejected at any time in the process by clicking the “reject form” button at the lower left. For example, this would be used when field is not completed. A reason for rejection is entered into the computer.
iii. Data entry person circles problem area
iv. Data entry person puts the rejected form in the designated reject folder for the center
v. Continue entering forms
k) When all forms in the batch have been entered, click “end batch” button to save the batch data in the computer
l) Clip forms back together and check the “pass 1” box on the batch slip
m) Put in the “Ready for pass 2” box
n) If you need to cancel a batch at any time, press the escape key to take you to the form ID field; then press “cancel batch” key. Canceling a batch will erase all forms entered for the batch. The batch still exists in the computer and the batch can be re-entered later.
o) A common problem can occur if a form ID # is entered incorrectly. This might result in a subsequent form (that actually has the ID # entered incorrectly on a previous form) being rejected because the form ID# already exists. If this type of problem occurs, assign a number that is different from other forms in the same batch.
p) Special keys
   i. Minus key (-) erases information in current field and backs up one field
   ii. Escape key (esc) will erase all the information entered to that point for that form and take you back to the form ID field
7. Pass 2
   a) Data entry identifies him/herself
   b) Enter the data as in pass 1. The procedure is the same unless the computer detect a difference
   c) If the data entered in pass 2 is different from the data entered in pass 1, the computer will ask you to select the correct entry. If neither is correct, enter the correct information in the pass 2 field
   d) The batch will be automatically completed when the last form is entered
   e) Common problem
      i. If a correctly entered form ID # produces the message “form cannot be found in this batch,” set this form aside until the end of the batch. At the end of the batch, press the enter key at the form ID field. The error message will display the ID # of the missing record. This situation occurs when the form ID# was incorrectly entered in pass 1. Change the ID# on the form to the one in the system (that was entered during the pass 1) and use this number to enter the form.
8. Rejects
   a) Reject folder is returned to each center at the time of routine collection of encounter forms.
   b) Center chief (or designee) is responsible for making sure each physician or nurse gets his/her rejected forms.
   c) Nurse or physician corrects forms and places in folder with other completed forms
9. Always batch and process forms from the previous months before batching forms for the current month, so that reports can be generated in a timely manner.
10. Finished batches that are more than two months old should be destroyed in a manner that protects patient confidentiality. Respecting patient confidentiality means assuring that there is no chance that an unauthorized person could learn information about a specific patient from the discarded forms.
End of Month Procedure – Facility Level

1. After the end of a month all data entry efforts should be focused on entering forms with visit dates from last month. It is important to finish entering all of the forms from last month by the fifth working day of the next month.

2. All of the forms may be entered for some facilities before other facilities. Do not delay taking the next End of Month steps for a facility that is finished while you wait for all forms to be entered for another facility. By the fifth working day of the month you should take these next steps for all facilities that are finished.

3. Print the Last Month Batches Report. Go to Menu: Reports ➔ Last Month Batches
   a) Last Month Batches Waiting for Pass 1 – This is a list of batches that were created last month (or before) or are defined for a visit date that is last month (or before). If you can not find these batches then you can delete them by going to Menu: Manager ➔ Change Batch Settings. Select the lost batch and click “Delete”.
   b) Last Month Batches Waiting for Pass 2 – This is a list of batches that have been entered for Pass 1 but have not yet been entered for Pass 2. If you can not find a batch on this list you can accept the data entered in Pass 1 as final by going to Menu: Manager ➔ Lost Batches. Click on “Finish Pass 1 Batches”. This will open the form where you can “Add Batch Records to the Main Database” if the batch has been lost after Pass 1. Highlight the lost batches and click “Add” to do this.

4. Transfer data to your machine from any other machine that might have entered forms for your facilities.

5. Make all data transfers to other machines as necessary.

6. For each facility, print their Monthly Report and distribute to the responsible Administrator. If your computer does not have access to a printer, then the Monthly Report for your facilities will need to be printed by your Mother computer. To print the monthly report, go to Menu: Manager ➔ System Administration. This will open the System Administration program. Here go to Menu: Reports ➔ Monthly Reports. Click on the Report Level = Facility button. Select the Facility for which you wish to print reports from the dropdown list. Select the Month to be the last month from the dropdown list. Click “Print”. There are two pages to the Facility report. Print both pages and then see that these reports are delivered to the responsible Administrator of that facility as listed at the bottom of the reports.

7. For each facility, print the Registry Audit Worksheets. From the System Administration program go to Menu: System ➔ Registry Audit Worksheet. Select the Facility and the Month and click “Create Audit Record”. If your computer does not have access to a printer, then you will need to save this report as a Word document and then transfer the report to a computer with a printer. Once printed the Registry Audit Worksheets need to be delivered to each facility for completion.

8. Forms entered at one computer should be kept separate from the Forms entered at another computer. At each computer you should keep finished batches/forms for last month separate from the batches/forms for this month. After forms are two months old they should be destroyed.
End of Month Procedure – District Level

1. Once all forms are entered for all facilities in the District, which should be by the fifth working day of the next month and all data transfers are made to update the District computer with the data from all facility level machines, the Monthly Report for the District needs to be printed.

2. To print the monthly report, go to Menu: Manager → System Administration. This will open the System Administration program. Here go to Menu: Reports → Monthly Reports. Click on the Report Level = District button. Select the District for which you wish to print reports from the dropdown list. Select the Month to be last month from the dropdown list. Click “Print”. There will be five sections to the District report. Print all sections and then see that these reports are delivered to the responsible Administrator of that facility as listed at the bottom of the reports.
Sample Reports
**Monthly Visits for the Last 13 Months**

August 2003: 2179
September 2003: 1850
October 2003: 2505
November 2003: 2169
December 2003: 2490
January 2004: 2755
February 2004: 2355
March 2004: 2543
April 2004: 2769
May 2004: 2540
June 2004: 2250
July 2004: 4471
August 2004: 4802

**Referral % for the Last 13 Months**

August 2003: 1225, 141
September 2003: 1065, 122
October 2003: 1551, 172
November 2003: 1365, 180
December 2003: 1639, 221
January 2004: 1737, 210
February 2004: 1581, 206
March 2004: 1779, 201
April 2004: 1864, 208
May 2004: 1731, 172
June 2004: 1527, 87
July 2004: 2767, 144
August 2004: 3056, 149

**Daily Visits during: August 2004**

**Region:** Berat

26/9/2004
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### Uznove

- Ibrahim Aliaj: 247 278 154 679
- Ledina Hatia: 136 80 225 441
- PERIODIC REPORTS -
- VISIT DATA -

Physician: Natasha Kryethi

June 2004 - August 2004

**Visits By Home Visits**

1. Home Visits
2. Facility Visits

**Visits By Sex**

1. Males
2. Females

**Visits By Insured**

1. Insured
2. Non-Insured

**Visits Of Insured Patients By Patient ID**

1. With PatientID
2. Without PatientID

**Visits by GroupAges / Sex**

- **GroupAge/ Males/ Females**
  - < 1 yrs: 30, 115
  - 1-5 yrs: 99, 252
  - 6-14 yrs: 30, 115
  - 15-40 yrs: 99, 252
  - 41-60 yrs: 177, 252
  - > 60 yrs: 177, 252

Region: Berat, District: Kucova, Facility: Llukan Prifti

26/09/2004
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District: Berat
Distribute To: Neritan Kurteshi
26/09/2004
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Region: Berat District: Berat

Distribute To: Neritan Kurteshi

26/09/2004
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### Jani Vruho
- Karafite Bega: 21, 20, 29, 70
- Keze Cela: 164, 160, 13, 337
- Vasilika Naku: 122, 97, 110, 329

### Konsultori i gruas Clirim
- Donika Buda: 131, 70, 64, 265

### Konsultori i gruas ne Poliklinike
- Aferdita Abedi: 95, 91, 104, 290
- Tefta Shakaj: 107, 99, 102, 308
- Zana Aliaj: 106, 106, 54, 266

### Lapardha
- Aferdita Jaho: 25, 29, 71, 49
- Eva Shkembi: 51, 4, 72, 154, 47, 104, 11, 59, 93, 31, 15, 49, 44, 683
- Merjeme Dalle: 115, 127, 161, 145, 89, 211, 154, 186, 199, 194, 144, 262, 165, 2,037
- Nadire Sala: 21, 76, 75, 68, 98, 122, 117, 60, 58, 42, 49, 70, 78, 913
- Nazime Shke: 50, 16, 91, 97, 97, 45, 1, 74, 45, 101, 36, 14, 42, 659
- Nexhmije Jau: 5, 2, 10, 15, 26, 17, 14, 15, 12, 2, 7, 5, 125
- Pranvera Kola: 39, 37, 35, 58, 19, 33, 24, 15, 20, 241
- Sanie Boni: 70, 64, 118, 88, 107, 93, 114, 46, 17, 44, 76, 43, 40, 850

### Muzakaj
- Adelina Mollaj: 1, 194, 156, 125, 147, 162, 141, 151, 137, 164, 107, 180, 40, 1,704
- Advije Xhija: 135, 113, 110, 71, 139, 185, 148, 158, 208, 161, 148, 28, 111, 1,580
- Anastasi Qendi: 69, 62, 110, 141, 48, 123, 178, 192, 157, 97, 76, 69, 53, 1,306

**Region:** Berat  **District:** Berat  **Distribute To:** Neritan Kurteshi  **Date:** 26/09/2004
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- Distribute To: Neritan Kurteshi
- 26/09/2004

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### PERIODIC REPORTS

#### FREQUENCY OF DIAGNOSES

**Physician**: Natasha Kryethi  
**June 2004 - August 2004**

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**Region**: Berat,  
**District**: Kucova,  
**Facility**: Llukan Prifti  
26/09/2004
### Periodic Reports - Frequency of Diagnoses

**Physician:** Natasha Kryethi  
**Dates:** June 2004 - August 2004

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<td>282</td>
<td>Hereditary hemolytic anemias</td>
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<td>XII</td>
<td>680</td>
<td>Carbuncle and furuncle</td>
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<td>IX</td>
<td>558</td>
<td>Other and unspecified noninfectious gastroenteriti</td>
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<td>Burn of lower limb(s)</td>
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<td>XI</td>
<td>632</td>
<td>Missed abortion</td>
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<td>V</td>
<td>312</td>
<td>Disturbance of conduct, not elsewhere classified</td>
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<td>XI</td>
<td>675</td>
<td>Infections of the breast and nipple associated with</td>
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<td>XVII</td>
<td>956</td>
<td>Injury to peripheral nerve(s) of pelvic girdle and lo</td>
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<tr>
<td>XI</td>
<td>639</td>
<td>Complications following abortion and ectopic and</td>
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<tr>
<td>V</td>
<td>296</td>
<td>Episodic mood disorders</td>
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<tr>
<td>XVII</td>
<td>811</td>
<td>Fracture of scapula</td>
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<td>VI</td>
<td>380</td>
<td>Disorders of external ear</td>
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<tr>
<td>II</td>
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<td>Malignant neoplasm of other and ill-defined sites</td>
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<tr>
<td>II</td>
<td>200</td>
<td>Lymphosarcoma and reticulosarcoma</td>
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<td>I</td>
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<td>Typhoid and paratyphoid fevers</td>
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<td>I</td>
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<td>Herpes zoster</td>
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<td>III</td>
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<td>Disorders of carbohydrate transport and metabolis</td>
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<td>XII</td>
<td>691</td>
<td>Atopic dermatitis and related conditions</td>
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Region: Berat, District: Kucova, Facility: Llukan Prifti  
Date: 26/09/2004
### PERIODIC REPORTS
### FREQUENCY OF DIAGNOSES

**Physician:** Natasha Kryethi  
**June 2004 - August 2004**

<table>
<thead>
<tr>
<th>CLASS</th>
<th>CODE</th>
<th>DIAGNOSE</th>
<th>VISITS</th>
<th>CASES</th>
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<tr>
<td>VIII</td>
<td>515</td>
<td>Postinflammatory pulmonary fibrosis</td>
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<td>Acute pharyngitis</td>
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<td>VIII</td>
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<td>Chronic sinusitis</td>
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<td>Open wound of ear</td>
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<td>Other and unspecified disorders of joint</td>
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<td>Acute pulmonary heart disease</td>
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<td>Other local infections of skin and subcutaneous tissue</td>
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<td>Erythematousquamous dermatosis</td>
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<td>Disorders of menstruation and other abnormal bleeding</td>
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<td>Superficial injury of trunk</td>
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<td>VI</td>
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<td>Migraine</td>
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<td>X</td>
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<td>Urethral stricture</td>
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<td>VI</td>
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<td>Other disorders of middle ear and mastoid</td>
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<td>Suppurative and unspecified otitis media</td>
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<td>VII</td>
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<td>Rheumatic fever without mention of heart involvement</td>
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<td>Other disorders of kidney and ureter</td>
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<td>V</td>
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<td>Sexual and gender identity disorders</td>
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<td>681</td>
<td>Cellulitis and abscess of finger and toe</td>
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</tbody>
</table>
Frequency of Diagnoses by Class - Visits -

- I. Infective and Parasitic Diseases -
  - II. Tumors
  - III. Nutrition, Metabolic and Immune Disorders
  - IV. Diseases of Blood and Hemopoetic organs
  - V. Mental Diseases
  - VI. CNS eyes and ENT diseases
  - VII. Dis. of circulatory system
  - VIII. Disease of Respiratory System
  - IX. Gastrointestinal Diseases
  - X. Diseases of Urogenital tract
  - XI. Complications of pregnancy, delivery and after delivery
  - XII. Diseases of skin and subcutaneous tissues
  - XIV. Congenital malformations
  - XV. Puerperial diseases
  - XVI. Sign and diseases not well defined

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