IMCI at the Referral Level: “Hospital IMCI”
Hospital referral care: What is the problem?

About 20% of sick children seen at primary care facilities require referral to a hospital. Since these children are the most severely ill and at the highest risk of death, high quality referral care is essential to reducing deaths.

A seven-country study of the quality of care for children in 21 hospitals in Asia and Africa, including the Philippines in the Western Pacific Region, demonstrated a number of problems with the quality of hospital care. More than half of the children were treated inappropriately with antimicrobials, fluids and oxygen. The lack of triage assessment, late treatment, inadequate drug supply, poor knowledge of treatment guidelines and insufficient monitoring were additional adverse findings. Many first-level referral hospitals were underfunded.

Since referral care is critical to preventing deaths among severely-ill children, the IMCI strategy worked out approaches to improving referral care at first-level hospitals as part of its health system strengthening component.

What are IMCI hospital care guidelines?

IMCI hospital care guidelines are designed to improve the quality of referral care for severely-ill children. Guidelines are tailored for hospitals with only basic laboratory facilities, simple equipment and essential inexpensive antimicrobials. There are three components:

1. **Pocket book of hospital care for children**

The pocket book provides guidelines on the assessment and management of severe infections and severe malnutrition in both neonates and children under five years old. It is intended

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for use by doctors, senior nurses and other senior health workers responsible for the care of children at referral hospitals. The most important causes of child morbidity and mortality – pneumonia, diarrhoea, malaria and meningitis – are addressed. In addition, it includes management of HIV/AIDS, injuries, poisoning and surgical conditions.

Pocket book guidelines need to be continuously reviewed and updated to respond to changing disease epidemiology and developments in treatment practices.

2. **Emergency triage assessment and treatment (ETAT) guidelines**

Identification of sick children at highest risk and treating them immediately is key to reducing mortality. ETAT is a three and a half day course which trains health workers to systematically assess children arriving at the hospital, to identify those at risk of dying and to institute emergency care. ETAT is a tool to reduce facility mortality rates in the first 24 hours.

3. **Quality assurance framework for improving hospital care for children**

The quality assurance framework is an approach to assessing the quality of hospital care currently provided for sick children and then working out actions to improve quality. A hospital assessment tool is used to determine the quality of referral care.

### Where have IMCI hospital care guidelines been introduced?

- The **WHO Pocket Book of Hospital Care for Children** has been introduced in Cambodia, China, Fiji, Kiribati, the Lao People’s Democratic Republic, Mongolia, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu and Viet Nam. China and Mongolia have completed consensus meetings for the adaptation of the pocket book for local use. China, Papua New Guinea and Solomon Islands have conducted training using the “Pocketbook CD Rom”.
- The **ETAT guidelines** have been introduced in Cambodia, the Lao People’s Democratic Republic and Mongolia.
- The **quality assurance framework for improving hospital care for children** has been used in Cambodia, China, the Lao People’s Democratic Republic, Mongolia, Solomon Islands and Viet Nam. Each of these countries has conducted hospital assessment and begun the process of improving quality of care. Kiribati has conducted a hospital assessment in a central hospital.

### What is the Framework for Improving Hospital Care for Children?

The Framework for Improving Hospital Care for Children outlines an approach for enhancing the quality of hospital care using IMCI standards. The quality assurance process includes seven steps outlined in Figure 1. Each of these steps is described in more detail in succeeding pages.
**Step 1: Getting started**

The introduction of hospital-level IMCI quality improvement activities requires strong leadership and acceptance of the process. For this reason, it is recommended that initial planning should involve key stakeholders such as ministry of health and other government staff, representatives of medical and nursing professional associations, directors and administrators from different types of hospitals, medical and nursing teaching institutions and partners from international and local organizations. In addition, it is beneficial to obtain the community perspective on hospital care by including community leaders and community groups. Stakeholders need to recognize that reducing child mortality requires close cooperation among primary, secondary and tertiary levels of the health care system.

**Step 2: Situation analysis**

A standardized tool is used to conduct hospital assessments. This tool uses a structured approach for collecting information in several areas that are important for providing high quality referral care. The clinical practices of the health staff are observed and compared against IMCI pocket book standards. In addition, information is collected on several other elements of care, including how services are organized; workflow in the emergency room; the adequacy of human, financial and material resources; infection control; the hospital information system; and quality assurance activities such as hospital audits.

This assessment determines the quality of hospital care, identifies strengths and weaknesses and recommends corrective measures. While assessments ideally should be made by individuals outside of the hospital for reasons of objectivity, this process could be undertaken by hospital staff as part of their routine quality assurance process. In the Western Pacific Region, Cambodia, China, Kiribati, the Lao People’s Democratic Republic, Mongolia, Solomon Islands and Viet Nam have conducted hospital assessments.
Case example: Hospital assessment in Mongolia

As part of the referral care quality assurance process, hospital assessments were conducted in four hospitals in Ulaanbaatar and 10 provincial and district hospitals in 2007. Areas identified as needing improvement included:

- Standards of care for sick children, including case management of diarrhoea, fever, severe malnutrition and sick young infants
- Triage and emergency care
- Rational use of drugs, including avoidance of polypharmacy and prolonged use of intravenous drugs
- Monitoring of cases and supportive care
- Staffing (particularly nursing staff) of children’s wards at night and on weekends
- Management and availability of drugs, supplies and equipment for children in surgery, orthopaedics and infectious diseases wards
- Communication between health workers
- Oxygen delivery systems, which often were not working properly

Findings were reviewed and discussed with staff at all levels. Recommendations to the Ministry of Health included the adaptation and adoption of the WHO Pocket Book of Hospital Care for Children and the WHO emergency triage assessment and treatment (ETAT) training course. In addition, recommendations included the establishment of wards in provincial hospitals for management of severe malnutrition and creating a system for mapping oxygen availability in peripheral hospitals. It was agreed that all hospitals should work out a process for monitoring the quality of clinical care and for taking action to solve problems.

Step 3: Agreement on standards

Once the situation analysis has been completed, the clinical standards for hospital care are discussed and agreed by consensus. Since the WHO Pocket Book of Hospital Care for Children is an internationally accepted standard, it is recommended that it be used as the reference for clinical care. In some cases, local adaptations are needed, but any revisions should be evidence-based.

The goal is to institute changes that will “make things right” for children admitted to hospitals. The WHO people-centred health care policy framework is regarded as a guiding principle for all

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standards of care. This approach says that “health care organizations and health practitioners are expected to move to a higher level of performance and to adopt a more humanistic and holistic approach to health care, where the individual who needs care is viewed and respected as a whole person with multidimensional needs”.

**Key points: Making it right for children in hospital**

1. Managing common childhood illnesses well
2. Right equipment for children
3. Right medicines for children
4. Right food for children
5. Children are with their families and families participate in care
6. Clean, safe amenities for families
7. Helping children get better day and night
8. Helping families use the hospital

**Step 4: Definition of interventions and area**

Using the results of the hospital assessment, the priority areas for action are identified. A plan of action is formulated which includes priority activities, responsibilities and target dates for implementation and resource requirements. Strategies for monitoring and evaluating programme activities also should be worked out.

**Case example: Viet Nam hospital assessment, 2001**

The key areas where interventions were needed included:

- Work organization in the hospitals
- Use of evidence-based treatment guidelines
- Newborn care
- Preventive care, including immunizations in hospitals
- Emphasis on the nutritional needs of sick children
- Breastfeeding promotion
- Awareness for hygiene

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**Step 5: Improvement in hospitals**

Areas that have been identified as important are addressed. Each hospital needs to plan and implement activities to address problem areas and assess progress. Planning often is carried out by teams, which include hospital stakeholders. Outside participants from the ministry of health, multilateral, bilateral or donor organizations also may be helpful. The process of planning, implementation and assessment needs to become part of continuous quality improvement. For this reason, many hospitals decide to form a group or body responsible for overseeing quality over time.

Activities to address problem areas might include:

- Adoption of the *WHO Pocket Book of Hospital Care for Children* as the standard clinical reference
- Technical training for medical and nursing staff in referral-level case management using WHO pocket book guidelines
- Development of improved clinical records based on the Critical Care Pathways
- Technical training for medical and nursing staff using the ETAT
- Reorganization of the process of triage for sick children

**Case example: The Cambodia hospital improvement process**

Hospital assessment was conducted in December 2003 followed by quality improvement workshops. The standards on the management of severe malnutrition were reviewed and revised. ETAT courses were conducted at the National Pediatric Hospital, Angkor Hospital and several provincial hospitals. An ETAT follow-up visit to two provincial referral hospitals in 2005 demonstrated that course participants had a good retention of knowledge and access to the necessary supplies to apply their skills.

**Step 6: Monitoring and Evaluation**

WHO has established a core set of global indicators for monitoring and evaluating hospital care. These allow comparison at the global level. Quality of care at hospitals should be regarded as an integral part of IMCI and monitored and evaluated at the same time as other components.

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5 WHO Global Hospital Indicators, 2009.
Key points: Example list of indicators: Quality of hospital care for children

- Oxygen is available in the ward
- Emergency care is available
- An essential drug list is available
- Proportion of children with severe malnutrition who receive three-hour feedings both day and night
- Proportion of newborns who have had breastfeeding initiated within the first hour
- Proportion of children with cough or difficult breathing who receive correct antibiotic treatment for pneumonia
- Proportion of children needing oxygen who have it administered correctly, including monitoring
- Proportion of children with diarrhoea who are correctly rehydrated
- Proportion of children with severe malaria who receive correct antimalarial treatment
- Proportion of health workers who can resuscitate a newborn correctly
- Under-5 case-fatality rate (one month to 60 months old)
- Case-fatality rate for severe pneumonia
- Case-fatality rate for diarrhoea
- Neonatal case-fatality rate

Monitoring is conducted regularly and data are used for making immediate programme decisions. Data for regular monitoring can be collected from case records or by direct observation of services, equipment and supplies. Monitoring can be conducted by quality improvement teams in wards or by a hospital quality improvement steering committee. These groups are then responsible for reviewing data and taking action. The Western Pacific Regional Child Survival Monitoring Framework includes two output measures of hospital care. Findings for these two output indicators from a regional review of seven Western Pacific Region countries are shown in the following case example.\(^6\)

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\(^6\) WHO/UNICEF Workshop to Review Progress and Actions to Improve Child Survival, Xi’an China, October 2009
Evaluation is conducted periodically and data are used for planning. Data for periodic evaluation also can be collected from a review of case records, death certificates and by conducting clinical assessments that observe case management practices. Death audits are often useful for examining the process that led to death and identifying weak points in the system. The hospital assessment tool can be used to review many elements of hospital practice, including case management, availability of medicines, equipment and supplies and availability of manpower. Standard tools are also available to support death audits. Evaluation can be conducted by quality improvement teams in wards or by a hospital quality improvement steering committee. In addition, external evaluation teams from the national or subnational levels may be appropriate. Evaluation findings are used to make decisions about what needs to be done to make improvements and who will be responsible for acting on recommendations.

**Step 7: Dissemination of results**

It is important that data are used to make decisions that will improve the quality of hospital care. There are a number of ways that findings from monitoring and evaluation can be shared. As a first step, it is important that the findings are discussed with stakeholders, who are important for taking action, including: hospital quality improvement teams, hospital staff responsible
for clinical care, and Ministry of Health staff with responsibilities for hospital-based care and health systems. If NGOs or donor organizations are involved in hospital care then these should also be included. It is important to present both positive and negative findings, and to focus on strategies for addressing gaps that are feasible with available resources. Solutions to gaps may require action at a number of levels, such as revision of policies, procurement of equipment, or changes in clinical training and supervision for health workers. For this reason, findings should be shared with staff with responsibilities at all levels of hospital care. Later, findings can be disseminated more widely using a number of methods, including: summary reports for a technical audience; one page written summaries of findings for a general audience; and short seminars and presentations for health workers and managers.

**Conclusions: IMCI at the referral level**

- About 20% of sick children seen at primary care facilities require referral to a hospital. Since these children are the most severely ill and at the highest risk of death, high quality referral care is essential to reducing deaths.

- IMCI hospital guidelines include a *Pocket Book of Hospital Care for Children* which provides standard case management guidelines for the most common referral conditions; Emergency Triage Assessment and Treatment (ETAT) guidelines for identifying sick children at high risk of death and treating them immediately; and the quality assurance framework for improving hospital care for children.

- A number of countries in the Region have begun using the *Pocket Book of Hospital Care for Children*, although overall use in the Region remains low.

- Improving the quality of referral care is a process that requires commitment from all levels of the health system. Quality assurance teams are needed at the hospital level. Regular collection and review of data are required.

- Standard indicators for evaluating the quality of hospital care have been developed and should be used where possible by country programmes. The Western Pacific Regional Child Survival Monitoring Framework includes two hospital output measures.

- The framework for improving hospital care for children is a key approach to improving quality of care in hospitals. There are seven steps, including orientation on the purpose, a hospital assessment using standard tools, agreement on standards, defining intervention areas, and planning for interventions. Hospitals then need to put in place a system for regular monitoring and evaluating quality of care, disseminating findings and taking action in areas that need improvement.
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