

WHO LEVELS OF HEALTH SERVICES

DEFINITIONS

The health technology needs at the village and provincial level in developing countries require the design of appropriate technology and training packages to satisfy those needs, so that the majority of people have improved health care.

The right mix of effective and efficient healthcare delivery depends on the available health care technology. Such technologies must be carefully defined to achieve the widest application to the largest population.

The appropriate healthcare technology packages should be defined in accordance with WHO levels of health services of Primary, First referral, Second referral and Last referral levels.

Technology needs are very country-specific, and are determined by the local disease burden, patient demographics, health service delivery models, clinical practice, etc. These may even vary from region to region within one country. WHO has developed a methodology and software-based tool called the Essential Health Technology Package (EHTP). EHTP is designed to assist countries in identifying their individual technology requirements linking and integrating a wide variety of parameters to arrive at locally relevant lists of technology needed to address their specific disease and patient profiles within the existing health service delivery models and accepted clinical practices, and health system capacity and constraints for managing the acquired technology.

HTTTG wishes to assist countries in defining their *health technology* needs, and identifying and rectifying health system constraints for adequate management and utilization of health technology, particularly through training, capacity building and the *development and application* of appropriate technology.

- **Primary level** (first contact level) with a health centre (smaller health centers may be called dispensaries, health stations, health posts) serving a defined community or area - normally several villages (at a single village level, at best there might be some community or auxiliary health workers). A health centre carries out health promotion, protective, preventive, simple diagnostic, curative and rehabilitative activities for ambulant patients, normally has no beds other than perhaps those needed for emergencies and maternity care. In most instances, it has no physician on the staff, but a physician assistant or nurse assisted by community or auxiliary health workers. The most sophisticated devices at a typical health centre would be syringes for immunization, phonendoscope, and weight scale for babies.

The provision of new generation, low technology equipment and training, to be defined, could lead to major enhancements at this level, building on the existing traditional medicine at the village level, and enhanced interaction with the secondary level.

- **First referral level** - normally a district hospital that is a recognized referral facility providing a 24-hour intramural medical care which represents a higher level of competence than the source of referral, e.g. health centre. It may be very small with just few beds. In most instances, these facilities have a very limited human resource capacity, a very limited technology base with very basic laboratory services and, if any, imaging equipment, and simple surgery is often done under local anesthesia.

The technology needs to be defined, so as to enhance the quality of health care delivery. A telemedicine facility is required to leverage the skill basis by drawing on secondary level expertise for consultation and training.

- **Secondary referral level** - a more sophisticated hospital (may be a provincial hospital) providing multi-specialist intra- and extramural care, and serving as a backstop for the first referral hospitals in the hierarchy of technical competence. It may also, on occasion, have special expertise in some particular medical diagnostic and treatment domain, which would qualify it as an institution of last referral for a specific subject.

The technology should allow telemedicine to specialists at the tertiary level. More substantive technology targeted at specific diseases needs to be developed, such as palliative treatment for late presenting patients with advanced cancer, with lower cost therapeutic and imaging requirements compared with that for curative therapy.

Visiting biomedical physicists and engineers to maintain and calibrate equipment.

- **Last referral level** - a most sophisticated hospital located in a national or provincial capital or other big city, typically a University Teaching Hospital, providing the highest level of medical care available in the country or a region.

This level follows the western model of centralized expertise and high technology, and is a resource for education, training and consultation. Specialists in attendance can monitor and communicate with lower level centers by telemedicine.