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The Critical Role of District Hospitals

Providing Poor Communities with Timely, Cost-Effective Care

In developing countries, a well-functioning district health system includes community health centers offering primary care services and outreach, and district hospitals that receive referrals from health centers. This organizational structure is fundamental to effective health care, and failure to recognize the interrelationship between local- and district-level facilities has resulted in high health costs and inefficiency.

District hospitals form the apex of the pyramid of primary care. They play a critical role in providing individuals and families with timely medical care, including surgery for the conditions that typically account for a large share of a population's disease burden. Timely surgical treatment can prevent death and chronic disability from injuries and from complications of childbirth. Surgery for these and other conditions is most cost-effective when provided at the district level, particularly in the poorest countries. In some countries, small hospitals provide services between the district and community levels — in-patient care in addition to public health functions — at the sub-district level.

District hospitals have key functions beyond providing medical and surgical care: They serve as coordinating centers for local health information and planning, play a direct role in training health care workers, and provide necessary data to national health planners. Contrary to the conventional argument that hospitals consume too large a share of health budgets, district hospitals that implement these functions properly can increase the overall cost-effectiveness of health care. Yet these hospitals have typically been under-funded and have suffered deficiencies in quality, to which governments should give urgent attention.

What Are District Hospitals?

Health systems in developing countries are often organized in a “hub and spoke” arrangement, with a district hospital

(the hub) having more personnel with more advanced training than the peripheral clinics (the spokes). The peripheral clinics are usually health centers and health posts located in communities and staffed by nurses and other health workers who provide primary care services.¹ Ideally, district hospitals provide the first level of outpatient or inpatient care for patients who have been referred by their primary care providers. District hospitals also refer people who need more specialized care to regional or national-level health facilities.

District hospitals generally serve a population of 100,000 to 1 million people: The hospitals may be as small as 30 beds (in a Caribbean country, for example), or as large as 500 beds (for example in China). District hospitals allow for greater cost-effectiveness by having many services, such as those listed below, in one location. They can more efficiently use doctors, laboratories, and technicians by handling a higher patient volume than smaller centers.

Essential Services Provided in District Hospitals

District hospitals usually provide 24-hour care and are integrated into the district health system to provide and support a range of services. The World Health Organization recommends that services include curative and chronic care for patients referred from the health centers, laboratory services, counseling, and rehabilitation. The services should be provided by practitioners spanning the following disciplines:

- Family medicine and primary health care;
- Internal medicine;
- Obstetrics;
- Mental health;
- Eye care;

- Surgery (including trauma and orthopedics);
- Rehabilitation;
- Pediatrics; and
- Geriatrics.

District hospitals play a central role in such programs as Safe Motherhood and the Integrated Management of Childhood Illness where the role of the hospital is clearly saving lives and reducing the burden of disease. These hospitals are also important for basic trauma care and show promise for caring for acutely ill newborns. Care for simple surgical conditions such as cataracts, hernias, clubfoot, and ear infections, can also significantly improve patients' quality of life. In addition, outpatient clinics at district hospitals can provide such primary care services as immunizations as well as coordinate the information and supplies needed in other parts of the primary care system.

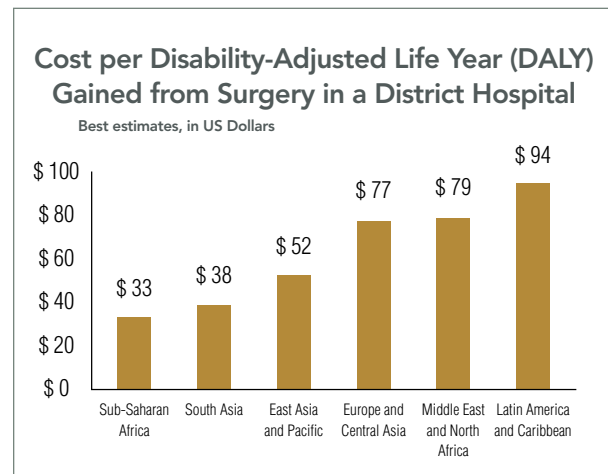
Potential High Impact and Cost-Effectiveness of District Hospitals

Some studies have tried to estimate the impact of district hospitals by comparing the outcome of an illness treated there to the likely outcome of that illness with no hospital care. Using this approach in Kenya, researchers estimated that a well-functioning district hospital might reduce child mortality from all causes by 44 percent in a population with reasonable access to a hospital.

Although public health advocates have often argued that hospitals consume too large a share of health-sector budgets, research has shown that essential hospital services can provide substantial health benefits at low costs. To explore cost-effectiveness at a rural hospital in Bangladesh, researchers estimated the total costs of running a hospital over a three-month period and the gain in disability-adjusted life years (DALYs)* attributable to inpatient care during the same period. The researchers reported that each DALY gained cost about US\$13 in 2004 dollars, which compares favorably to the cost of most primary care interventions regarded as highly cost-effective.

Recent estimates of essential surgical services provided at district hospitals show that this care is also cost-effective, particularly in sub-Saharan Africa and South Asia where the disease burden is highest. The cost of DALYs gained from surgery at a district hospital is lowest in sub-Saharan Africa and highest in Latin America and the Caribbean (see figure). But in all regions, the cost of surgical care in district hospitals

is comparable to the cost of most primary care interventions, and is considerably cheaper than care provided in tertiary-level hospitals, which provide the highest and most complex level of surgical care.



Source: Haile T. Debas et al., 2006. Disease Control Priorities in Developing Countries: 1256.

Wider Role of the District Hospital

Beyond offering specific medical and surgical services, district hospitals also play important roles in health-related information, communication, coordination, and training, including:

- Integration with other local health-related services, such as water and sanitation, and the broader development agenda for the local area;
- Training health workers, particularly clinical assistants, nurses, and health aides, to ensure their skills and experience reflect the needs of the community;
- Supervision and monitoring of health workers in the peripheral health centers; and
- Managing health information systems that collect data on services used, to allow for strategic planning and monitoring of the district health system.

Improving District Hospitals

District hospitals typically suffer from persistent weaknesses, including shortages of professional staff and beds, irregular deliveries of drugs and supplies, lack of transportation, and nonfunctioning laboratories and equipment. In addition, a lack of flexibility in reallocating roles between different groups of health workers may prevent hospitals from

becoming more efficient. In many cases, nurses and health aides can provide services more cost-effectively than doctors.

Other interventions needed to improve the performance of district hospitals include:

- Clinical guidelines and performance reviews to improve staff performance;
- Accreditation to improve quality of care; and
- Programs to reduce the incidence of hospital-acquired diseases.

A particularly promising avenue for cost-savings in developing countries may be the ability to undertake and interpret diagnostic tests remotely, thereby enabling district hospitals to function without a skilled diagnostician on site. Whatever roles district hospitals take on in the future, however, their lack of effective management will need to be addressed.

District Health Systems Deserve High Priority

Primary care systems in low- and middle-income countries, with district hospitals as the hub, have yet to receive the sustained policy attention and resources that their importance warrants. The challenge facing many countries is not only to invest additional human and financial resources into district health systems, but also to make these systems central in the battle against the major causes of death and ill-health in developing countries.

The cost per DALY gained from inpatient care and essential surgical care at district hospitals compares favorably with providing this care at higher levels of the health system. Coupled with evidence that district hospitals are underfunded compared with tertiary-level hospitals, a strong case exists for increasing support for district hospitals in developing countries.

* DALY (disability-adjusted life year) is a composite measure that combines the number of years lived with a disability and the number of years lost to premature death.

For More Information

English, M., C.F. Lanata, I. Ngugi, and P. Smith. 2006. "The District Hospital." In *Disease Control Priorities in Developing Countries*, 2nd ed., ed. D.T. Jamison, J.G. Breman, A.R. Measham, G. Alleyne, M. Claeson, D.B. Evans, P. Jha, A. Mills and P. Musgrove, 1211-28. New York: Oxford University Press.

Debas, H.T., R. Gosselin, Colin McCord, and A. Thind. 2006. "Surgery." In *Disease Control Priorities in Developing Countries*, 2nd ed., ed. D.T. Jamison, J.G. Breman, A.R. Measham, G. Alleyne, M. Claeson, D.B. Evans, P. Jha, A. Mills and P. Musgrove, 1245-60. New York: Oxford University Press.

¹ See also fact sheet on Primary Health Care (http://www.dcp2.org/file/77/DCPP_PrimaryHealthCare.pdf).