

# Quality improvement and the hierarchy of needs in low resource settings: perspective of a district health officer

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## Abstract

District services in developing countries are afflicted with frequent system breakdowns, caused by a combination of resource constraints, limitations of the health workforce, and poorly developed management systems. Narrowly focused, outcome-oriented quality improvement initiatives and sporadic accreditation visits fail to address the most pressing need of district health services- to improve manageability. To improve quality at the district level, attention should be directed first toward this need- by building widely focused systems for ongoing, operational monitoring and response.

**Keywords:** quality improvement, quality management, external quality assessment, developing countries, specific populations, setting of care

The job of the district health officer, the running of the district hospital, clinics and public health programs at the level of service delivery, is a difficult one. Imagine a steady stream of challenges such as these:

- A shipment of measles vaccine spoiled when left at the airport without refrigeration for 48 hours. An airline worker had called the health center when the vaccine arrived on a Friday night. The night call was routed to the hospital ward where it was received by a nurse aide who, not appreciating the fragility of the vaccine, failed to relay the message properly.
- A fire in the hospital laundry room did extensive damage to the hospital facility. Upon investigation it was found that the lint filter in the dryer's exhaust duct had not been cleaned since the dryer's installation more than 3 years ago and the accumulated lint finally ignited.
- The uncle of an infant admitted to the hospital 4 days previously stopped by the administration office to complain that no doctor had visited the child since admission, and that continued intravenous fluids were making the child 'puffy'. Apparently, the admitting doctor went on leave following the emergency room shift when he admitted the child, and nobody had been designated to take his place.
- An emergency Caesarian section for a woman with hemorrhage was delayed for nearly two hours one

night when the on-call anesthetist could not be located. The mother survived; her baby was stillborn.

- An outbreak of methicillin-resistant *Staphylococcus aureus* in the neonatal nursery occurred. Investigation revealed that most of the sinks in the ward lack soap and paper towels and that the basin in which infants are washed was not being disinfected between uses.
- An elderly woman with severe congestive heart failure died. The internist caring for her complained that the patient's care was complicated by the inability to test serum electrolyte levels. A purchase order submitted many weeks ago by the laboratory for the necessary reagents had become lost before processing was complete by the government finance office.

All of the incidents described above actually occurred within a two month period in a district health service in the Pacific islands. For the district health officer in such settings glitches in accountability, communication, preventive maintenance, infection control and government administrative systems are commonplace.

There are several reasons why district health services are prone to such problems. One is the shortage of fully trained health workers. Staff members who lack formal training routinely must be made to perform highly technical functions. Such on-the-job trained health workers lack the 'big-picture' view of where their function fits into the work of the health

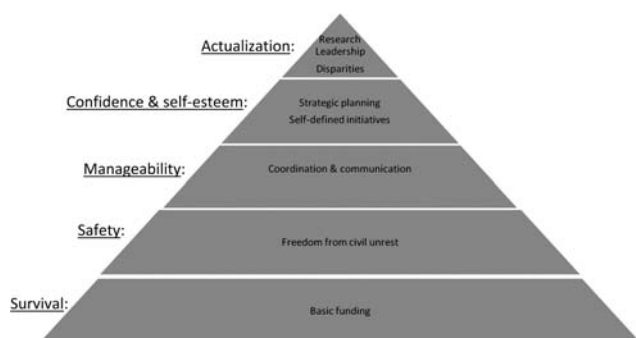
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department and so are less perceptive of minor problems that can grow to crisis. They are slower to recognize opportunities for maintaining smooth operations and improving outcomes. Often these health workers have limited literacy levels. This makes written policies and procedures a much less effective tool and precludes the use of written reference materials by front-line staff for self-regulation of performance.

Furthermore, the milieu in which the district health officer must operate is unfavorable. The power grids, transportation infrastructure, and government finance, and procurement systems in these settings all tend to be unreliable.

Finally, the organizational complexity and interdependence of multiple functional units within the health service present special challenges. The delivery of even apparently straightforward services requires the contributions of a variety of participants. The control of tuberculosis, for example, demands expertise in case finding, functional transport, financial and procurement systems, proper storage of a variety of laboratory supplies and medications, competent and motivated medical care providers and outreach workers, maintenance of functional equipment which may include microscopes, incubators and radiography units, competent technicians to operate these instruments and meticulous record keeping. The flow of information through the system must be smooth, so that the various components of the system are working in concert. If any one of these components fails, then the others will also fail to be effective. As organizations which must conduct a wide range of complex processes requiring a spectrum of highly specialized staff and material inputs, district health departments are often the most complex organizations within their communities. One of the keys to attaining good performance, therefore, is to assure the smooth coordination of effort across such multiple functional units.

Abraham Maslow, in a classic 1943 paper, set forth the idea of a hierarchy of human needs [1]. In brief, Maslow's idea is that humans have multiple levels of needs ranging from survival to safety to love and belonging, to esteem to self-actualization. We must satisfy our more basic needs before we are free to address ones that are less pressing. Thus, a man who is dying of hunger must address his need for food before he pursues his need for safety or for love or for belonging.



**Figure 1** A Hierarchy of needs for the District Health Service. The hierarchy of needs is represented by a pyramid. More basic needs are closer to the base of the pyramid.

The concept of a hierarchy of needs also applies to the district health service. (Fig. 1) At the most basic level, the organization's survival must be secure and the people working within must feel safe. This requires a basic funding stream and freedom from civil strife. Once these needs are met, manageability becomes the most pressing issue. Manageability is the degree to which a situation is controllable or tractable [2]. In the context of the district health service it refers to freedom from the chaos of multiple system failures. Only when more basic needs are met can the organization be free to properly address higher levels of health service need—esteem (the organizational confidence to pursue a self-defined strategic agenda), and actualization (the addressing of social inequities, the pursuit of innovation through formal research and the provision of leadership at national and international levels).

Most health-care organizations in high-resource countries benefit from strong government institutions, a relative abundance of fully trained health workers, and much less pressing limits on material resources. They have achieved smoothly functioning basic operations (i.e. manageability) long ago and function at higher levels in the hierarchy of needs. With their already highly regulated environments, they tend to regard whole-system, criteria-based quality improvement and accreditation programs as oppressive. For them, new layers of regulation almost invariably make work more difficult. They find it more rewarding to focus on specific problem areas. Most have shifted their quality improvement efforts toward outcome-focused initiatives that address the 'quality gap' that exists for many important clinical problems between best practices, as demonstrated in carefully controlled research settings, and those found in usual practice in community settings.

In contrast, developing countries a steady stream of crises and system failures distracts attention from efforts to improve specific clinical outcomes in such areas as HIV care, peri-natal care and the management of childhood illness. For the district health service, a focus upon assuring basic operations and coordination of effort across all of the units is required in order to meet the need for manageability.

However, much of the funding and expertise for quality initiatives in developing countries comes from those who are engaged in quality improvement in high-resource countries. It is not surprising that there tends to be a greater emphasis on higher need-level narrow, outcome-oriented quality improvement rather than more basic whole-system operational quality improvement initiatives. Adding to this tendency toward a categorical approach to quality improvement is the dependence in low-resource settings upon multiple, externally funded categorical health programs. These programs tend to be poorly coordinated with one another and generate multiple sets of overlapping requirements. The district health officer becomes weary of the steady stream of consultants, health ministry specialists and funding agency experts who come on site to do performance assessments. Such assessments invariably generate a list of deficiencies and a corresponding list of things to do to correct them. The district health officer, already painfully aware that the system is rife with problems, does not often find these consultations to be helpful. They merely add to a

seemingly endless ‘to-do’ list with which he or she is already swamped. However, the health officer is obliged to respond to such recommendations in order not to jeopardize program funding. In this way performance improvement-oriented consultations for categorical programs can encourage a piecemeal approach to systemic problems. By adding to the administrative burden faced by an already overwhelmed district health officer, they may interfere with the ability to tame the chaos of the whole.

One whole-system approach that has been used with some success in developing countries is that of health service accreditation [3–5]. Accreditation surveys are potentially superior to piecemeal program evaluations, especially if they are designed to focus attention on the kinds of issues—preventive maintenance of equipment, availability of essential medications and supplies, accountability and the division of labor and the flow of information through the health service—that most affect operations. Ideally, not only should accreditation systems focus on operational issues, they should also incorporate, so far as possible, the requirements of categorically funded programs, so that district health service managers can deal with a single, ‘bundled’ external evaluation, rather than a succession of fragmented assessments. This requires that accrediting bodies work closely with various categorical funding agencies, with the goal of easing the management burden at the district level.

Note that while external accreditation surveys can provide an occasional snapshot of the strengths and weaknesses of the health service, it is the ongoing effort at the local level to both continuously monitor indicators and to respond to shortcomings that are the key to addressing system dysfunction. Having a national accreditation program without district-level capacity to reach standards is akin to having occasional external financial audits without provision for collecting, organizing and responding to financial data in real time at the level where money is being spent. By linking

accreditation surveys to the provision of managerial technical assistance, however, accreditation programs can be a mechanism for building local management systems.

In summary, both narrowly focused outcome-oriented quality initiatives and accreditation programs have the potential to improve the performance of health services. However both should be approached with a keen appreciation for the challenges faced at the level of service provision. District health services must have dependable basic funding, freedom from civil strife and freedom from the chaos of frequent system breakdowns before they can strive toward higher goals promoted by national policy-makers and international health agencies. In the words of Maslow: ‘If basic needs are unsatisfied, the organism is then dominated by them; all other needs may become simply non-existent or be pushed into the background’ [1].

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