Making secondary care a primary concern: the rural hospital in Ecuador

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In 2001, Andean Health & Development (AHD, Milwaukee, Wisconsin, United States of America), also known as Salud y Desarrollo Andino (Saludesa, Quito, Pichincha, Ecuador), a non-governmental organization (NGO), opened a 17-bed rural hospital, built jointly with the local municipality and the Ministry of Health (MOH) of Ecuador. The hospital serves a rural community of 50 000 that had no prior secondary care services. AHD/Saludesa's efforts to develop a quality, primary/secondary care, self-sustaining public/private health network have led to important experiences in the administration of a rural hospital. In this article, AHD shares some of these experiences through a discussion of rural hospitals in Ecuador.

Rural communities in Ecuador continue to experience unprecedented urban and international migration (1), resulting in shrinking rural infrastructures as political forces increasingly respond to the demands of growing urban populations. Ecuador's public spending on health is 2.1% of its national budget, among the lowest in the Western Hemisphere (2). Furthermore, the high turnover rate among top-level MOH personnel—31 ministers in 37 years (3)—has made it exceedingly difficult for Ecuador to implement a long-term strategic health plan or define the role of the MOH in the health care landscape.

The MOH, Social Security Institute (*Instituto Ecuatoriano de Seguridad Social*, IESS), private sector physicians, and NGOs form a network of more than 4 000 primary care centers throughout the country (4). However, the secondary and tertiary care facilities, available in the larger urban areas, have extremely limited access for rural populations. Poor, rural patients requiring transfer for secondary or tertiary care encounter almost insurmountable obstacles. A three-hour transfer to the capital city for a high-risk patient in labor can turn into nine hours when there is no receiving facility. In a situation such as this, the birth may occur en route, in the back of a pickup truck. Common obstacles to transporting patients to urban hospitals are:

- Patient unfamiliarity with large cities and their transportation systems
- Costly transportation for transfer
- Lack of in-town family support and lodging for family members of ill patients
- Bed unavailability due to severely congested tertiary care hospitals

- Insensitive medical personnel at receiving urban hospitals

Rural secondary-care hospitals (RSCHs) are the missing link. Adequate RSCHs could provide local care for the vast majority of all medical needs in rural communities. Unfortunately, although Ecuador's MOH reports 91 rural hospitals (4), in reality, most of these facilities are not equipped, staffed, or financed to provide typical, secondary care services, such as:

- Moderate-risk maternity care and Cesarean section
- Unstable newborn resuscitation
- Hospitalization for moderate to severe manifestations of infectious diseases, such as pneumonia and diarrheal diseases
- First trimester gynecologic complications
- Environmental accidents, e.g., snakebite, organophosphate toxicity
- Major trauma stabilization for tertiary care transfer
- Surgical management of: gallbladder disease, appendicitis, inguinal hernia, tendon laceration, tubal ligation, vasectomy

In addition, medical personnel are frequently part-time and often compress several half-day shifts into one day, leaving the rural hospital uncovered most days of the week. In many cases, political rather than technical criteria determine the location of rural hospitals, further reducing their effectiveness and long-term sustainability. Furthermore, most current private and public RSCHs in Ecuador are severely limited in their effectiveness. Budget shortfalls, irregular personnel, labor disputes, a relative paucity of well-trained administrators, and shortages of medications and supplies prevent them from adequately responding to the demand for their services.

Despite the obstacles however, technically, administratively, and financially well-maintained RSCHs, situated in appropriately-sized communities, offer many advantages over their urban tertiary counterparts. Specifically, the well-run RSCH:

- Keeps patients close to families
- Prevents traumatic long distance journeys
- Provides continuing medical education to an oftentimes relatively abandoned group of primary care providers in the community
- Decongests overburdened tertiary care city hospitals
- Delivers important curative services more economically due to lower fixed overhead costs
- Provides important leadership in developing local capacity in the public and private health sector

TRADITIONAL RURAL HOSPITAL MODELS

Defining a typical RSCH in developing countries can be difficult. Frequently they are outpatient facilities that might have extremely limited hospitalization services. Many offer little or no surgery and limited laboratory and radiology services, resulting in the continuing need to transfer patients for actual secondary care services.

Strategies for situating secondary care facilities in larger urban areas are well understood. However, throughout the developing world, there exist countless isolated, large, rural populations with major limitations to access, resulting in unacceptable morbidity and mortality rates. This is especially true in the area of maternal and child health. In Ecuador, 25% of the total population has no access to health services. This is certainly much higher in rural populations where 40% of Ecuadorians live (5).

Ecuador, like other developing countries, has three prevalent models of rural secondary care:

- **Public sector hospitals:** limited by inadequately trained personnel, severe budgetary constraints, frequent shortages in medications/supplies, and highly centralized administrative models that make decision that do not necessarily reflect local reality.
- "**Missionary" hospitals:** established by foreign organizations that build facilities, provide services in a relative vacuum, interact irregularly with local health care providers, and always depend on external funding, personnel, and supplies. When funding ends, the project ends and populations are left at greater risk than before.
- **Private clinics:** frequently administered by private local physicians without post-graduate training, and therefore, inadequate medical decision-making. They are typically for-profit and lack a poor/indigent focus.

In rural Ecuador, and throughout rural Latin America, there are no known models of sustainable secondary health care services that are financed locally, provide quality care, and offer services to the entire population.

"Rural" is highlighted because urban secondary-care hospitals have an escape mechanism: patients can be referred to public hospitals if services are unaffordable at the private hospital. This self-selection process of paying patients makes urban financial sustainability attainable. In rural areas, the usual secondary care "monopoly" carries a responsibility to devise payment mechanisms to extend coverage to nonpaying indigents. Also, medical staff in large urban centers are available on

a commission basis. These same personnel in a rural setting, far from the city and family, require compensation for extended periods of underutilized time in those communities, driving up operating costs.

RURAL HOSPITAL CHALLENGES

Financial strategies

Financial self-sustainability is the single, greatest challenge to public or private RSCHs attempting to provide quality care to an entire community. Private sector attempts have resulted in selecting paying patients. In Ecuador, the public sector has failed to garner adequate financial support. Ongoing political instability has blocked implementation of health sector reform since 1992.

According to the socioeconomic index created for the 1999 Demographics and Maternal and Child Health Survey (*Encuesta Demográfica y de Salud Materna e Infantil,* ENDEMAIN), 83.4% of rural Ecuadorians live in lower-class housing (1). The Center for Population and Social Development Studies (*Centro de Estudios de Población de Desarrollo Social,* CEPAR) survey in 2000 found that 48.8% of rural Ecuadorians live in extreme poverty (6). Monthly family income is below US$ 150 in most parts of rural Ecuador (7). Currently, the rural poor spend up to 25% on health care, but in an inefficient manner (8). For example, a farmer's unattended laceration frequently becomes infected, requiring specialized care not available locally, and incurring the additional cost of transportation, antibiotics, and frequent wound checks.

Aware that significant funds were being spent inefficiently on health care, AHD/Saludesa attempted economic categorization of families. However, given the weakness of the nascent tax-collecting branch of the central government, most rural Ecuadorians do not formally report income, making it exceedingly difficult to measure or categorize. Home surveys that measured wealth according to crude indicators, such as the condition of the home and whether or not the children were clothed and in school, were not accurate. At the present time, there is no known, successful, economic categorization for health care in Ecuador.

Given the overhead cost of a high quality secondary-care hospital and the widespread indigence in rural areas, fee-for-service financing by itself is not a feasible option for a self-sustained RSCH. To achieve financial sustainability, an RSCH must identify the pockets of "wealth" or sufficient disposable income that exist in almost all communities so as to cover modest health care costs. AHD has identified groups, such as government agencies, commercial farmers, eco-tourist resort owners, and other small businesses, that have met with some financial success. These pockets could potentially cover their employees and families, allowing for possible cost-shifting to cover indigent populations. It is in the best interest of these groups to subsidize local health care because timely, quality care ensures productivity is maintained on commercial farms and tourist resorts. Furthermore, international wholesale buyers are beginning to demand that local producers give assurance that such services are available to their employees.

The introduction of local health insurance strategies in poor, rural communities has achieved limited success in isolated experiences. AHD learned important lessons from its initial experience with prepaid packages in 2004 at Hospital Pedro Vicente Maldonado (HPVM, Pedro Vicente Maldonado, Pichincha):

- Focus sales exclusively on large user groups that understand the insurance concept
- Focus on groups affiliated with IESS to sell packages to their family members who are not covered by social security
- Make purchasers responsible for early payment
- Do not sell at point-of-service
- Invest more resources in social marketing to teach the insurance concept
- Limit the contents of the package
- Tertiary care not a high priority for poor rural populations

Additional hopes for self-sustaining RSCHs are being provided by the introduction of public-private contracting in the health sector by government institutions, such as IESS. In Ecuador, and many countries in Latin America, social security traditionally has its own health care infrastructure. There is a trend towards outsourcing these services to RSCHs in areas where significant numbers of social security-affiliates are isolated from secondary care services (9). Currently, the HPVM obtains 50% of its revenue from IESS.

On a local level, municipal governments have also begun to assume a more direct role in the provision of health services. Due to a growing dissatisfaction with existing health care infrastructure, some municipal governments now provide health care services directly or through existing public or private services in attempts to expand coverage, extend hours of service, and improve quality.

All of these aforementioned new financing options for RSCHs in Ecuador could allow for self-sustainability and universal access for isolated rural populations. Successful models will likely involve

both public and private funding. HPVM recovered 100% of its operating budget through several of these local financing mechanisms in 2007.

Quality and the family physician

Financial sustainability depends on quality of care. AHD feasibility studies demonstrated the community's willingness to pay at least nominal fees when quality is assured. Access to public sector funding, such as IESS contracting or MOH funding through the No-cost Maternity Care Law *(Ley de Maternidad Gratuita),* requires an authorization process that looks specifically at quality indicators.

Standards of quality in medicine depend on local realities. AHD acknowledges the importance of quality issues, such as establishing medical treatment protocols. However, in the context of unsafe and inadequate water supply, an insufficient sewer system, and irregular electricity, such quality issues are placed in their proper local context. The introduction of modern medicine into a community with unique financial, educational, and cultural factors, such as traditional medicine, presents distinct challenges.

Additionally, challenges to defining "medical" quality in Ecuador stem from the absence of a national accreditation entity to create and enforce standards of medical care. It is common for non-residency-trained physicians to receive brief (fewer than 100 hours) "diploma courses," and subsequently proclaim themselves "specialists." Few standards exist for clinical laboratories. Public RSCHs are frequently staffed with non-residency-trained physicians, with little or no direct supervision.

The introduction of family medicine residency training in developing countries is an important, positive quality development for RSCHs, whose usual model involves the presence of several other specialists, such as pediatricians, internists, and obstetricians/gynecologists. The advantages of a family physician (FP) with inpatient training who can manage all these areas alone in an RSCH are readily apparent. FPs, accompanied by general surgeons with adequate training in obstetrics and gynecology, can maintain cesarean-section rates below 25% at RSCHs; while obstetrician-managed maternity wards in private clinics in Ecuador frequently generate cesarean-section rates well over 70%.

The role of family is tightly woven into the social fabric of rural Ecuador. Illnesses have a profound impact on entire, impoverished families living precariously on a day-to-day basis. Because FPs focus on the bio-psycho-social model of health, they are armed with the tools needed to truly manage the entire family, something most other specialists are not equipped to do. Finally, especially for impoverished rural areas, the well-trained FP provides quality care and savings for both the patient and the institution, through more precise testing and prescribing practices.

The next challenge to family medicine is to connect these residency-trained physicians with rural areas where they are most needed. These tend to be areas where remuneration is less attractive and where social infrastructure, such as schools, career opportunities, clean water, and electricity, is often limited, which can put a strain on the physician's family.

Relationships among primary, secondary, and tertiary care. What services should a RSCH offer? A broad understanding of politics, epidemiology, and a good business sense are required to answer this question. The important accomplishments of primary health care are well known. However, a lack of secondary care support lessens primary care's impact in the community, as illustrated by a woman's comment, "Why teach me the signs and symptoms of pre-eclampsia (primary care), if nobody is available to care of me (secondary care)?" Primary care surveillance is simply more effective and better accepted by the community when it is accompanied by the "curative carrot" of secondary care.

In theory, the marriage of primary and secondary medical care is easy to envision. In practice, it can be extremely difficult. If the primary care network is largely public and the RSCH is not, this can result in an antagonistic relationship, with factors such as institutional policy barriers preventing cooperation. Private, not-for-profit RSCHs can be perceived as a threat to institutions such as the MOH, especially given the high turnover rate of upper level personnel and lack of job security, issues that result in a lack of clear institutional vision.

Problems can arise with private-sector primary care physicians (PCPs), frequently in solo practice. Many PCPs receive little continuing medical education and have carved out an existence that has taken them years to develop. Now if an RSCH comes to the area, what will be that PCPs relationship to the hospital? Will he or she have admitting privileges there? What if the PCP is highly regarded by the community, and now has to share the company of better trained, up-to-date physicians? What if the PCP makes a mistake that is "discovered" by the hospital staff? Will he or she spread bad propaganda about the hospital to bolster his image?

RSCHs should complement and support primary care services already available in the community whenever possible. In AHD's experience, it is appropriate to limit hospital-based outpatient care

because it tends to be more costly than primary care outpatient services, due to the high, fixed overhead costs. Furthermore, it generates little significant revenue compared to other services, such as surgery, obstetrics, hospitalization, radiology, laboratory, and pharmacy. Limiting hospital-based outpatient care also serves to minimize the perceived competitive nature between PCPs and the RSCH. Additionally, although hospital administration typically believes that its outpatient care is the motor driving secondary services, AHD has observed that such services are most commonly generated from emergency or referrals from outside providers.

The importance of communication lines for referrals and counter-referrals is frequently overlooked. PCPs often feel their patients will be "stolen" by secondary care. However, a cooperative relationship between PCPs and the RSCH can be nurtured by establishing a clear division of roles for each in the community. Other important measures include facilitating patient transfers, giving notification of secondary care findings, and demonstrating respectful gratitude for referrals.

The important relationship with tertiary care is the patient transfer and the delicate logistics accompanying this. RSCHs do not routinely enjoy the respect of tertiary care facilities, and few, already congested, public tertiary care facilities are enthusiastic about receiving patients from outlying areas. Furthermore, inappropriate and oftentimes "knee-jerk" condescending comments from receiving physicians can tarnish the image of the secondary care facility the same way that similar careless remarks from RSCH doctors can damage relations with local PCPs. For these reasons, direct physician-to-physician conversations are critical. Visits by the referring RSCH physicians to tertiary care facilities, and specifically with the receiving physician(s), facilitate subsequent transfers. Cultivating a personalized relationship with primary and tertiary care providers can strengthen the RSCH's image in the community.

Political dimensions of rural health care

When discussing obstacles to good health, usual themes include distance, topography, education, economics, and cultural beliefs. Political obstacles must be added to the list. Health sector reform threatens the political authority of an already unstable central government in Ecuador. Furthermore, reform attempts have rested on a MOH bureaucracy whose interest in changing the status quo is questionable. Although economics and a lack of political will at the central level are the usual explanations for failed health sector reform in Ecuador, many fac-tors at the local level must be considered. The local political factors affecting health care services are the following (3):

- Local physicians with political ambition
- Behavior of MOH personnel, driven principally by job stability
- Conflict of interest created by MOH personnel with their private offices, pharmacies, or diagnostic laboratories
- Collecting political favors from individuals for health care services rendered (*clientelismo*)
- Political manipulation of local health committees

Certain contradictions between community and health care labor unions add further tensions at the local level. The institutional demands made by labor unions on the state should also benefit the local community. However, when these demands lead to strikes that leave local communities without medical attention, the communities question the motivation of the unions. When union strikes do not achieve their goals, medical personnel at the local level perceive an absence of community and state support. This vicious cycle results in a progressive deterioration in the quality of local health services, creating divisions between communities and health care providers (3).

Hospital administrators must understand the importance of political neutrality, yet have sufficient political savvy to understand local politics. Finding credible local actors to assist in the interpretation of local political phenomena and understanding their respective biases can be exceedingly difficult, especially for non-local NGOs.

A major challenge in the current decentralization movement sweeping Ecuador (9) and other parts of Latin America is the development of local capacity. Although local actors, such as municipal government and civil society, understand local reality, they are not necessarily trained in technically sophisticated areas such as hospital administration. Furthermore, excessive, direct community or municipality involvement in hospital administration/policy can be destabilizing, given populist politics and the temptation to use the hospital as a political platform. Training health care administrators is therefore as important as training FPs in the effort to provide sustainable, quality secondary care in rural areas.

It takes years to develop trusting relationships between recently chartered municipalities, MOH personnel, NGOs, and the community. The relationships are subject to frequent personnel changes and political manipulation that impedes this process; however, these relationships can be strengthened through administrative models of

RSCHs that give the community an oversight role in guaranteeing transparency, patient advocacy, and verifying financial statements, where politics permit. A hospital board of directors can also provide a framework for substantive community involvement, especially when board members are selected based on technical and administrative skills and not for a particular political affiliation.

CONCLUSIONS

Like most of the developing world, Ecuador has experienced dramatic advances in primary health care and public health over the last 30 years. However, Ecuadorian RSCHs, public or private, have been a neglected, but critical, link between primary and tertiary medical care services. Although very real challenges continue to face these institutions, several recent cultural, political, economic, and medical circumstances favor the revival of the RSCH. Chief among these are a trend towards decentralization and the arrival of the FP to the Latin American medical landscape. Despite the many obstacles that the RSCH faces in Ecuador today, a mix of innovative financing mechanisms, such as local insurance, public-private contracting, and local government subsidies, can alleviate budget shortfalls, help guarantee quality, and provide access to poor rural populations, allowing for the development of self-sustained RSCHs. These opportunities are available to private and public sector RSCHs, permitting the development of interesting rural secondary health care models in the years to come. The experience of AHD through HPVM is one such model.

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SINPOSIS

Hacer de la atención secundaria una preocupación primaria: los hospitales rurales en Ecuador

En Ecuador, el acceso de la población rural a servicios adecuados de atención secundaria de salud se ha hecho cada vez más difícil. A pesar de que los sectores público y privado han acertado en dedicar esfuerzos a la atención primaria y a la salud pública, la mayoría de las poblaciones rurales no tienen acceso a una adecuada atención secundaria. Por lo general, los modelos tradicionales de atención médica secundaria en zonas rurales no se han adaptado a las nuevas situaciones, como la tendencia general a la descentralización, el énfasis en el desarrollo de capacidades locales, el antagonismo entre el acceso universal y la autonomía financiera, las alternativas financieras innovadoras y los recién llegados médicos de familia. En 2001, la organización no gubernamental con sede en los Estados Unidos de América Andean Health & Development (Saludesa en Ecuador) inauguró un hospital rural de 17 camas, construido conjuntamente con el municipio local y el Ministerio de Salud de Ecuador. El hospital atiende a una comunidad rural de 50 000 personas que antes no tenían acceso local a servicios secundarios de salud. Los esfuerzos de AHD/Saludesa para desarrollar una red autosostenible pública/privada de atención primaria/secundaria de salud y de alta calidad han generado una considerable experiencia en la administración de un hospital rural. El proyecto piloto de AHD se concentró en un hospital rural y logró su autosostenibilidad total en 2007. Esto se logró mediante una combinación de mecanismos financieros, entre ellos la venta de paquetes prepagados de atención sanitaria, un contrato con el Instituto Ecuatoriano de Seguridad Social, contribuciones municipales y el pago tradicional por los servicios.

Palabras clave: hospitales rurales, servicios rurales de salud, atención secundaria de salud, Ecuador.

REFERENCES

1. Centro de Estudios de Población y Desarrollo Social. Encuesta demográfica y de salud materna e infantil 2004. Quito: CEPAR; 2005. (Informe preliminar).
2. Pan American Health Organization. Health situation in the Americas: basic indicators. PAHO: Washington DC; 2005. Pp.117-32.
3. Sola, J. Una desconcentracion incomplete: la reforma de la salud en el Ecuador. Ecuador Debate; 2004; 61(abril):117-31.
4. Instituto Nacional de Estadística y Censos. Recursos y actividades del salud: Número de establecimientos con y sin internación hospitalaria por área según clase [Internet site]. Available from: http://www.inec.gov.ec/interna.asp?inc=enc_tabla&idTabla=203. Accessed 1 March 2006.
5. Pan American Health Organization. General situation and trends: Ecuador [Internet site]. Available from: http://www.paho.org/English/DD/AIS/cp_218.htm. Accessed 1 March 2006.
6. Centro de Estudios de Población y Desarrollo Social. Grupos poblacionales y requerimientos [Internet site]. Available from: http://www.cepar.org.ec/estadisticas/pobind1/pobind1.html. Accessed 1 March 2006.
7. Instituto Nacional de Estadística y Censos. Encuesta nacional de ingresos y gastos de hogares urbanos [Internet site]. Available from: http://www.inec.gov.ec/enighu/home.html. Accessed 1 March 2006.
8. Instituto Nacional de Estadística y Censos. Condiciones de vida: estructura del gasto total de los hogares a nivel nacional y por area, según quintiles de hogares [Internet site]. Available from: http://www.inec.gov.ec/interna.asp?inc=enc_tabla&idTabla=243. Accessed 1 March 2006.
9. Centro de Estudios de Población y Desarrollo Social. Políticas de salud y reforma sectorial: la opinión de los actores de la salud en el país. CEPAR: Quito; 1999.