



Karen McKoy, MD, MPH
Lahey Clinic, Burlington, MA
Harvard Medical School Department of Dermatology

The Importance of Dermatology in Global Health

Since skin disease not a leading cause of mortality, it is not usually thought of as a major health issue in developing countries. However, it is extremely common; up to 21-87% of the population may be affected by some type of skin problem, depending on the locale. It also contributes to significant physical and psychological disabilities. These disabilities have been measured by a number of life quality measures (<http://www.globalburden.org/>), but the importance of skin health is often underestimated because of the chronic, non-life threatening nature of most skin diseases. Disfigurement and discomfort associated with skin problems make them among the main reasons people seek medical care, and are the cause of approximately 24% of primary care visits.

The cost of skin disease is difficult to assess. Many developing countries have no skin care specialists and referral is made difficult by distances and availability of travel funds. For example, South Africa has a ratio of 3 to 4 million people per dermatologist, who are usually located in urban areas. Primary care providers are often unable to diagnose and treat skin disease; studies done in Africa revealed that patients may spend up to 50-100% of their income on therapy for skin problems, which is ineffective nearly 75% of the time. The economic burden of skin disease in the United States is large: approximately \$35.9 billion for 1997, including \$19.8 billion (54%) in ambulatory care costs, \$7.2 billion (20.2%) in hospital inpatient charges, \$3.0 billion (8.2%) in prescription drug costs, \$4.3 billion (11.7%) in over-the-counter preparations, and \$1.6 billion (6.0%) in indirect costs attributable to lost workdays.¹ It is not hard to imagine the probable and much higher relative cost burden in developing countries.



The epidemic of HIV in Africa and all over the world has made skin disease a more critical issue. Skin disease is often the first manifestation of infection in HIV/AIDS; 90% of those infected have skin disease at some point.

¹ Dehkharghani S, Bible J, Chen JG, Feldman SR, Fleischer AB Jr. The economic burden of skin disease in the United States. *J Am Acad Dermatol.* 2003 Apr;48(4):592-9.

Therefore, recognition of skin manifestations of HIV is critical for early diagnosis and control of this now treatable disease, as well as in reducing further transmission.

Climate change may also affect the incidence and impact of skin disease. Rising temperatures have shifted the behavior and distribution of insect and other disease vector species; hurricanes, storms, and flooding further affect the prevalence of these vectors, as well as human crowding and hygiene practice, which influence transmission of infection. Skin diseases that may change in prevalence include bacterial and fungal infections, parasitic infestations, and skin cancer.

On the whole, the skin diseases in developing countries are the same ones prevalent in developed countries – eczema, psoriasis, acne, and pigmentary disorders. Yet the common skin problems that are infectious account for the majority of skin issues in developing countries, with the brunt of disease falling on those under 15 years old (scabies, head lice, and bacterial and fungal infections).

How can this burden be relieved? The WHO has stressed the need to address skin disease in developing countries.² Given that the world is underserved by medical providers skilled in skin disease, there are multiple possible solutions, many of which can be pursued simultaneously and tailored to the needs and resources of each community. The sustained benefit can only come from training local health care providers. These may be physicians (non-specialists as well as dermatologists) or non-physicians, from nurses to community health workers. Expertise may also be extended through new communication technologies, such as the Internet or mobile phones, but this can only be adjunct care.

In Africa, except for Egypt and South Africa, there are few dermatology training programs despite attempts from several groups to remedy the problem. The International Foundation for Dermatology established a Regional Dermatology Training Center in Tanzania and has been training non-MD skin care providers for the entire continent since 1992. Training programs for dermatologists have been initiated in Ethiopia and Uganda (where HVO is assisting, at Mbarara University). The International Society of Dermatology has launched a Task Force for *Skin Care for All*; Community Dermatology, with pilot Community Dermatology projects, and also supports the publication of *The Community Dermatology Journal*, associated with the International Foundation of Dermatology.³



Assessment of the dermatological needs of a community is a key step in addressing those needs; this has been done in some regions⁴. However, those needs and the best way to

² Bulletin of the World Health Organization. Growing awareness of skin disease starts flurry of initiatives. Vol 83, number 12, Dec 2005:881-968.

³ Ryan, TJ. The International Society of Dermatology's Task Force for *Skin Care for All*: Community Dermatology. Int J Derm 2011;50 pp548-551.

⁴ Hay RJ, Fuller LC. The assessment of needs in resource-poor regions. Int J Derm 2011;50, pp552-7.

address them are often community specific, involving not only what resources are available, but also consideration of economic issues, health literacy issues and the local culture. In addition, collaboration with traditional health practitioners is to be encouraged, as they are often the initial or primary source of care for skin issues.⁵

Other key groups to include in collaboration and education efforts are nurses and community healthcare workers; training more physicians is often not the answer to providing cost-effective health care. In addition, the “brain drain” of highly trained medical professionals from developing countries is a cautionary tale when countries or institutions invest in training providers of care.

The volunteers working with the HVO dermatology programs are well aware of all these issues; our concern has prompted us to help with these educational issues wherever possible and to collaborate with others who have similar goals. Many of us also work with national organizations such as the American Academy of Dermatology and international ones such as the International Society of Dermatology and the International Society of Teledermatology. We also work with other non-profit organizations delivering care directly, such as Project HOPE, Konbit Sante and others. Aside from sending money and supplies or being politically active locally, educating providers in each community in delivering better care for skin disease is the key to making a lasting difference.

⁵ Ryan TJ, Oxon DM, Hert HM, Willcox M. Collaboration with traditional health practitioners in the provision of skin care for all in Africa. *Int J Derm* 2011 50, pp564-70.