A Seat at the Big Table: Expanding the Role of Dermatology at the World Health Organization and Beyond

My patient can't breathe. From across the busy, open ward, you can see the plaques of Kaposi's sarcoma riddling her skin. The impressive woody edema has enlarged her legs to the size of small tree trunks. We don't have access to confirmatory pulmonary testing in Kenya, but she probably wouldn't survive a bronchoscopy anyway.

When she dies six hours later, we can be pretty sure that it is her pulmonary Kaposi's sarcoma, along with her underlying HIV, that killed her. Her family tells us that she had dark spots on her skin and swelling in her legs for more than a year before she presented to the hospital. Like many of our patients in East Africa, she sought help from a traditional healer for many months before turning to the biomedical health system, only hours before her death.

Lack of access to diagnostic tools, limited early intervention, and inadequate treatment are common barriers to improving global health. However, increasing awareness, interest, and funding in the area of global health means that dermatologists and investigators like ourselves now have growing opportunities to make a real difference. In resource-poor settings, skin disease is often the presenting complaint that brings patients into the health-care system. At one end of the spectrum are diseases with fatal consequences, such as Kaposi's sarcoma. On the other end are more quotidian but often stigmatizing conditions such as scabies, tinea, or zoster.

This year, the World Health Organization (WHO) will publish, for the first time, a comprehensive treatment guideline and diagnostic algorithm for the most common HIV-related skin conditions. The *Guidelines on Skin and Oral HIV-Associated Conditions in Children and Adults* will help health professionals and policy makers provide appropriate therapy for Kaposi's sarcoma, seborrheic dermatitis, herpes zoster, scabies, papular pruritic eruption, eosinophilic folliculitis, tinea, molluscum, drug reactions, and oral candidiasis (World Health Organization, in press). These conditions have a high prevalence in developing countries, but many lack internationally agreed-on standards of care. This deficit led to inconsistent and sometimes dangerous treatment approaches or lack of essential drugs. Critically, dermatologists were involved at all levels of the guideline-development process, including Cochrane reviews of the literature, guideline development and review, and additional funding for the project from the International Foundation for Dermatology (http://www.ifd.org).

Although diseases such as Kaposi's sarcoma and scabies are not necessarily major issues in the US health-care system, many skin conditions pose critical mortality and quality-of-life issues at the global level. Dermatologists based in resource-rich settings such as North America and Europe now have a launchpad from which to make significant contributions to contribute to global health. And, in turn, global health can serve as an entry point for the field of dermatology on the world stage.

There are three key ways in which dermatologists can assist in this growing effort: become champions in health-policy organizations on national and international levels, perform research with an eye to diseases that affect the poorest populations in the world, and participate in global health education for trainees locally and abroad. After presenting a brief background, we explore these three avenues in more detail below.

A background on skin and the WHO

The *Guidelines for HIV-Associated Skin and Oral Conditions* emerged in response to providers in need. Practitioners and managers in low-resource settings specifically asked the US

Journal of Investigative Dermatology (2014) **134**, 2663–2665.
doi:10.1038/jid.2014.355

Centers for Disease Control and Prevention (CDC) for guidance in the area of skin disease as a priority. This request surprised at least one CDC official with whom I spoke. Although skin diseases are one of the most common reasons for presentation to primary-care settings in tropical countries and disproportionately affect vulnerable groups such as children, they are often considered "small-time players" (Hay *et al*., 2006). It was because of this request—from the level of those practicing in the field—that the CDC provided funding to the WHO for research and guideline development in the area of HIV-associated skin disease.

Expanding the role of dermatology within large organizations that affect global policy, such as the WHO, is highly relevant to our specialty. Establishing partnerships to ensure that high-quality dermatologic research informs international health policy is critical to developing quality policies, spreading knowledge about skin disease more widely, and improving prevention and treatment globally. Barbara Gilchrest's designation of unity in action as this year's theme for the *JID* signifies unity not only across the dermatologic community but also with the larger medical community beyond our specialty, both nationally and internationally (Gilchrest, 2014). For example, dermatology has been conspicuously absent from the agenda of HIV/AIDS policy makers; there have been few abstracts in the area of dermatology at the largest HIV/AIDS meeting such as the International AIDS Conference. With efforts such as the WHO *Guidelines for HIV-Associated Skin and Oral Conditions*, our HIV patients suffering from skin disease have become relevant to the overall fight against HIV.

Prior WHO guidance in the field of dermatology is extremely limited. Disease-specific treatment recommendations include those issued for leprosy, Buruli ulcer, and leishmaniasis. INTERSUN, a global UV-light program that addresses UV's health effects and sun protection, authored two of the relatively few WHO publications in the field of dermatology, *Artificial Tanning Sunbeds: Risks and Guidance* and *Sun Protection and Schools* in 2003 (World Health Organization, 2003a, 2003b).

Therefore, this year's WHO guidelines represent a new chapter in the collaborative effort in international health policy in the field of dermatology. But the guidelines represent only a whisper of the future role that dermatology could play in the field of global health and international health policy.

Global health champions

To expand dermatology's role, dermatology champions are needed to participate in committees and work groups within health policy organizations. Although few in number, dermatologists have played key roles at the WHO. For example, Robert Chalmers co-leads the Topic Advisory Group for Dermatology, tasked with reviewing upcoming International Classification of Diseases–11th Revision coding. This important effort will ultimately affect all who care for patients and bill for diagnoses and services rendered. Roderick Hay (chair of the International Foundation for Dermatology) has served on the Committee on the Selection and Use of Essential Medicines for many years. This committee chooses the limited range of medicines considered essential across the globe, which ultimately dictates formulary choices at the country level and determines which treatments patients in rural Africa are likely to have access to.

Finally, two recent victories for the field of dermatology at the level of the WHO are (i) the addition of scabies to the list of neglected tropical diseases and (ii) the endorsement by the 67th World Health Assembly of psoriasis as a research and health-care quality-improvement priority. These contributions to our field serve as examples of dermatologists identifying structures, such as committees, work groups, or advisory panels, on which they may serve and making an impact on policy at the international level, which will ultimately affect the lives of our patients suffering from skin disease. We need more such champions in our midst.

Global health research

Developing research projects to describe the multinational burden of skin conditions is also critical. There are several current international efforts to highlight the burden of skin disease worldwide, which will help raise the profile of skin conditions affecting our patients and ultimately translate into allocation of health resources. Most notable is the Disease Control Priorities Project, which includes the global burden of disease. As published in the *JID*, skin disease worldwide is the fourth leading nonfatal cause of years lost due to disability, ahead of diabetes, asthma, and chronic obstructive pulmonary disease (Hay *et al*., 2014). This ranking may actually underestimate the true impact of skin disease, as conditions such as melanoma are counted separately under cancer, leishmaniasis under infectious disease, and the effects of systemic lupus erythematosus under musculoskeletal disease.

Research in the area of dermatologic health-care delivery in resource-poor settings is also key. When there are only a handful of dermatologists for an entire country, delivery of care must follow a different model. For example, a recent study by our collaborators in Uganda shows that in rural Africa, where diagnosis of Kaposi's sarcoma is often made on clinical impression alone or delayed until excision by a surgeon can be scheduled, training nurses and low-level clinic staff in skin biopsy techniques allows for safe, correct, and more rapid diagnosis (Laker-Oketta *et al*., 2013). My Kenyan patient might have been diagnosed with Kaposi's sarcoma much earlier if such a service existed in her area.

Finally, high-quality disease-specific research on skin conditions affecting large numbers of people globally, not just in the United States, must be expanded. For the *Guidelines on HIV-Associated Skin and Oral Conditions*, Cochrane reviews of the literature were performed or updated on all 11 of the HIV-associated conditions mentioned previously. All the recommendations were based on evidence quality that was considered "low" or "very low" (Guyatt *et al*., 2008), with the single exception of the evidence on the treatment for oral candidiasis. Clearly, we still have much to improve on in terms of the breadth and quality of our evidence base.

Global health education

Education in global health consists of two parts: educating domestic trainees in global health issues, including skin

diseases that are prevalent in other parts of the world, and training providers in skin health in the developing world. Domestically, there are centers of expertise in global health dermatology at the University of California at San Francisco, the University of Pennsylvania, Boston University, and my home institution of Harvard University/Massachusetts General Hospital, among others. Interest in global health is growing in general: trainees enrolling in global health programs doubled over a period of just three years, according to the Consortium of Universities for Global Health (Emory University, 2014). The American Academy of Dermatology's resident international grant to Botswana, organized by Carrie Kovarik, is consistently oversubscribed (http://www.aad.org/education/awards-grants-and-scholarships/resident-international-grant).

Internationally, the Regional Dermatology Training Centre in Tanzania trains clinical officers and nurses in dermatology (http://www.ifd.org/the-regional-dermatology-training-centre,-tanzania). Toby Maurer (University of California at San Francisco) is working to establish a dermatology residency in Kenya and Uganda with the aim of offering high-quality training to providers in some of the neediest settings. The International Society of Dermatology's task force "Skin Care for All: Community Dermatology," led by Terence Ryan, has produced a freely available dermatologic public health syllabus (http://www.skincareforall.org/capacity-to-benefit). In addition to these formalized programs, education can take the form of handbooks, reference manuals, and even international guidelines such as the one on HIV-associated skin conditions discussed here. These efforts make a substantial contribution, but we need more. More does not mean just new programs; it can also be the dissemination of existing knowledge or guidelines to a wider global audience.

A call we cannot ignore

Dermatologists have a lot to offer to the field of global health, and global health can help the dermatologic community gain traction in international health policy, ultimately securing better care for millions of patients suffering from skin disease. We must not relax our efforts to remind the world that skin health matters. The three mechanisms proposed here are (i) developing champions to serve on committees in health policy organizations, both national and international, such as the WHO; (ii) pursuing quality research with an international and epidemiologic focus; and (iii) expanding the role of global health in the education of our trainees at home and our role in dermatologic education abroad. The pace will be slow, but the result will be that no patient anywhere in the world will slowly suffocate from Kaposi's sarcoma simply because the care needed wasn't part of the community's training.

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