Commentary

Caretaking of the skin and leadership in public health: for poverty alleviation dermatology's low technology is needed

Terence J. Ryan, Honorary President International Society of Dermatology DM, FRCP

From the Dermatology Department, Oxford University and Oxford Brookes University.

Correspondence
Terence J. Ryan, Emeritus Professor of Dermatology, DM, FRCP
Hill House, Abberbury Avenue
Iffley, Oxon, OX4 4EU, UK
E-mail: userry282@aol.com

From the moment of birth to the final disposal of the dead body the skin is the recipient of care. Throughout life every traumatic encounter with the environment results in the need to look at and touch the largest organ of the body. Looking and touching is low technology requiring an evidence base and a curriculum developed from Dermatology, but utilizable by all.

This journal has frequently published articles from my pen addressing the major issues of "Healthy Skin for All" and public health.[1–3] Often these have been exhortations to dermatologists do more for populations, but in this article, I will review not just why Public Health and Dermatology are essential partners, but why skin care at low cost is central to public health policy and why "Healthy Skin for All" is not too Utopian an objective. In fact the framework for this achievement placing our profession in a leadership position is in place. As reported in this journal by Verma,[4] the demand for public health under the heading of Community Dermatology has advanced significantly even in the past year.

The Threats and Special Problems to be Addressed

Dermatology is an exceptionally appropriate specialty to meet the threats that include poverty, climate change, the mobility and migration of populations, and emerging and neglected diseases. It is predicted in 2007 that the rich will continue to get richer while the poor will continue to get poorer. "Poverty Alleviation" is a slogan that all forms of governance brandish but to which few, unlike those who provide skin care, can respond by saying "I can relieve it ! Watch me!!". *Climate change* is debated, recorded, and its disasters are viewed by the whole world. Few, other than caretakers of the skin, can say that they know how to respond to it with a program that protects against its worst effects. In providing solutions to the ill health of *mobile and migrating populations*, few can emulate the pioneering dermatology program of the San Gallicano Institute in Rome. There are few *emerging diseases* that cannot be first recognized in the skin, and of the so called *neglected diseases* skin manifestations are plenty in evidence, but if one were to vote which organ is the most neglected by the greater funding organizations it might well be the skin (Table 1).

Table 1 The factors that require an urgent reappraisal of "Healthy Skin for All" include

(i)	Poverty
(ii)	Climate change
(iii)	Mobile and migrating populations
(iv)	Emerging diseases
(v)	Neglected diseases

Skin care is needed for problems that, of course, are managed by the profession of dermatology: but it is a small profession in a minority when estimating who looks at and touches the skin. Indeed, it is because carers of the skin are mostly not dermatologists that one should analyze exactly who needs to learn best practice and for exactly what conditions of the skin. Several of the most common and demanding skin problems are not numbered amongst the diseases attended to by, for example, the urban based private practitioner of dermatology. Some skin conditions are managed within the family and others hardly leave primary care.

Very common community problems include skin infections, bacterial, fungal, and parasitic, as well as sexually transmitted infections. The emerging epidemic of HIV/AIDS presents first

in general health services in the skin and mucosae often as clinical indicators of immune status.[5]

In the Tropics, diseases such as leprosy, leishmaniasis, and onchocerciasis must be managed by the general health services trained to look knowledgably at the skin.

It is in the absent skin category that one lists some of the most numerous, difficult to manage, and costly problems. These include pressure ulcers, leg ulcers, foot ulcers due to leprosy or diabetes, as well as those ulcers named Buruli and Tropical. There are also the eroded blisters of genetic, infective, autoimmune, or drug-induced etiology.

- Highly prevalent in countries without regulation of inflammable agents are burns and scalds.
- Trauma is common too and mostly due to road accidents and conflict.
- Skin swellings such as edema from heart failure, dependency, inflammation, filariasis, podoconiosis, cancer, and its treatment are all highly prevalent problems.

In listing the above, as well as in the opening sentence, I am reminding the reader that there is a technology of looking and touching that is involved in the caring for every newborn skin and continues throughout life to the final management of the dying patient. It is this technology that is integral to public health and comes to the forefront in the presentation of every threat from the environment. The global need for the expertise to deal with all of this requires an enormous workforce whose knowledge and best practice is overlooked by the profession of dermatology (Table 2).

A Public Health Response Being an Alliance of all Who Care for the Skin

When in 1992 the International League of Dermatologic Societies drew up with UNESCO its plan for meeting the global needs for skin care, the WHO responded

> "*We identify completely with its aims and objectives.* Indeed, we could not fail to be impressed by such a comprehensive statement of commitment to the needs of the developing world by a globally representative medical body. If its ambitions are realized, its impact will be exemplary".[6]

To realize these ambitions becomes daily more important because the threats are so great, and because they are so especially manageable by a program of skin care. Furthermore they are a model for Global Health Care and not just a concern of the skin. In fact, the extent to which these ambitions have been realized by a scattering of successful models is insufficiently celebrated.

At a conference in Ethiopia, a proposal was made to create a new society of community dermatology, in part to draw more attention to how global needs for skin care are being met by a number of initiatives and to meet the demands for the expansion of a public health approach and the teaching of the necessary technologies. It was described in this journal earlier in this year.[4]

For a description of Community Dermatology one cannot do better than to read the following statement from Mexico.[7] It followed an editorial in *The Lancet* by Rod Hay.[8]

> "Community dermatology is new: it addresses a totally new problem in a speciality which has traditionally relied on the diagnosis of specific and sometimes confusing disease patterns and their management in the individual patient. Community dermatology recognizes that it may be more appropriate in many cases to manage diseases as community problems, with treatment applicable to a large number of people, particularly when dealing with common infections such as scabies. It is based on a dual approach: first the training of those involved in primary care in the recognition of the common diseases and second, the acquisition of accurate epidemiological data. From these data an appropriate approach to the management of the main problems affecting the community as a whole can be planned, taking into account poverty, low living standards and the relative isolation of many of these deprived populations. The focus therefore is to tackle those problems which are of the most importance to the community – these may range from scabies to tropical ulcer and will differ in different countries and states – and to simplify their management. This is to be done with basic, low cost but effective treatments which can be applied by health care workers who are trained both to recognize common problems and to intervene without adversely affecting the patients' health. It may also involve educating the patients about these diseases and about what has to be done to prevent them and to ensure that treatment is effective. Treatment protocols, for instance, may be used which demonstrate simply and effectively the methods of applying topical remedies.

Table 2 Low cost caring for the skin of all ages in a perfect world

The newborn and infant skin is washed and oiled, incontinence managed, mobility encouraged, warmth maintained, overheating, and sun burn avoided.
Throughout life for effective barrier function damaged skin is washed and anointed, and the genitalia require similar hygiene.
Swollen and ulcerated limbs are cleaned of debris, mobility, and elevation encouraged.
The arteriosclerotic limb requires that smoking is to be stopped and walking encouraged.
The wearing of shoes and offloading is necessary for the limb affected by diabetes, leprosy, or arteriosclerosis.

This approach can be applied not only in hospitals or health centres but also in any place where there are people with diseases – such as a school – but there must be sufficient space and light."

The two concepts of "Healthy Skin for All" and "Community Dermatology" need still greater advocacy followed by generous funding. It has been proposed in some of the unpublished discussions following the meeting in Ethiopia that there is a need for a large body, perhaps under the heading of "Community Dermatology International Alliance", with critical mass and momentum that is not provided by any one organization (and there are many), concerned with the delivery of skin care to communities, which will collaborate with many established organizations to seek funds to deliver care for the skin. The reason this was first discussed at the above mentioned meeting in Ethiopia is because of Aldo Morrone, Director of the Department of Preventive Medicine of Migration Tourism and Tropical Dermatology, San Gallicano Institute, Roma, who organized the meeting and has a track record in Rome and Ethiopia, and in his many publications concerning the needs of mobile populations.[9–11] At many of the conferences organized by his team there is generated much of the passion that characterized the gathering in Ethiopia. As described by Verma,[4] who is as passionate about the theme as anyone, there were attending the conference in Ethiopia at which he introduced the theme, many who "believe" but do not "belong". Organizations such as the International Committee of Dermatology (ICD), The International Foundation for Dermatology (IFD) or the International Skincare Nursing Group (ISCNG) affiliated to the International Council of Nursing are neither equipped nor funded to embrace and recruit all who share the passion. There are many individuals and societies who for many reasons are not members of the governance of current dermatology/skincare program, but share a passion for its delivery and could contribute in an alliance. The ISCNG and the Union of Wound Healing Organizations are particularly enthusiastic about the concept.

As Honorary President of the International Society of Dermatology, I have met many individuals who like Shyam Verma, are glad to be its members and benefit from its many travel awards to attend meetings such as that in Ethiopia: awards from, for example, its partner The Foundation for International Development and Education, regularly allow persons from the developing world to attend meetings relevant to public health dermatology such as the annual meetings held at The Regional Dermatology Training Center in Tanzania. These participants read and publish in this journal. Although the orientation of the membership of the ISD and the readership of the IJD is towards the urban based private practitioner, the latter carries more articles of relevance to public health dermatological practice than any other journal.

Landmarks in the Development of Public Health Inclusive of Skin Care

There is no definite date pinpointed as the origin of public health dermatology and one can choose landmarks in military medicine, tropical medicine, and of the study of special diseases such as leprosy to identify a beginning. This journal clearly had its conception when Castellanis and Reiss organized in 1964,[12] The International Society of Dermatology, Tropical, Geographic, and Ecologic at a meeting in Naples. Although in the 1990s under my presidency, we dropped the complicated nine letter wording of the title of the society, the journal has continued at the forefront of what has always had a tropical flavor and its content has been contributed mostly by dermatologists in private or academic practice. Its public health role is actually therefore quite elitist.

In 1987, the only elected and globally representative, but most elite, body of dermatology – The International Committee of Dermatology (ICD) – of The International League of Dermatological Societies (ILDS), established the IFD.[13] Twenty years later one can look back at its main thrust in Africa where it has trained some 164 allied health professionals to study for and take a university diploma that qualifies them to head national programmes in dermatology, sexually transmitted diseases, and leprosy. The other African/IFD programme in Mali has shown[14] that it is possible to have a major impact on public health by offering a short course to every health center employee focusing only on impetigo, ringworm, and scabies. It was led by a dermatologist, Antoine Mahé "currently holding the title of Professor of Public Health in Meaux, France". In Guatemala, a 10 day course for 255 rural American-Indian nurses was also a significant experiment for dermatology in the developing world.[15] The above stated definition of community dermatology by Roberto Estrada, comes from another well-established public health initiative in Mexico.

As already referred to, an outstanding initiative in public health dermatology can be observed in Rome where a team headed by Professor Aldo Morrone provides a system of management of health problems of immigrants in a Department of the San Gallicano Hospital that is led by Dermatology. Its outreach program in Mekete, Ethiopia, is a development of the program that has published many significant public health documents concerning dermatology of human migrating populations.

Because skin care is not dependent on dermatologists, there are several other branches of the health care professions giving excellent leadership in this field. They include the nursing and the tissue viability professions. The ISCNG is affiliated to the International Council of Nursing and has pioneered support for the morbidity control programs of lymphedema due to lymphatic filariasis, outreach programmes in South Africa, argued for a public health role for nurses trained to care for the skin in India, and several other initiatives. Of course the nursing profession is the largest of

the allied health professions, but there is little realization that it is the profession which spends most time caring for the skin.

Wound healing

Over several decades management of leg ulcers and pressure ulcers, and alliances under the heading of tissue viability with burns units, has brought skin care to a refinement and high level of best practice that shows the huge public health input carers of the skin can have. Most of these organizations meet with dermatology under the heading of wound healing. The International Union of Wound Healing Organizations is essentially a public health organization concerned with the skin. Its World Congress in 2008 in Toronto is headed by Gary Sibbald a dermatologist with the title of Professor of Public Health Sciences and Medicine.

Tropical disease

A changing view of public health includes the taking into general health services, many tropical diseases like leprosy and the morbidity control programme of the global alliance for the elimination of lymphatic filariasis. It is increasingly evident that organizations relating to these diseases need a frame work with which to work with skincare professions. Indeed they are moving ahead to do just that.[16]

There are many other headings under which skin care can be seen to be playing a significant role.

Sun avoidance

Skin cancer management has demonstrated its essentially public health role, important as fears of climate change increase whether in the campaigns of Australia, the development of skin surgery in the USA or the Albino program in Tanzania. The polymorphic light eruptions extending through the west coast of the Americas are another example. Seeking shade wearing hats can be taught to a younger child by an older child. It is called child technology.

Disability

Dermatology more than any other profession has contributed to making disability impairment and handicap a contemporary science measuring quality of life. Because professions managing disfigurement have a long history, through leprosy for example, of seeking to assuage stigmatization and fighting against rejection within communities there is expertise within skin care that knows better than anyone how to measure the function of communication through the skin. Making the disfigured welcome in society is a public health skill that is a model for community caring that has significant social significance beyond mere skin comfort.

Other systems of medicine

Moving into the social sphere of medicine takes one into questions about the cultural relevance of health care and it is not just about one system of medicine. The Global Initiatives for Traditional Systems of Health has collaborated in the sphere of skin health. Whether it is Chinese Systems of Medicine or Indian Systems of Medicine or the role of the Traditional Healer in the control and care of the sufferer from AIDS in Africa public health and skin care has to take note and deliver care in a culturally acceptable manner. The two volumes of *WHO World Atlas on Traditional, Alternative and Complimentary Medicine*[17] was initiated from the Oxford Department of Dermatology as are several other publications in this field.[18]

Drugs

Finally, to provide an overview of the entry points into public health already with a substantial history, one must address the availability of medications. In the early 1990s, the ILDS made substantial contributions to the WHO Essential Drugs List. It meant putting on this list of dermatological therapies regarded as essential and thereby encouraging governments to purchase for the first time under the heading "For Diseases of the Skin". Working also with WHO, much has been done to improve best practice of the management of adverse drug reactions. Epidemics of industrial dermatitis can ruin industries, and an event such as a death from latex allergy can cause important health programs to be abandoned. Just as parthenium dermatitis is a scourge of the Indian agricultural worker, so at times allergy to medicaments, or latex, affecting the health service work force has needed a public health approach from dermatology. The HIV/AIDs epidemic has heightened awareness of killing reactions to drugs and the life saving effects of skilled nursing of the skin has been much emphasized.

Several studies have shown that the prescribing of ineffective remedies is one of the greater contributions to poverty.[19] When a common disease such as scabies is not diagnosed but treated solely as eczema or pyoderma, the costs can be considerable without any significant disease control within whole communities.

Low Technology and the Answer to Meeting the Needs for Public Health through Skin Care

The main purpose of this article is to present the case for skin care under the heading of "Poverty Alleviation". It is a simple theme emphasizing the low cost of readily available low technology. For skin care to be effective but cheap it is best done at home using knowledge we have already, using locally available and sustainable management. Simple interventions such as washing are of most value if they have multiple purpose use and help to meet key targets. A significant impact on poverty alleviation can be made because of the nature of skin failure of function; who is not communicating, not sensing, not thermoregulating, and failing to act as a barrier to a threatening environment. Like most dermatologists, I have

Table 3 Nutrition and cooking

Repair of the skin requires adequate nutrition; all people should grow their minimal nutritional requirements.
Do not *spend* money on cosmetics and remedies which are ineffective.
Cooking should be safe.
Teach water conservation, for example pasteurization of water in a plastic bottle on a Massai hut's roof.

drawn attention to low cost management of being unwelcome because of ones looks, to responding to cooling, overheating or the sun, to low cost washing, and emollients and to the management of itch pain or loss of sensation. Our profession has the richest of information on what are mostly low technologies that are not expensive, but to disseminate such knowledge to respond to the unquestionable unmet need requires an alliance of all who care for the skin. Such an alliance will collect data on prevalence and incidence for a local and global data base. It will oversee centers of excellence developing best practices, which are patient focused. It will provide training for all levels of workforce. It will establish industrial partners and commercial development that have local benefits. These will give priority to that, which is most prevalent, most safe, and most effective and efficient. Although low cost initiatives are unattractive to the "get rich first brigade" it is possible to make low technology a passion for an academic community; exciting, attractive as well as generating income. Health service research can provoke interest and publications as well as conferences. Presenting governance with the end points it wants can be rewarding. Sizing up, and staging morbidity and mortality, assessing quality of life, and measuring affects on employment or on destitution can be made of consuming interest. Many are already doing this but their efforts are not seen to have momentum and critical mass, and they fail to attract the investment so much wanted.

On the other hand most high technology studies in dermatology journals are published for elites. There is no question that such studies are important. Dermatology is a profession that knows more about its organ than perhaps any other health profession. This knowledge spills over in abundance to enlighten understanding of less accessible organs. The advance in the understanding of how the skin works accelerates each year to a wonderfully high standard. The advances too in the skin surgery sphere or in the cosmetic industry are one of the greatest contributions to well being and hence to health for all. However, the majority of the world's populations living at the village level find this difficult and costly to access. Limited especially by distance there is also unavailability of skills. While suggesting that dermatology has excellent models to be disseminated, one should recognize how ophthalmology has long shown the way to provide adequate access for the utilization of safe and effective and adequately funded low technology. Blindness has always attracted funding but there is now ample evidence through quality of life studies that there is more misery due to skin disease than there is to blindness. Skin diseases of public health significance, like eye diseases require a public health response that draws attention to nutrition. Growing vegetables by the door of a tribal hut, in a region low in vitamin A and where pellagra is also common because of niacin deficiency, is a low technology that can be a highly cost effective way of improving the health of the skin (Table 3).

If in due course an international community of dermatology alliance is formed, it must correct the imbalances created by the disproportionate funding of high technology that in spite of the wonders of these advances is taken up by only a minority. The emphasis will be on low technology, its evidence base, prevention of skin failure, correct and early diagnosis, and best practice under such headings that make low technology of academic interest.

Its downside for many practitioners and investigators is that the knowledge we have already, and the practice of low technology tends not to make one rich. Therein lies some of the foremost ethical issues in dermatology. What is offered here should provide a satisfactory living but it will not make anyone rich.

Conclusion

Our objective is education of a global population that is very poor, and often migrating. It is exposed to an increasingly threatening climate and affected by emerging diseases such as HIV/AIDS and diabetes, and suffering from common diseases and practices that have been neglected and that may destroy the skin. Furthermore, to prevent these problems, it must be remembered that children exceed adults wherever the needs are greatest. Each problem is currently managed by separate organizations but actually requiring low technology therapies in common.

One has to only look at any dissertation on care of the leg for a range of conditions of the skin provided by a range of caring organizations, to read that they all emphasize washing, emollients and movement, cutting toe nails safely, wearing shoes or prostheses, debridement of wounds, and wound-healing activities (Table 4).

If only one example of low technology that is known already, such as exactly how best to wash the lower leg, were distributed globally it would be one of the greatest public

Table 4 Lower limb conditions requiring skin care

The foot ulcer from leprosy is an ancient problem of the skin; and the foot ulcer due to diabetes is an emerging epidemic.
Lymphedema due to the affects of soil in the shoeless or due to lymphatic filariasis are ancient disorders; while effective cancer therapy as a cause is an emerging epidemic.
Leg ulcers due to scurvy were once common; leg ulcers due to venous hypertension are an emerging epidemic.
The tropical ulcer is ancient; while the Buruli ulcer is emerging.
The elderly or malnourished or the HIV/AIDS population have a high prevalence of ischemic ulceration due to vascular or pressure induced ischemia.
Road accidents and land mine injuries are an emerging epidemic.

health achievements. The skin care professions have many other examples of easily distributed technologies at low cost that are jewels worthy of the crown of public health.

Conflicts of interest

The author has declared no conflicts of interest.

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