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Skin diseases affect more than 900,000,000 persons globally each year and, as a result, are amongst the commonest conditions seen by health care workers [1]. In most countries with tropical climates many patients coming to a primary health centre have a skin problem and, although the prevalence of many endemic skin diseases such as scabies is variable and changes over time, it may reach unsustainable prevalence rates, greater than 15% in some communities. Equally, many of the important disabling infections that are public health priorities in the poorest tropical regions, such as onchocerciasis, leprosy, yaws, Buruli ulcer, mycetoma, lymphatic filariasis and leishmaniasis in addition to scabies, known collectively as Neglected Tropical Diseases or NTDs, present with skin signs and symptoms (Skin NTDs) [2].

Recently the World Health Organisation, supported by member states and non-government organisations (NGOs) has brought forward a revised strategy for integrating preventative, curative and supportive care, as well as research, for NTDs, whose elimination or control forms a core objective of the Sustainable Development Goals (MDGs). This has resulted in development of a new road map for achieving health objectives for all NTDs by the year 2030 [3]. The development of integrated schemes that facilitate national health plans such as, case detection, treatment and care, training, surveillance and mapping, maximises the advantages of an economy of scale and rationalises the use of scarce resources. More broadly, it aligns with the urgent need to strengthen and support Universal Health Coverage (UHC). Further benefits from integration, such as the management of disability caused by these problems, combatting discrimination and stigma and sensitising communities through patient advocacy and health education are likely to follow. In order to implement new control measures and address health inequalities, it has been important to recognise and include, in the plan, common readily treatable skin conditions, such as bacterial and fungal infections, along with diseases that cause significant disability and stigma such as podoconiosis, together with the traditionally recognised NTDs, as part of a skin-centred strategy [2]. Focusing only on the NTDs which account for less than 10% of skin diseases whilst ignoring

these other conditions is not an option and would risk losing a substantial benefit to health for the poorest as well as the goodwill and cooperation of communities.

A key first stage in this initiative has been to improve case detection rates through new approaches, such as a new handbook on the recognition of skin diseases and Skin NTDs, available by download as well as in App form [4]. Other diagnostic apps for field use on handheld devices, diagnostic algorithms and the use of long-range expert support through electronic messaging and communication e.g. Telederm and Whats-App technologies are all in development [5]. To complement these, initiatives to support integration in other areas such as community education and sensitisation, developing and improving access to training programmes, identifying common management pathways and co-distribution of drugs used for mass treatment are proposed. In many settings, this will require considerable effort to bring together multiple, currently distinct, control programmes. The potential gains for both programmes and communities are however significant and there has been considerable interest across Ministries of Health in adopting these approaches.

Skin infections in the tropics are associated with significant levels of disability and morbidity often due to delayed diagnosis and treatment. For instance, the presence of a damaged skin barrier in patients with lymphoedema, whether due to lymphatic filariasis or podoconiosis, is a major risk factor for the development of acute episodes of cellulitis which lead to further debility, as well as loss of occupation [6]. Likewise, alleviating disability and preventing further damage in patients with tropical ulcerative conditions such as neuropathic ulcers in leprosy, or limb swelling in lymphatic filariasis and podoconiosis, are major challenges to local resources. Yet linking their management to that of patients with other conditions with similar needs, such as diabetic foot, is increasingly used as an effective form of integrated care package, even in remote rural areas [2]. These integrated care packages need to provide basic holistic care for individuals, recognising the impact that skin diseases can have on quality of life, mental health, household and societal relationships through discrimination and stigma [7].

To address this challenge as part of the new roadmap [8], the Department for Neglected Tropical Diseases (WHO) has re-organised into new departmental groups. Under the umbrella of the Prevention Treatment and Care Unit, three cross-cutting units with responsibility for Skin NTDs, Disability Management and Inclusions, Eradication and Elimination, and Community and Primary Care based Interventions will provide a foundation on which to develop and deliver this integrated approach to NTD management across multiple diseases. It will also be a strong vehicle for addressing the issues that confront the

poorest of the world's peoples both through, and in the aftermath, of the COVID 19 pandemic. The proposal to build on the Skin NTD platform to include traditional NTDs, as well as diseases such as podoconiosis, that are amenable to common detection and management strategies in vulnerable communities will provide a welcome resource that benefits the maximum number of people and ensures that no one is left behind.

References

1. Hay RJ, Nicols R Williams HE, Bolliger IW, Dellavalle RP, Margolis DJ et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermatol.* 2014; 134:1527-1534.
2. Engelman D, Fuller LC, Solomon AW, et al . Opportunities for Integrated Control of Neglected Tropical Diseases That Affect the Skin. *Trends Parasitol.* 2016;32: 843-854.
3. WHO. Accelerating work to overcome the global impact of neglected tropical diseases 2020
https://apps.who.int/iris/bitstream/handle/10665/70809/WHO_HTM_NTD_2012.1_eng.pdf;jsessionid=AAF942DAB1F3D6889A86D5B7202A99A2?sequence=1
4. WHO 2018. <https://apps.who.int/iris/bitstream/handle/10665/272723/9789241513531-eng.pdf?ua=1>
5. Williams V, Kovarik C. Long-Range Diagnosis of and Support for Skin Conditions in Field Settings. *Trop Med Infect Dis.* 2018 Aug 13;3(3). pii: E84. doi: 10.3390/tropicalmed3030084
6. Tora A, Mengiste A, Davey G, Semrau M. Community Involvement in the Care of Persons Affected by Podoconiosis-A Lesson for Other Skin NTDs. *Trop Med Infect Dis.* 2018 Aug 16;3(3). pii: E87. doi: 10.3390/tropicalmed30300875.
7. Prochazka M, Timothy J, Pullan R, , et al. (2020) "Buruli ulcer and leprosy, they are intertwined": Patient experiences of integrated case management of skin neglected tropical diseases in Liberia. *PLoS Negl Trop Dis* 14(2): e0008030.
<https://doi.org/10.1371/journal.pntd.0008030>
8. WHO. Ending the neglect to attain the Sustainable Development Goals – A road map for neglected tropical diseases 2021–2030. Geneva: World Health Organization; 2020.
https://www.who.int/neglected_diseases/Ending-the-neglect-to-attain-the-SDGs--NTD-Roadmap.pdf?ua=1