

Wound management in communities with limited resources: the mission and achievements of the World Alliance for Wound and Lymphedema Care



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The World Alliance for Wound and Lymphedema Care (WAWLC) is an international health partnership of volunteers working to ensure individuals with chronic wounds and lymphoedema in resource-limited locations have access to optimal clinical care. This article outlines the WAWLC mission and objectives. It provides an update on some of the recent work completed by WAWLC members striving to advance health policy in this field, promote access to modern wound care, and support education and research on wound prevention and treatment in low- and middle-income countries.

Although accurate data on the global prevalence of chronic wounds is very limited, epidemiological data suggests that chronic wounds are likely to increase over time as life expectancy increases (Järbrink et al, 2016). The burden of chronic wounds and lymphoedema appears to be disproportionate in low- and middle-resource communities.

Wounds are reported to account for up to 42% of hospital admissions annually in Africa (Adigun et al, 2010; Norman et al, 2006). In India, the prevalence of chronic wounds is estimated to be 4.5 per 1,000 population, while the incidence of acute wounds is 10.5 per 1,000 (Macdonald and Asiedu, 2010). There has been a recent significant increase in the prevalence of diabetes across South-East Asia. For example, the prevalence of diabetes in Malaysia increased by 30% between 2006 and 2011, which has led to a dramatic rise in the prevalence of diabetic foot ulceration and lower-limb amputation (Yi et al, 2019).

Despite the high prevalence and incidence of chronic and acute wounds, these countries experience significant disadvantages with respect to healthcare, including wound prevention and treatment (Macdonald and Asiedu, 2010). These regions experience a range of factors that reduce their ability to achieve positive wound outcomes. This includes limited supplies of physical resources, fewer skilled wound professionals and reduced access to formal health services (World Health Organization [WHO], 2006; 2010; Builders and Builders, 2016).

What is the WAWLC?

The World Alliance for Wound and Lymphoedema Care (WAWLC) aims to contribute to wound and lymphoedema management as a global leader. It was officially launched as a global partnership in 2009, encouraged by the WHO, and is an international partner organisation of the European Wound Management Association (EWMA).

The WAWLC's mission is to work in partnership with communities around the world to support and advance sustainable prevention and treatment of wounds and lymphoedema in settings with limited resources. This mission must be achieved within a realistic framework limited by budget and volunteer resources. The WAWLC currently receives support from the EWMA, the Swiss Association for Wound Care and the Swiss Society for Wound Treatment, and seeks collaboration from other interested wound associations and groups (WAWLC, 2019).

The objectives of the WAWLC are:

- To raise awareness of the importance of chronic wounds and lymphoedema, and their economic and social impacts.
- To develop global policy on modern wound and lymphoedema management.
- To support countries to develop the capacity necessary to utilise current knowledge on wound and lymphoedema management in patient care.
- To contribute to strengthening health systems in affected countries in order to achieve these objectives.
- To support research aimed at improving wound

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Figure 1. The WAWLC Wound Kit, courtesy of Hubert Vuagnat.

and lymphoedema management.

The WAWLC provides advocacy, resources, effective interventions and research, and global networking. Advocacy has focused on raising awareness of chronic wounds and lymphoedema at the highest health policy levels (e.g. within the WHO), and raising the wound community's awareness of challenges of wound practice delivery in geographic regions with resource limitations.

With respect to resources, the WAWLC have focused on updating the Wound Care Kit, a humanitarian medical kit for delivering basic wound care in emergency or limited resource settings [Figure 1] (Vuagnat and Comte, 2016). Provision of effective interventions and research has focused on development of evidence summaries with a particular focus on local resource wound treatments used in less resourced countries.

WAWLC Wound Care Kit

The WAWLC started development of the WAWLC Wound Care Kit in workshops at wound conferences in 2013 and 2014. Consensus processes were used to identify the essential content in a new wound care kit for use in emergency settings and in geographic regions with limited access to wound care equipment. The goal of the project was to update previous dressing kits that had been developed prior to the now-universal understanding and acceptance of moist wound healing principles.

The WAWLC Wound Care Kit contents were finalised in 2016 and have been distributed in areas of need since then. The WAWLC Wound Care Kit provides simple-to-use equipment enabling users to deliver wound care using modern principles of healing. The kit contains materials to deliver 100 types of wound dressings, using products that are available in most countries to enable replenishment. The WAWLC Wound Care Kit contains basic gauze and antiseptics included in previous humanitarian dressing kits, as well as updated materials, such as transparent film, petroleum jelly, silver sulfadiazine, liquid soap and alcohol-based hand wash, sterile saline and a selection of basic wound dressings (Vuagnat and Comte, 2016).

The WAWLC Wound Care Kit is designed for easy transportation (including passage through customs), is lightweight (16 kg) and includes equipment that remains stable in humid conditions (Vuagnat and Comte, 2016). In many low-resource regions where volunteers deliver wound care, communities are isolated and equipment is carried by foot or motorbike. The kit is provided in a sturdy cardboard box that is put together by volunteers for transport to areas of need.

Evidence-based wound care resources

In 2010, the Wound and Lymphoedema Management white paper was published by the WHO in association with the WAWLC (WHO, 2010). This document, which is currently being updated, is a detailed resource on managing wounds in low- and middle-resource countries. The white paper includes an overview of treatments, including a focus on lower-cost options and strategies to adapt wound care within various health systems. The goal is to assist healthcare professionals in all settings to provide best practice.

Since 2012, the Wound Healing and Management Centre at the Western Australian Group for Evidence Informed Healthcare Practice at Curtin University (WHAM) has produced evidence summaries on wound treatments that are commonly used in low- and middle-resource countries. Using the Joanna Briggs Institute (JBI) methodology, these evidence summaries focus on local wound treatments and low-cost interventions that are more easily accessible than many contemporary resources (Aromataris and Munn, 2017; JBI, 2013a; 2013b; 2014). The goal of these resources is to summarise the available evidence on local remedies, in order to assist healthcare professionals to make care decisions based on efficacy, safety and accessibility.

While gold standard, evidence-based practice is increasingly based on randomised controlled trials, the JBI methodology recognises the contribution of other types of evidence to clinical practice. The JBI evidence hierarchy includes case studies and qualitative evidence, which accounts for much of the evidence available for local resource interventions used in Africa and Asia (JBI, 2013b). When making recommendations using this methodology, the JBI Feasibility, Appropriateness, Meaningfulness and Effectiveness (FAME) scale is used to consider specific interventions (JBI, 2013a; 2014).

It is necessary to consider cultural acceptability, transferability and adaptability, cost-effectiveness, and positive and negative experiences associated with interventions when making recommendations on wound care interventions used in low- and middle-resource communities. By compiling and summarising this evidence, WHAM aims to provide guidance for local clinicians, as well as provide a resource for visiting volunteer wound care professionals who may see practices to which they have had no previous exposure. Additionally, by detailing the current evidence base, future research needs and opportunities are identified.

Evidence summary topics specific to wound management in low- and middle-resource countries have included aloe vera, potato peel

Table 1. Summary of evidence for effectiveness of wound care products commonly used in low and middle resource communities.

	Evidence for wound healing outcomes	Evidence for wound signs and symptoms	Evidence for reducing infection
Aloe vera (Haesler, 2017)	Burns, pressure injuries, acute wounds	Pain	Bacteria (C, L)
Potato peel dressing (Haesler et al, 2017)	Burns	Pain	—
Banana leaf dressing (WHAM, 2017a)	Burns, skin grafts	Pain	—
Green tea (WHAM, 2013b)	—	Exudate, odour	—
Turmeric (Watts 2017a)	Burns, radiation dermatitis	Odour	—
Citric acid (Watts and Frehner, 2016)	Burns, diabetic ulcers, leg ulcers, acute wounds	—	Bacteria (L)
Tea tree oil (WHAM, 2013a)	Pressure injuries, diabetic ulcers, leg ulcers	—	Bacteria (C, L), fungus (L)
Chlorhexidine 0.05% (WHAM, 2017b)	Leg ulcers, skin grafts	—	Bacteria (L)
Sodium hypochlorite (Dakin's solution; WHAM, 2013c)	Pressure injuries	Exudate	Bacteria (L), fungus (L)
Calcium hypochlorite (EUSOL; WHAM, 2013c)	Leg ulcers, acute wounds	Exudate	Bacteria (L), virus (L)

C = clinical studies, L = laboratory studies, — = non identified

dressings, banana leaf dressings, chlorhexidine, tea tree oil, citric acid, green tea, hypochlorites and turmeric (Haesler, 2017; Haesler et al, 2017; WHAM, 2013a; 2013b; 2013c; 2017a; 2017b; Watts and Frehner, 2016; Watts, 2017a). *Table 1* presents an overview of evidence for effectiveness of these wound care products in promoting healing, managing wound symptoms and reducing wound infection.

Evidence summaries on preventing and treating lymphatic filariasis support the work of WAWLC volunteers in addressing lymphoedema in Haiti (Haesler 2015a; 2015b; Hettrick, 2017).

The evidence summaries are supported by recommended practice sheets. These provide detailed step-by-step instructions on specific clinical skills, for example, how to sterilise and prepare a wound dressing made from local resources (Watts 2017b). The recommended practice sheets also include helpful tips on storage, application and resources to support the use of local wound care remedies that the evidence indicates are safe practices.

Evidence and practice summaries on affordable, locally accessible wound care products produced by WHAM are available through the WHO Hinari Access to Research for Health programme (WHO, 2020). This programme enables more 120 low- and middle-income countries free access to medical and nursing journals, e-books and information sources as a part of a global strategy to improve healthcare.

Supporting communities

In 2006, the WHO identified a scarcity of healthcare professionals in 36 countries, including South Asia and sub-Saharan Africa (WHO, 2006). In these regions, the lack of adequately trained health workers has been described as a global crisis (Murray et al, 2011). It is imperative that healthcare professionals in these regions are prepared and educated to deliver quality wound care in their communities.

One volunteer support programme for wound care in Bangladesh, the Solomon Islands and Papua New Guinea is delivered by volunteers from Australia. The programme has a focus on education in all aspects of wound management. The 7–14 day volunteer trips are designed to educate a highly receptive audience of minimally trained health workers and healthcare professionals. Education is delivered in a classroom setting, with follow-up in the clinical setting to demonstrate wound assessment and provision of wound care using local resources and/or basic wound care equipment as provided in the WAWLC Wound Care Kit.

While wound care is the primary focus of the education programmes delivered in South-East Asia, the curriculum also includes a range of nursing skills, including cardiopulmonary resuscitation and life support, anatomy and physiology, postoperative nursing care and assessment and management of postoperative complications. Education on plastic surgery nursing provides attendees with the

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wound care knowledge to managing individuals undergoing surgical procedures common in these regions, including cleft lip and palate repair, split skin graft, full-thickness grafts, flap repairs and tissue expansion and tendon repairs.

The educational content is selected to be relevant to local community needs. For example, Bangladesh has a high incidence of burns related to unsafe electricity supplies, due to an historical lack of electrical engineering trade training, and kitchen fire burns due to floor-level cooking in crowded housing (He et al, 2017). In these regions, health education includes a strong focus on burn management and postoperative skin graft care.

Additionally, the curriculum is driven by requests from the local healthcare professionals. Access to continuing professional development is generally limited and the WAWLC volunteers receive many requests for broader topics, including time management skills, team building and motivational topics, rostering, and promoting a clean patient care environment. Demonstrating and participating in cleaning and environmental disinfection is as important as clinical skills. The words of the former Australian Chief of Defence, General David Hurley, are aptly used by Australian WAWLC volunteer wound educator Jan Rice as closing remarks in her nursing, wound care and professional development sessions: "The standard you walk past, is the standard you accept."

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