Review protocol

A scoping review of research in chronic wounds: protocol

Bui UT, Tehan PE, Barakat-Johnson M, Carville K, Haelser E, Lazzarini PA, Twigg SM, Weller C and Finlayson K

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Abstract

Introduction Chronic wounds lead to devastating health and economic consequences for individuals and the healthcare system. These wounds do not heal within expected timeframes, often recur, and/or are complicated by underlying comorbidities. There is a significant need to identify and implement evidence-based practice in the prevention and management of chronic wounds in Australia to minimise the impact to persons and healthcare systems.

Objectives This scoping review aims to identify (i) current research activity and outcomes in assessment, management and prevention of chronic wounds and (ii) gaps in chronic wound research relevant to Australia.

Methods The Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Review (PRISMAS-ScR) framework will be used to guide this scoping review. Searches will be conducted in Medline, Embase, CINAHL, Joanna Briggs Institute Library, Cochrane Library, APA PsycInfo databases, websites and publications of relevant professional organisations, and clinical trial registries for publications between 2010–2021. Two independent researchers will review the identified records based on the inclusion criteria and any conflicts will be resolved by a

Ut T Bui RN, PhD*[1,2]
Email thiut.bui@qut.edu.au

Peta Ellen Tehan PhD[3]

Michelle Barakat-Johnson RN PhD[4]

Keryln Carville PhD[5,6]

Emily Haelser PhD[6,7,8]

Peter A Lazzarini PhD[9,10]

Stephen Morris Twigg MBBS, PhD[11,12]

Carolina Weller PhD[13]

Kathleen Finlayson RN, PhD[1,2]

[1]School of Nursing, Centre for Healthcare Transformation, Faculty of Health, Queensland University of Technology, Brisbane, QLD, Australia

[2]Brisbane Diamantina Health Partners, Brisbane, QLD, Australia

[3]School of Health Sciences, College of Health, Medicine and Wellbeing, University of Newcastle, NSW, Australia

[4]Nursing and Midwifery Executive, Sydney Local Health District, Sydney and Faculty of Medicine and Health, University of Sydney, Sydney, NSW, Australia

[5]Silver Chain Group, Perth, WA, Australia

[6]Curtin University, Perth, WA, Australia

[7]La Trobe University, Melbourne, VIC, Australia

[8]Australian National University, Canberra, ACT, Australia

[9]School of Public Health and Social Work, Queensland University of Technology, Brisbane, QLD, Australia

[10]Allied Health Research Collaborative, The Prince Charles Hospital, Brisbane, QLD, Australia

[11]Department of Endocrinology, Royal Prince Alfred Hospital, Sydney, NSW, Australia

[12]Central Clinical School, Faculty of Medicine and Health, University of Sydney, Sydney, NSW, Australia

[13]School of Nursing and Midwifery, Monash University, Melbourne, VIC, Australia

** Corresponding author*

third researcher. This scoping review will include Australian original studies, international and national systematic review and evidence-based guidelines or consensus statements on the assessment, management or prevention of chronic wounds.

Introduction

Living with chronic wounds leads to significant health and economic burdens to both the individual and the healthcare system[1,2]. Traditionally, chronic wounds are classified based on their specific aetiology, such as venous leg ulcers (VLUs), arterial leg ulcers, diabetic foot ulcers or pressure injuries[3]. However, any wound has the potential of becoming chronic. Currently, there is a lack of consensus on the definition of a chronic wound[5] and no agreed definition of chronicity[4,5]. Many define the chronicity of a wound based on the cut-off time-to-heal, while others use the percentage of reduction in wound size over a specific time period to predict the potential of the wound becoming chronic[5–7]. The cut-off time-to-heal for a wound before being considered as a chronic wound is varied, ranging from 2 weeks to 3 months[8]. Importantly, the duration of pressure injuries and arterial leg ulcers were not normally reported in many published articles[8]. Thus, in this scoping review, no exact cut-off time-to-heal will be used to define the chronicity of wounds; instead, chronic wounds are defined as wounds that "do not to proceed through the normal phases of wound healing in an orderly and timely manner"[6(p561)].

Chronic wounds are not only delayed in the healing progress, they also are likely to recur soon after healing[6,9]. The healing process of chronic wounds is often complicated by underlying chronic disease[10,11]. On any given day in Australia, it is estimated that approximately 433,000 people live with chronic wounds[12]; most of these people need ongoing treatment and many are hospitalised each year[13]. For example, there were more than 345,000 hospitalisations of people with pressure injuries and a further 10,397 cases in residential care settings treated for pressure injuries in 2012, costing the healthcare system up to A$1.6 billion and A$13.9 million respectively[13]. Similarly, although the majority of VLUs are managed in community settings, there were still more than 47,200 cases with VLUs who received care in Australian hospitals and 1,730 cases with VLUs in residential aged care facilities in 2012, totalling A$803 million to manage/treat these VLUs alone[13].

It can be anticipated that, with an ageing population, chronic diseases such as diabetes, venous insufficiency and arterial disease will increase in prevalence, with a corresponding increase in the number of chronic wounds[3,4]. Thus, there is a significant need for research to identify effective strategies and interventions that are directed towards the healing and prevention of recurrence of chronic wounds in all health settings.

Rationale

In Australia, there is clear evidence that chronic wounds have a significant impact on national healthcare expenditure and on health-related quality of life for persons with wounds[1,13–15]. To optimise the effective prevention and management of chronic wounds, it is therefore important to have a sound understanding of the current research evidence available. This process is also useful to identify gaps and guide future wound research in Australia. Resources for wound research should be directed to the greatest areas of need, thus a review of the current research and identification of deficits is essential. This scoping review is being conducted by the Australian Health Research Alliance (AHRA) as a component of the National Wound Care Initiative and aims to systematically review the literature on current research on chronic wounds to guide recommendations for future wound research in Australia.

Objectives

This scoping review will review existing literature, evidence-based practice guidelines and trial registries to identify (i) current research activity and outcomes in chronic wound assessment, management and prevention and (ii) chronic wound research undertaken in Australia.

Research questions

- What are the characteristics (i.e. amount, focus, designs, findings) of Australian research into chronic wound assessment, management and prevention?
- What are the research outcomes (e.g. wound healing, prevalence/recurrence rates, cost-effectiveness, symptom management) reported in the literature in chronic wound assessment, management and prevention?
- In current evidence-based guidelines, what is the level and quality of available evidence for chronic wound assessment, management and prevention?

Methods

Conceptual model

The review will be guided by the PRISMA-ScR framework[16].

Protocol and registration

This protocol will guide a systematic scoping review of literature that reports current research activities and outcomes of chronic wound research relevant to the Australian context. This scoping review is registered with the Open Science Framework registration with a doi as 10.17605/OSF.IO/J9GH6.

Eligibility criteria

Inclusion criteria:

- Focused on prevention, assessment and management and prevalence of chronic wounds.
- Published between 1 January 2010 to 31 March 2021.
- Published in English.

- Original studies conducted in Australia.
- Evidence-based guidelines, consensus statements and systematic reviews conducted internationally.

Exclusion criteria:

- Case studies, case series, case reports and other types not eligible as outlined in the inclusion criteria such as opinions, editorials, conference abstracts.
- Original studies already reviewed and reported within systematic reviews and/or evidence-based guidelines.
- Fundamental science articles related to wound healing, e.g. in vitro laboratory-based studies and animal studies.

Information sources

We will search academic databases, websites and publications from professional wound organisations and clinical trial registries. The academic databases will include Medline, Embase, CINAHL, Joanna Briggs Institute Library, Cochrane Library and APA PsycInfo. Websites and publications of professional wound organisations may include Wounds Australia, Wounds UK, Wounds Canada, European Pressure Ulcer Advisory Panel (EPUAP), European Wound Management Association, International Wound Infection Institute, Wound Healing Society, National Pressure Injury Advisory Panel, World Union of Wound Healing Societies, New Zealand Wound Care Society, Diabetes Feet Australia (DFA), International Working Group on the Diabetic Foot (IWGDF), International Wound Infection Institute, and Wounds International. Trial registries will include the Australian and New Zealand Clinical Trials Registry (ANZCTR) and the International Standard Randomised Controlled Trial Number Registry (ISRCTN).

Search strategy

We will use three primary search strategies to ensure we cover the dual aims of, firstly, to identify chronic wound research undertaken in Australia and, secondly, to identify all systematic reviews and guidelines on chronic wounds internationally (Table 1).

Limiters: The limiters of years of publication from 1 January 2010 to 31 March 2021, English language, human are to be applied to all searches. The authors have chosen to limit the time period to the most recent decade (2010–2021) as the aim of this scoping review is to gain an overview of current research and evidence in this area which will be based on previous studies.

Selection of sources of evidence

The identified literature will be uploaded to Covidence®. All identified titles and abstracts will be screened in the first instance and all those considered eligible will have their full text retrieved and assessed for eligibility (Figure 1. Flow diagram for the scoping review process). For both the screening and full text assessment stage, sources of evidence will be reviewed and selected independently by two authors (UB, PT) based on the inclusion and exclusion criteria. Any disagreements arising between two authors will be resolved by a third author (KF). Results from searches of the databases will be imported into EndNote libraries and stored in a secure access drive. Both authors UB and KF are registered nurses with a PhD in chronic wounds. The author PT is a podiatrist with a PhD in vascular assessment. All authors have been working in wound care research for at least 5 years and currently working in well-known universities in Australia.

Data extraction and charting process

Data will be extracted from included papers by one of the authors (UB) and checked by a second author (KF). The data will be extracted from EndNote X19.0 and manually by the researchers into Excel and IBM SPSS Statistics 27 for data summary purposes.

Data extraction items

Key data items extracted from eligible publications will include identifying information, study design, aims, setting, population characteristics, outcomes reported, research area of focus (assessment, management or prevention) and type

Table 1. Search strategies

Search ID#	Search terms
#1	(chronic wound*) OR ulcer* OR injur*
#2	(venous OR varicose OR stasis OR arter* OR leg OR hard-to-heal OR extremity OR hypertens* OR mixed OR diabet* OR neuropath* OR foot OR plantar OR decubitus OR bed* OR ischemi* OR neuroischemi* OR ischaemi* OR neuroischaemi* OR malignan* OR pressure)
#3	(respiratory OR pulmonary OR renal OR kidney OR hepat* OR lung OR pancrea* OR bowel OR colorect* OR liver OR cancer OR tumo* OR spinal OR bone OR brain OR muscle OR eye OR retinal OR tract OR dental OR vertebral OR urethal OR bladder OR appendi* OR gastric OR gastrointestinal OR colorectal OR cataract OR corneal OR gastrectomy OR esophageal OR oesophageal OR mouth OR stress OR genital OR oral OR cartilage)
#4	Australia OR Australian OR Australians
#5	systematic review OR meta-analysis
#6	(consensus document) OR (guideline*) OR (position document) OR (practice recommendation*)
#7	#1 AND #2 NOT #3 AND #4
#8	#1 AND #2 NOT #3 AND #5
#9	#1 AND #2 NOT #3 AND #6

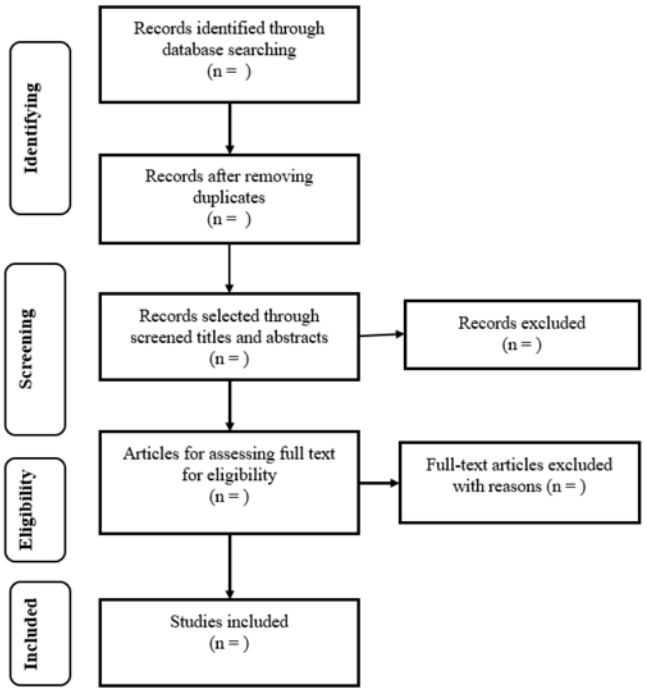

Figure 1. Flow diagram for the scoping review process

of chronic wounds. Outcomes of interest will include wound healing, prevention, symptom management, health-related quality of life, implementation of evidence, costs and health system governance or policies. The data extraction items will be refined after initially reviewing articles.

Synthesis of results

The results from the included articles will be grouped according to the areas of focus (prevention, assessment and management) and type of chronic wound, and a narrative synthesis of findings reported. The extracted data and results will be presented using diagrams, charts or tables that align with the scope and objectives of this scoping review.

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Conflict of interest

PAL has been a speaker consultant with Sanofi Australia, and a member of Diabetes Feet Australia, the *Journal of Foot & Ankle* Editorial Board, and the International Working Group on the Diabetic Foot. Other authors have no conflicts of interest to disclose.

Ethics and dissemination

This scoping review does not require ethics approval as it aims to obtain information that is in the public domain. Discussions and recommendations of the findings as relevant to chronic wound care practice and research will be undertaken. The expected results will be disseminated for publication to a peer-reviewed, scientific journal and presented at relevant meetings and/or conference. The results will also inform the AHRA National Wound Initiative Report to government and ongoing research funding allocation.

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