

Research Brief

A systematic review of cost-effectiveness analyses of chronic wound interventions reveals optimal treatments for specific wound types

Summary

We conducted a comprehensive systematic review to summarize the cost-effectiveness of interventions for chronic wound care. Data from 59 cost-effectiveness analyses were included. These economic studies examined numerous interventions and comparators and used different outcomes to assess effectiveness.

Implications

Our results can be used by decision-makers to assist in maximizing the deployment of clinically effective and resource efficient wound care interventions. Our analysis also highlights specific treatments that are not cost-effective, thus indicating areas for potential improvements in efficiency. A network meta-analysis and de novo cost-effectiveness analysis will likely bring additional clarity to the field, as some of the findings were conflicting.

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What is the current state of affairs with respect to management of chronic wounds?

- Chronic wounds are wounds that do not heal after a period of at least 3 months [1]. The main types result from chronic disease, pressure ulcers, and non-healing surgical wounds [6-8].
- \$10 billion is spent annually in North America on their management [4] and it is estimated that the global wound care market will reach over \$22 billion (USD) per year by 2020 [10].
- The cost-effectiveness of interventions to treat chronic wounds is unclear.

Objective

- We aimed to identify cost-effective treatments for chronic wounds through a systematic review of cost-effectiveness analyses and cost-utility analyses.

How was the study conducted?

- We searched MEDLINE, EMBASE, and the Cochrane Library for cost-effectiveness studies that examined adults treated for chronic wounds.
- Effectiveness was measured by: quality-adjusted life-years, wounds healed ulcer-free/healing time, wound size reduction/improvement, or hospitalizations (number/length of stay).
- Two reviewers independently screened, abstracted data and assessed quality using the Drummond 10-item methodological quality tool. ICERs were reported, or, if not reported, calculated and converted to USD for the year 2013.

What did the study find?

- 59 studies were included. The 22 cost-effective interventions are below.
- *Venous ulcers*: four-layer compression bandaging vs. usual care (UC); skin replacement vs. Unna's Boot; Unna's boot vs. hydrocolloid; micronized purified flavonoid fraction + UC vs. UC; durable barrier cream vs. no skin protectant; pentoxifylline + compression vs. placebo + compression; manuka honey dressing vs. UC; amelogenin + compression therapy vs. compression therapy only
- *Venous and venous/arterial ulcers*: hydrocolloid dressing vs. saline gauze.
- *Diabetic ulcers*: cadexomer iodine ointment vs. UC; filgrastim vs. placebo; intensified treatment vs. UC; staged management diabetes foot program vs. UC; ertapenem vs. piperacillin/ tazobactam; ampicillin/ sulbactam vs imipenem/ cilastatin; skin replacement + good wound care (GWC) vs. GWC; apromogran dressing + GWC vs. GWC; becaplermin gel + GWC vs. GWC.
- *Pressure ulcers*: moisture vapor permeable dressing vs. gauze; advanced dressings vs. simple dressings; hydrocolloid vs. gauze.
- *Mixed wound types*: multidisciplinary wound care team vs. UC.

Funded by



This research was conducted by investigators affiliated with the following institutions:

St. Michael's

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