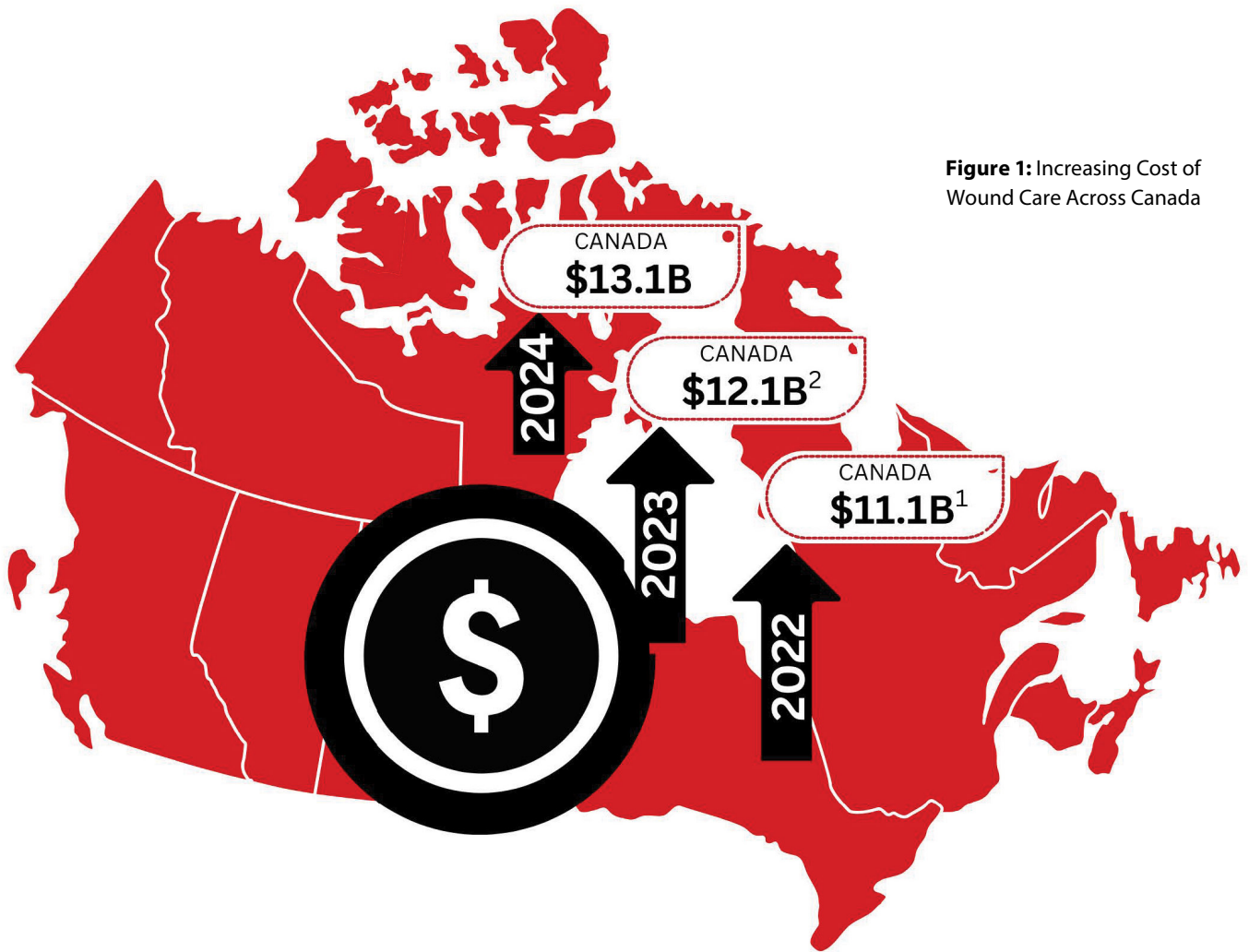


**Figure 1:** Increasing Cost of Wound Care Across Canada



# True Cost Of Wounds For Canadians: Annual Update (2024)

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**How to cite:** Queen D, Botros M. True cost of wounds for Canadians: annual update (2024). *Wound Care Canada*. 2025;23(2): 37-42. DOI: [10.56885/032346qumxzp](https://doi.org/10.56885/032346qumxzp)

## Introduction

Recent publications have outlined the costs of wounds within Canada and across its provinces in 2023.<sup>1,2</sup> In an article in *Wound Care Canada*, the authors indicated they would update the figures annually.<sup>2</sup>

Recognition of the challenges of wounds faced by those caring for this problem should be obvious.<sup>3</sup> The researchers and clinicians working in this clinical

arena are aware of the resource drain these patients place on the health-care systems of the world.<sup>4,5</sup> Validating this knowledge with data is a challenge. Many researchers have completed studies to evaluate the costs of wounds.<sup>6-12</sup> These are typically done through health economic costing studies involving health economists. Such studies are complicated.

One consistent theme from several inter-national research studies, however, is that they relate the costs

of wounds, extrapolated or other-wise, to the total geographic health-care costs of that region.<sup>6-12</sup> This provides a percentage figure as a benchmark, an approach which Canada has used previously.<sup>13</sup> While this is likely an underestimate, it is at least a starting point for most wound care providers.<sup>13</sup>

An editorial in the *International Wound Journal* introduced an approach to estimate the possible costs of wound care using freely available governmental health data, population statistics and the research findings of many international groups.<sup>1,14</sup> A subsequent article<sup>2</sup> published in 2024 specifically used this approach for Canada and its provinces and territories.

As promised within that article Wounds Canada will provide annual updates. As such, we provide the the following updated data.

As a follow on from the economic model, Queen & Harding<sup>15</sup> expanded the approach to estimate wound numbers. Once more this is an estimation approach based on governmental statistics and published studies.

Subsequently, this estimation approach has also been extended to provide an estimation of the number of wounds across the same Canadian geographies.

Like cost studies, several groups have done prevalence studies to determine the number of wounds in different geographies.<sup>2,16-19</sup> Also, with the emerging area of real-world data and wound registries,<sup>20-21</sup> more is becoming known about the number of wounds. The focus for this estimation model is a general category of wounds rather than specific subgroups or aetiologies.<sup>22-23</sup>

**Table 1A: Formula To Estimate Wound Costs**

$$EWCE = [PCHCS \times TP] \times AWCCP$$

EWCE - Estimated Wound Care Expenditure – our estimate of the likely wound care costs.

PCHCS - Per Capita Health Care Spend<sup>17</sup> – current published per capita health-care cost by Canadian Government.

TP - Total Population<sup>16</sup>

AWCCP – Average Wound Care Cost Percentage<sup>14</sup> – several published studies have indicated that the percentage of total health-care costs that is represented by the cost of wounds, ranges from 2% on the low end to 5% on the high end. For the purposes of our calculations, remembering different geographies can be at differing evolutionary stages regarding wound care, we chose the median of 3.5% as the AWCCP.

**Table 1B: Formula To Estimate Wound Numbers**

$$EWN = TP \times AWPP$$

EWN - Estimated Wound Number - our estimate of the likely number of wounds.

TP - Total Population<sup>16</sup>

AWPP - Average Wound Prevalence Percentage - several published studies have indicated that the percentage of total population having a wound, ranges from 0.9% on the low end to 7% on the high end. For the purposes of our calculations, remembering different geographies can be at differing evolutionary stages regarding wound care, we chose the median of 3% as the AWPP.

**Table 2: Estimated Costs Of Wound Care Within Canada:**

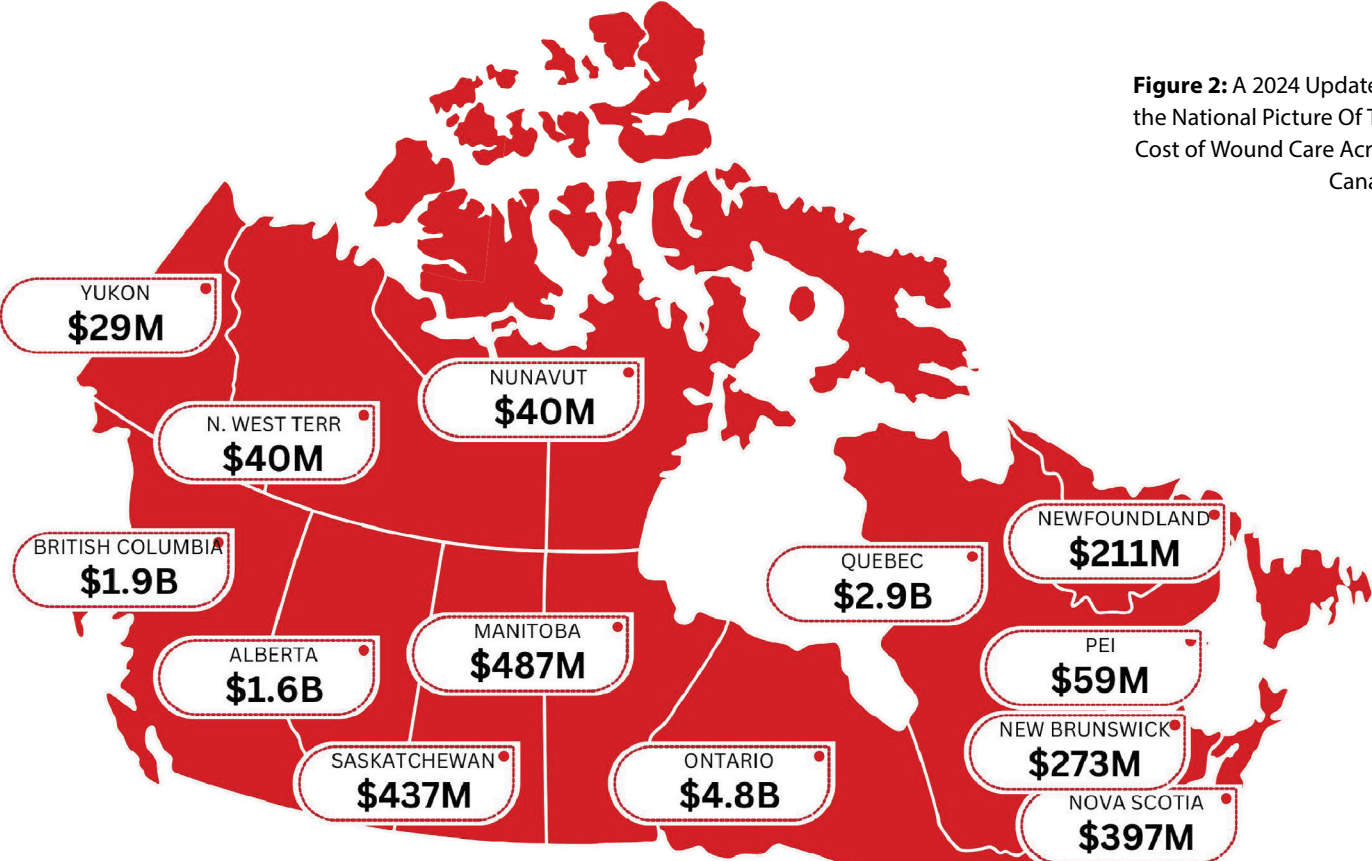
Province or Territory	Population (2024) <sup>16</sup>	Per Capita Health Spend 2024 (CAD\$) <sup>17</sup>	Estimated Total Health-care Spend 2024(CAD\$)	Estimated Spend On Wounds 2024 (CAD\$)
Yukon	46,948	\$17,760	\$833,796,480	\$29,182,877
Prince Edward Island	179,301	\$9,463	\$1,696,725,363	\$59,385,388
British Columbia	5,719,594	\$9,673	\$55,325,632,762	\$1,936,397,147
Ontario	16,171,802	\$8,405	\$135,923,995,810	\$4,757,339,853
Manitoba	1,499,981	\$9,273	\$13,909,323,813	\$486,826,333
Nova Scotia	1,079,676	\$10,505	\$11,341,996,380	\$396,969,873
Alberta	4,931,601	\$9,370	\$46,209,101,370	\$1,617,318,548
Quebec	9,100,249	\$8,984	\$81,756,637,016	\$2,861,482,296
New Brunswick	875,381	\$8,922	\$7,810,149,282	\$273,355,225
Saskatchewan	1,246,691	\$10,018	\$12,489,350,438	\$437,127,265
Nunavut	41,258	\$27,401	\$1,130,510,458	\$39,567,866
Northwest Territories	44,936	\$25,369	\$1,139,981,384	\$39,899,348
Newfoundland and Labrador	545,880	\$11,030	\$6,021,056,400	\$210,736,974
<b>Canada</b>	<b>41,465,298</b>	<b>\$9,054</b>	<b>\$375,426,808,092</b>	<b>\$13,139,938,283</b>

**Table 3: Estimated Number of Wounds Within Canada:**

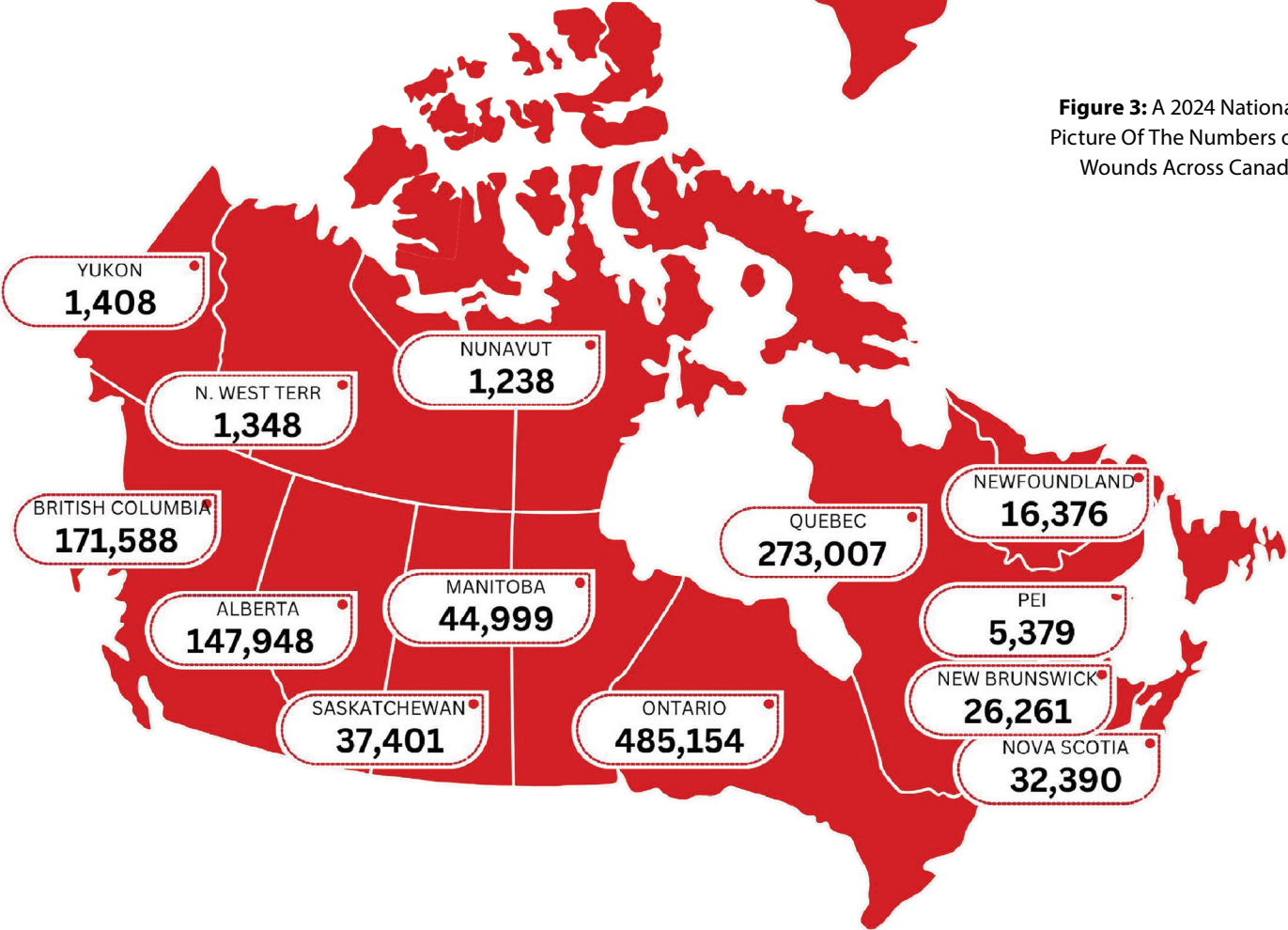
Province or Territory	Population (2024) <sup>16</sup>	Estimate No Wounds	Province or Territory	Population (2024) <sup>16</sup>	Estimate No Wounds
Yukon	46,948	1,408	Quebec	9,100,249	273,007
Prince Edward Island	179,301	5,379	New Brunswick	875,381	26,261
British Columbia	5,719,594	171,588	Saskatchewan	1,246,691	37,401
Ontario	16,171,802	485,154	Nunavut	41,258	1,238
Manitoba	1,499,981	44,999	Northwest Territories	44,936	1,348
Nova Scotia	1,079,676	32,390	Newfoundland and Labrador	545,880	16,376
Alberta	4,931,601	147,948			

**Estimated Numbers Of Wounds Within Canada 1,243,959**

**Figure 2:** A 2024 Update of the National Picture Of The Cost of Wound Care Across Canada



**Figure 3:** A 2024 National Picture Of The Numbers of Wounds Across Canada



## Methods

Governments, including both Canada's federal and provincial/territorial legislative bodies, capture annual population<sup>24</sup> and health-care costs.<sup>25</sup> These statistics are a valuable starting point for the estimation of the cost and number of wounds.

Researchers have studied and estimated the costs<sup>4-10</sup> and number of wounds<sup>2, 16-19</sup> in many locations around the world. Such studies have demonstrated relative commonalities regarding wound care costs, ranging from 2-5% of total regional health-care costs.<sup>2, 19-23</sup> Understanding that research bias and GDP spending differences between geographies may influence this figure, the authors decided to take the median point of 3.5% as an international average.

Similar to costs several groups have carried out studies to determine the incidence of wounds within their institution of country.<sup>2, 16-19</sup> The number of wounds ranges from 0.9% to 7% of total population.<sup>2, 16-19</sup> Following the approach of taking a median point for the estimation model that authors have used 3% to calculate an estimation.

Using the methodology of Queen & Harding,<sup>14</sup> the indicated formula (See Table 1A) was used to estimate the costs of wounds both in Canada and within its provinces and territories. Similarly using a new formula (See Table 1B) the authors estimated the number of wounds.

## Results

Table 2 provides a snapshot of the possible costs of wound care within Canada in the year 2024. Table 3 provides a snapshot of the possible number of wounds within Canada in the year 2024.

## Discussion

From a previously published editorial in the *International Wound Journal*,<sup>1</sup> it was estimated that the costs of wound care in Canada in 2019, were just over \$11 billion. A recent estimate<sup>2</sup> for 2023 put the figure at over \$12 billion.

In this article we have updated the figures to 2024, as new governmental figures for population and cost were available. Once again, these figures have risen as the population of Canada increases and, for the most part, so do the cost of our individual health care. The 2024 estimate for Canada as a nation has now surpassed \$13 billion.

The data presented in Table 2 and Figure 1 provides a crucial estimate of the likely costs of wounds across Canada's provinces and territories. This comprehensive national perspective on wound costs significantly surpasses prior estimates from 2012.<sup>2</sup> It acts as a vital benchmark at both provincial/territorial and national levels, serving as a tool for evaluating the effectiveness of standardizing wound care, advancing education and training initiatives and measuring the return on investment for government-funded research and educational grants in this clinical field.<sup>2</sup>

## Conclusions

Comprehending the economic impact of wound care offers valuable insights to policymakers and health-care leaders, shedding light on the broader economic implications of wound management. This knowledge serves as a foundation for informed decision-making and the development of policies and research direction that support effective wound prevention and care practices. Wounds Canada has committed to provide the regional updates regularly, this being the first, to keep researchers up-to-date with the most recent estimates based on updated government statistics and any research findings.

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## References

1. Queen D, Botros M, Harding K. International opinion-The true cost of wounds for Canadians. *Int Wound J*. 2024 Jan;21(1):e14522.
2. Queen D, Botros M. The true cost of wounds for Canadians. *Wound Care Canada*. 2024;22(1): 16-20.
3. Frykberg RG, Banks J. Challenges in the treatment of chronic wounds. *Adv Wound Care (New Rochelle)*. 2015 Sep 1;4(9):560-582.
4. Beeckman D, Cooper M, Greenstein E, Idensohn P, Klein RJ, Kolbig N, et al. The role community-based healthcare providers play in managing hard-to-heal wounds. *Int Wound J*. 2024 Jan;21(1):e14402.
5. Eriksson E, Liu PY, Schultz GS, Martins-Green MM, Tanaka R, Weir D, et al. Chronic wounds: treatment consensus. *Wound Repair Regen*. 2022 Mar;30(2):156-171.
6. Carter MJ, DaVanzo J, Haught R, Nussgart M, Cartwright D, Fife CE. Chronic wound prevalence and the associated cost of treatment in Medicare beneficiaries: changes between 2014 and 2019. *J Med Econ*. 2023 Jan-Dec;26(1):894-901.
7. Gillespie P, Carter L, McIntosh C, Gethin G. Estimating the health-care costs of wound care in Ireland. *J Wound Care*. 2019 Jun 2;28(6):324-330.
8. Gottrup F, Holstein P, Jørgensen B, Lohmann M, Karlsmar T. A new concept of a multidisciplinary wound healing center and a national expert function of wound healing. *Arch Surg*. 2001 Jul;136(7):765-72.
9. Graves N, Zheng H. Modelling the direct healthcare costs of chronic wounds in Australia. *Wound Practice & Research: Journal of the Australian Wound Management Association*. 2014: 20-33.
10. Guest JF, Ayoub N, McIlwraith T, Uchegbu I, Gerrish A, Weidlich D, et al. Health economic burden that different wound types impose on the UK's National Health Service. *Int Wound J*. 2017 Apr;14(2):322-330.
11. Hjort A, Gottrup F. Cost of wound treatment to increase significantly in Denmark over the next decade. *J Wound Care*. 2010 May;19(5):173-4, 176, 178, 180, 182, 184.
12. Posnett J, Gottrup F, Lundgren H, Saal G. The resource impact of wounds on health-care providers in Europe. *J Wound Care*. 2009 Apr;18(4):154-161.
13. Shields GE, Pennington B, Bullement A, Wright S, Elvidge J. Out of date or best before? A commentary on the relevance of economic evaluations over time. *Pharmacoeconomics*. 2022 Mar;40(3):249-256.
14. Queen D, Harding K. What's the true costs of wounds faced by different healthcare systems around the world. *Int Wound J*. 2023 Dec;20(10):3935-3938.
15. Harding K, Queen D. A global estimation of the number of wounds and their costs. *Int Wound K*. 2025 (in press).
16. Statistics Canada. Population estimates, Quarterly. 2024 Mar 27.
17. Canadian Institute for Health Information. How do the provinces and territories compare? 2024. Available from: <https://www.cihi.ca/en/how-do-the-provinces-and-territories-compare>
18. Graves N, Phillips CJ, Harding K. A narrative review of the epidemiology and economics of chronic wounds. *Br J Dermatol*. 2022 Aug;187(2):141-148.
19. Falanga V, Isseroff RR, Soulika AM, Romanelli M, Margolis D, Kapp S, et al. Chronic wounds. *Nat Rev Dis Primers*. 2022 Jul 21;8(1):50.
20. Gupta S, Sagar S, Maheshwari G, Kisaka T, Tripathi S. Chronic wounds: magnitude, socioeconomic burden and consequences. *Wounds Asia*. 2021;4(1):8-14.
21. Gottrup F, Holstein P, Jørgensen B, Lohmann M, Karlsmar T. A new concept of a multidisciplinary wound healing center and a national expert function of wound healing. *Arch Surg*. 2001 Jul;136(7):765-72.
22. EWMA Document: Home Care-Wound Care: Overview, Challenges and Perspectives. *J Wound Care*. 2014 May;23 Suppl 5a:S1-S41.
23. Harding K, Queen D. Wound registries -- a new emerging evidence resource. *Int Wound J*. 2011 Aug;8(4):325.
24. Goh OQ, Ganesan G, Graves N, Ng YZ, Harding K, Tan KB. Incidence of chronic wounds in Singapore, a multiethnic Asian country, between 2000 and 2017: a retrospective cohort study using a nationwide claims database. *BMJ Open*. 2020 Sep 25;10(9):e039411.
25. Fife CE, Carter MJ, Walker D, Thomson B, Eckert KA. Diabetic foot ulcer off-loading: The gap between evidence and practice. Data from the US Wound Registry. *Adv Skin Wound Care*. 2014 Jul;27(7):310-6.
26. Bishnoi P, Wang Z, Lo ZJ, Yong E, Chong TT, Carmody D, et al. Creation of a National Chronic Wound Registry-challenges and opportunities. *Int Wound J*. 2025 Mar;22(3):e70146.