

RNAO Best Practices: Evidence Booster

Improving outcomes for persons with diabetic foot ulcers to manage their condition

Assessment and Management of Foot Ulcers for People with Diabetes (2013) and Diabetic foot ulcers: Prevention, assessment and management (2024)



RNAO's best practice guideline (BPG) – *Assessment and Management of Foot Ulcers for People with Diabetes* (2013) – provides evidence-based recommendations on how to assess and manage people who have been diagnosed with diabetic foot ulcers. The guideline is designed to help nurses and interprofessional teams across all health settings become more comfortable, confident and competent when caring for people over the age of 15 who have diabetic foot ulcers related to Type 1 or Type 2 diabetes.



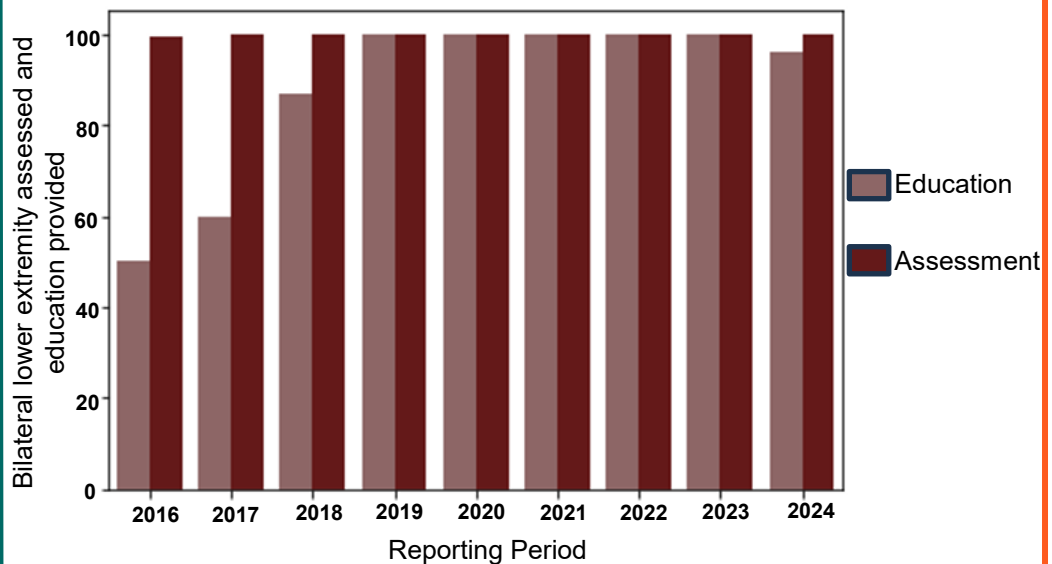
Dongzhimen Hospital (DZMH) is a renowned medical institution located in Beijing, China, specializing in integrative medicine, combining both traditional Chinese medicine and modern medical practices. Affiliated with the Beijing University of Chinese Medicine, the hospital is well-known for its comprehensive healthcare services, including specialized treatment for chronic diseases, particularly diabetes, cardiovascular conditions, and foot ulcerations. Recognized as a Best Practice Spotlight Organization® since 2018, DZMH has been celebrated for its innovative approach to healthcare. This project is funded by the Central High Level Chinese Medical Hospital Clinical Research Operation Fee (DZMG-HLZX-24006).

Aim: To examine the clinical outcomes associated with the implementation of RNAO's *Assessment and Management of Foot Ulcers for People with Diabetes* (2013) BPG at Dongzhimen Hospital in Beijing, China.

Measures: The Nursing Quality Indicators for Reporting and Evaluation® (NQuIRE®) data system was used to determine the percentage of persons 15 years and older who have diabetes and foot ulceration: (a) with a bilateral lower extremity assessment on admission/ initiation of care; b) with documented evidence that they/ family/ caregivers were provided education on diabetes management and ulcer care; and (c) with demonstrated evidence of a 50 per cent reduction in wound surface area at the four-week mark.

Clinical improvement: There were significant improvements in all the indicators between 2016 to 2024 (Figures 1 and 2).

Figure 1: Bilateral lower extremity assessment and education addressing diabetes management and ulcer care (%)



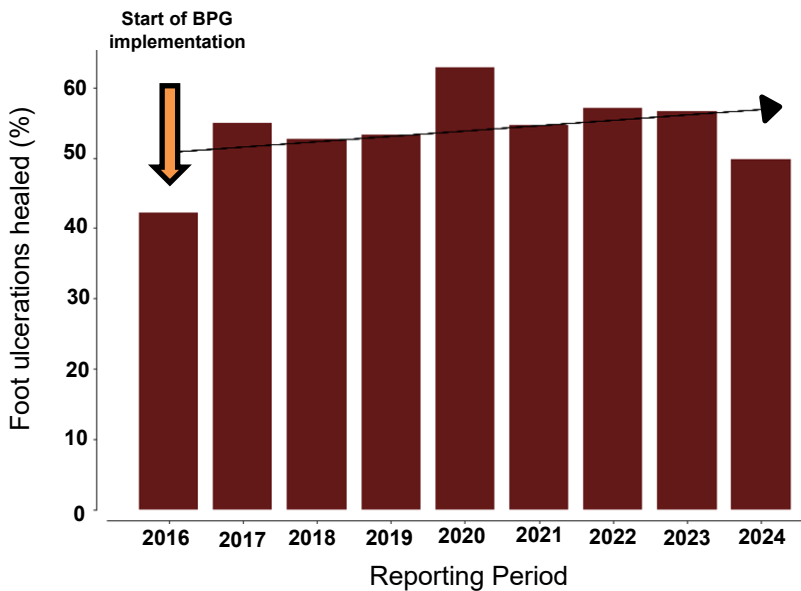
Impact: From 2016 to 2024, there was a 50 per cent (from 50.0 per cent to 100 per cent) increase in persons and their family/caregivers receiving education addressing diabetes management and ulcer care, while maintaining above 99 per cent on the bilateral lower extremities assessment on admission.

Practice changes

Dongzhimen Hospital has transitioned from relying solely on nursing support for wound dressing assessments to empowering persons to change their wound dressings independently. The nursing team ensures continuity of care by providing wound dressing services across inpatient and outpatient settings. With a strong commitment to person- and family-centred care, DZMH continually strives to deliver convenient, comprehensive, and sustained nursing services throughout the entire healing process. This approach enhances the persons' autonomy and significantly improves overall quality of life.

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Figure 2: Foot ulcerations with demonstrated evidence of a 50% reduction in wound surface area at 4-weeks (%)



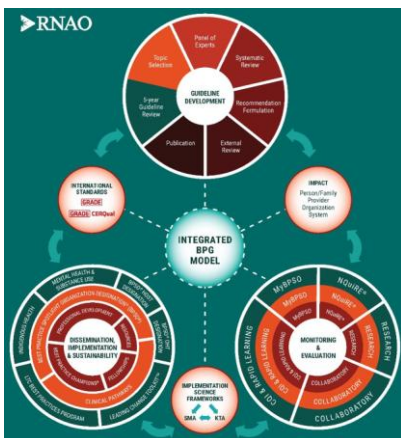
Impact: From 2016 to 2024, there was a 7.7 per cent (from 42.2 per cent to 49.8 per cent) increase in the percentage of persons with demonstrated evidence of a 50 per cent reduction in diabetic foot ulcer wound surface area at the four-week mark.

Practice changes

Key practice changes are as follows:

- **Resources:** Invested in new equipment and computers, resulting in making the treatment processes transparent to persons and their families. Independent and dedicated treatment spaces have been established to enhance the medical environment, ensuring patient comfort and privacy. Additionally, DZMH implemented a patient feedback platform to facilitate communication and gather insights for continuous improvement in care.
- **Policy:** Revised and standardized the policy on diabetes foot ulceration to integrate the BPG.
- **Training:** Ongoing efforts to enhance nurse training encompasses various levels tailored to meet specific needs. The training program includes: group study; hospital training; continuing education, specialized training for health education in diabetes; wound dressing education session; and the RNAO Wounds training.

Conclusion: Dongzhimen Hospital demonstrated that the implementation of RNAO's *Assessment and Management of Foot Ulcers for People with Diabetes* (2013) BPG resulted in increased bilateral lower extremity assessment of diabetic foot ulcers and enhanced education provided to persons and families on diabetes management and ulcer care for persons with diabetes and foot ulceration. Additionally, this initiative contributed to an increase in the percentage of persons with diabetes with demonstrated evidence of a 50 per cent reduction in diabetic foot ulcer surface area at the four-week mark.



RNAO launched the BPG Program in 1999¹ with funding from the Government of Ontario, Canada. The evidence-based BPGs developed to date are transforming nursing care and interprofessional work environments in all sectors in health systems worldwide. BPSOs are health service and academic organizations that implement multiple BPGs through a formal agreement and systematic process, as well as evaluate their impact on health and organizational outcomes².

NQuIRE^{2,3}, a unique nursing data system housed in the International Affairs and Best Practice Guideline Centre, allows BPSOs worldwide the ability to measure the impact of BPG implementation. The NQuIRE data system collects, compares and reports data on human resource structure, guideline-based nursing-sensitive process, and outcome indicators. Contact us by email at NQuIRE@RNAO.ca for more details. To learn more about RNAO's IABPG Centre, please visit RNAO.ca/bpg. This work is funded by the Government of Ontario. All work produced by the RNAO is editorially independent from its funding source.

References

- 1 Grinspun, D. (2018). Transforming nursing through knowledge: The conceptual and programmatic underpinnings of RNAO's BPG program. In D. Grinspun & I. Bajnok (eds.), *Transforming nursing through knowledge: Best practices for guideline development, implementation science and evaluation* (pp. 3-25). Sigma Theta Tau International.
- 2 Naik, S., Voong S., Bamford, M., Smith, K., Joyce, A., & Grinspun D. (2020). Assessment of the Nursing Quality Indicators for Reporting and Evaluation (NQuIRE) database using a data quality index. *Journal of the American Medical Informatics Association*, 27(5), pp. 776-782.
- 3 VanDeVelde-Coke, S., Doran, D., Grinspun, D., Hayes, L., Sutherland Boal, A., Velji, K., White, P., Bajnok, I., & Hannah, K. (2012). Measuring outcomes of nursing care, improving the health of Canadians: NNQR (C), C-HOBIC and NQuIRE. *Nursing Leadership*, 25(2): 26-37.

