



## LETTER TO THE EDITOR

# Type 1 Diabetes Technologies and the Nursing Role in Italy: Competencies, Education, and Equity in Care

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Dear Editor,

Type 1 diabetes (T1D) has become a paradigmatic example of how technological innovation has fundamentally redefined the standard of care across all age groups (1, 2). Automated insulin delivery systems, continuous glucose monitoring, and connected insulin pens are no longer ancillary therapeutic options but integral components of evidence-based diabetes management, as recognized by major national and international clinical guidelines (2, 3). This technological transformation has profoundly reshaped the competencies required of all healthcare professionals involved in T1D management, particularly nurses, whose role has traditionally been central to therapeutic education, device training, and the promotion of long-term treatment adherence, solve day-to-day management problems, adhere to treatment, and prevent complication (4-8). Despite the rapid adoption of diabetes technologies, the nursing competencies required to ensure their effective and equitable implementation have received comparatively little

attention (9). According these advances, considerably less attention has been paid to the competencies required of nurses responsible for supporting people living with T1D in everyday clinical practice. Current evidence consistently demonstrates that modern diabetes technologies improve glycemic control, reduce hypoglycemic events, and enhance quality of life in both pediatric and adult populations (10). By contrast, the organizational and educational dimensions of technology implementation have received considerably less attention. Several studies have identified substantial gaps in nurses' knowledge, confidence, and preparedness regarding the use of technologies in general and the education of patients using these devices for diabetes (11). Importantly, these shortcomings appear to stem less from individual professional limitations than from the absence of structured educational pathways, both within undergraduate nursing curricula and continuing professional development programs, capable of translating rapid technological innovation into widespread clinical competence rather than expertise confined to highly specialized centre or





individual professional initiative (12, 13). This educational challenge is closely intertwined with an equally important public health issue: equitable access to diabetes technologies (14). Access remains uneven and is influenced by socioeconomic, geographical, and organizational factors, resulting in measurable disparities in clinical outcomes, particularly among vulnerable populations (15). Within healthcare systems increasingly oriented toward community-based care and integrated chronic disease management, the nursing role extends beyond direct clinical care to become a key determinant of health equity (16). Community and diabetes nurses are therefore expected not only to facilitate access to advanced technologies but also to promote sustained and appropriate device use, support long-term adherence, and identify management difficulties at an early stage, before they lead to metabolic deterioration or avoidable use of emergency healthcare services (17-19). The reflections presented in this letter may also apply to other healthcare settings experiencing a growing integration of digital health technologies. Strengthening nursing competencies in this field should not be viewed as an ancillary objective but rather as a fundamental prerequisite for translating technological innovation into meaningful improvements in clinical outcomes, patient experience, and equitable access to healthcare. These considerations are particularly timely in light of the ongoing transformation of healthcare delivery at both national and international levels (20-22). Technology alone does not improve diabetes care. Its clinical

value ultimately depends on healthcare professionals capable of integrating innovation into routine practice. Investing in nursing education is therefore not merely an educational priority but a prerequisite for achieving equitable, person-centred diabetes care (23, 24).

## Artificial Intelligence use

The Author declared that any use of artificial intelligence in the preparation of this manuscript was exclusively for final linguistic editing, supported by a native English-speaking support (free version of ChatGPT 2026). The content of this article is entirely the result of the original intellectual effort and research of the author.

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