

Media release

Independent study finds QUMEA associated with fewer falls and lighter nursing workload

Solothurn, Switzerland, 10 August 2026 – QUMEA today highlighted the results of an independent, prospective controlled study published in the Journal of the American Geriatrics Society. The study, led by first author Tamara Eichenbrenner and corresponding author Wolfgang Hasemann, found that bed-exit-related falls occurred about half as often with QUMEA as with a conventional contact mat QUMEA rooms also had fewer bed-exit warnings and shorter nurse response times.

Foresight, tested under real conditions

Bed-exits are among the clearest early signals of risk in hospital care, particularly for older adults with delirium, one of the most vulnerable patient populations in any care setting. Most published fall rates rely on subjective incident reporting rather than independently verified data, limiting confidence in how well any bed-exit sensing approach performs in daily clinical practice.

To close this evidence gap, researchers conducted a prospective, non-randomised controlled study on the DelirUnit, a specialised delirium care ward and the only unit of its kind in Europe. Over 119 patients and 1,799 patient days, the study compared QUMEA's contactless, radar-based monitoring system with a conventional analogue contact mat (CareMat®).

Falls were independently verified through four separate sources, the institutional fall protocol, interprofessional clinical documentation, QUMEA notifications, and thermal video verification, rather than relying on incident reports alone.

Results

A 49% lower rate of bed-exit-related falls: 11.5 vs. 22.6 falls per 1,000 patient days under QUMEA compared with the analogue contact mat. The difference remained statistically significant after adjustment for baseline differences between groups (adjusted OR 3.76, 95% CI 1.25–11.27, $p=0.019$).

20% fewer bed-exit warnings: 9,760 vs. 12,255 warnings per 1,000 patient days (adjusted OR 1.89, 95% CI 1.41–2.53, $p<.001$), suggesting more precise differentiation between genuine bed-exit events and routine movement.

30% less nursing time spent responding to bed-exit events: a median of 16.3 vs. 23.2 minutes per patient day (adjusted OR 1.60, 95% CI 1.21–2.11, $p=0.001$), freeing care teams to spend more time on direct patient care rather than reactive response.

Independently verified, independently funded

The study was independently funded by the Velux Foundation, Zurich, and its authors declare no conflicts of interest. It was registered at ClinicalTrials.gov (NCT05391334) and approved by the Ethics Committee of Northwestern and Central Switzerland (EKNZ, BASEC-Nr. 2021-02501).



Throughout the study, QUMEA's radar-based monitoring operated without cameras or personal data, reflecting Dignity by Design as a founding principle of the system's architecture.

What this means for care

For hospitals and care institutions, the findings offer a clear, evidence-based signal: earlier, more precise information about patient movement can reduce fall risk and ease nursing workload at the same time, without requiring cameras or compromising patient privacy. Under the conditions tested, an objective, independently verified comparison in one of Europe's most demanding delirium care settings, QUMEA was associated with meaningfully better outcomes than a conventional contact mat on every primary measure studied: fewer falls, fewer false alarms, and less reactive workload.

About the study

Eichenbrenner T, Glaser I, Denhaerynck K, Koller A, Vater V, Fritsch D, Götz V, Fischer A, Pretto M, Kressig RW, Hasemann W. Digital contactless 3D-radar bed-exit monitoring versus analogue contact mats in hospitalised older adults with delirium: a prospective controlled study of falls and nursing workload. *Journal of the American Geriatrics Society*. <https://agsjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/jgs.70635>

About QUMEA

QUMEA is the foresight engine for care. Founded in 2019, the Swiss company is headquartered in Solothurn, with subsidiaries in Mannheim, Germany, and Stockholm, Sweden. QUMEA builds high-precision, radar-based monitoring systems that continuously capture movement data and translate it into actionable clinical intelligence, giving care teams the confidence to act in time. With dignity at its core, the solution works entirely without cameras. More than 150 institutions across Europe already rely on QUMEA, backed by a team of over 60 experts.

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