

Using temporary nurses doesn't fully mitigate deaths linked with staff shortages, study finds

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A new study led by the University of Southampton has found that using temporary nursing staff to fill rotas only partially combats an increased

risk of patient death associated with staff shortages.

Researchers found that avoiding low nurse staffing levels lowers the risk of [death](#) among patients—particularly even when drafting in temporary [registered nurses](#) to maintain staffing levels. However, despite this, the risk of death remains elevated compared to when the ward is fully staffed by permanent nurses.

Findings from the study are published in the journal *JAMA Network Open*.

The research team conducted an [observational study](#) on 185 wards across four acute hospital trusts in England between 2015 and 2020—amounting to a total of over 600,000 patient admissions. The anonymized participants were adults with an overnight stay, and nursing staff on inpatient wards.

The study found that for each day of low staffing among registered nurses, the risk of patient death increased by 7.9% from the norm. The figure for nursing support staff was similar at 7.2%. However, this risk was partly, although not completely, mitigated by bringing in temporary staff.

Increasing temporary registered nurses on wards by 10% was associated with an increased risk of death of 2.3%—with no difference between using agency or hospital bank staff. The figure for nursing support staff saw an increased risk of death of 4% and agency staff from this group had a larger adverse impact than bank staff.

Commenting on the study, lead author Professor Peter Griffiths of the University of Southampton said, "Our study shows that addressing low staffing levels by using temporary staff to fill gaps is definitely beneficial in avoiding deaths on wards. The harm associated with low

staffing is greater than using temporary staff to rectify shortfalls. However, our findings challenge the assumption that temporary staff are a cost-effective long-term solution to maintaining patient safety."

The research also showed some evidence that having more senior staff on shift, within both registered nurses and nurse support roles, had some benefit, although there was some inconsistency within these results.

"Previous studies have supported a beneficial effect from using more senior staff within a team and our findings are consistent with this. This suggests the relatively new registered nurse associate role, which will increase the proportion of senior support staff on wards, does have some benefits," comments Professor Griffiths.

The researchers, who partnered with Portsmouth Hospitals University NHS Trust for the study, acknowledge that further work is needed to understand the role of temporary staff more fully and the effects of different staff mixes on other patient outcomes and quality of care.

More information: Beyond Numbers – Nursing Team Composition and Mortality Following Acute Hospital Admission, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.28769](https://doi.org/10.1001/jamanetworkopen.2024.28769)

Provided by University of Southampton

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