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NURSING WORKFORCE ACADEMY

No substitutions?

Is there evidence that registered nurses can be safely replaced by other staff groups?

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University of Southampton

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In the face of nurse shortages, increasingly diverse skill mix and multidisciplinary care, the potential that other staff can substitute for registered nurses is often considered.

Possible substitutions are diverse and include having nursing teams led by non-nursing professions. More commonly, staff with less training are considered as potential substitutes as an answer to staff shortages, or because using less expensive staff is seen as economically efficient. In this briefing we will consider evidence to ask: is it safe and cost-effective to substitute registered nurses with staff with lower qualification levels?

Introduction

There is much evidence that patients benefit from higher registered nurse staffing levels in diverse settings including acute hospitals, care homes and general practice. This has led to considerable concern about current nurse shortages, because of the increased risk of poorer quality of care and of harms arising to staff due to increased workloads.

However, health care is an interdisciplinary endeavour, and roles and responsibilities can shift between team members, meaning there may be scope to change the profile of the workforce. There are many reasons for doing this but managing costs and addressing workforce shortages are often cited as the motivation for change.

While these can be driven by necessity, they may also be seen as desirable if gaps can be filled, skilled staff released for other duties or costs reduced without jeopardising the quality of care. But there are also possible risks, including to patient safety. This evidence brief considers evidence relevant to substitution between registered nurses and staff with lower qualification levels, including nursing associates and health care or nursing assistants.

Evidence sources

This rapid overview draws on results from a recent study supported by the National Institute for Health Research (Griffiths et al., 2025; 2024) and six recent reviews identified in a rapid search of PUBMED (Anchors, 2025; Cermak et al., 2024; Crevacore et al., 2023; Griffiths et al., 2023; Jutkowitz et al., 2023; Thurgate et al., 2023). Because there is little direct evidence on substitution across diverse fields of nursing, this brief also draws selectively on other sources to provide indirect evidence that is relevant to decision-making around substitution.

Is substitution happening?

Much of the research we considered addressed substitution indirectly. In part this was because the focus was on 'skill-mix' or the implementation of roles that were described as complements (i.e. assistants) to registered nurses, rather than replacements for registered nursing posts. However, whatever the original intentions, substitution tends to occur when new support roles are introduced. This is sometimes partial, with specific professional tasks allocated to assistant staff. In the case of nursing associates, there is potential for a more complete substitution, with a blurring of role boundaries (Anchors et al., 2025) with growing concern about registered nursing posts being converted to nursing associate posts.

Impacts on care quality – natural variation

Most evidence of potential effects on care quality comes from large observational studies in acute care, where there is variation in skill mix. While these studies tend to be large (often including many services and hundreds of thousands of patients) and have relatively robust methods, they are usually studying 'natural' variations in skill mix which may not reflect deliberate policies of substitution. A systematic review of 23 studies of skill mix in acute hospitals reported that reductions in skill mix were associated with worse patient outcomes, including increased risk of death, and potentially increased costs (Griffiths et al., 2023).

In nursing homes, a systematic review of 22 studies concluded that increased registered nurse skill mix was associated with improved resident outcomes including reduced pressure ulcers, infections and COVID-19 mortality (Jutkowitz et al., 2023), although the overall certainty of the evidence was low. This review also found that higher assistant staffing was also associated with improved outcomes while evidence in relation to licensed practical nurses was much less clear. This evidence illustrates the challenge of disentangling 'substitution' in these studies because skill mix is altered by both direct substitution and adding staff.

Even where evidence suggests that some substitution is possible, because both groups contribute to producing the outcome, substitution may not be cost-effective, and the limited outcomes studied means that the potential scope for substitution cannot be determined.

One study in wards of a single UK acute hospital showed how increased assistant staffing from a low level was associated with improved mortality but further increases above the norm were associated with increased risk (Griffiths, et al., 2019). Overall, these reviews provide no support for using lesser trained staff to replace registered nurses.

Impacts on care quality – planned change

A rapid scoping review identified 10 studies that examined planned changes in skill mix or introduction of care models that involved substitution, typically reducing registered nurse posts while increasing assistants or, in some cases licensed practical nurses. Most of the studies were small, typically evaluating change in a single unit or comparing a small number of units within a single hospital, although four Canadian studies published between 2003 and 2013 were on a much larger scale, (e.g. the Dubois study included 2,699 patients from 22 units in 11 hospitals (Dubois, et al., 2013)), although still on a smaller scale than the studies cited above.

The studies in this review provide mixed and largely inconclusive evidence, although a number of the larger studies found that models with reduced skill mix had worse outcomes. One small pre–post quasi-experimental study in a single Taiwanese teaching-hospital ward evaluated a revised skill-mix model in which staffing changed from 25 registered nurses to 22 registered nurses plus seven nursing aides. The study reported a 2.7% reduction in personnel costs, improved patient satisfaction and improved nurse satisfaction with aides, with no statistically significant change in falls or medication error rates. However, as a single-ward uncontrolled pre–post study, it provides only weak evidence about the safety or generalisability of substituting registered nurses with support staff. (Lee et al., 2005). One Canadian study found evidence that acute units with two staff groups (registered nurses and unlicensed assistants) had better outcomes than units that also included licensed practical nurses (Hall et al., 2003). An older systematic review of 50 studies of staffing in nursing homes found that both higher registered nurse and assistant staffing was generally associated with better resident outcomes and quality. However, higher staffing from licensed practical nurse was more often associated with worse quality than with improvements (Spilsbury et al., 2011).

Nursing associates

Evidence about licensed practical nurses in older studies from outside the UK may highlight questions to be asked about the roll out of nursing associates in the UK but clearly cannot directly inform us about the possibility or success of substitution. Two reviews of evidence about the nursing associate role in the UK (Anchors et al., 2025; Thurgate et al., 2023) provided no direct empirical evidence of impacts on patient care or quality. In both reviews substitution was discussed as a negative factor, a perceived threat leading to resentment by registered nurses and perceived as a barrier (Anchors et al., 2025).

A recent UK study covering over 600,000 admissions, in 185 acute units in four English acute hospitals between 2015 and 2020, found that there were only small numbers of band 4 staff (the band associated with nursing associates) working on wards. Substitution was not studied directly but a higher proportion of nursing associates among the nursing support workforce was associated with reduced mortality, although the relationship was non-linear and benefits were not present at higher levels (30% of assistant hours from band 4) (Griffiths et al., 2025; Griffiths et al., 2024). The relationship was not apparent in fully adjusted models accounting for all aspects of staff mix including temporary staff use.

Supervision and delegation

Reviews make it clear that when substitution dilutes skill mix in the team, challenges associated with supervision and delegation are likely to arise (Anchors et al., 2025; Crevacore et al., 2023; Thurgate et al.,2023). Newly registered nurses are often still developing such skills and confidence. Confidence, trust and understanding of scope of practice are essential elements for successful substitution. The risk of role creep is a significant challenge (Anchors et al., 2025) that may also increase risk to patients. On the other hand, nursing associates report feeling limited and unable to work to their full scope of practice (Thurgate et al.,2023).

Conclusions

- Studying variation in skill mix suggests that substituting registered nurses with lesser trained staff carries potential risks to patients.
- There is no direct evidence that substitution is safe or cost effective.
- The nursing associate role, developed as a complement to registered nursing, risks becoming a substitute for registered nurses.
- Despite evidence that the nursing associate role can be successfully implemented, we found no evidence on safety or quality.
- Safe and effective substitution must be supported by a clear understanding of role boundaries and scope of practice.
- Clear understanding of role boundaries and the requisite delegation skills may not yet be sufficiently developed across all parts of the registered nurse workforce or among managers.

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