A Framework for the stabilisation of the nursing workforce: A pilot study

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BACKGROUND

Staffing levels have been linked to a number of negative staff[1] and patient outcomes[2]

As such, determining safe-staffing levels can be challenging

The DoH published the Framework for Safe Nurse Staffing and Skill-Mix[3] to address this challenge
The Framework sets out an evidenced-based approach to determining safe nurse staffing levels.

OBJECTIVE

To measure the impact of implementing the Framework on the stabilisation of the nursing workforce.

METHODS

This pilot study was conducted in six medical and/or surgical wards across three acute hospitals.

TrendCare, a commercial workload management system, was used to measure:

- Nursing Hours per Patient Day (NHPPD)
- Skill-mix (ideal 80:20, RN:HCA)
- Supervisory role of the CNM2

A before-and-after interrupted time-series design was used to compare the workforce pre (Phase 1) and post (Phase 2) the implementation of the recommendations in the Framework.

This may have resulted in an uplift in staff, a re-structuring of skill-mix and/or the addition of a supervisory CNM2.

RESULTS (1): Data collection period

The adjustments of the staffing levels in Phase 2 were based on the workload data collected during Phase 1.

Hospital	Ward	Phase 1	Phase 2	No. Beds
1	A	15/07/2016 – 28/08/2016	12/03/2017 – 23/04/2017	35
	B	15/07/2016 – 28/08/2016	12/03/2017 – 23/04/2017	34
	C	15/07/2016 – 02/10/2016	05/02/2017 – 23/04/2017	24
2	D	31/10/2016 – 11/12/2016	12/03/2017 – 23/04/2017	26
	E	31/10/2016 - 11/12/2016	12/03/2017 – 23/04/2017	20
3	F	15/07/2016 – 28/08/2016	12/03/2017 – 23/04/2017	29

RESULTS (2): Nursing hours per patient day

- A repeated measures ANOVA showed a significant main effect for NHPPD variance [$F(1, 281) = 7.66$, $p < 0.01$], Ward [$F(1, 5) = 103.52$, $p < 0.001$] and a significant interaction [$F(5, 281) = 15.37$, $p < 0.001$], mostly indicating a reduction in variance in NHPPD, see Figure 1.
- A repeated measures ANOVA showed a significant main effect for available NHPPD [$F(1, 281) = 7.65$, $p < 0.01$], Ward [$F(1, 5) = 258.18$, $p < 0.001$] and a significant interaction effect [$F(5, 281) = 15.39$, $p < 0.001$) which is mostly an increase in the available hours for care, see Figure 2.

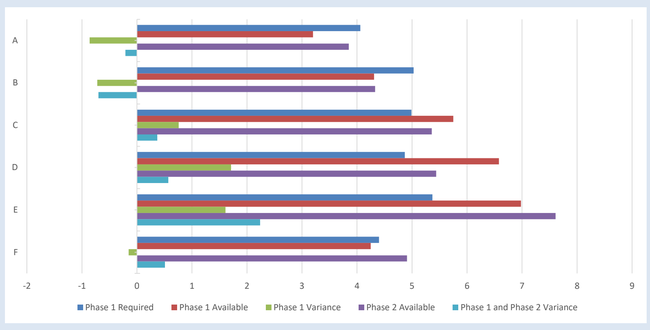

Figure 1: Available, required and variance in NHPPD. Available NHPPD in Phase 2 is compared to required NHPPD in Phase 1.

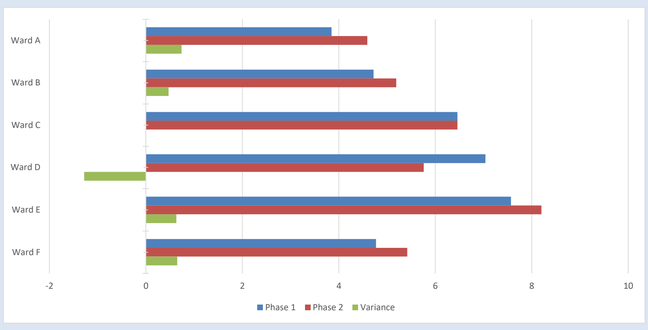

Figure 2: Total available NHPPD for Phase 1 and Phase 2 and variance between Phase 1 and 2

RESULTS (2): Skill-Mix and Supervisory role of the CNM2

- Two wards (B and C) had an increase in skill-mix, two remained relatively stable (D and E), one had a reduction (A) however recruitment was still ongoing at the time of data collection, the final ward also reduced but in line with the recommendations D), see Figure 3.
- Overall, on each ward there was an increase in the amount of time the CNM2 spent as supervisory, ranging from an increase of 5-20%, see Figure 3.

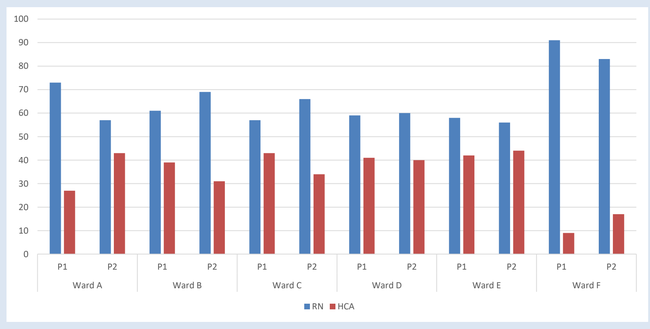

Figure 3: Skill-mix ratio of percentage of hours of care delivered by RN:HCA

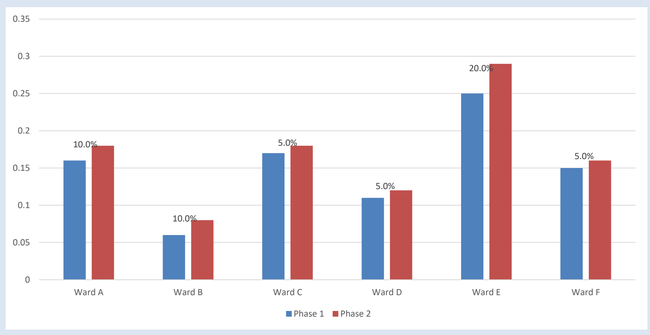

Figure 4: Hours per patient day spent supervisory and percentage increase

DISCUSSION

Overall, the variance in HPPD are showing signs of stabilisation and it is expected that this would continue as the additional staff member are integrated into the nursing team.

The further integration of the remaining additional staff may further affect the skill mix ratio when new staff members fully take on their role in the wards, as the period of transition was still on-going at the time of data collection.

The results also show that the amount of time the CNM2 is spending as supernumerary increased in Phase 2, in line with the recommendations of the *Framework*.

This pilot study demonstrates that the introduction of an **evidenced-based approach** for determining that the right staff are in the right place and at the right time is having a positive impact on the stabilisation of the workforce.

These results have led to the recommendation that this Framework is implemented nationally and furthermore, that it is extended to other clinical settings.

References

1. Kalisch B, Lee KH. Staffing and job satisfaction: nurses and nursing assistants. Journal of nursing management. 2014 May 1;22(4):465-71.
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3. Department of Health Interim Report and Recommendations by the Taskforce on Staffing and Skill Mix for Nursing on a Framework for Safe Nurse Staffing and Skill Mix in General and Specialist Medical and Surgical Care Settings in Adult Hospitals in Ireland. 2016; Department of Health, Dublin.