

## Does “Cohort Nursing” help control healthcare acquired infection?

This appraisal was conducted rapidly by the Nursing Research Unit, King's College, London to scope the strength of the evidence behind the use of 'cohort nursing' in infection control. Cohort nursing refers to the grouping of patients with a given infection within an isolated area short of strict (single room isolation). Searches were conducted on the Cochrane Library, PubMed and Google Scholar on 28 June 2007. Priority was given to evidence from prospective controlled trials and systematic reviews. The rapid nature of the appraisal means that it should not be regarded as definitive.

### Summary & conclusions

- Our rapid scoping review of the evidence identified some limited evidence to support cohort nursing. Evidence is weak and inconclusive
- 'Cohorting'- grouping of infectious patients and nursing them within an area of a hospital ward - is widely recommended as a strategy for controlling transmission of healthcare acquired infection
- It is often recommended as an overflow strategy when single room isolation is not available
- The practice of 'cohorting', in common with other isolation procedures, is associated with successful infection control interventions
- Evidence for the independent effect of cohorting in controlling MRSA is weak, in common with that for other isolation policies
- A study of patient 'cohorting' in intensive care suggests no effect over and above standard contact procedures.
- Cohorting did not improve compliance with hand hygiene
- Modelling suggests that any benefit comes from cohorting of nurses, which is not necessarily correlated with cohorting of patients
- Policies should emphasise the primacy of reducing opportunity for transmission and thus contact procedures
- Recommendations for cohorting should be clear that nurse cohorting is the primary goal.

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## The evidence used

There are no cluster randomised studies examining the independent effect of cohort nursing. There is one prospective controlled trial listed in the Cochrane Library. This relates to paediatric care and control of viral respiratory infection. This study concludes that neither contact procedures nor cohort nursing alone had an impact on the spread of infection but that a combination of the two did<sup>[1]</sup>. However, the strength and relevance of this evidence to HCAI in general, and particularly infections such as MRSA in adults, is low.

A wider search identified a relevant systematic review of isolation for controlling MRSA<sup>[2]</sup>. This concluded that no quality evidence existed that allowed the determination of the distinct impact of isolation measures including cohort nursing. A more recent prospective study of spread of MRSA in intensive care found that a policy of cohorting or isolation did not reduce risk of colonisation (HR 0.72, p=0.94) and did not alter staff compliance with hand hygiene precautions<sup>[3]</sup>. Most studies that support cohorting or isolation are studies of a multifaceted policy of isolation and contact procedures<sup>[2]</sup> and it is not possible to tell whether isolation was a significant independent factor.

However, it is also fair to say that although the overall quality of evidence was weak, most of the studies included in the systematic review reported positive results from interventions including some degree of isolation including cohorting<sup>[2]</sup>. Evidence on isolation wards was more mixed<sup>[2]</sup>.

One study presented a mathematical model which claimed to demonstrate the importance of cohorting in reducing transmission and containing outbreaks<sup>[4]</sup>. However this is simply a model with no observational evidence. Importantly, the model does emphasise the significance of *nurse* cohorting. It may be that isolation of patients has little correlation with this.

This study emphasises the important distinction between cohort nursing (ie grouping and isolating colonised patients) and nurse cohorting (ie designating nursing staff to work with colonised or infected patients) in order to minimise transmission pathways from colonised to non-colonised patients.

This point is emphasised by the results of a study which examined the impact of moving from a hospital facility with mainly open bays to one in which most patients were in single or double rooms. In spite of the fact that the new facility also had optimal hand washing facilities, MRSA prevalence was unaffected<sup>[5]</sup>.

Recommendations for cohorting should emphasise the primacy of contact procedures and the importance of *nurse* cohorting to reduce potential transmission pathways.

### *Key issues for policy*

- Despite the equivocal evidence isolation must remain a core strategy in control of HCAI
- Recommendations to support *cohorting* must emphasise the importance of *nurse* cohorting
- *Nurse* cohorting is easier to achieve in dedicated isolation units or areas although evidence on isolation wards per se is mixed.

## References

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