



<b>Title</b>	<b>The Provision of Alcohol-Based Products to Improve Compliance with Hand Hygiene</b>
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<b>Reference</b>	Ritchie et al. 2005. Health Technology Assessment Report 7. ISBN 1-903961-51-3

## Aim

To review the literature on the effectiveness, costs, and benefits of alcohol-based hand hygiene products; and to assess whether the added benefits of improving hand hygiene are likely to offset the additional costs.

## Conclusions and results

This review highlights the weaknesses of the evidence base pertaining to the clinical and cost effectiveness of interventions to improve hand hygiene compliance and reduce hospital-associated infection rates. (The term 'hand hygiene' refers only to handwashing with soap and water and the use of alcohol-based hand hygiene products.) Many of the reviewed studies were not well conducted or reported. They were heterogeneous in terms of study design, interventions used, and outcome measures. Hence, statistical synthesis of results could not be undertaken.

Alcohol-based products were usually part of a broader multi-component strategy of infection control. Other interventions included education sessions, reminders or surveillance, and feedback of infection rates. Most types of interventions generated at least transient improvements in hand hygiene compliance and reductions in infection rates. Successful interventions generally involved several components, long-term interventions, and a range of factors to modify hand hygiene behavior.

The cost of providing alcohol-based hand hygiene products to staff in clinical areas are greatly outweighed by the potential benefits associated with reducing hospital-associated infection. Two economic evaluations showed that if only a 1% reduction in the hospital-associated infection rate were achieved, hand hygiene programs using alcohol-based hand hygiene products would be cost effective.

## Recommendations

- Alcohol-based hand hygiene products should be made available to all NHSScotland staff who may come into contact with patients and to all hospital

visitors, particularly where handwashing facilities are limited.

- Multi-component strategies to improve local hand hygiene compliance should be implemented as these are more likely to be effective and sustainable than single-component strategies.
- Hospitals should evaluate the effectiveness of any hand hygiene intervention put in place.

## Methods

The scientific literature was systematically searched to identify evidence of the clinical and cost effectiveness of alcohol-based hand hygiene products. Experts, professional groups, and other interested parties were invited to submit evidence. All evidence was critically appraised. A survey was undertaken by NHS Quality Improvement Scotland to ascertain the current provision of hand hygiene arrangements in primary and acute care settings across Scotland.

## Further research/reviews required

Robust evaluation of any hand hygiene intervention should be carried out. This will require auditing of compliance and/or infection rates before and after the intervention and taking into account the possible influences on these rates. Followup measurements should be made at intervals, and comparator groups included wherever possible. Ideally, cluster randomized trials methodology should be employed.