Improving hand hygiene compliance

The washing or decontamination of hands by health care workers is acknowledged to be crucial in preventing the transmission of infections (Larson et al, 1995), but studies have demonstrated poor compliance with this simple intervention (Pittet et al, 1999). This article describes work undertaken at Lewisham Hospital to improve hand hygiene and summarises the results published by Rao et al (2002).

Background University Hospital Lewisham is a 600-bed district general hospital in south London. The infection control team consists of 2.34 whole-time equivalent infection control nurses and a consultant microbiologist. In common with other health care organisations, there is a keen interest in reducing the acquisition of infections.

For some time the team has been focused on improving hand hygiene compliance among health care workers. Previous efforts included demonstrations using glowing dye, displaying posters and delivering lectures, all of which had short-term success. It was time for a fresh approach.

Marketing hand hygiene The infection control team reviewed efforts to improve hand hygiene and concluded that the product had not been ‘sold’ to the users. It was time to apply the principles of marketing (Kotler, 1994).

Initially we performed a SWOT (strengths, weaknesses, opportunities and threats) analysis on our current strategy. Our strengths included pragmatism, audit and research activity, as well as good staff relations. I was also a member of the Hand Hygiene Liaison Group, which campaigns for improved hand hygiene.

Our weaknesses included a lack of awareness of the views of staff, a lack of senior allies, a lack of feedback on infection rates to staff. There was also an absence of a firefighting approach to problems. Opportunities included the many standards and reports issued around that time relating to infection control (Department of Health, 2000; National Audit Office, 2000; NHS Executive, 2000). Threats included competing with other health care priorities and difficulties introducing change.

We required a strategy that optimised our strengths and opportunities and would address our weaknesses and threats. Our marketing objective was to improve hand hygiene. We adopted an approach that focused on product, price, promotion and place to form our strategy (McCarthy, 1978).

Product A survey revealed that the medical staff believed they did not have time to use sinks to wash their hands repeatedly. Nurses had problems with the products used in the trust, which were chafing and irritating their hands. Accessibility, speed of action and effects on the skin were, therefore, important considerations when choosing a hand-cleansing product.

Price The pharmacy department was responsible for the purchase of hand-cleansing products. Key considerations in purchasing were price, efficacy and side-effects. Wards were not directly charged for these products. If the infection control team identified a new product, protected funding would be required to ensure it would not be subject to the annual round of savings.

Promotion A radical change was required to get our message about hand hygiene over to the diverse groups.

Place The positioning of the product was crucial for success. Staff should be able to reliably predict the location of the product on the ward. This meant that we needed to find out where it should be placed.

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Achieving compliance with hand hygiene can be difficult. Annette Jeanes explains how a new approach to marketing hand hygiene produced sustained positive results

KEY WORDS
Hand hygiene
Hand cleanser
Hospital-acquired infection
Implementation A comprehensive implementation strategy was devised. It included the following:

■ Offering a choice of products;
■ Ensuring that products were available and in accessible locations;
■ Promoting and reinforcing hand hygiene.

A trial of products was undertaken. A hand gel containing 70 per cent industrial methylated spirit with an emollient was selected. The pump action dispenser delivers a fixed volume, which on application will effectively decontaminate the hands within 30 seconds (see Box 1).

As a result of these trials the key positions for these products were found to be at each bedside and various vantage points in the ward – for example, the ward entrance. The trust board was approached and it was agreed that a dedicated budget would be allocated to the infection control team for the purchase of the product. The chief executive wrote to every member of the infection control team for the purchase of the product. As it is in a gel formulation containing 70 per cent industrial methylated spirit with an emollient was selected. The pump action dispenser delivers a fixed volume, which on application will effectively decontaminate the hands within 30 seconds (see Box 1).

Effectively decontaminated:

1–2ml of solution should be applied to cupped hands; Massage thoroughly until all surfaces receive contact and before evaporation takes place; Alcohol hand rubs and gels with emollients reduce the rate at which the solution can evaporate. This prolongs the time available to ensure the coverage of all the hand surfaces.

Difficulties Following initial trials on two orthopaedic wards, the hand-cleansing product was introduced throughout the hospital. It soon became clear that placing the product on a patient locker or bedside table did not work. It was soon lost among the get well cards, flowers and boxes of tissues. However, the manufacturers provided us with holders, and the product was fixed to the end of the patients’ beds.

Some staff, believing confused patients would drink the product, removed it. As it is in a gel formulation drinking it is difficult (although not impossible), and the staff were persuaded to replace it. Finally, in order to resolve the problem of ensuring that containers were fixed to the beds and were not empty, we visited wards regularly. We also identified staff who had responsibility for ensuring the gel was present.

Results In the first year of implementation, the hand-cleansing product was available at 95 per cent of bed ends and ward entrances. More than 2,200 bottles were used, which equates to 440,000 episodes of hand decontamination. A survey revealed that doctors preferred the gel while nurses continued to prefer washing their hands.

The incidence of hospital acquired infection was monitored for the year before and during the study. The incidence of Clostridium difficile-associated diarrhoea (CDAD) was reduced by 17.4 per cent. Hospital acquired methicillin-resistant Staphylococcus aureus (HAMSRA) was reduced by 11 per cent.

Using this data we estimated that 52 CDAD infections were prevented during the study period. At an estimated cost of £4,000 for managing one case of the infection (Wilcox et al 1996), this saved the hospital about £208,000. Similarly, patient suffering and expense were spared by reducing the rates of hospital-acquired MRSA. These benefits should be compared with a total cost of £5,000 for providing the hand-cleansing product for the one-year study period.

Conclusion Hospital acquired infections are an important cause of morbidity and mortality in hospitals. Hand hygiene is a vital measure in the prevention of these infections, but attaining compliance with hand hygiene requirements can be difficult. Our approach of ‘selling’ hand hygiene to staff by adopting traditional marketing methods produced a sustained effect. Work is now taking place to measure compliance with the use of the hand-cleansing products.

**REFERENCES**


**BEST PRACTICE INFECTION CONTROL SUPPLEMENT**

**HAND DECONTAMINANTS INCLUDE:**

■ Non-medicated soaps;
■ Aqueous antiseptic solutions;
■ Alcohol hand rubs;
■ Gels and wipes.

**OCcasions When Hands Should Be Decontaminated:**

■ Before any aseptic procedure;
■ After handling a patient;
■ After handling any item that is or may be soiled;
■ Before handling food;
■ As soon as hands become visibly soiled. (Gould, 2002)

**Decontamination USING Alcohol Solutions:**

■ 1–2ml of solution should be applied to cupped hands;
■ Massage thoroughly until all surfaces receive contact and before evaporation takes place;
■ Alcohol hand rubs and gels with emollients reduce the rate at which the solution can evaporate. This prolongs the time available to ensure the coverage of all the hand surfaces.

**Box 1. Using Hand Gels**