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# Comparison of Alcohol-Based Sanitizers Versus Personal Protective Equipment on the Incidence of Hospital-associated Infections

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## PICO Question: In healthcare settings what is the effect of alcohol-based sanitizers compared to usual personal protective equipment on the incidence of infections?

### POPULATION

The CDC healthcare-associated infection (HAI) prevalence survey provides an updated national estimate of the overall problem of HAIs in U.S. hospitals. Based on a large sample of U.S. acute care hospitals, on any given day, about 1 in 25 hospital patients has at least one HAI.

There were an estimated 722,000 HAIs in U.S. acute care hospitals in 2011. About 75,000 hospital patients with HAIs died during hospitalizations. More than half of all HAIs occurred outside of the intensive care unit.<sup>1</sup>

Major Site of Infection	Estimated No.
Pneumonia	157,500
Gastrointestinal Illness	123,100
Urinary Tract Infections	93,300
Primary Bloodstream Infections	71,900
Surgical site infections from any inpatient surgery	157,500
Other types of infections	118,500
Estimated total number of infections in hospitals	721,800

Magill, S.S., Edwards, J.R., Bamberg, W., et al. (2014). Multistate point-prevalence survey of health care-associated infections. *New England Journal of Medicine*, 370(13), 1198-1208. DOI: 10.1056/NEJMoa1306801

### INTERVENTION

- Alcohol-based sanitizers
- Chlorhexidine
- Iodines
- Handwashing
- Gloves
- Goggles
- Face Mask
- Gowns
- Shoe Covers



### CLINICAL DECISION

- Based on the evidence alcohol-based products are more effective for standard hand hygiene/hand antisepsis, however Concentrations of alcohol-based sanitizers vary.
- The most effective in fighting hospital-associated infections are those with concentrations between 60% and 90%.
- Using a combination of alcohol based Sanitizers and gloves is also recommended in fighting HAIs.

### STRENGTH OF EVIDENCE

Level of Evidence

Level of Evidence	Citation
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