

“Hand hygiene is the simplest, most effective measure for preventing hospital-acquired infections.¹”

Dr. Didier Pittet
University of Geneva Hospitals, Switzerland
Leading expert in Hospital Infection Control

Hospital-acquired infections kill more North Americans than all motor vehicle accidents, plane crashes, and murders combined.^{2,3} According to the U.S. Centers for Disease Control (CDC), half of these are preventable by simple measures, primarily better caregiver hand hygiene.⁴ **Shocking.**

Patients expect their caregivers to do no harm. However, study after study shows that caregivers comply with handwashing protocols only 40% of the time. Better hand hygiene is the CDC's number one guideline for reducing hospital-acquired infections.⁴

“gelFAST significantly increases hand hygiene frequency.¹²”

Dr. Alex Mihailidis
University of Toronto, Canada
Citing results of Mt. Sinai Hospital clinical study, Fall 2005

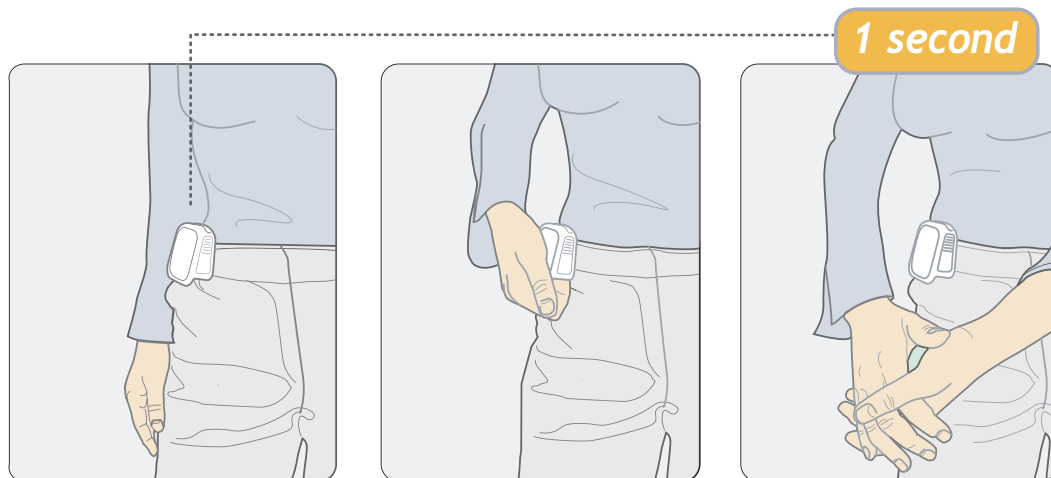


gelFAST Anywear enables health-care providers to sanitize their hands significantly more quickly and easily than was previously possible. gelFAST Anywear is a wearable cartridge-based daily disposable alcohol gel dispenser, with an integral garment clip and optional lanyard feature. Each disposable cartridge has enough gel to last through a high-demand work shift.^{4,5}

Alcohol-based gel is widely used in hospital facilities around the world, and has become the standard for hand hygiene. gelFAST Anywear gets gel where it needs to be faster and more easily than was ever possible.

Clinical studies have shown that gelFAST's ergonomic design increases hand hygiene frequency.^{12,13} Near instant initiation of the handwashing process facilitates the development of instinctive handwashing habits (muscle memory), helping facilities achieve their patient safety goals.

gelFAST Anywear: The personal wearable alcohol gel dispenser that makes better hand hygiene a strong habit.

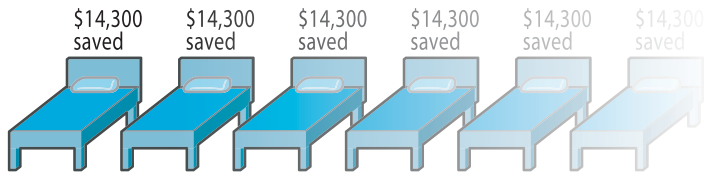


Need it: When hand hygiene is needed, gelFAST is there, always in the same place, always ready for better hand hygiene.

Do it: gelFAST is always accessible - with one quick squeeze, an instant dose of alcohol gel is exactly where you need it.

Done: Hands are rubbed together as alcohol gel evaporates. Hands are clean, and better hand hygiene happens.

Cost Benefit



Even with modest increases in institutional handwash frequency rates, significant cost savings can be realized with gelFAST Anywear based on direct costs alone, not to mention human costs.

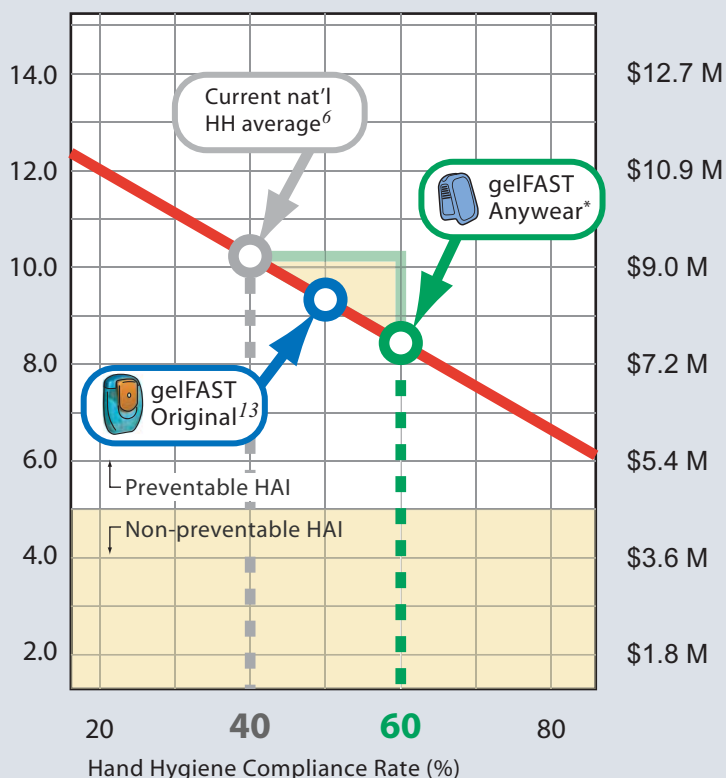
Increasing hand hygiene compliance rates from the current rate of 40% to a conservative 60%,⁶ a typical hospital of 170 beds can expect annual savings of more than **\$2.4 M, or \$14,300 per bed per year.**

The gelFAST Effect :

Reduce Infections, Reduce Costs

Hospital-Acquired Infection (HAI)
Rate⁷ (per 100 admissions)

Annual HAI treatment costs
(typical 170-bed hospital)^{8,9}



* Projected, based on gelFAST Original clinical observations



250 x gelFAST = 1 infection prevented

Here's how:

Raising the frequency of caregiver hand-washing lowers incidence of infection.⁴ A 20 percentage point increase in handwash frequency has been shown to lower infection rates by 17 percent overall⁶ - from over three to less than two per bed per year.

A moderate program of one gelFAST cartridge per caregiver per day can enact this level of change.



5,700 x gelFAST = 1 fatality prevented

Here's how:

One in 23 Hospital Acquired Infections - more than 88,000 of the 2,000,000 annual US cases^{2,7,10} results in a premature death. With each 250 gelFAST cartridges preventing one infection, it takes 5,700 cartridges to prevent one death.

Cost Benefit Worksheet

This worksheet provides an easy way to estimate the effect a moderate gelFAST program will have on your hospital facility. Figures for a typical hospital are illustrated as a reference. Simply fill in the form to determine the estimated facility-wide financial benefits - what gelFAST will mean to your hospital.

<i>In \$ U.S.</i>	Typical Hospital	<i>If figure not known, use...</i>	Your Hospital
Number of HAI's* (<i>per year</i>)	551 ^{7,8}		
Percent saved with gelFAST	X 17% ^{6,9}	(# beds**) X (3.1) →	X 17%
Avoided HAI's (<i>per year</i>)	92		
Average HAI treatment cost	X \$13,973 ⁹	\$ 13,973 →	X
HAI savings (<i>per year</i>)	\$1,308,851 → \$1,308,851		\$
HAI mortalities (<i>per year</i>)	24.0 ²		
Percent saved with gelFAST	X 17% +	(# of HAI's) →	X 17% +
Fatalities avoided (<i>per year</i>)	4.1	24	
Impact per HAI fatality	X \$250,000	\$ 250,000 →	X
Fatality avoidance savings	\$1,018,152 → \$1,018,152		\$
Number of MRSA† outbreaks (<i>per year</i>)	0.2	0.2 →	
Percent saved with gelFAST	X 75% +		X 75% +
Avoided outbreaks (<i>per year</i>)	0.15		
Cost per MRSA outbreak	X \$700,000 ¹¹	(# beds**) x (\$4,100) →	X
MRSA Outbreak avoidance savings	\$105,000 → \$105,000		\$
Total Benefit	\$2,432,003		Total Benefit \$
Number of beds	170 ⁸		
Cartridges per bed (<i>per year</i>)	X 250 ÷		X 250 ÷
gelFAST cartridges (<i>per year</i>)	45,000 → 45,000		
Each gelFAST cartridge saves your hospital approximately...	\$54.04		Each gelFAST cartridge saves... \$

* HAI : Hospital Acquired Infection ** Overall number of patient beds within hospital facility †Methicillin Resistant Staphylococcus Aureus

“If you think prevention is expensive, try disease.”

Dr. Allison McGeer, Director, Dept. of Infection Control, Mt. Sinai Hospital, Toronto, Canada. SARS survivor.

Clinically Proven

In a recent clinical study conducted during Fall 2005 at Mt. Sinai Hospital, Toronto, with the University of Toronto, it was observed that gelFAST use was directly correlated with significantly higher hand hygiene frequency among caregivers. After accounting for Hawthorne effect and other potential confounders, observers noted a **significant 15% to 19% proportional increase of hand hygiene compliance among HCWs.**¹³

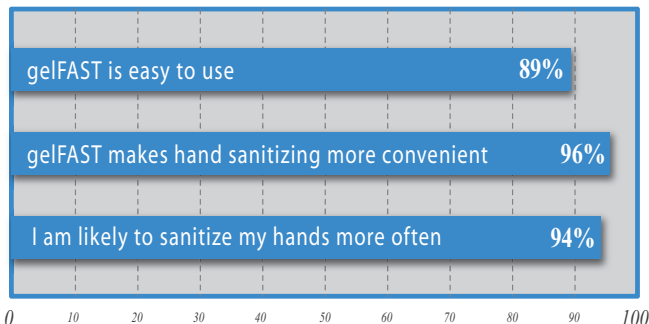


Chart illustration reflects the responses of participants in a 2004 study of a Complex Continuing Care Nursing Unit at Toronto Rehabilitation Institute, where participants agreed or strongly agreed with survey questions.

Frequently Asked Questions

• **Why would we use gelFAST when we already have sufficient wall-mounted gel dispensers? Isn't that good enough?**

gelFAST increases caregiver hand hygiene frequency and compliance.^{12,13} Instant hand hygiene – always. No detours to a wall-mounted pump, no break in workflow, just instant hygiene. Even in hectic, busy units, good hygiene is always on hand. Simple.

• **Is gelFAST comfortable? Does it work with all clothing?**

gelFAST users report that they wash their hands more often, that it is comfortable to use, and does not get in the way of daily routines. gelFAST is worn using an integral garment-clip, and has been extensively tested with pants, skirts, lab-coat pockets, and many other garments typically found in medical settings.

• **Will gelFAST leak?**

gelFAST was designed to apply gel only where and when it is wanted. As confirmed by field trials, the unique design prevents leaking or accidental dispensing. In contrast, many wall-mounted gel dispensing units build up unpleasant nozzle residue over time.

• **Doesn't alcohol gel dry hands out?**

gelFAST users **Multiple Skin Conditioners** to keep hands in premium condition, because caregiver acceptance is the key element in better hand hygiene rates. While individuals reactions will vary, most users report that their hands are often in better condition after use than before.

• **Does gelFAST pose a cross-infection risk?**

gelFAST does not pose an infection risk, nor do bottles become infected. Infection experts generally agree that the closer an object is to an alcohol gel dispenser, the more sterile it is. Additionally, unlike wall-mounted dispensers, gelFAST units are used by only one caregiver.

• **We're on a tight budget - won't these cost too much money for us to afford?**

A gelFAST program saves hospitals much more money than it costs to implement. Even modest gains in handwash compliance generate significant savings by reducing money spent treating infections. To evaluate the impact a gelFAST program will have in your facility, simply fill out the **Cost Benefit Worksheet** included within.

REFERENCES

[1] D. Pittet, "Improving adherence to hand hygiene practice: a multidisciplinary approach," *Emerging Infectious Diseases*, vol.7, no.2, Mar.- Apr. 2001.

[2] Fatalities in United States annually attributable to nosocomial infection: 88,000. J. Hilburn, B.S. Hammond, E.J. Fendler and P.A. Groziak, "Use of alcohol hand sanitizer as an infection control strategy in an acute care facility," *American Journal of Infection Control*, vol.31, no.2, pp.109-116, Apr. 2003.

[3] U.S. Fatalities:
Motor vehicle fatalities: 38,309 (2002).
Homicide: 16,204 (2002). Air travel: 60 (2003).
Sources: U.S. Department of Transportation;
Federal Bureau of Investigation; U.S. Department of Transportation.

[4] J.M. Boyce and D. Pittet, "Guideline for hand hygiene in health-care settings: recommendations of the Healthcare Infection Control Practices Advisory Committee and HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force," *CDC Morbidity and Mortality Weekly Report*, vol.51, pp.1-44, 2002.

Table provides 34 cited studies, 1981-2000, measuring handwashing and showing a consistent 40% average compliance rate:

www.cdc.gov/mmwr/preview/mmwrhtml/rr5116a1.htm

[5] gelFAST provides over 35 hand washes per unit, ample for a typical clinical environment. Where more frequent hand-hygiene is required, additional gelFAST cartridges may be used as needed.

[6] D. Pittet, "Effectiveness of a hospital-wide programme to improve compliance with hand hygiene," *Lancet*, vol.356, no.9238, pp.1307-1312, Oct.14, 2000.

[7] W.R. Jarvis, "Selected aspects of the socioeconomic impact of nosocomial infections: morbidity, mortality, cost, and prevention," *Infection Control Hospital Epidemiology*, vol.17, no.8, pp.552-557, Aug.1996.

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[9] P.W. Stone, E. Larson, and L.N. Kavar, "A systematic audit of economic evidence linking nosocomial infections and infection control interventions: 1990-2000," *American Journal of Infection Control*, vol.30, pp.145-152, 2002.

[10] G.L. French and A.F. Cheng, "Measurement of the costs of hospital infection by prevalence surveys," *Journal of Hospital Infection*, vol.18, supplement A, pp.65-72, Jun.1991.

[11] M.H. Wilcox and J. Dave, "The cost of hospital-acquired infection and the value of infection control," *Journal of Hospital Infection*, vol.45, pp.81-84, 2000.

[12] A. Mihailidis, "Efficacy of a Personal Hand Sanitization Device (gelFAST) for Improving Hand Hygiene Compliance in Nurses: Preliminary Results", January 2006, Pending publication.

[13] C. Moore, A. McGeer, "Comparing Hand Hygiene Adherence Rates for Existing Hand Hygiene Products with a New Personal Alcohol Hand Rub Dispenser (gelFAST)". Oral presentation, Community Hospital Infection Control Association (CHICA-Canada), London, ON, May 2006.

 **Gold Medal Winner**
2004 National Post /
Design Exchange Awards.

 **2005 World's Fair (Expo2005),**
Aichi, Japan. *Featured Exhibit,*
Canada Pavilion.