

***Raising Awareness, Communicating and Increasing Compliance:  
The Sanitizing Station as the Evolution of Hand Hygiene for Infectious Disease Control***

**ABSTRACT**

May 5th's Stop! Clean Your Hands Day brings us a timely reminder of the importance of hand hygiene in preventing the emergence and spread of infectious disease and mitigating antimicrobial resistance. Globally recognized as a simple, cost-effective measure in a multi-pronged infectious disease control strategy, hand hygiene is essential. However, products that support hand hygiene practices must evolve beyond their present state. We discuss the importance of hand hygiene in preventing the transmission of healthcare associated infections (HCAIs), evaluate the present option of hand sanitizer dispensers, and suggest that a new class of products is needed. Standards including clear visual communications, the ability to accommodate one-handed manual hand sanitizer dispensers, ease of cleaning, architectural flexibility and versatility for pandemic planning are required within this class of products in order to increase compliance in any environment, especially healthcare. Tagg CLEAN-HANDS® Sanitizing Stations set and follow these standards and have created a range of products that raise awareness and facilitate the communication of infectious disease control practices while dispensing products, working towards the important goal of infectious disease control.



Now is the perfect time to reflect on the problem of healthcare associated infections (HCAIs) and infectious diseases.

**The Spread of Infectious Disease and Hand Hygiene:  
A Timely Reminder**

With Stop! Clean Your Hands Day Thurs May 5th coinciding with the World Health Organizations' Save Lives: Clean Your Hands Day and World Health Day on April 7 marking the launch of their campaign to stop the spread of antimicrobial resistance, now is the perfect time to reflect on the problem of healthcare associated infections (HCAIs) and infectious diseases. Poor infection control practices amongst healthcare staff, patients and visitors are resulting in the transmission of infectious disease, increasing the costs of healthcare.

***According to the World Health Organization, more than 1.4 million people across the globe suffer from HCAI infections, with at least 50 percent of these infections being preventable.***

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Against the backdrop of H1N1, Avian Flu, *clostridium difficile*, and severe acute respiratory syndrome (SARS) outbreaks, control over HCAs and outbreak preparation strategies are more crucial than ever. According to the World Health Organization, more than 1.4 million people across the globe suffer from HCAs, with at least 50 percent of these infections being preventable.<sup>1</sup> While in Canada and other industrialized countries these events may at times seem all-too-distant in the public psyche, HCAs have not disappeared and the images of terrified publics and healthcare workers scrambling to implement their infection control strategies remains in the back of the minds of many healthcare managers in their planning and implementing of multi-pronged infectious disease control strategies. Added to the burden of HCAs is the rising concern with antimicrobial resistance. Identified by the World Health Organization as its key issue for World Health Day 2011, antimicrobial resistance means that many infectious diseases can potentially spread while being resistant to presently-available medications.

Widely recognized as one of the most simple and effective methods for controlling HCAs and infectious disease in general, a focus on the importance of hand hygiene is the cornerstone of any infectious disease control strategy. Hand hygiene is also noted by Health Canada, the US Centers for Disease Control and Prevention, and the World Health Organization as a key practice in preventing the emergence and spread of drug resistant infections.<sup>2</sup> According to the Ontario Agency for Health Protection and Promotion's Provincial Infectious Diseases Advisory Committee (PIDAC), factors that facilitate an effective hand hygiene program include "the selection of user-friendly hand hygiene products, providing alcohol-based hand rub at point-of-care and implementing an effective hand care program."<sup>3</sup> Alcohol-based liquid hand sanitizers are present nearly everywhere: once limited to use in clinical settings, they have become a household product.

However, even though hand hygiene is a recognized solution, it requires compliance amongst healthcare staff, patients and the general public.<sup>4</sup> To achieve a high rate of compliance, healthcare sector education is needed to communicate to and inform the public of the importance of hand hygiene both inside and outside healthcare facilities. Initiatives are taking place, evidenced by the number of initiatives undertaken by facilities, governmental- and non-governmental organizations. But these efforts must also be complemented by the use of infectious disease control and hand hygiene products that are easily identifiable and highly visible, accessible, usable in a variety of infection control environments and designed solely for their intended use.

***While they remain important, the dispensers, usually found mounted on walls or on top of small stands do not go far enough.***



Typical wall-mounted hand sanitizer dispenser

## The Limitations of Hand Sanitizer Dispensers

Aside from proper hand-washing, the current and most popular solution to the problem of infectious disease control through hand hygiene is liquid hand sanitizer dispensed by a plastic unit. Hand sanitizer dispensers are a step in the right direction but do not increase awareness of infectious disease control. To be sure, hand sanitizer dispensers were an important development for controlling infectious disease. In the aftermath of the SARS and H1N1 pandemics, these dispensers were crucial in preventing the transmission of infectious disease, resulting in healthcare facilities being inundated with dispensers and liquids in high traffic areas such as hallways, entryways and exits, and elevator banks. The dispensers had and will retain their place in infectious disease control. While they remain important, the dispensers, usually found mounted on walls or on top of small stands do not go far enough.

The ubiquitous, plainly designed hand sanitizer dispenser is limited by two factors. First, dispensers have hidden long-term costs and do not offer versatile features that offer cost streamlining. Second, the dispenser fails to gain the attention of healthcare workers, visitors and patients to ensure compliance. Nor do they offer additional communication about infectious disease control. Ultimately, while the liquid hand sanitizer dispenser represents a substantial leap forward in infectious disease control, it does not go far enough, *it is not an integrated Sanitizing Station.*

While the initial costs of hand sanitizer dispensers may seem attractive, their long-range costs can remain hidden. In many settings, these dispensers are often placed haphazardly in too many areas, resulting in waste. It is also yet to be proven that the placement of a large amount of dispensers beyond a certain threshold (as identified through infection-control audits of individual facilities) provides any additional user compliance. Conversely, the presence of *too many* dispensers could potentially reduce hand hygiene awareness and compliance by creating an atmosphere of complacency. The result is additional funds being spent on liquids found in dispensers that are rarely, if ever, used.

More importantly, dispensers do not fill the crucial role of providing an educational tool to remind users about the importance of hand hygiene. On their own, dispensers blend into their surroundings, rather than stand out in a crowd. This means that the dispensers are often ignored by passers-by and their presence is easily obscured by users, especially in high-traffic areas. Another facet of this problem is that dispensers alone offer no communication on the importance of hand hygiene or infection control. Nor do they alert the public of any

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presence of HCAs, placing an additional burden on healthcare staff who must monitor patients, visitors and other staff for hand hygiene compliance and design their own messages and signs in the hope of increasing compliance. While hand sanitizer dispensers were a much-needed product with the increased presence of HCAs and antimicrobial resistance, today these dispensers are simply not enough.

### Setting Standards, Defining Solutions

Clearly, a new class of hand hygiene products is what is needed to increase hand hygiene compliance and thus reduce the transmission of infectious diseases. Evolving beyond the hand sanitizer dispenser, what is needed is an integrated hand hygiene solution that acts as a communicative tool to increase awareness of hand hygiene practices, dispenses a variety of infection control supplies and offers versatility. This integrated hand hygiene solution should adhere to a number of standards:



Examples of visual icons that the public is familiar with on a daily basis

**Clear visual communication:** Clear visual communication is crucial to indicate the presence of Sanitizing Stations to staff, visitors and patients. First, easy-to-spot icons that are designed with appropriate, high contrast colours and recognizable shapes and that are positioned above the heads of crowds are needed to attract users to Sanitizing Stations. To achieve as high a rate of compliance as possible, these icons should be memorable and resonate with users in order to become industry-wide standards across different facilities, regions and countries. Second, readable and clear messaging should be provided about infection control. Clear messages are needed, for example, to indicate the presence of isolation precautions and outbreaks and/or what infectious control supplies are required and how to use them.



A Sanitizing Station should be able to handle large amounts of users

**Ability to accommodate one-handed manual hand sanitizer dispensers:** The ability to accommodate one-handed sanitizer dispensers is important for two reasons. First, it is widely recommended that hand sanitizer dispensers have one-handed operation to ensure proper sanitization. The ability to accommodate any make or model of manual liquid sanitizer dispenser is also important because it is preferable to the alternative of accommodating battery-operated automatic dispensers. Battery-operated dispensers require additional funds for batteries (a larger cost than it initially seems when spread over the long-term for numerous dispensers), present additional re-stocking needs, can have slow or unreliable sensors that can accidentally dispense liquid beyond the target area and require battery disposal or recycling.

**Ability to handle high flows of traffic:** It is essential that Sanitizing Stations are durable and able to handle large amounts of users. This is an especially important factor in pandemic planning. To this end, Sanitizing Stations must be able to both a) accommodate numerous hand sanitizer dispensers to allow multiple users at one time while b) remaining visually effective, appearing above the heads of crowds at all angles.

**Easy to clean:** All Sanitizing Stations must be quick and easy to clean to facilitate the duties of housekeeping staff. Features that compromise cleaning include wire baskets, awkward, tight spaces and exposed hardware like wing nuts.



**Architectural flexibility:** There must be a wide range of sizes for Sanitizing Stations. Sanitizing Stations must be flexible with regards to the different spaces in which they are to be used, they must be large enough to make a visual impact but accommodating enough for a variety of spaces and must be barrier-free and accessible to users with disabilities.



A Sanitizing Station should be able to be moved off-site for pandemic situations and disaster relief

**Versatility for pandemic planning:** Sanitizing Stations should be able to be moved within a facility or used offsite as part of a comprehensive pandemic planning strategy. This mobility should not compromise the ability of Sanitizing Stations to handle a high flow of traffic. Mobility, various sizes and housing for a number of dispensers, and the ability to hold a number of infectious disease control products are critical for environments with ever-changing needs.

At the present time, there are products that attempt to combine visual communications for public education about hand hygiene with hand sanitizer dispensers. However, they present their own shortfalls. Some products have confusing visuals and muddled messaging, which only serves to obscure the important message of infection control. Other units often use visual advertising, which dilutes the importance of hand hygiene as a means of infectious disease control. By visually prioritizing advertised products, the units are not designed to maximize user compliance and users are confused.

Many other units lack versatility. For example, some focus on hand hygiene alone, ignoring the importance of messages about infectious disease control and the dispensing or storage of other infectious disease supplies. Other units are not versatile in their design, displaying messages and offering dispensers on (at the most) two sides only which limits messaging and performance in higher-traffic areas. Others still are geared solely to the public, instead of offering a variety of solutions for healthcare workers for the multi-pronged strategies needed for infection control.

### A New Class of Products: The Hand Sanitizing Station



One of our Tagg Clean-Hands®  
Compact Floor Sanitizing Stations

***...standardized professional visuals focused solely on infection control are identifiable at a distance and over the heads of crowds so that fewer stations can be strategically placed throughout healthcare facilities while increasing the impact of each Station. This reduces the cost of sanitizing liquid and the placement of multiple, plain dispensers which need to be individually serviced by housekeeping staff.***

Tagg CLEAN-HANDS® Sanitizing Stations are an embodiment of the standards above. Our Wall Stations, Floor Stations and Isolation Units provide solutions to the problem of the transmission of infectious disease, increase hand hygiene compliance, raise awareness and provide educational tools throughout its product line. Designed to provide clear visual communication, Tagg CLEAN-HANDS® Sanitizing Stations offer 360° visibility from up to 100 feet and over the heads of crowds and across linguistic barriers while remaining visible to those lacking visual acuity. Clear, ad-free messages brief visitors on specialized precautions, warn the public about the presence of outbreaks and inform visitors about entry restrictions in certain spaces. Designed to work with all makes and models of one-handed manual hand sanitizer dispensers, our Sanitizing Stations can house a variety of infection control products (i.e. hand sanitizer dispensers, gloves, masks, and gowns) to streamline your infection control strategy. They offer superior durability and can serve large crowds by holding multiple hand sanitizer dispensers while providing a high degree of visibility. Ergonomically designed, they are free of wire baskets, exposed hardware, and tight spaces, making them easy to clean. Our Floor Stations and Mobile Isolation Units are easily moved and safely locked into place, fitting into any architectural space and any pandemic plan; they are available in a variety of sizes designed to handle high volumes of traffic while being 100 percent barrier-free and fully accessible to staff, visitors and patients with physical disabilities.

Our Sanitizing Stations raise awareness, communicate and visually repeat the crucial messages of infection disease control and hand hygiene: standardized professional visuals focused solely on infection control are identifiable at a distance and over the heads of crowds so that fewer stations can be strategically placed throughout healthcare facilities while increasing the impact of each Station. This reduces the cost of sanitizing liquid and the placement of multiple, plain dispensers which need to be individually serviced by housekeeping staff. While infectious disease control cannot and must not be measured by financial cost alone, we appreciate that healthcare facilities, schools, and even retail outlets have limited budgets that require the most rational, cost-effective solutions. Tagg CLEAN-HANDS® Sanitizing Stations fulfill these requirements, while refusing to compromise on public safety and infectious disease control communication.

## The Important Message of Hand Hygiene Always Bears Repeating



One of our Tagg Clean-Hands® Mobile Isolation Units - Drawer labeling connects to icons in message area



One of our Tagg Clean-Hands® Wall Sanitizing Stations

Infectious disease control is one of the most important public health issues that we face today. Hand hygiene is one of the simplest and most cost-effective ways to prevent the transmission of these diseases. Whether in healthcare clinics, schools, retail environments, or private offices, this practice is crucial to any infection control strategy. Liquid hand sanitizer is one of the key components of hand hygiene. Yet its typical delivery system, the simple sanitizer dispenser, does not go far enough on its own because of its lack of easy recognition and over-placement which generates waste. A new class of products—the versatile Sanitizing Station—has entered the market, following important standards of visual communication, the ability to accommodate one-handed manual hand sanitizer dispensers, ease of cleaning, architectural flexibility and versatility for pandemic planning.

Tagg Design Inc. has defined the market, taking hand hygiene from plain dispensers or dispensers with ad-hoc signs and visuals to a new standard that draws attention, communicates, and dispenses hand sanitizing liquid, filling an important need in retail, education, and healthcare sectors as a part of infectious disease control. Features such as high visibility and access, clear signage and messaging, versatile sizing, accessibility, storage options, mobility, safety and easy maintenance are all features of our range of products. The Tagg CLEAN-HANDS® family of Sanitizing Stations work together to increase the usage and effectiveness of your hand sanitizing liquids and infection prevention supplies. In doing so, Tagg Design Inc. works with you, helping you to achieve greater hand hygiene awareness and compliance, working towards our common goal—reducing the transmission of infectious disease and its related financial and innumerable human and social costs.

### References

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