

Hand Hygiene For the Whole Hospital: Health Care Workers, Patients (Especially Children), and Support Staff Webinar Toolkit

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Thank you to our Speakers and to All the Participants

To learn more about the SureWash App and SureWash – A Germs Journey App for Children please contact info@surewash.com

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Roinn Innealtóireacht Dept of Engineering

Hand Hygiene: Risk management and wider engagement

Prof Gerry Lacey 11 December 2024



Hand Hygiene Guidelines

When

How

Who







Swiss Cheese Risk Model for Hand Hygiene





How big are the holes in our cheese?

Study: A review¹ of 57 studies conducted between 2014–2020

59% ↔ 33% 93% ↔ 40%

WHEN Lack of compliance 5 Moments

How Lack of compliance with technique

- Higher compliance with post patient contact
- compliance after interventions
- Both individual and multimodal interventions improved compliance



2. Tschudin-Sutter, Sarah, et al. "Compliance with the World Health Organization hand hygiene technique: a prospective observational study." infection control & hospital epidemiology36.4 (2015): 482-483.



Some Misconceptions about Hand Hygiene

- HH Technique does not matter. (It does)
 - Price, Lesley, et al. "Comparing the effectiveness of hand hygiene techniques in reducing the microbial load and covering hand surfaces in healthcare workers: Updated systematic review." *American Journal of Infection Control* 50.10 (2022)
- UV tracer coverage is a measure of germ killing (It is not)
 - Gozdzielewska, L., et.al. (2020). Is hand surface coverage a good measure of hand hygiene effectiveness?.
- We can teach HH in one session (we can't)
 - Gerbier, E., & Toppino, T. C. (2015). The effect of distributed practice: Neuroscience, cognition, and education. Trends in Neuroscience and Education, 4(3), 49-59.



Human Factors and Evidence



Burch's Conscious Competence Framework

- Learning Curve for hand hygiene technique
 15-30 coached practice sessions over 2 weeks
 - Delayed recall test demonstrates proficiency
- Independent Learners perform better
 - Individualised training 2x more effective
 - Short burst training in "downtime"



Leapfrog Requirements

• Individuals Who Touch Patients

<u>Or</u>

- Who Touch Items That Will be Used By Patients
 - Most focus is on Clinical Staff
 - Support Staff are a different demographic

• Patient and Visitor Requirements part of Culture Domain

Challenge & demonstration





Leapfrog Group Hand Hygiene Standard

Leapfrog Requirement

Hand Hygiene Training at the time of onboarding and annually

Demonstration of hand hygiene technique

Hand Hygiene Education on all 6 of the following topics:

- Evidence linking hand hygiene and infection prevention
- The 5 Moments for Hand Hygiene
- How to clean your hands with alcohol-based sanitizer/soap & water
- When to use gloves and perform hand hygiene
- The minimum time that should be spent performing hand hygiene with soap & water and alcohol-based hand sanitizer
- water and alconol-based hand sanitizer
- How hand hygiene compliance is monitored

CULTURE DOMAIN

Leapfrog Requirement

Patient and visitor hand hygiene commitment

Commitment to hand hygiene by CEO, CMO, CNO

Key Messages

- Hand Hygiene Swiss Cheese Risk Model
 - Product, When, How, & Who
- Enforceable standards are key to delivering change
- Technology provides objective measurement
- Regular Re-Training & Assessment are critical to maintaining standards





Children's health educational resources

Germ's Journey



A clinical trial evaluation of handwashing products and educational resources to improve hand hygiene in paediatric patients and school children

Dr. Sapphire Crosby, Prof. Katie Laird & Prof. Sarah Younie

An introduction

We exist to create better health for everyone through infection prevention education.

We believe that infection prevention education creates better health for everyone.



Our mission is to educate one billion children on everyday infection prevention by 2030.

We lead research to measure impact, ensuring that behaviours and attitudes are changed because of our work.

We co-create educational resources and training that recognise varying needs across different age groups and cultures to enable learning for all

Germ's Journey aligns with the WHO's Global Action Plan on AMR, which puts education at the forefront.

Designed for 3-11 years, our resources include...

Book Series









Resource Packs



Products





Soaper Stars Boxes

HAND-HYGIENE BOXES

- Ideally sized for storage in hospital bedside lockers and the products will fit into school bags or wash kits.
- Designed for hospitals and schools to encourage children to practice good had hygiene, even in situations where access to handwashing facilities may be difficult.





Boxes contain:

- Hygiene products (liquid soap, hand sanitiser and wipes).
- Educational resources (activity sheet containing activities and puzzles, a handwashing poster about the why, when and how of handwashing, colouring pencils and a sticker).



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A clinical trial evaluation of handwashing products and educational resources to improve hand hygiene

in paediatric patients and school children



Research questions

I. Do the Soaper Star HH Boxes increase the frequency of paediatric patients' hand-hygiene practice within hospitals?

II. Do the Soaper Star HH Boxes give paediatric patients a greater awareness of hand-hygiene and IP?

III. Do the Soaper Stars school workshops improve pupils' understanding of hand-hygiene and IP?





Day Intervention

Non-intervention

No products or educational resources. Researchers observed typical hand-hygiene practices around mealtimes, monitoring the use of hospital-supplied hand wipes. With the support of housekeepers, the number of meals supplied to patients and therefore the number of wipes distributed were recorded. When the trays were collected by the ward housekeepers after the meals, the number of used wipes were recorded again, showing the number of patients who used their wipe or not.

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Partial intervention

Participants were given Soaper Star products (liquid soap, hand sanitiser, hand wipes) only, no educational resources. Researchers did not engage with the participants, they were observed discreetly to measure the use of the products at mealtimes.

Full intervention

Full soaper star box including hand products and educational resources (puzzle sheet, poster, colouring pencils and sticker). Participants and their parents/carers were given the boxes by a Germ's Journey team member and discussed the importance of hand-hygiene. Hand-hygiene practice and use of the products were recorded, `and participants were asked for any feedback on the boxes.

Phase 2—NHS Hospital Trial	ObservationsFeedback from Families
	- Questionnaires and Interviews
Phase 3—Leeds Nuffield Hospital	- Observations
Trial	- Feedback from Families and
	Healthcare Staff
	- Feedback from Nurses
Phase 4—School Trial	- Pre and post-intervention worksheets
Phase 5—Leeds Nuffield Hospital	- Observations and knowledge checks
School Workshops	- Nurses' Feedback

Comparison of the number of hospital wipes distributed and used, with the number of Soaper Star products, and complete Soaper Star boxes

	Day 1: Hospital wipes			Day 2: Product only				Day 3: Complete box			
Hospital	Handed out	Used	% used	Handed out	Used	% used	% difference from day 1	Handed out	Used	% used	% difference from day 1
1	8	1	12.5	7	5	71	58.5	7	3	43	30.5
2	8	2	25	4	2	50	25	8	4	50	25
3	11	0	0	2	2	100	100	1	1	100	100
4	25	10	40	6	3	50	10	8	4	50	10
All hospitals combined	52	13	25	19	12	63	38*	24	12	50	25*

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*Statistically significant difference, $p \le 0.05$.

Feedback from Parents/Carers & Nurses

"A lot [of children] are poorly and in bed, hooked to IV (Intravenous) drip etc. So, wipes and hand gel are more efficient. If used outside of hospital, soap would be used more., e.g., if put into lunch boxes" - IP nurse, Hospital 4.

> "Good to have something to take his mind off the waiting." - Parent of patient

"Parents are the way, if you can get them on board. They can be a barrier or an enabler, so they are very important in promoting hand hygiene." - IP nurse, Hospital 1 "The packs are very useful for parents as well as the children, especially the wipes and sanitiser. We sometimes help with changing dressings, and it is useful to have the products to hand" -Parent of patient aged 6, Hospital 4

"[The boxes were] a prompt for both nurses and parents to encourage hand cleaning. [It is] a great resource, the [handwashing] poster helps to visualise the steps for children, and they can do it together with parents." - Nurse, Hospital 4.

School Data

Increased understanding of "Why"

Handwashing Practice Improvement

22%

29%

Key Findings

- Hand hygiene <u>was not</u> being conducted by paediatric patients and family members on wards.
- <u>Parents and housekeeping staff</u> are critical to implementing hand hygiene practices of children on the wards.
- The use of Soaper Stars hand hygiene boxes <u>significantly</u> <u>increased</u> children's engagement with hand washing in hospitals.
- School studies have shown that knowledge of <u>"Why"</u> hands should be washed and <u>"How"</u> to wash your hands was significantly increased.

Thank you

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Stay in touch:



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Germ's Journey

Figure 1. Monthly Hand Hygiene Compliance Across All Hospital Inpatient Units From September 1, 2019, through August 31, 2020



Figure 2. Monthly Hand Hygiene Compliance Across Inpatient COVID Cohort Units From September 1, 2019, through August 31, 2020



It wouldn't be infection prevention if we didn't talk about hand hygiene!

sodex0

Source: JAMA Intern Med. 2021;181(7):1006-1008. doi:10.1001/jamainternmed.2021.1429

SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update

- Available evidence shows that compliance with hand hygiene recommendations during health care delivery remains suboptimal around the world, with an average of 59.6% compliance levels in intensive care units.
- Average hand hygiene compliance without specific improvement interventions remains at around 40%.
- Without a method in place to improve compliance to reduce HAIs, observations are worthless.

- No method of measuring hand hygiene compliance is perfect, with each have advantages and disadvantages.
 - Direct observations is most widely used but can fall victim to Hawthorne effect, lack of standardization between observers, and accuracy of results.
 - Automated monitoring systems require less personnel time to record observations and is not affected by observer bias but cannot tell the difference from visitors and healthcare staff entering and exiting rooms.
 - Automated badge-based monitoring systems can yield high observation results with near real-time feedback of individual performance, but can experience issues with frequent recharging of badges, staff reluctance to wear badges, and overall expense of the system.

WHO Hand Hygiene Training Tools



sodex

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

O Duration of the entire procedure: 40-60 seconds



Right palm over left dorsum with

interlaced fingers and vice versa;

Rotational rubbing of left thumb

with a single use towel;

6

9

Wet hands with water;





Apply enough soap to cover all hand surfaces;

7



Rub hands palm to palm;

Backs of fingers to opposing palms with fingers interlocked;



Rinse hands with water;



Your hands are now safe.

Rotational rubbing, backwards and forwards with clasped fingers of right



Use towel to turn off faucet;





Palm to palm with fingers interlaced;





clasped in right palm and vice versa;









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AJIC Study: Empowering health care workers with personalized data-driven feedback to boost hand hygiene compliance (2022)

Patient rooms: Development in the departmental hand hygiene compliance among the health care workers. (A) Overall monthly hand hygiene compliance. (B) Individual hand hygiene compliance.



Clean procedures: Development in the departmental hand hygiene compliance among the health care workers. (A) Overall monthly hand hygiene compliance. (B) Individual hand hygiene compliance.



Fast Facts

According to the World Health Organization (WHO), less than 50% of healthcare workers and less than 10% of institutions with heavy workloads adhere to hand hygiene regulations. Globally, some estimates suggest that hand hygiene adherence is approximately 40%.

The rate of compliance with hand washing was significantly lower among doctors (32%) compared to nurses (48%), and lower before (21%) compared to after (47%) patient interaction. Cleaning staff typically have the lowest compliance.

Healthcare workers in public hospitals are more likely to comply with hand hygiene initiatives than those in private settings.

Compliance is higher after patient care than before but decreases as workload increases.





National Handwashing Awareness Week December 5-11

WHY WE LOVE NATIONAL HANDWASHING AWARENESS WEEK

Healthy hands are happy hands

And happy hands make for happy and healthy homes.

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Δ.

It helps prevent the spread of germs

Think of how many different things we touch during the course of an average day. Now imagine how many of those things were touched by other people's hands. Yuck! Wash your hands to prevent the spread of dangerous microbes.

Let's shake on it

Finally, we love National Handwashing Awareness Week because it reminds everybody else — especially doctors and those who prepare the food we eat — to take cleanliness and hygiene seriously.







Thank you to our Speakers and to All the Participants

To learn more about the SureWash App and SureWash – A Germs Journey App for Children please contact info@surewash.com

Your Partner in Hand Hygiene Training

SureWash APP empowers healthcare workers to master the World Health Organization (WHO) hand hygiene technique through its engaging and interactive platform. With SureWash, training becomes more accessible, effective, and consistent, helping to reduce infections, and support the achievement of external certification for infection control.



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Our Offering

Hand Hygiene Training

- Practical technique training and assessment
- Real-time feedback throughout the training
- Gamification for fun and interactive learning
- Available on iOS iPad 8 (2019) or newer and iPhones

Automated Reporting

 Complete training reports for internal and external inspections on SureWash.NET and Learning Management Systems

Why Us

Our leading validated technology is used in healthcare settings worldwide to help solve the problem of training in hand hygiene technique.

SureWash can save IPC staff time from both a training and administration perspective. The SureWash APP provides on-the-go training that fits seamlessly into the busy schedules of healthcare professionals. Now staff can complete their training and assessment in their own time, with objective, realtime feedback.

SureWash also helps hospitals achieve the Leapfrog Hand Hygiene Standard.









Our Offering

- Hand Hygiene Training
 - Practical WHO technique training and assessment
- IPC Education
 - Lesson and quiz functionality for delivering IPC education
- Automated Reporting
 - Complete training reports for internal/external inspections

Why Us

SureWash has been delivering hand hygiene training to healthcare facilities for over 10 years.

Our validated technology is designed to make training more convenient and accessible, with a range of products to suit your facilities needs.

SureWash can also help you achieve the Leapfrog Hand Hygiene Standard, saving IPC staff time from both a training and administration perspective.





