

HARTMANN



LOOKING BACK AND AHEAD

**Past and future challenges
in infection prevention**

HSC Symposium 2023

The Clean Hospitals Project:

How can we improve environmental hygiene
on a global level?

Dr. Alexandra Peters

The Clean Hospitals Project: How can we improve environmental hygiene on a global level?

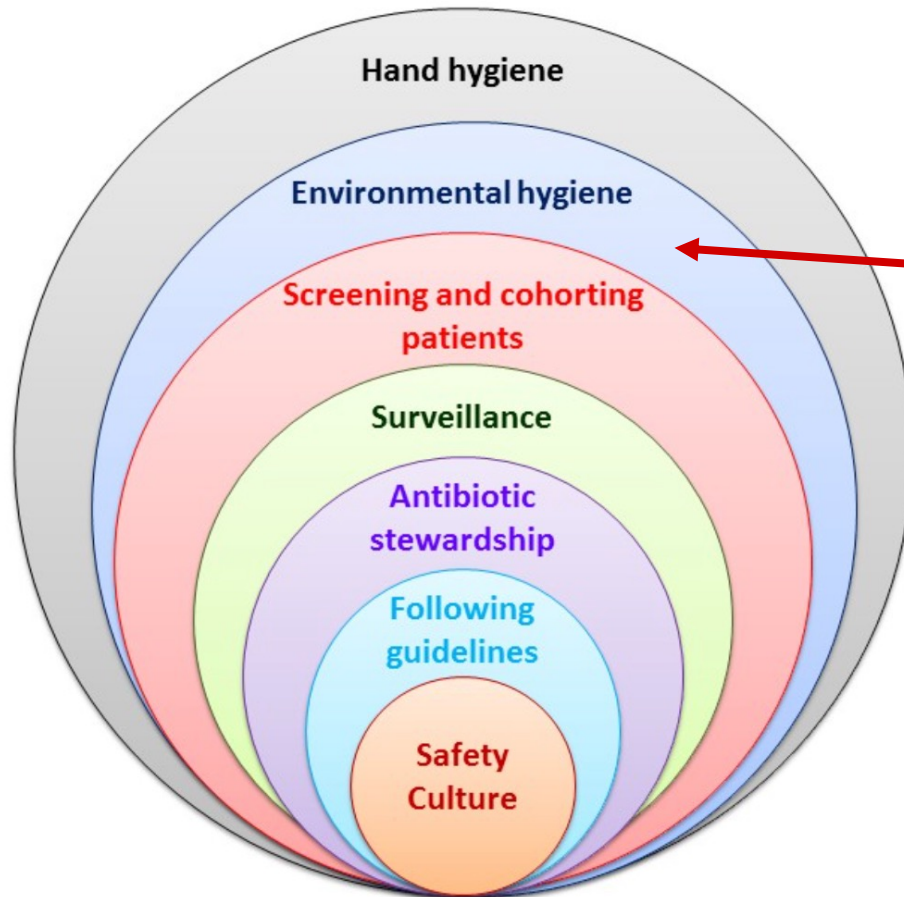
Alexandra Peters, PhD
Scientific Lead, Clean Hospitals
Institute of Global Health, University of Geneva,
Geneva, Switzerland



Why do we need to improve environmental hygiene?



Strategies for reducing HAI



Very important, but understudied and usually underfunded

What is Clean Hospitals?

A coalition of international stakeholders who work explicitly to promote and support healthcare environmental hygiene

- research
- publications
- participation in conferences and events
- education and training
- specialized working groups



What do we aim to do?

Bring together academia and industry to:

- Champion best practices and evidence-based solutions
- Drive and support academic research
- Create a network where project members can exchange and collaborate
- Create a platform from which to bring healthcare environmental hygiene into the spotlight



Clean Hospitals main internal activities

Academic
research

Stakeholder
meetings

Live
Workshops

Clean
Hospitals
Events

Journal Clubs

Think Tanks
&
Scientific
Sessions

Working
Groups



2022 Publications



- Peters A., Parneix P., Kiernan M., Severin J., Gaucci, T. Pittet, D. New Frontiers in Healthcare Environmental Hygiene: Thoughts from the 2022 Healthcare Cleaning Forum" *Antimicrob Resist Infect Control* (In Press)
- Calcagni N, Venier AG, Nasso R, Boudin G, Jarrige B, Parneix P, Quintard B. Respiratory infection prevention: perceptions, barriers and facilitators after SARS-CoV-2. *Infect Dis Health*. 2022 Aug 29:S2468-0451(22)00049-9.
- Peters A., Pittet, D. Investment in Environmental Services Saves Money and Lives, Boosts Morale: An Example From Geneva. *Infection Control Today*. September, 2022.
- Vaux S, Fonteneau L, Venier AG, Gautier A, Soing Altrach S, Parneix P, Lévy-Bruhl D. Influenza vaccination coverage of professionals working in nursing homes in France and related determinants, 2018-2019 season: a cross-sectional survey. *BMC Public Health*. 2022 May 25;22(1
- Peters A, Schmid MN, Kraker MEA, Parneix P, Pittet D. Results of an international pilot survey on healthcare environmental hygiene at the facility level. *Am J Infect Control*. 2022 Mar 6:S0196-6553(22)00133-X.
- Peters, A., Schmid, M., Parneix, P. et al. Impact of environmental hygiene interventions on healthcare-associated infections and patient colonization: a systematic review. *Antimicrob Resist Infect Control* 11:38 (2022).
- Peters, A., Carry, J., Cave, C. et al. Acceptability of an alcohol-based handrub gel with superfatting agents among healthcare workers: a randomized crossover controlled study. *Antimicrob Resist Infect Control* 11, 97 (2022).
- Peters, A., Cave, C., Carry, J. et al. Tolerability and acceptability of three alcohol-based handrub gel formulations: a randomized crossover study. *J Hosp Infect*. 2022 Feb 3:S0195-6701(22)00034-2.

Clean Hospitals Day: October 20th

- 2020 was specifically focused on COVID-19
- 2021 focused on cleaners
- Teleclasses and webinars
- Company involvement
- Social media and videos
- 2022 was the first year of the CH Day conference



Clean Hospitals Day: 20th of October, 2022

clean hospitals

Better Patient Safety Through Improved
Healthcare Environmental Hygiene

Scan The QR Code Below To Apply To Join Our Network
And Take Your Innovation To The Next Level



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Our Stakeholders:

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gama
healthcare

MetalSkin

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20 October 2022

3rd clean hospitals[®] Day

Clean Hospitals Day International Conference

Crowne Plaza Hotel 08:00-20:30 20 October, 2022
Av. Louis-Casaï 75/77, 1216 Genève, Switzerland

2022

- 08:00 Welcome Coffee & Visit of the Exhibition
- 08:45 **Session 1: Environmental Control**
- 10:35 Coffee & Visit of the Exhibition
- 11:05 **Session 2: Healthcare Environmental Hygiene Self-Assessment Framework (HEHSAF)**
- 12:25 – 13:40 Lunch & Visit of the Exhibition
- 12:30 – 13:30 Company Symposium 1, 2 & 3
- 13:40 **Session 3: Medical Devices Reprocessing**
- 15:30 Coffee & Visit of the Exhibition
- 16:00 **Session 4: Air and Water Control**
- 17:20 Closing remarks
- 17:45 Clean Hospitals Day Apéro
- 19:30 **Clean Hospitals Day Webber Teleclass**

Scan The QR Code
To Learn More
About The 3rd Clean
Hospitals Day 2022
International
Conference



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Contact us at
info@cleanhospitals.com
www.cleanhospitals.com



More information on <https://cleanhospitals.com/2022-conference/>

A few recent conferences and teleclasses

- Journée d'hygiène at CHUV, March
- Healthcare Cleaning Forum at Interclean Amsterdam May
- Semmelweis Talk, May
- CLEAN Expert meeting with the London School of Hygiene and Tropical Medicine, Jun
- Infection Control Africa Network (ICAN) Conference Aug
- IPS in Bournemouth Oct
- Clean Hospitals Day Oct
- Clean Hospitals Webber Teleclass Oct.
- Infection Control Day at Ghent University Hospital Dec

Clean Hospitals academic projects

- **Systematic review**
- **Pilot Study**
- **HEHSAF**
- **Lexicon**



Antimicrobial Resistance & Infection Control

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Review | [Open Access](#) | [Published: 19 February 2022](#)

Impact of environmental hygiene interventions on healthcare-associated infections and patient colonization: a systematic review

[Alexandra Peters](#), [Marie N. Schmid](#), [Pierre Parneix](#), [Dan Lebowitz](#), [Marlieke de Kraker](#), [Julien Sauser](#), [Walter Zingg](#) & [Didier Pittet](#) 

Antimicrobial Resistance & Infection Control **11**, Article number: 38 (2022) | [Cite this article](#)

4397 Accesses | **3** Citations | **28** Altmetric | [Metrics](#)



Overall results

Primary outcome: Most interventions showed a reduction in colonization/HAI

- 88% (23/26) of studies showed a decrease in colonization or HAI for at least one of the organisms tested
- 58% of the total studies showed a significant decrease in colonization or HAI for all microorganisms tested

42% were of good quality according to scoring

81% of study interventions were recommended by the authors. Studies often were not powered adequately to measure significant reductions.

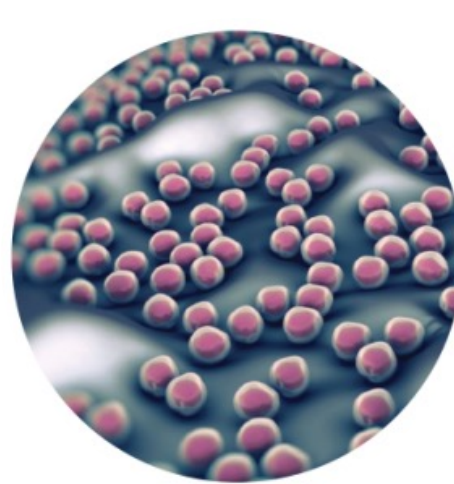
Secondary outcome: all studies that analyzed bioburden showed a reduction in bioburden



Microorganisms

The success of the interventions partly depended on the microbes studied and how successfully specific microorganisms are spread through the environment

Most commonly studied microorganisms:



Out of 26 studies:

- 13 observed the impact of an intervention on MRSA and/or *S. aureus*
- 17 observed the impact of an intervention on *C. difficile*
- 12 observed the impact of a HEH intervention on VRE

Main Conclusions

- The healthcare environment is important for patient safety
- There are numerous HEH interventions that can reduce HAI
- We need more and better studies designed to measure colonization/HAI



International HEH evaluation

According to decision makers, how do hospitals implement HEH programs?

- Based on quantitative email surveys
- Aim is to understand how HEH works around the world and in different resource and cultural contexts
- Goals were to find universal themes and categories to support and improve, and develop the HEHSAF





ELSEVIER

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

American Journal of Infection Control

journal homepage: www.ajicjournal.org

AJIC
American Journal of
Infection Control

Major Article

Results of an international pilot survey on health care environmental hygiene at the facility level

Alexandra Peters MA^{a,b}, Marie N. Schmid BS^b, Marlieke E.A. de Kraker PhD^a, Pierre Parneix MD^c,
Didier Pittet MD, MS, CBE^{a,*}

^a *Infection Control Programme and WHO Collaborating Center on Patient Safety, University of Geneva Hospitals and Faculty of Medicine, Geneva, Switzerland*

^b *University of Geneva, Geneva, Switzerland*

^c *Nouvelle Aquitaine Health Care-Associated Infection Control Centre, Bordeaux University Hospital, Bordeaux, France*



Participating countries in the HEH pilot survey:

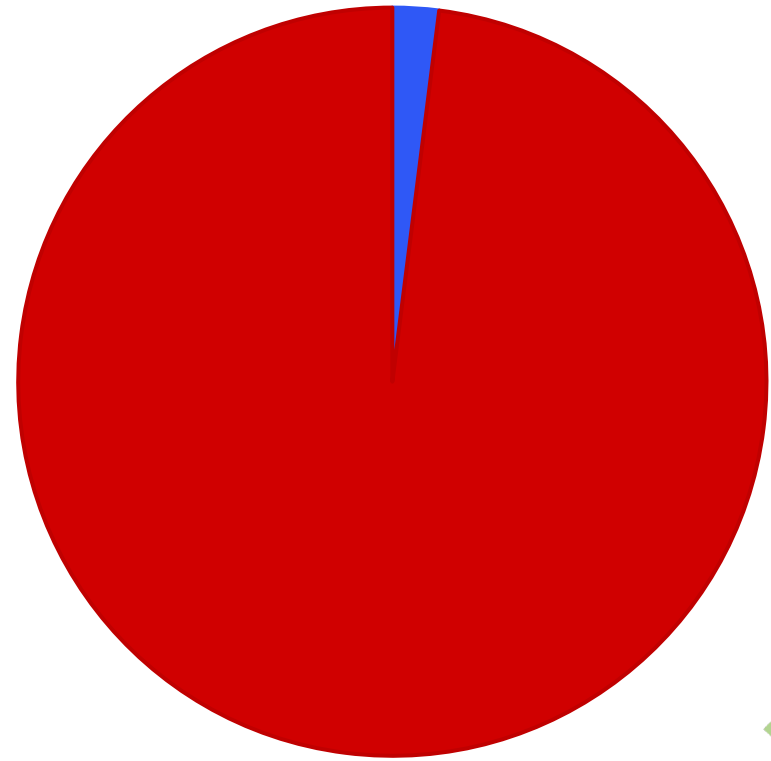
51 facilities from 35 countries

- **37%** (13/35) high-income economies
- **26%** (9/35) upper-middle income economies
- **14%** (5/35) lower-middle income economies
- **23%** (8/35) low-income economies



Pilot survey results: HEH programs insufficient across resource levels

98% (50/51) of HCFs were
majorly lacking in at least one of
the five major components of HEH!

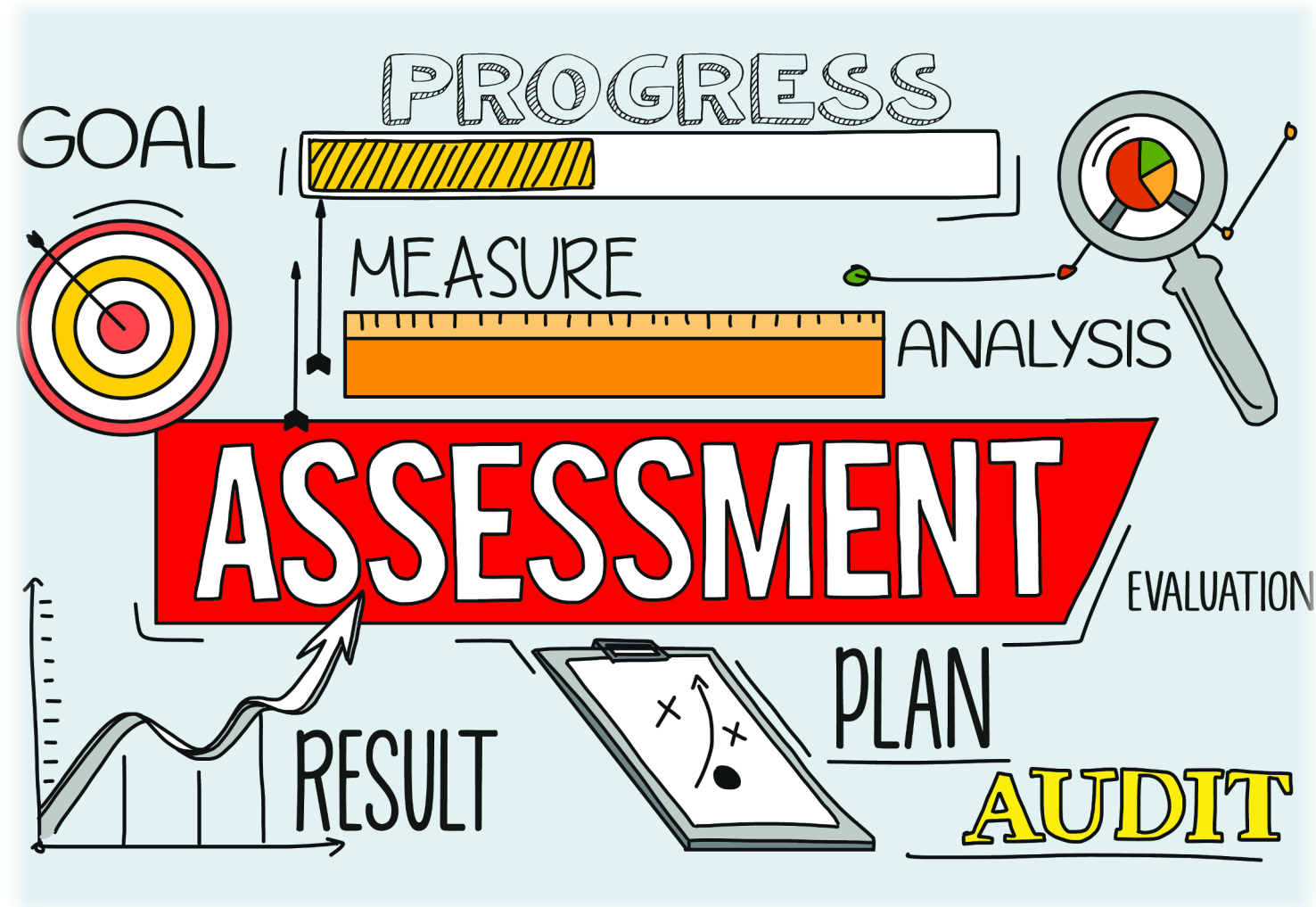


Key results of the pilot study

- Mops and buckets for cleaning floors were still used in most HCFs; only 4% (2/50) reported exclusively using bucket-less mopping systems
- 12% (6/50) of HCFs did not separate normal waste from medical / hazardous waste
- 22% (11/50) of HCFs reported having an open dump site nearby
- Only 30% (7/23) of HCFs in higher-income countries and 7% (1/14) in lower-income countries indicated that EVS staff received comprehensive formal training
- 49% (23/47) of HCFs had EVS managers on-site less than once per week or not at all
- 18% (9/49) did not use any workplace reminders, including the minimum required safety posters or instructions
- Concerning communication on the work floor, 16% (8/50) of respondents reported that EVS staff and nursing staff did not speak the same language
- Upward communication with direct superiors was possible in only 25% (12/48) of HCFs



Development of the Healthcare Environmental Hygiene Self- Assessment Framework (HEHSAF)



What is the HEHSAF?

- A secure online tool for healthcare facilities (HCFs) to analyze and assess their healthcare environmental hygiene (HEH) programs
- Can be used as a benchmark for improvement over time
- The first time a global snapshot for HEH is being attempted



Theoretical Framework: WHO Multimodal Improvement Strategy

1. System change
2. Training & Education
3. Monitoring & Feedback
4. Workplace Reminders
5. Cultural Safety Climate

Developed in Geneva

In use for Hand Hygiene promotion since 2009

The basis of three WHO global surveys since, with thousands of hospitals involved



The Multimodal Strategy for Healthcare Environmental Hygiene

- **System change-** access to necessary products and supplies
- **Training and education-** of EVS staff, managers, and raising awareness for other healthcare staff and administration
- **Monitoring and feedback-** of performance how clean is clean, and optimizing feedback is for improving performance
- **Workplace reminders-** safety posters, events, etc
- **Institutional safety climate-** career advancement, ability to communicate with nursing staff and up the hierarchy



HEHSAF: tool Overview

- 8 sections with 96 questions total
 - GENERAL INFORMATION
 - SYSTEM CHANGE: Institutional capacity and practices
 - SYSTEM CHANGE: Surfaces
 - SYSTEM CHANGE: Specific Environments
 - TRAINING & EDUCATION OF EVS STAFF
 - MONITORING AND FEEDBACK OF EVS STAFF
 - REMINDERS IN THE WORKPLACE
 - INSTITUTIONAL SAFETY CLIMATE

- *Currently being translated and validated in French and Spanish*
- *A way for our industry partners to have meaningful conversations about HEH with healthcare facility decision makers*

The Transposable Model for HEH

- The CH working group is beginning to map a flexible system for implementation and HEH program improvement using the information gathered from:
 - Our hospital (HUG)
 - Other reference hospitals
 - Hospital visits around the world
 - The pilot study
 - Future results of the HEHSAF

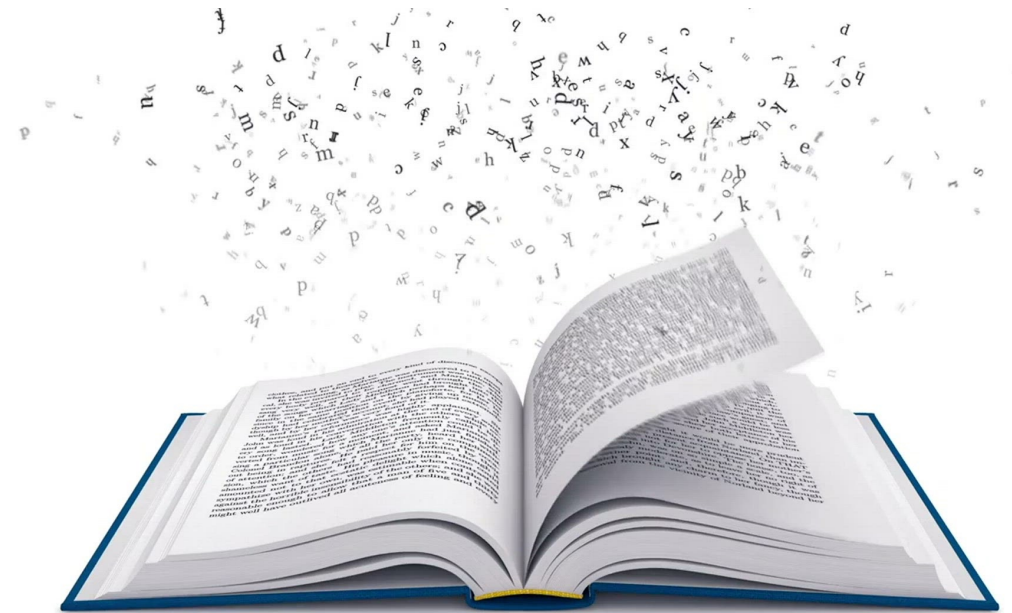


Additional activities



HEH Lexicon Project

- To create a database of HEH glossaries
- Decide on definitions with working group
- Publish a paper and on web
- Curently have 29 identified glossaries and over 940 definitions



Clean Hospitals: Healthcare Environmental Hygiene and Patient Safety

Guest Editors:

Prof. Dr. Didier Pittet: Professor of medicine (hon), Faculty of Medicine, University of Geneva, Switzerland; Chair, Clean Hospitals

Dr. Alexandra Peters: Scientific Lead for Clean Hospitals; University of Geneva, Switzerland

Submission Status: Open | **Submission Deadline: Ongoing**



Antimicrobial Resistance & Infection Control is calling for submissions to our Collection on 'Clean Hospitals: Healthcare Environmental Hygiene and Patient Safety.'

Healthcare-associated infections are a struggle for every healthcare facility in the world and are responsible for killing more people each year than malaria, AIDS, and tuberculosis combined.

[Submit to Collection](#)



Clean Hospitals Expert Panel

- Global network of experts in environmental hygiene
- Currently being formed
- Will be officially launched at ICPIC



Additional Services

- We can work with academic taskforce and our extended network to provide consulting for specific projects or needs
- We provide the opportunity to have 1:1 confidential in-person meetings for all of our members twice per year



Conclusion

By breaking the silos between the public and private spheres we hope to be able to help:

- Improve patient safety
- Increase access to safe care
- Encourage environmental sustainability
- Reduce antimicrobial resistance
- Encourage best practices
- Support innovation



Clean Hospitals Partners



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