



clean hospitals: the next frontier in infection prevention

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What is Clean Hospitals ?

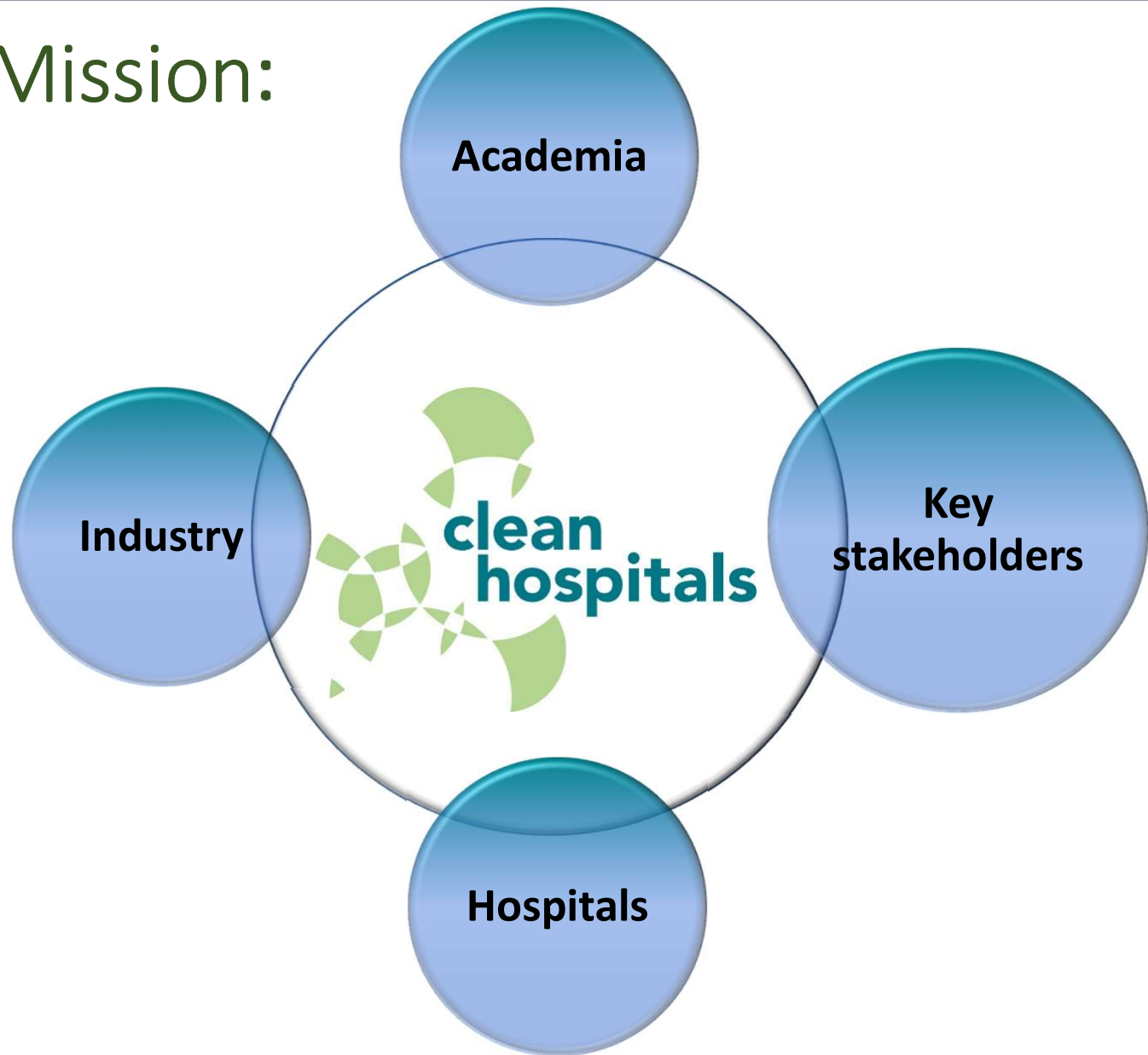
HEALTHCARE ENVIRONMENTAL HYGIENE NETWORK

- ✓ Connecting stakeholders & leading experts from around the world
- ✓ Making hospitals safer through improved environmental hygiene
- ✓ Benefiting public health by lowering rates of healthcare-associated infections, reducing antimicrobial resistance, and protecting hospital staff as well as the larger environment

www.CleanHospitals.com

Our Mission:

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Diapositive 3

AP7

not sure what happened but the circles are no longer the same size. If this was not on purpose, just let me know, and I will change it back to how it was

Alexandra Peters; 18/10/2020

Our activities around HEH

- Setting the agenda for addressing urgent issues in the field
 - Academic Taskforce
 - Stakeholder meetings
 - Board meetings
- Education
 - Development of training programs for hospitals
- Research projects and studies
 - Systematic review of the efficacy of HEH interventions
 - A global Environmental Hygiene Self-Assessment Framework
- Publications
 - White papers & academic papers in peer-reviewed journals



Our activities around HEH (cont.)

- Specialized industry-led working groups
 - Mapping guidelines for HEH
 - Transposable model for hospital hygiene
 - Fake news and how to respond to it
- Participation to conferences
 - Interclean and the Healthcare Cleaning Forum
 - iClean 2020 Australia
 - International Solid Waste Association (ISWA) World Congress
 - SVS Hygiene Forum
 - International Association for Soaps, Detergents and Maintenance Products (AISE) Healthcare Event

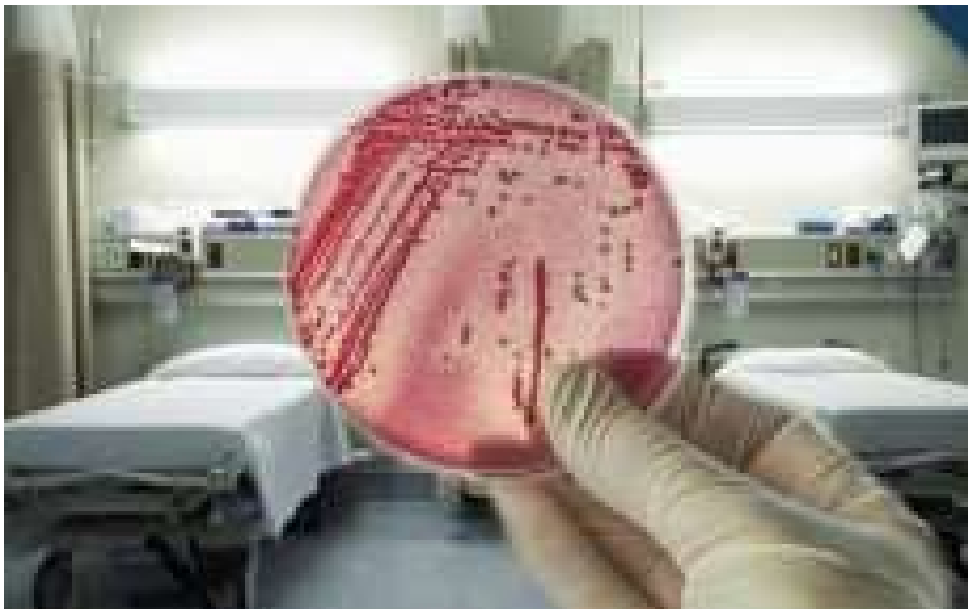




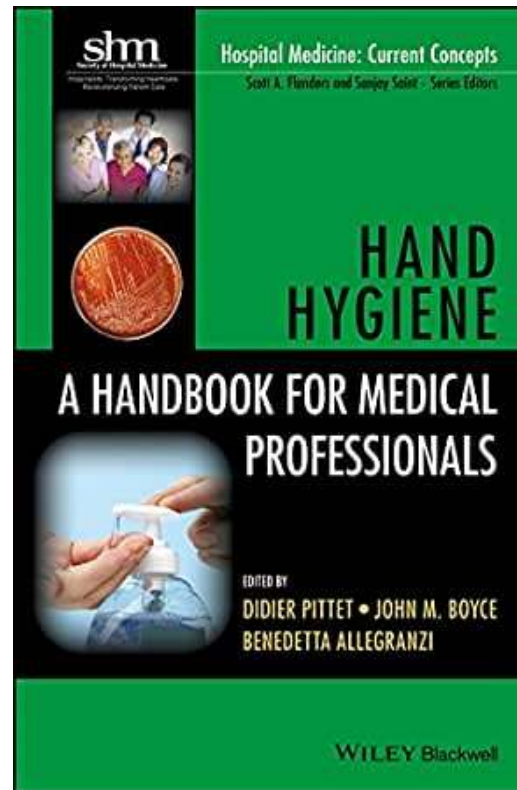
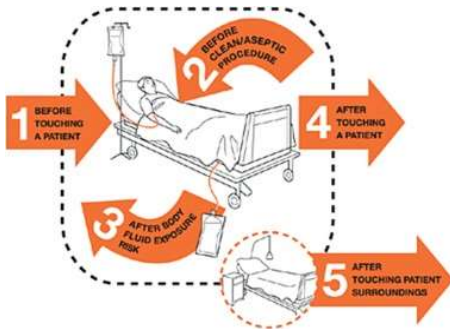
- Why do we need a day ?
- Why do we need to raise awareness ?
- What we did with hand hygiene previously, and the impact it had

Why do we need to raise awareness:

The healthcare environment's effect on healthcare-associated infections



25 Years of Hand Hygiene

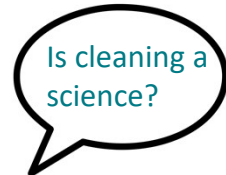


Pledges to combat health care-associated infections:

Saving millions of
lives every year



<https://www.who.int/infection-prevention/countries/hand-hygiene/statements/en/>



We asked our stakeholders their most urgent questions about healthcare environmental hygiene

Questions:

Q 1: Do cleaner hospitals really mean safer hospitals ?

Q 2: What is the difference between cleaning and disinfecting ?

Q 3: How is cleaning a hospital different than cleaning a hotel ?

Q 4: Does it make economic sense to invest in hospital cleaning programs ?

Q 5: How can cleaning be a science ?

Q 6: How do we make sure a surface is clean ?



Questions (cont.):

Q 7: Do air and water quality matter for controlling infections ?

Q 8: Is it better to outsource cleaners or train them in house ?

Q 9: What element of healthcare environmental hygiene should my institution invest in first ?

Q 10: How can hospitals save costs in environmental hygiene ?

Q 11: How can I improve team workflows between cleaners and nursing staff ?

Q 12: Any question ?

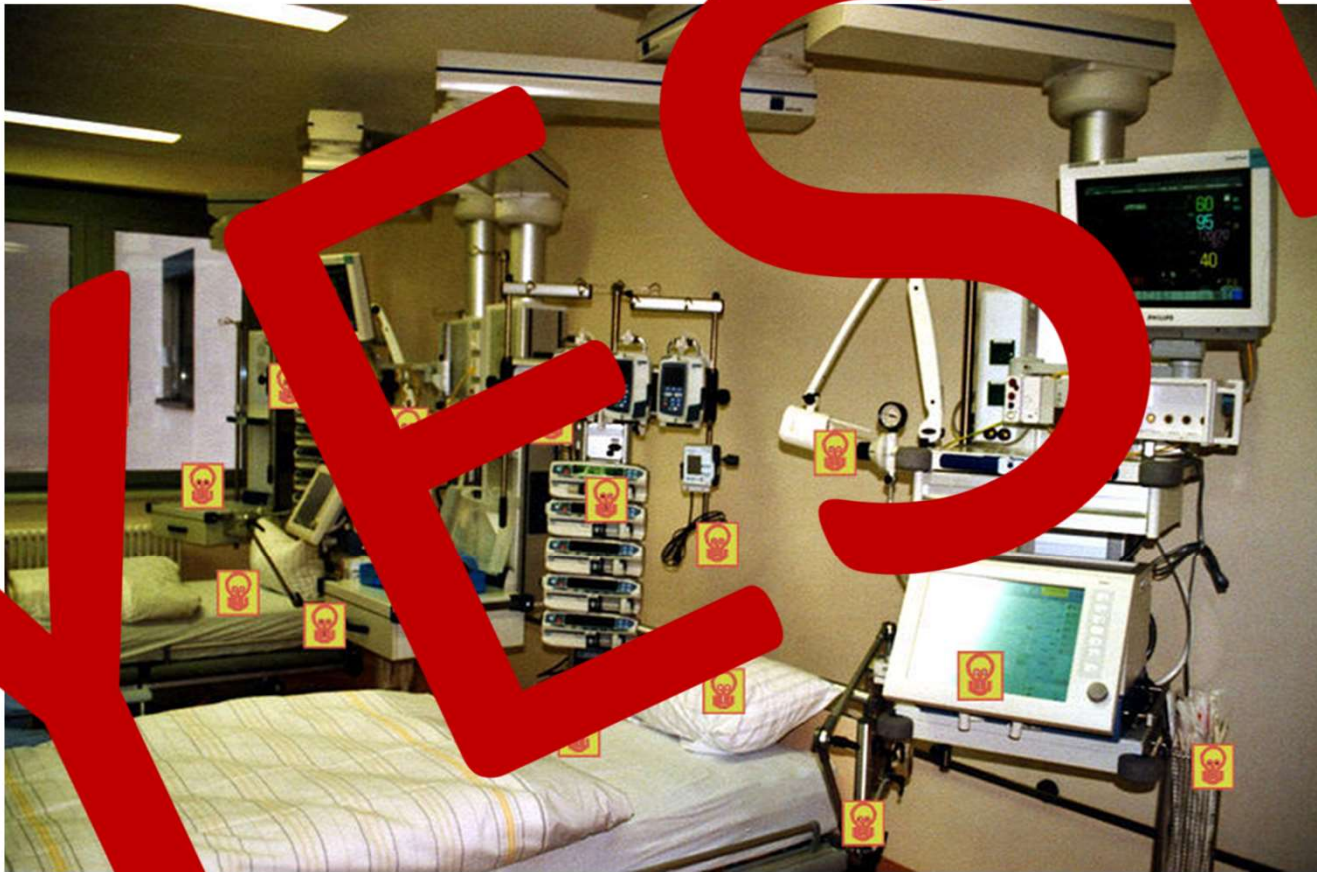


Q 1:
Do cleaner hospitals really mean safer hospitals?



Q 1:

Do cleaner hospitals really mean safer hospitals?

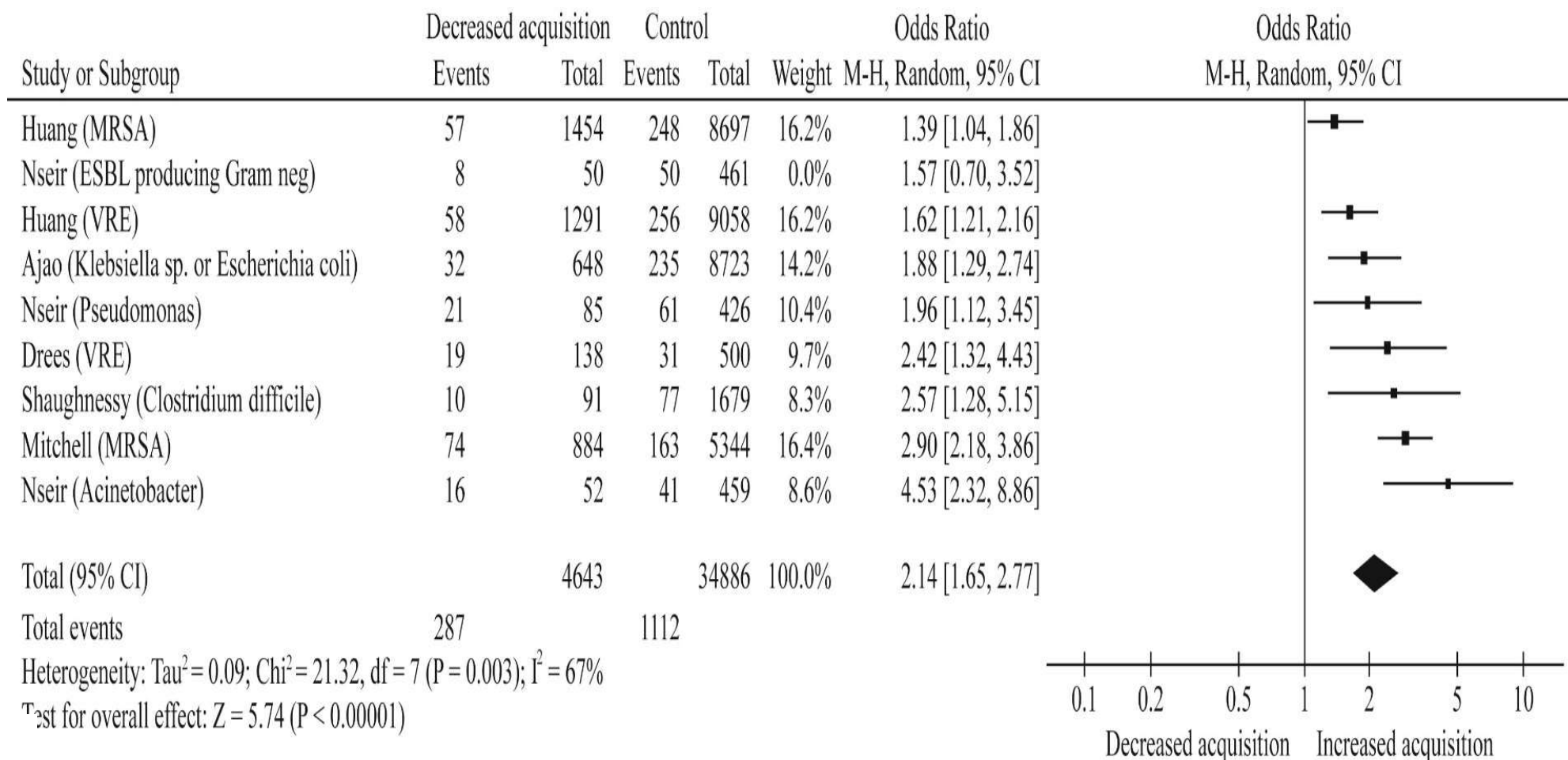


Survival times and infectious doses retrieved or extrapolated from published studies

Organism	Survival time	Infectious dose
Methicillin-resistant <i>Staphylococcus aureus</i>	7 days→7 mo	4 CFU
<i>Acinetobacter</i>	3 days→5 mo	250 CFU
<i>Clostridium difficile</i>	>5 mo	5 spores
Vancomycin-resistant <i>Enterococcus</i>	5 days→4 mo	$<10^3$ CFU
<i>Escherichia coli</i>	2 h–16 mo	10^2 – 10^5 CFU
<i>Klebsiella</i>	2 h→30 mo	10^2 CFU
Norovirus	8 h–7 days	<20 virions



Risk of acquisition from prior room occupants by organism



Mitchell, B. G., Dancer, S. J., Anderson, M. & Dehn, E. Risk of organism acquisition from prior room occupants: a systematic review and meta-analysis. *J. Hosp. Infect.* 91, 211–217 (2015).

Q 2:

What is the difference between cleaning and disinfecting?



Cleaning vs. Disinfecting

Both reduce microbial contamination, but there is a difference in the amount of reduction

Cleaning- the process of the physical removal dust and dirt (which also removes some microbes)

- Ex. with surfactants or scrubbing

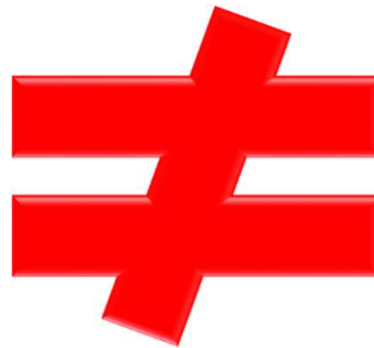
Disinfection- process of killing microbes through mechanical or chemical means

- Ex. with heat or alcohol



Q 3:

How is cleaning a hospital different than cleaning a hotel?



Why are hospitals different?

- Difference in vulnerability of population
- Difference in level of contamination from sick patients
- Pathogens in hospitals can differ from those in the community
- Difference in needed level of cleanliness (depending on zones)
- Range of specific environments
- Pathogen transmission patterns, host affinities, microbiological characteristics



Q 4:

Does it make economic sense to invest in hospital cleaning programs?



Why is it so difficult to figure out?

Costs of not cleaning can affect numerous budgets within a hospital

Need to look at both expenditures and averted expenditures

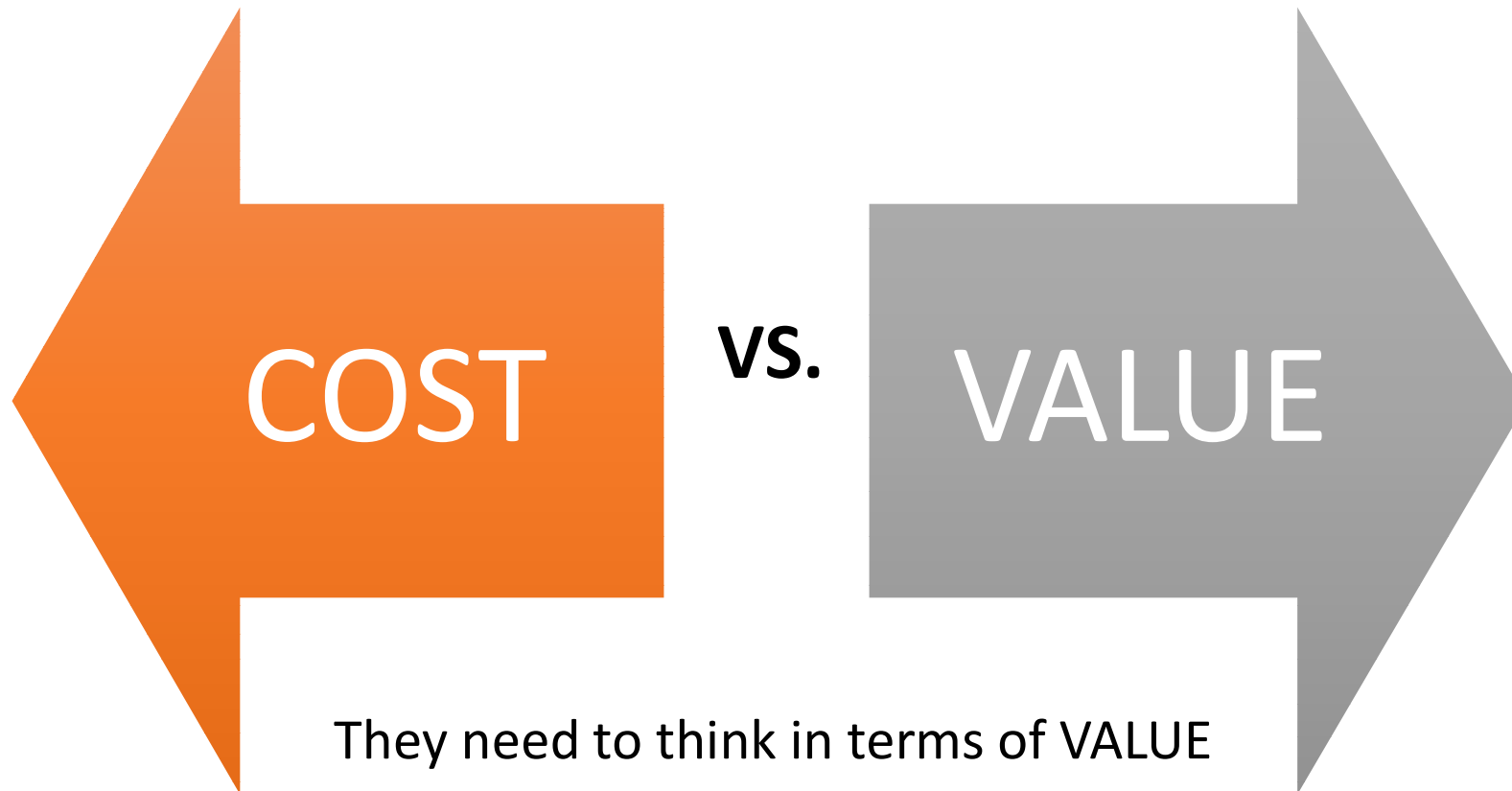
(including patient days, opportunity costs, staff time, missed surgical revenue, averted infections)



The cost of hospital cleaning and disinfection

23

Hospitals usually think of environmental hygiene in terms of COST



Return on Investment

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For Hand Hygiene return on investment is up to 23x...



How much is return on investment for hospital environmental hygiene?

Increased costs associated with antimicrobial resistance in healthcare-associated infections (some estimates over €85 trillion by 2050)

- A small outbreak with 40 individuals can cost over €1 million)

M Abbas et al. Conflicts of interest in infection prevention and control research. Intensive Care Med Press; 2108.

Pittet D, et al. Cost implications of successful hand hygiene promotion. Infect Control Hosp Epidemiol. 2004;25:264–266.

Graves Nicholas. Hand Hygiene. Hoboken, NJ, USA: John Wiley & Sons, Inc.; 2017. The Economic Impact of Improved Hand Hygiene; pp. 285–293.

Craig D, et al. Economic evaluations of interventions to prevent healthcare-associated infections literature review. 2017.

The real question is....

What is the cost of NOT cleaning?



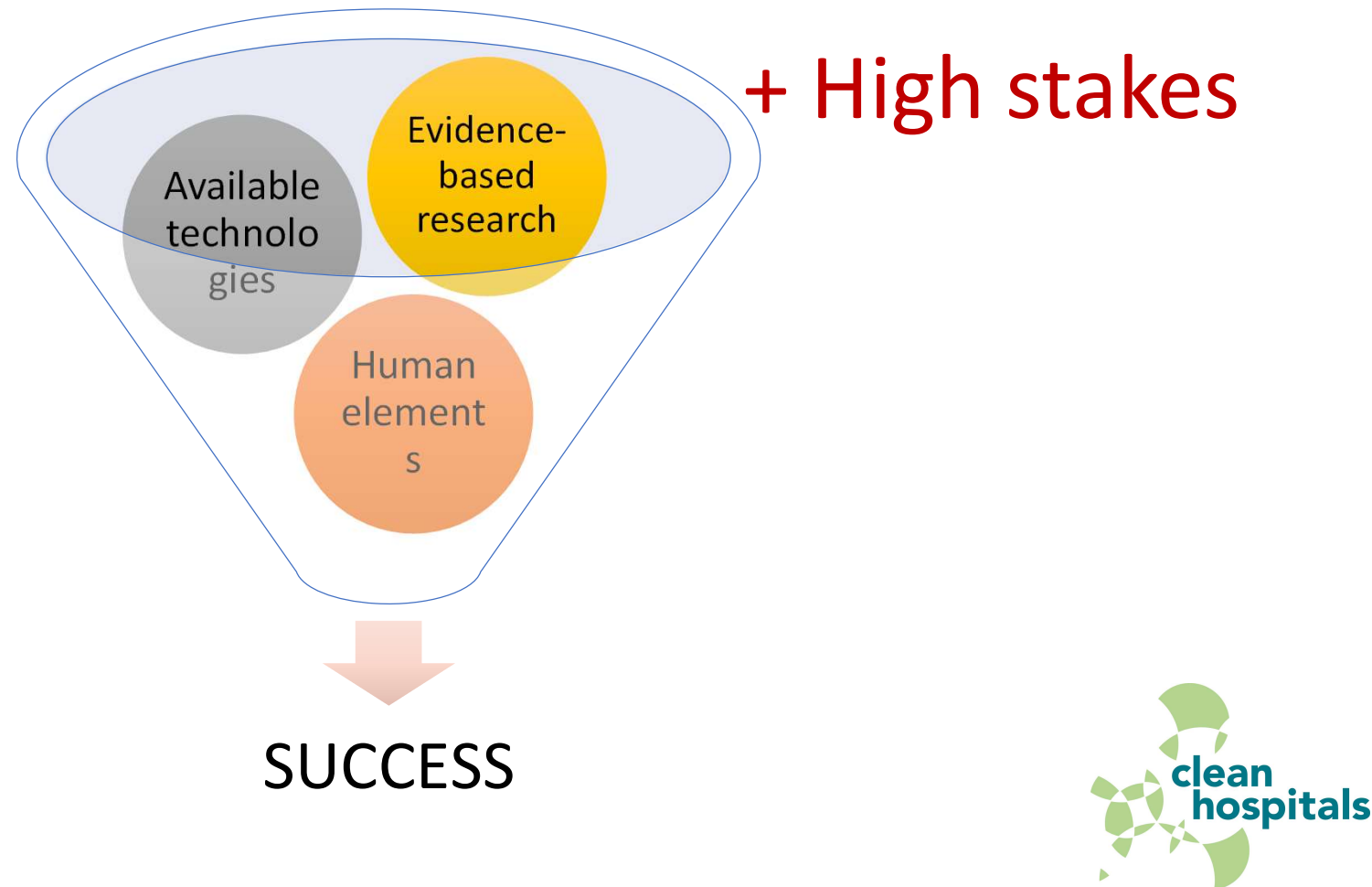
Investing in quality is worth it



Q 5:
How can cleaning be a science?



Environmental hygiene in healthcare is complex because:



Q 6:

How do we make sure a surface is clean?

First decide how clean you want that surface to be



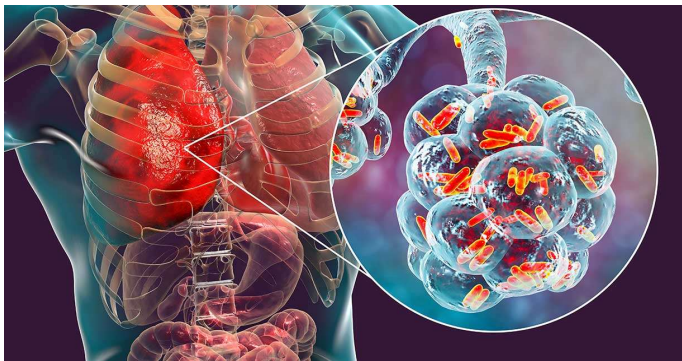
Ways of inspecting the healthcare environment

- Visual inspection
- Cultures
- Fluorescent markers
- ATP meters



Q 7:

Do air and water quality matter for controlling infections?



Air and water

Depends on:

- The microbe present and how it can be transmitted
 - Ex. tuberculosis or *Legionella spp.* disease
- The vulnerability of the patient
- The need of a particular environment
 - Ex. a patient room vs. an operating theater



Risk Zones at HUG

ZONE 1 – LOW Risk

Administrative rooms, entryways, hallways

ZONE 2 – MODERATE Risk

Patient rooms, daycare areas, laboratories

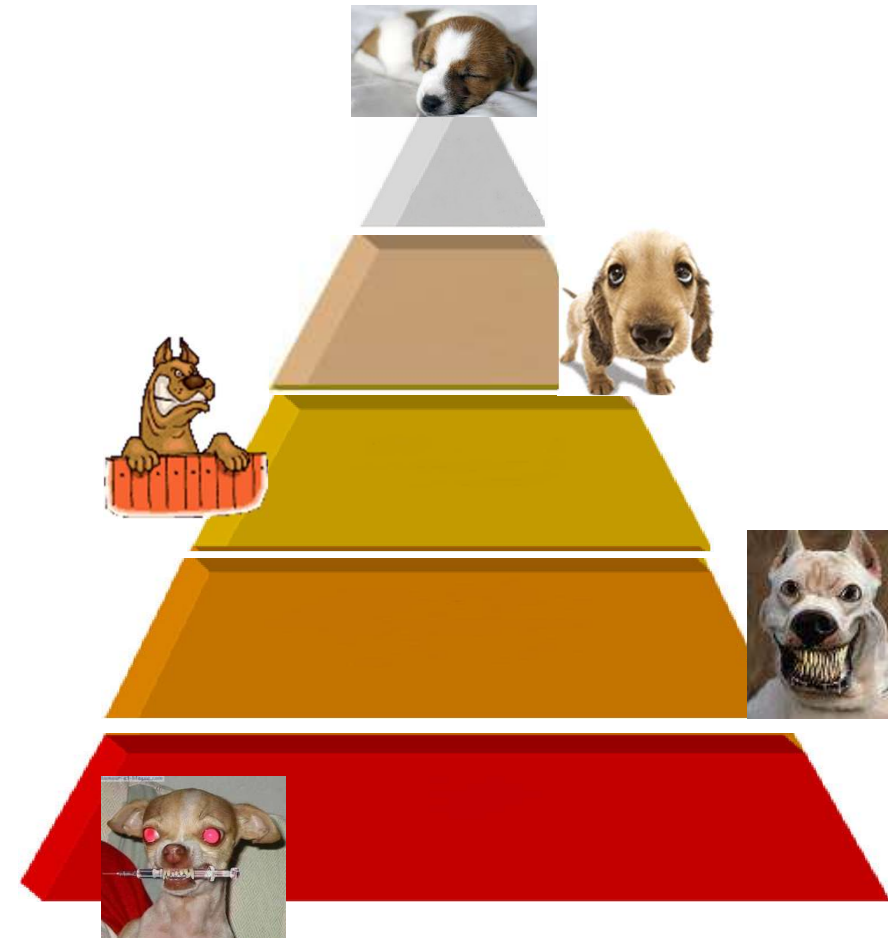
ZONE 3 – HIGH Risk

Intensive care rooms, post-anesthesia care unit

ZONE 4 – VERY HIGH Risk

Rooms of transplant patients, operating theaters

ZONE 5 – CLEAN-ROOMS



Q 8:

Is it better to outsource cleaners or train them in house?

Diapositive 33

AP6 Is it normal that this animation was separated and the others were not?
Alexandra Peters; 18/10/2020

Q 8:

Is it better to outsource cleaners or train them in house?

Trick question:



Q 8:

Is it better to outsource cleaners or train them in house?

Trick question:



A: You get what you pay for

Outsourcing vs. In-house

- Pros
 - Can cost less
 - More flexible workforce
 - Generally ok for non-critical areas
- Cons
 - Not your workforce
 - Little control over training
 - Issues with quality management

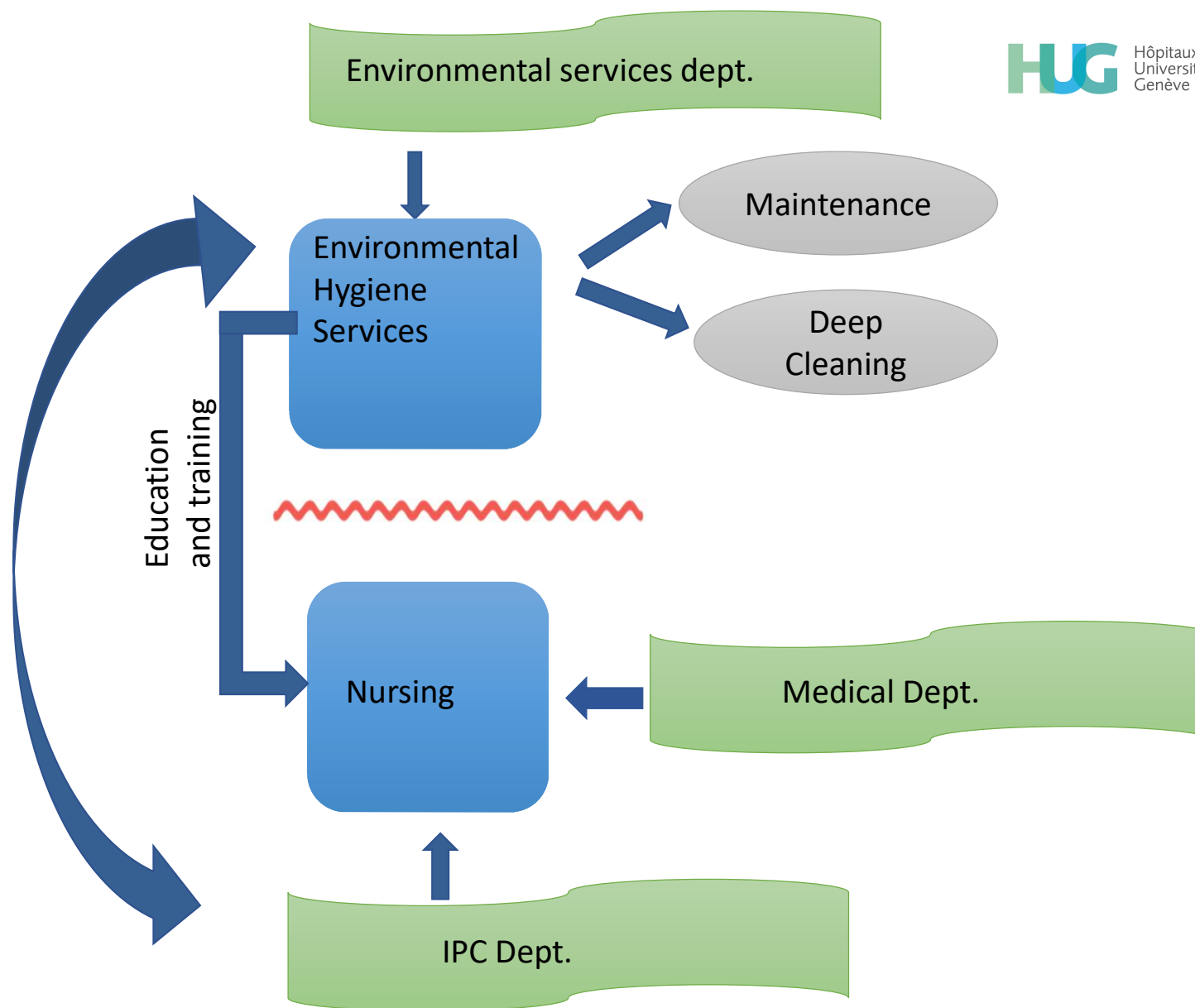


Q 9:
What element of
healthcare
environmental hygiene
should my institution
invest in first?



What should my institution invest in first?

- First training, and then good products
- A good cleaner can get better results with a simple detergent than spraying disinfectant on a soiled surface
- It is crucial the environmental services department work closely with infection prevention and control



Logistics of hospital cleaning



Q 10:

How can hospitals save costs in environmental hygiene?



Key Elements

- Decide which elements need which level of cleaning
- Calculate the cost/benefit of HEH in their institution
- Keep staff longer, educate and motivate them
- Decide when fancy/high-tech machinery is necessary or not

Q 11:

How can I improve team workflows between cleaners and nursing staff?

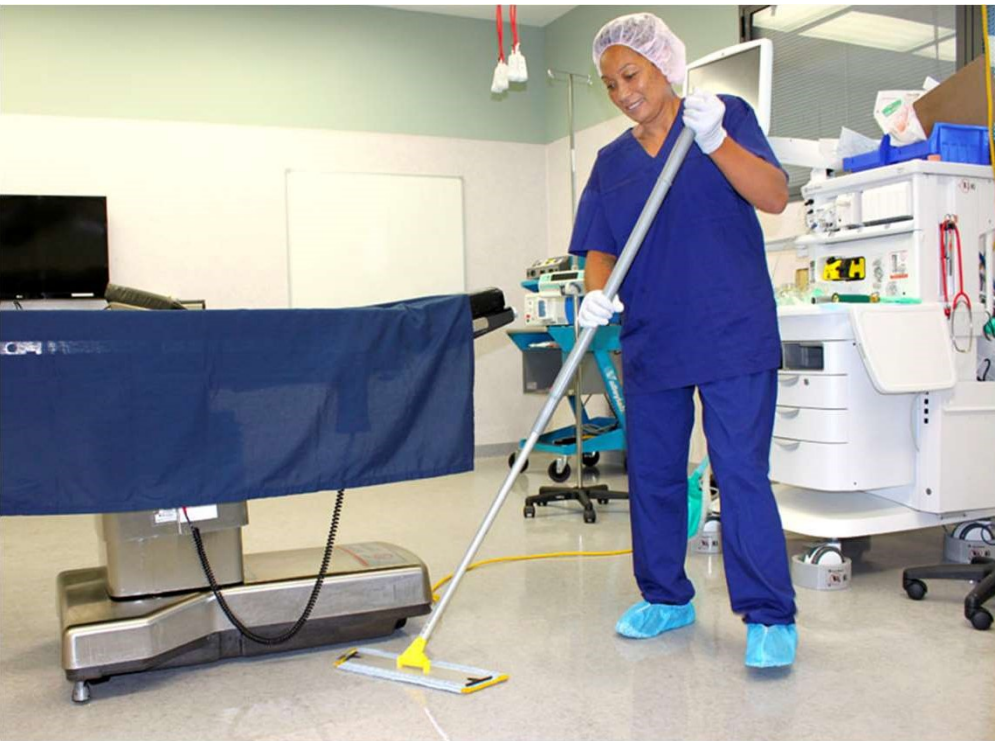


*Everyone needs to know their job, and everyone is crucial to the outcome.
Social identities can be fostered by the institution*

Who does what?



Optimizing HEH personnel performance



- Good education
- Clear protocols
- Direct communication
- Quality control
- Constructive feedback
- A humanistic approach

*Important to remember that this is a stressful time for everyone, especially essential HCWs
Be sensitive to the concerns of stressed populations
Team cohesion and empowerment is more important than ever*

Q 12:

Any more questions ?



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Thanks to our Clean Hospitals Members and Partners

Members



Collaborating Partners



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www.webbertraining.com/schedulep1.php

October 22, 2020	<u>PREVENTING THE TRANSMISSION OF COVID-19 IN THE HOME</u> Speaker: Mary McGoldrick , Home Health Systems, Inc.
October 22, 2020	<i>(Postponed to 2021)</i> <u>DISCOVERING AND TRANSFORMING THE INNER ICP</u> <u>EDUCATOR: EXPLORING CORE ELEMENTS OF AN INNOVATIVE</u> <u>PROFESSIONAL'S EXPERIENCE</u> Speaker: Dr. Gwyneth Meyers , Alberta Health Services
October 29, 2020	<i>(FREE Teleclass)</i> <u>CLEANING UP AFTER RODENTS IN HEALTHCARE SETTINGS</u> Speaker: Dr. Marcia Anderson , Environmental Protection Agency
November 5, 2020	<u>INFECTION PREVENTION AND CONTROL IN HOME HEALTHCARE - FINDINGS</u> <u>FROM TWO LARGE MULTI-METHOD STUDIES</u> Speaker: Prof. Jingling Shang , Columbia University
November 12, 2020	<u>INFLUENZA DIAGNOSIS, TRANSMISSION AND CONTROL IN AN EVERYDAY</u> <u>HOSPITAL SETTING</u> Speaker: Dr. William W. Thompson , University of Michigan

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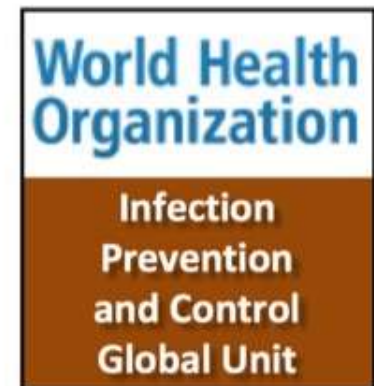
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