



Interclean
**Healthcare
Cleaning
Forum**

Back to basics- Behaviour change and why it's important to remember that we can do a lot with a little

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BACK TO BASICS

BEHAVIOUR CHANGE AND WHY IT'S
IMPORTANT TO REMEMBER THAT WE
CAN DO A LOT WITH A LITTLE

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Podcast: www.infectioncontrolmatters.com

Declaration

- I have no financial declaration to make
- Co-host of the 'Infection Control Matters' podcast
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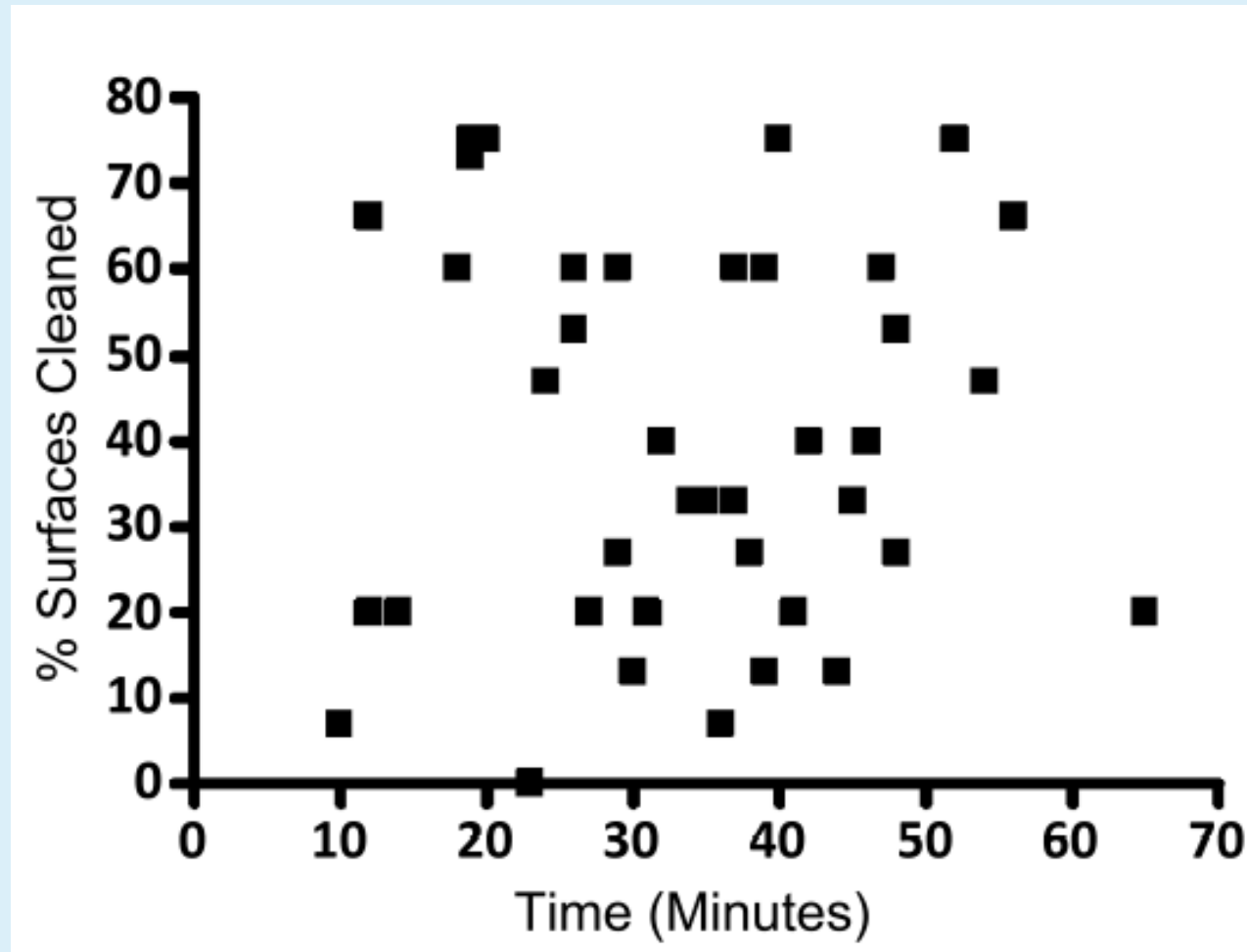
Risk to the next occupant of a room

- Systematic review estimated OR as 2.7 (95%CI 2.05-3.6)
 - Mitchell BG, et al. Infect Dis Health 2023;28(4):290-7.
<https://doi.org/10.1016/j.idh.2023.06.001>.
- If admitted to a room previously occupied by a CDI patient 27% increased odds within 90 days and 40% within 1yr after controlling for previous admission and LOS
 - Sood G, et al. Am J Infect Control 2022.
[doi:10.1016/j.ajic.2022.02.006](https://doi.org/10.1016/j.ajic.2022.02.006)



Time spent cleaning does not indicate thoroughness

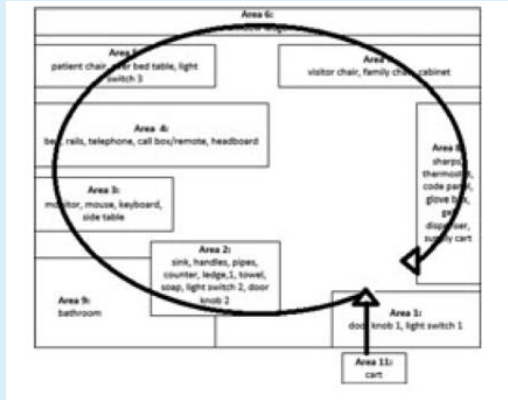
Rupp ME, Adler A et al, ICHE 34(1) 100-2 (2013)



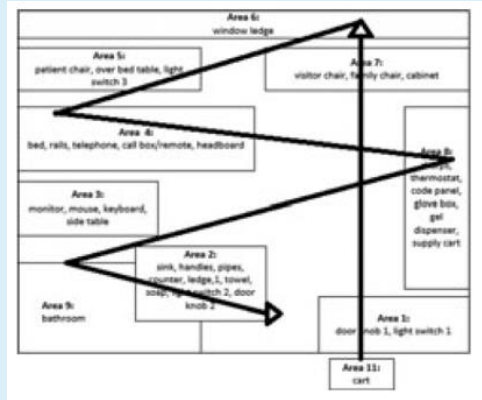
Identifying factors that influence cleaning

- Observational study to assess performance of daily room cleaning
 - Median time to clean a room was 14 minutes
 - Median % of surfaces cleaned was 69%
- High-touch surfaces that were frequently missed during daily cleaning included bedrails, telephone, patient and visitor chairs, and cabinet
- System factors that could influence cleaning performance included
 - type of unit
 - presence of patient and family members in the room
 - cleaning patterns and orders of cleaners
 - interruptions while cleaning (56% of observations)
 - Xie A, C Rock, et al. 2018 *IIE Transactions on Occupational Ergonomics and Human Factors*, 6: 178-91

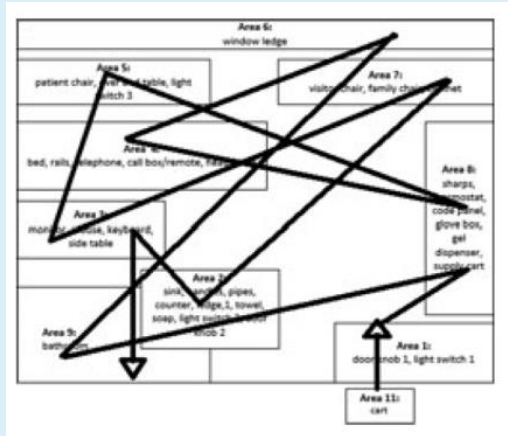
CLEANING PATTERNS



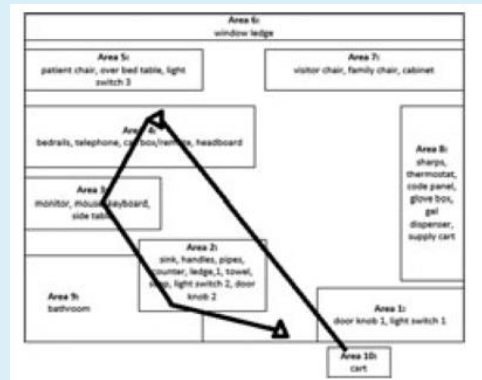
Clockwise or anticlockwise
31%



Horizontal or Vertical
42%



Random
17%



Local
10%

Bathrooms: 14% were cleaned first, 11% in the middle, and 72% last

EVEN THE STAFF THEMSELVES ARE NOT CONSISTENT

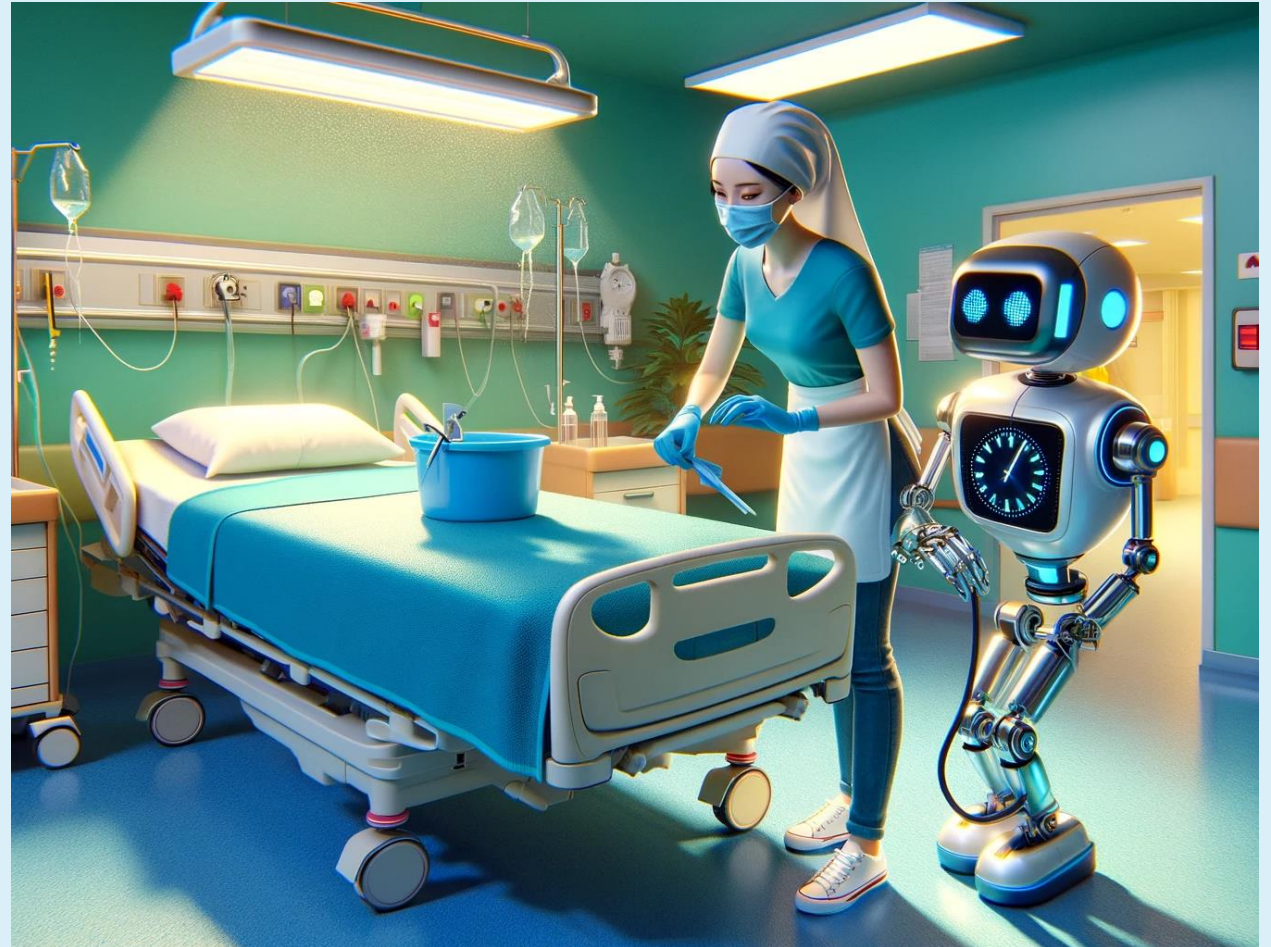
EVC associate	Number of rooms cleaned	Main room cleaning patterns ^a				Bathroom cleaning orders			
		C/CC, <i>n</i> (%)	H/V, <i>n</i> (%)	Random, <i>n</i> (%)	Local, <i>n</i> (%)	First, <i>n</i> (%)	Middle, <i>n</i> (%)	Last, <i>n</i> (%)	Not cleaned, <i>n</i> (%)
1	9	3 (33)	2 (22)	1 (12)	3 (33)	0 (0)	3 (33)	6 (67)	0 (0)
2	8	7 (88)	0 (0)	0 (0)	1 (12)	0 (0)	0 (0)	8 (100)	0 (0)
3	8	5 (63)	2 (25)	1 (12)	0 (0)	7 (88)	0 (0)	1 (12)	0 (0)
4	10	1 (10)	5 (50)	4 (40)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)
5	11	1 (9)	8 (73)	2 (18)	0 (0)	0 (0)	0 (0)	9 (82)	2 (18)
6	13	2 (15)	7 (54)	4 (31)	0 (0)	4 (31)	4 (31)	5 (38)	0 (0)
7	10	4 (40)	3 (30)	0 (0)	3 (30)	0 (0)	2 (20)	8 (80)	0 (0)
8	5	0 (0)	5 (100)	0 (0)	0 (0)	0 (0)	0 (0)	5 (100)	0 (0)
9	5	2 (40)	1 (20)	2 (40)	0 (0)	0 (0)	1 (20)	4 (80)	0 (0)
10	10	3 (30)	4 (40)	1 (10)	2 (20)	1 (10)	0 (0)	8 (80)	1 (10)
Total	89	28 (31)	37 (42)	15 (17)	9 (10)	12 (13)	10 (11)	64 (72)	3 (4)

^aC/CC: clockwise or counter-clockwise; H/V: horizontal or vertical.

Behaviour change in the Infection Prevention World

- If you can choose between education and influencing human behaviour and the introduction of a gizmo, go for the gizmo every time

Bob Weinstein



Risk to the next occupant of a bed

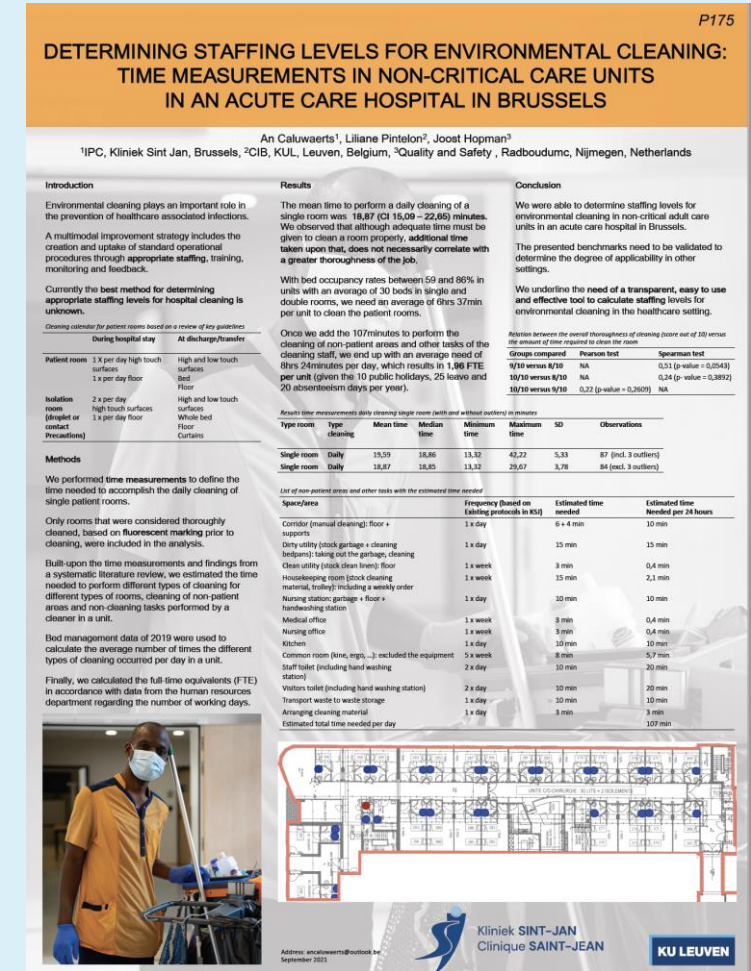
- Patients as being exposed to a potentially "contaminated" bed if, within the preceding 7 days from their HO-CDI diagnosis, they resided in a bed that held an occupant with *C. difficile* in the previous 90 days
 - Beds tracked with RFID stickers; cleaned with BruTab (Sodium dichloro-s-triazinetriene (NaDCC))
 - 4306ppm/4 minute or 2153ppm/10 minute minimum contact time
 - Exposure to a contaminated bed associated with HO-CDI in unadjusted analyses (OR 1.8; 95% CI 1.4-2.31)
 - Witt LS, et al The role of the hospital bed in hospital-onset *Clostridioides difficile*: A retrospective study with mediation analysis. *Infect Control Hosp Epidemiol* 2023;1-5. <https://doi.org/10.1017/ice.2023.254>.





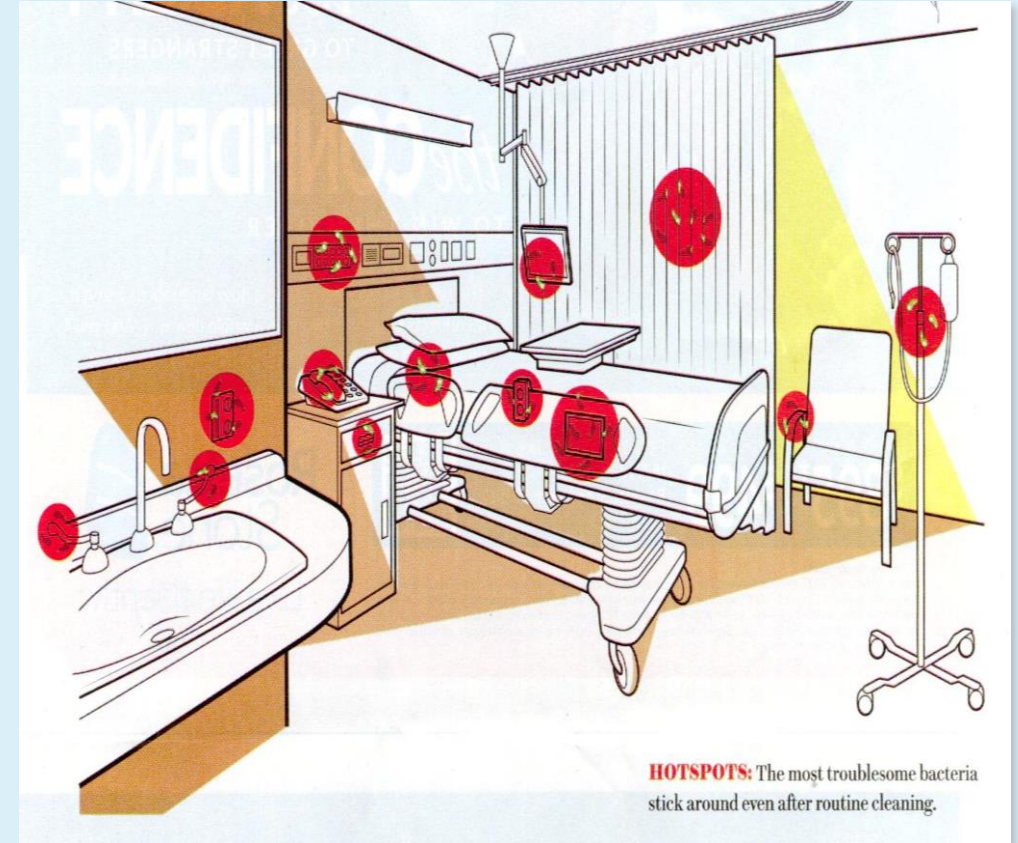
How much time do we need?

- IPCN asked by the management
- 30 beds, occupancy 59-86%
- Used UV dots to determine thoroughness (80%)
- Used mean time to achieve this (19 minutes)
- Calculated WTE required to clean at this level
 - 2 WTE per unit (Previously 1)
- “Over to you”
- Caluwaerts, A et al, (2021) ARIC 10(1): P175



Decontamination of areas where transmission could occur

- Most authorities agree that high touch surfaces are significant and should be decontaminated more frequently
- What are they and who causes contamination?
- Where are the published studies done?
 - ICU
 - Operating theatre



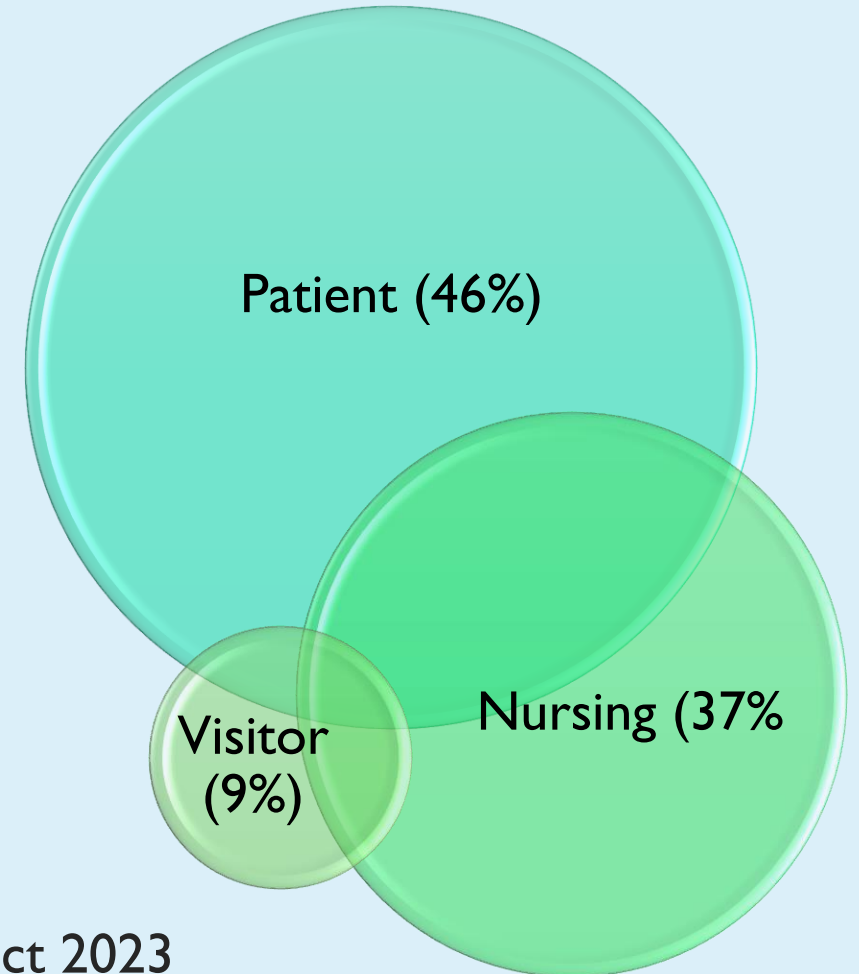
Who contaminates surfaces?

- Evaluation of MRSA contamination relating to patient activity
- At baseline, 30% of hands and 20% of high-touch surfaces positive for MRSA
 - At each follow-up, 27% of patient hands, and 6% of environmental sites were positive
- Patient activity explained 70% of environmental contaminations
 - Wolfensberger, A., et al., Understanding short-term transmission dynamics of methicillin-resistant *Staphylococcus aureus* in the patient room. *Infect Control Hosp Epidemiol*, 2022. 43(9): p. 1147-1154.

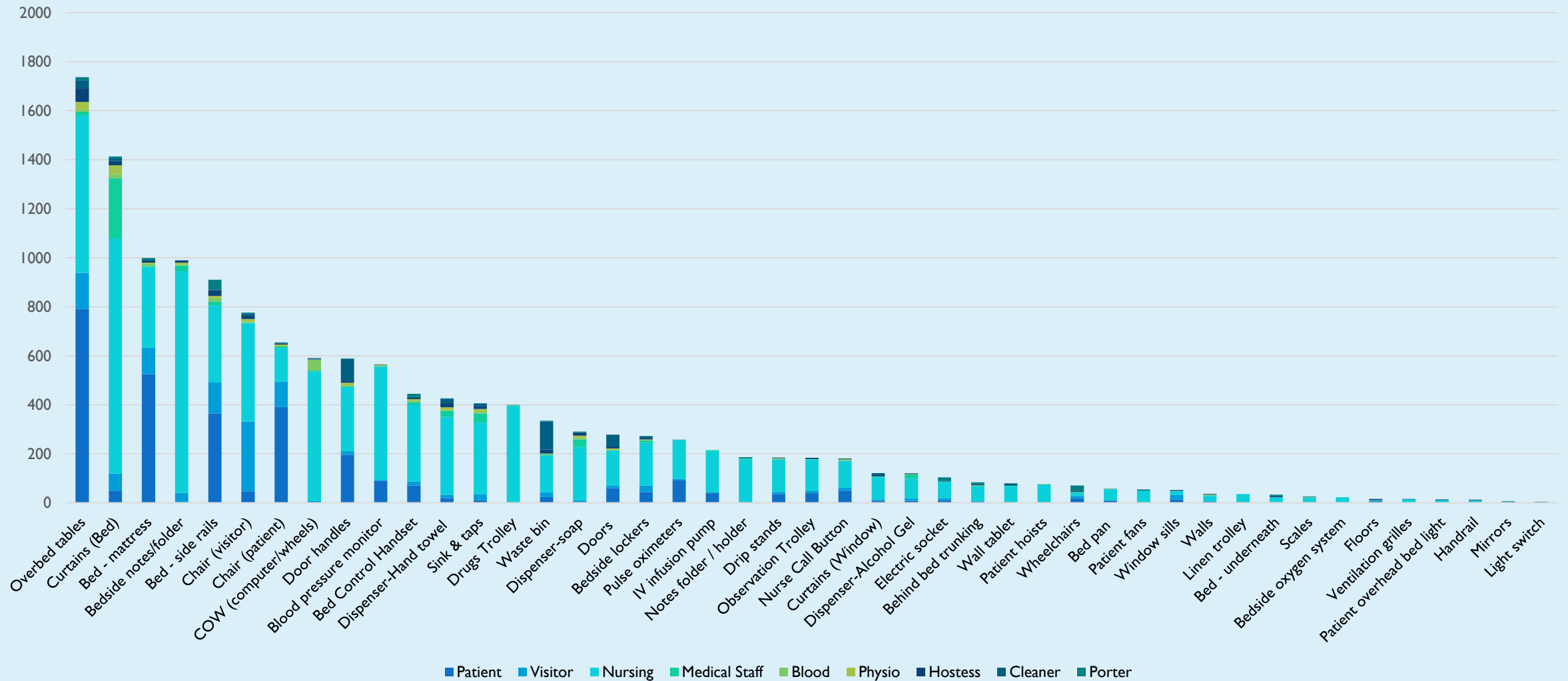


Multi-occupancy Bay Most Touched Item Overbed Table

- Touched by
 - Patients
 - Nurses
 - Visitors
 - Hostesses
 - Physical therapists
 - Environmental service workers
 - Doctors
 - Porters
- Sellers, S. et al. Abstract, IPS Conference Liverpool, Oct 2023



Frequently touched elements by all roles



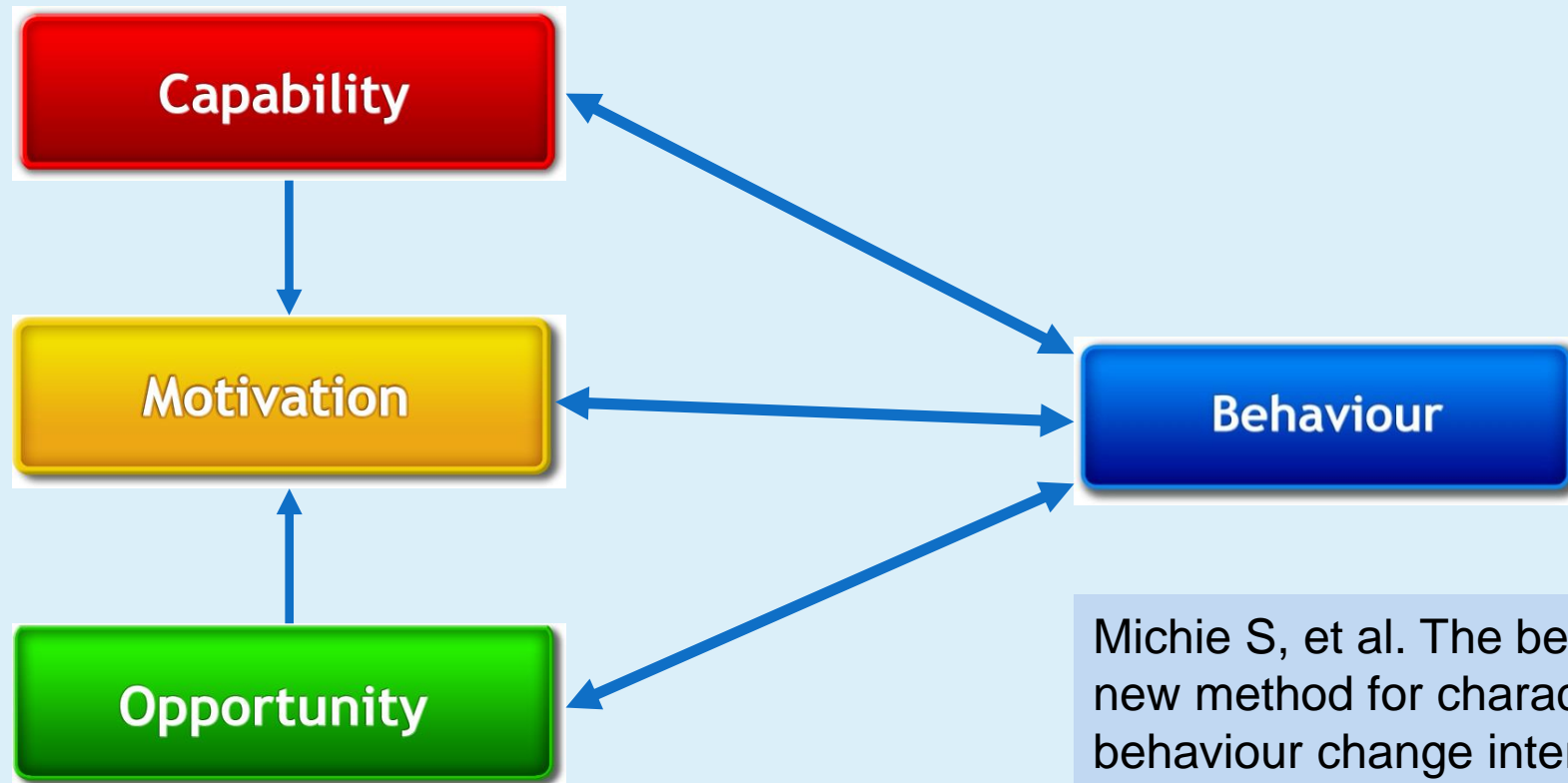
What affects how well people clean?

- Training, resources and time
- But how do we affect the human elements?
 - Motivation
 - Human behaviour
 - Education (in addition to training)
 - Training = How
 - Education = Why



The COM-B System

Behaviour occurs as an interaction between three necessary conditions



Michie S, et al. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implement Sci.* 2011;6:42
<https://www.ncbi.nlm.nih.gov/pubmed/21513547>

Motivation and Job Satisfaction

- Qualitative study, interviewing NHS ward cleaning staff
- None had access to the hospital intranet despite this being the primary mode of communication (including training)
- Aspirations for their future were minimal
 - While those with higher qualifications believed they had the potential to do more, most saw their future limited by doing the same job
 - Jeanes et al (2012) Journal of Infection Prevention 13(2) 55-64



Motivation and Job Satisfaction

Jeanes et al (2012) Journal of Infection Prevention 13(2) 55-64

- All reported that they were clear about what was expected of them in their job, but objective and immediate feedback of performance was largely absent
 - Ward staff would speak to the supervisor or manager and not directly to them
- Ward staff did not understand many of the problems they encountered and did not give them an opportunity to explain or discuss the issues



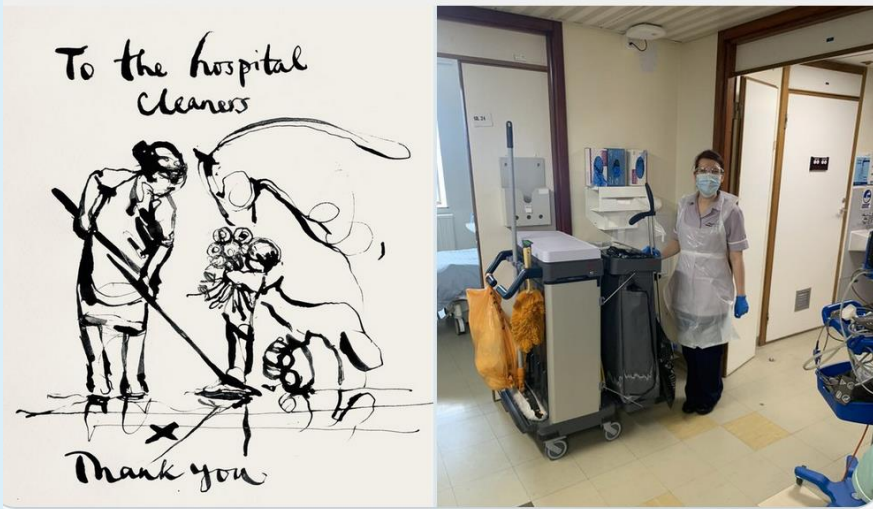
We could do worse than talk to each other

 **Sophie F-T** ❤️ @SophieNHSRN · Mar 26

Today I shadowed two incredible members of @gloshospitals domestic team on 3A. Early & Jane showed me what equipment to use & how to use it. It was totally eye opening and I'm in awe of how dedicated they are

They have such a massive role to play in patient safety & experience.

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Sophie F-T ❤️ @SophieNHSRN · Mar 26

...

Replying to @SophieNHSRN

From an #IPCN point of view, it was interesting to see how challenging some older items of equipment/facilities are to clean!

I was able to take some time to really view patient spaces and it's given me loads to think about. I look forward to doing it again 🤗

Thank you 😊

Opinions of Cleaning Staff

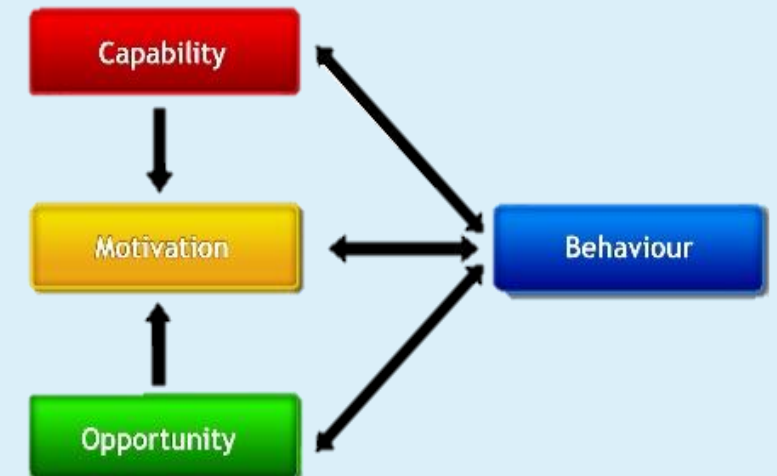
- Only 10% correctly answered a question about what pathogen is commonly spread by contaminated environmental surfaces
 - But 54% felt that they had received 'more than enough' education on the importance of environmental cleaning
 - Was the quality of the training evaluated? We do not do this well
- Barriers
 - Communication, time, supplies
- 87% willing to participate in a performance feedback programme
 - Jennings, A., et al (2013) Am J Infect Control. 41(2) 177-9

Attitudes of Cleaning Staff

- Qualitative data show intent to do a good job but staff perceive little behavioural control
 - Matlow, A. G. et al (2012). Am J Infect Control 40(3): 260-262
- Themes included
 - "me versus them"
 - "Who knows when you do a good job? Supervisors know, but they don't say anything, just blame you for [work] not done"
 - pride in work
 - "if it were me"; "if it was your child, a proper job was done before occupying the bed"
- Positive feedback might lessen frustration and in turn reduce perceived helplessness

Do the people you are trying to influence?

- Know about the behaviour, and understand why it is important for them and how to do it (C)
- Have the psychological and physical make-up needed for the behaviour (C)
- Have the time and financial and material resources to enact the behaviour (O)
- Have the social or material support required (O)
- See the behaviour as normal and commonplace (M)
- Have the willingness to prioritise the behaviour and/or can they be led to enact the behaviour without thinking (M)



Cleaning is important, however..

- It is carried out either by
 - Poorly paid staff of low status in the organisation that have had some training in cleaning
or
 - Well-paid professional staff (nurses, allied health professionals) of higher status that have had no training in how to clean, no education on why this matters and therefore do not do it
- Recent work (the CLEEN study) presented at ECCMID has shown that if you clean equipment that should be cleaned in between each patient just once per day you get a 34% reduction in infections
 - Mitchell, B.G. et al, Late breaker oral papers, ESCMID Global, Barcelona, 2024

What could be done?

- Better education to help the staff understand why they need to do what they have been trained to do in the way that they have been trained
- Feedback on performance that is delivered in a way that makes people want to do better and not be defensive
 - Maybe consider giving them some information about the ward infection rates
- Consider structuring the skills and competence of the staff to the area they are working and value them accordingly
 - Could working in different areas of the hospital drive aspiration?
- Valuing the staff who do the cleaning and showing them this

