



6. Erfahrungsaustausch Aktion Saubere Hände Ziele, Ausblick

Dr. Christiane Reichardt

Karin Bunte-Schönberger, Janine Walter MSc

Dr. Michael Behnke, Dr. Frank Schwab

Prof. Dr. Petra Gastmeier



- Sicherstellung Finanzierung
- Einführung des Themas „MRE und Händedesinfektion“ zum Aktionstag 5.5.2015
- Verbesserte Akzeptanz im nicht-stationären Bereich
- Implementierung der ASH-Parameter in bestehende Zertifizierungen
- Evtl. Zertifikat für APH und Ambulant
- Evtl. Umfragen an die Teilnehmer der ASH zur Umsetzungsqualität, Materialiennutzung etc.



Aktion Saubere Hände Krankenhäuser

HD und MRE

Keine Chance den Krankenhausinfektionen

It takes just 5 Moments to change the world

Clean your hands, stop the spread of drug-resistant germs!

1 BEFORE TOUCHING A PATIENT

2 BEFORE CLEAN/ASEPTIC PROCEDURE

3 AFTER BODY FLUID EXPOSURE RISK

4 AFTER TOUCHING A PATIENT

5 AFTER TOUCHING PATIENT SURROUNDINGS

World Health Organization

SAVE LIVES
Clean Your Hands

No Action Today
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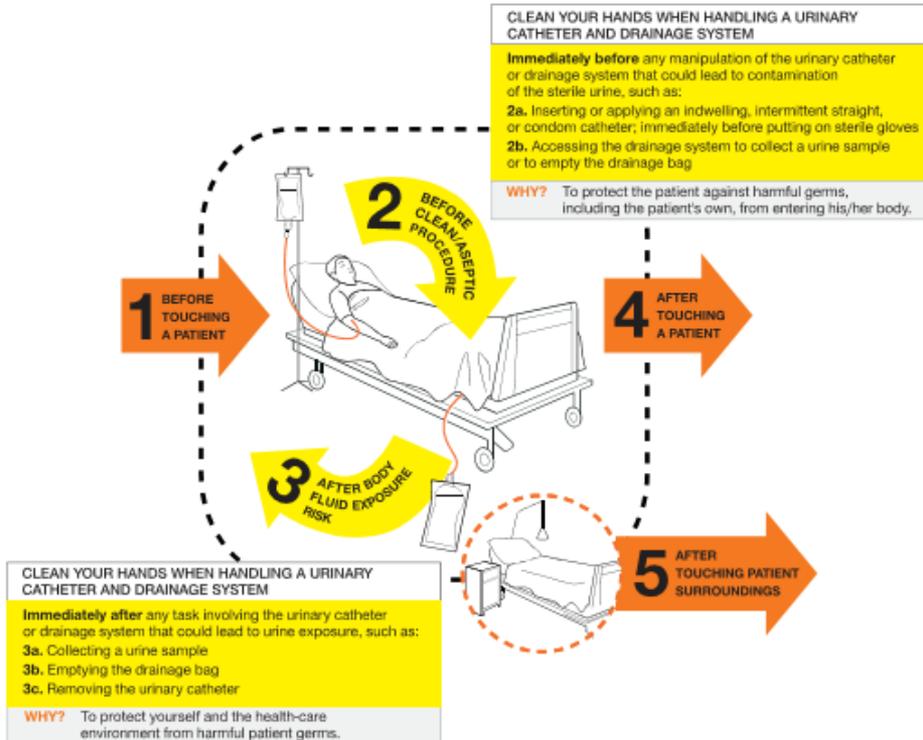
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My 5 Moments for Hand Hygiene

Focus on caring for a patient with a Urinary Catheter

HD und MRE

Keine Chance den Krankenhausinfektionen



5 KEY ADDITIONAL CONSIDERATIONS FOR A PATIENT WITH A URINARY CATHETER

- Make sure that there is an appropriate indication for the indwelling urinary catheter.
- Use a closed urinary drainage system, and keep it closed.
- Insert the catheter aseptically using sterile gloves.
- Assess the patient at least daily to determine whether the catheter is still necessary.
- Patients with indwelling urinary catheters do not need antibiotics (including for asymptomatic bacteriuria), unless they have a documented infection.



- Sockelfinanzierung durch Industrie bis 2016
- ASH kein Zertifizierungsunternehmen-zukünftig
Implementierung des ASH-Zertifikats in bestehende
Systeme wie KTQ?
- Inhaltliche Arbeit weiter im Vordergrund
- Einbinden der Inhalte in weitere Themenfelder wie:
MRE, Prävention NI etc.
- Strategien zur Einbindung von Ärzten, v.a. leitende
Ebene!!

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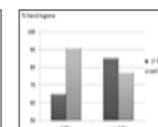
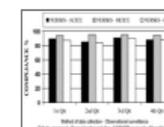
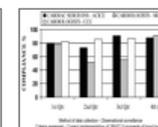
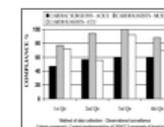
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Squires et al. *Implementation Science* 2013, **8**:16
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STUDY PROTOCOL

Open Access

Improving physician hand hygiene compliance using behavioural theories: a study protocol

Janet E Squires^{1,2*}, Kathryn N Suh^{3,4}, Stefanie Linklater¹, Natalie Bruce⁴, Kathleen Gartke⁵, Ian D Graham^{1,2}, Alan Karovitch³, Joanne Read⁶, Virginia Roth^{3,4}, Karen Stockton⁴, Emma Tibbo⁷, Kent Woodhall⁸, Jim Worthington⁹ and Jeremy M Grimshaw^{1,3}

Abstract

Background: Healthcare-associated infections affect 10% of patients in Canadian acute-care hospitals and are significant and preventable causes of morbidity and mortality among hospitalized patients. Hand hygiene is among the simplest and most effective preventive measures to reduce these infections. However, compliance with hand hygiene among healthcare workers, specifically among physicians, is consistently suboptimal. We aim to first identify the barriers and enablers to physician hand hygiene compliance, and then to develop and pilot a theory-based knowledge translation intervention to increase physicians' compliance with best hand hygiene practice.

Design: The study consists of three phases. In Phase 1, we will identify barriers and enablers to hand hygiene compliance by physicians. This will include: key informant interviews with physicians and residents using a structured interview guide, informed by the Theoretical Domains Framework; nonparticipant observation of physician/resident hand hygiene audit sessions; and focus groups with hand hygiene experts. In Phase 2, we will conduct intervention mapping to develop a theory-based knowledge translation intervention to improve physician hand hygiene compliance. Finally, in Phase 3, we will pilot the knowledge translation intervention in four patient care units.

Discussion: In this study, we will use a behavioural theory approach to obtain a better understanding of the barriers and enablers to physician hand hygiene compliance. This will provide a comprehensive framework on which to develop knowledge translation interventions that may be more successful in improving hand hygiene practice. Upon completion of this study, we will refine the piloted knowledge translation intervention so it can be tested in a multi-site cluster randomized controlled trial.



INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY MARCH 2014, VOL. 35, NO. 3

ORIGINAL ARTICLE

Rate of Healthcare Worker–Patient Interaction and Hand Hygiene Opportunities in an Acute Care Setting

Laura Goodliffe, MPH;^{1,2,a} Kelsey Ragan, MPH;^{2,a} Michael Larocque, BSc;² Emily Borgundvaag;² Sophia Khan;²
Christine Moore, BSc;² Liz McCreight, CIC;² Brenda L. Coleman, PhD;^{1,3} Allison J. McGeer, MD;^{1,2}
for the Mount Sinai Infection Control Team

OBJECTIVE. Identify factors affecting the rate of hand hygiene opportunities in an acute care hospital.

DESIGN. Prospective observational study.

SETTING. Medical and surgical in-patient units, medical-surgical intensive care unit (MSICU), neonatal intensive care unit (NICU), and emergency department (ED) of an academic acute care hospital from May to August, 2012.

PARTICIPANTS. Healthcare workers.

METHODS. One-hour patient-based observations measured patient interactions and hand hygiene opportunities as defined by the “Four Moments for Hand Hygiene.” Rates of patient interactions and hand hygiene opportunities per patient-hour were calculated, examining variation by room type, healthcare worker type, and time of day.

RESULTS. During 257 hours of observation, 948 healthcare worker–patient interactions and 1,605 hand hygiene opportunities were identified. Moments 1, 2, 3, and 4 comprised 42%, 10%, 9%, and 39% of hand hygiene opportunities. Nurses contributed 77% of opportunities, physicians contributed 8%, other healthcare workers contributed 11%, and housekeeping contributed 4%. The mean rate of hand hygiene opportunities per patient-hour was 4.2 for surgical units, 4.5 for medical units, 5.2 for ED, 10.4 for NICU, and 13.2 for MSICU ($P < .001$). In non-ICU settings, rates of hand hygiene opportunities decreased over the course of the day. Patients with transmission-based precautions had approximately half as many interactions (rate ratio [RR], 0.55 [95% confidence interval (CI), 0.37–0.80]) and hand hygiene opportunities per hour (RR, 0.47 [95% CI, 0.29–0.77]) as did patients without precautions.

CONCLUSIONS. Measuring hand hygiene opportunities across clinical settings lays the groundwork for product use–based hand hygiene measurement. Additional work is needed to assess factors affecting rates in other hospitals and health care settings.

Infect Control Hosp Epidemiol 2014;35(3):225-230



- 1 interdisziplinäre und 1 neonatologische Intensivstation, 4 internistische und 4 chirurgische Stationen, Notaufnahme
- 257 Stunden beobachtet
- 948 Patient-Mitarbeiter Interaktionen
- 1605 HDG's
 - 77% aller Kontakte durch Pflegepersonal, Ärzte 8%, Andere 11%, Reinigungspersonal 4%
 - Beobachtung 4 Moments: 42% vor PK, 10% vor asept. T., 9% nach inf. Mat., 39% nach PK



Anzahl der Beobachtungen und Interaktionen pro Stationsart

MEASURING HAND HYGIENE OPPORTUNITIES IN ACUTE CARE 227

TABLE 1. Distribution Observations and Characteristics of Patient Interactions by Type of Acute Care Hospital Unit, Toronto, Canada, 2012

Variable	Surgical	Medical	MSICU	NICU	ED
Total observations	81 (32)	84 (33)	31 (12)	31 (12)	30 (12)
Total HCW-patient interactions	225	280	210	136	97
Interactions with ≥ 1 HHO	149 (66)	173 (62)	161 (77)	136 (100)	73 (75)
Interactions with M2 and/or M3 opportunities	30 (13)	32 (11)	51 (24)	31 (23)	12 (12)
Length of interaction, median (IQR), min	1.5 (0.4–3.9)	1.3 (0.3–3.4)	1.1 (0.4–2.7)	1.5 (0.6–3.5)	1.5 (0.4–6.1)

NOTE. Data are no. (%) of observations, unless otherwise indicated. ED, emergency department; HCW, healthcare worker; HHO, hand hygiene opportunity; IQR, interquartile range; M2, moment 2 (before aseptic technique); M3, moment 3 (after risk of exposure to body fluid); MSICU, combined medical-surgical intensive care unit; NICU, neonatal intensive care unit.



Durchschnittliche Anzahl und Dauer der Kontakte pro Patient/Stunde

TABLE 2. Patient Interaction and Hand Hygiene Opportunities per Patient-Hour by Healthcare Worker Type and Type of Acute Care Hospital Unit, Toronto, Canada, 2012

Variable	Surgical	Medical	MSICU	NICU	ED
Mean interactions per patient-hour (95% CI)					
Overall	2.8 (2.3–3.2)	3.3 (2.7–4.0)	6.8 (4.9–8.7)	4.4 (3.2–5.6)	3.2 (2.3–4.2)
By healthcare worker					
Nurse ^a	1.8 (1.5–2.2)	1.9 (1.4–2.4)	5.3 (3.4–7.1)	3.9 (2.9–5.0)	1.8 (1.3–2.4)
Physician ^b	0.2 (0.0–0.3)	0.3 (0.1–0.4)	0.5 (0.1–1.0)	0.3 (0.0–0.5)	0.6 (0.2–1.0)
Housekeeping	0.3 (0.2–0.4)	0.3 (0.2–0.5)	0.3 (0.1–0.5)	...	0.2 (0.1–0.4)
Other providers ^c	0.5 (0.4–0.7)	0.9 (0.7–1.0)	1.5 (1.2–2.0)	0.2 (0.1–0.4)	0.6 (0.4–0.9)
Mean HHO per patient-hour (95% CI)					
Overall	4.2 (3.3–5.1)	4.5 (3.5–5.5)	13.2 (9.1–17.4)	10.4 (7.5–13.3)	5.2 (3.5–6.9)
By healthcare worker					
Nurse ^a	3.3 (2.5–4.0)	2.9 (2.0–3.8)	10.8 (6.2–14.7)	9.4 (6.7–12.0)	3.5 (2.1–4.8)
Physician ^b	0.3 (0.1–0.5)	0.4 (0.1–0.7)	0.9 (0.1–1.8)	0.6 (0.1–1.2)	1.1 (0.4–1.7)
Housekeeping	0.2 (0.2–0.4)	0.4 (0.2–0.5)	0.3 (0.1–0.5)	...	0.1 (0.0–0.3)
Other providers ^c	0.4 (0.3–0.6)	0.7 (0.6–0.9)	2.7 (2.1–3.3)	0.3 (0.2–0.6)	0.6 (0.3–0.9)

NOTE. CI, confidence interval; ED, emergency department; HCW, healthcare worker; HHO, hand hygiene opportunities; MSICU, combined medical-surgical intensive care unit; NICU, neonatal intensive care unit.

^a Nurses and nursing students.

^b Physicians, residents, and medical students.

^c Respiratory therapists, physiotherapists, porters, social workers, occupational therapists, pharmacists, infection control practitioners, and all other healthcare workers involved in patient care.



Peripatetic health-care workers as potential superspreaders

Laura Temime^{a,1}, Lulla Opatowski^{b,c}, Yohan Pannet^{a,c}, Christian Brun-Buisson^{b,d,e}, Pierre Yves Boëlle^{f,g,h}, and Didier Guillemot^{b,c,i,j}

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Edited by Burton H. Singer, Princeton University, Princeton, NJ, and approved September 9, 2009 (received for review January 28, 2009)

Many nosocomial outbreaks exhibit “superspreading events” in which cross-transmission occurs via a single individual to a large number of patients. We investigated how heterogeneity in Health-Care Worker (HCW) behaviors, especially compliance to hand hygiene, may cause superspreading events. In particular, we compared the superspreading potential of peripatetic (noncohorted) HCWs with that of other HCWs. We developed an agent-based model for hand transmission of a pathogen in a hospital ward. Three HCW profiles were allowed: 2 assigned profiles, one with frequent contacts with a limited number of patients, another with fewer contacts but with more patients; and one peripatetic profile, with a single daily contact with all patients. We used data from the literature on common nosocomial pathogens (*Staphylococcus aureus*, *Enterococci*). The average number of patients colonized over 1 month increases with noncompliance to hand hygiene. Importantly, we show that this increase depends on the profile of noncompliant HCWs; for instance, it remains low for a single noncompliant assigned HCW but can be quite large for a single noncompliant peripatetic HCW. Outbreaks

on alternate weeks (10). Epidemiological data show that many nosocomial outbreaks seem to exhibit such “superspreading events,” where relatively few individuals are responsible for a large part of epidemic transmissions (11–17). The underlying mechanisms of superspreading remain unclear and may involve a combination of host, pathogen, and environmental effects (18). However, increased transmission is bound to be correlated with host activities and behavior, such as hygiene practices, frequency of bodily contacts, tendency to seek treatment, and compliance with control measures (18).

Here, we examine the conditions under which individual noncompliance to hygiene measures among HCWs may lead to superspreading of nosocomial pathogens in a hospital ward. Using an agent-based mathematical model of pathogen transmission, we investigate the impact of HCW profile (daily allocation and schedule and nature of patient contacts) on their superspreading capacity. In particular, we evaluate the superspreading potential of peripatetic HCWs, who are in contact—

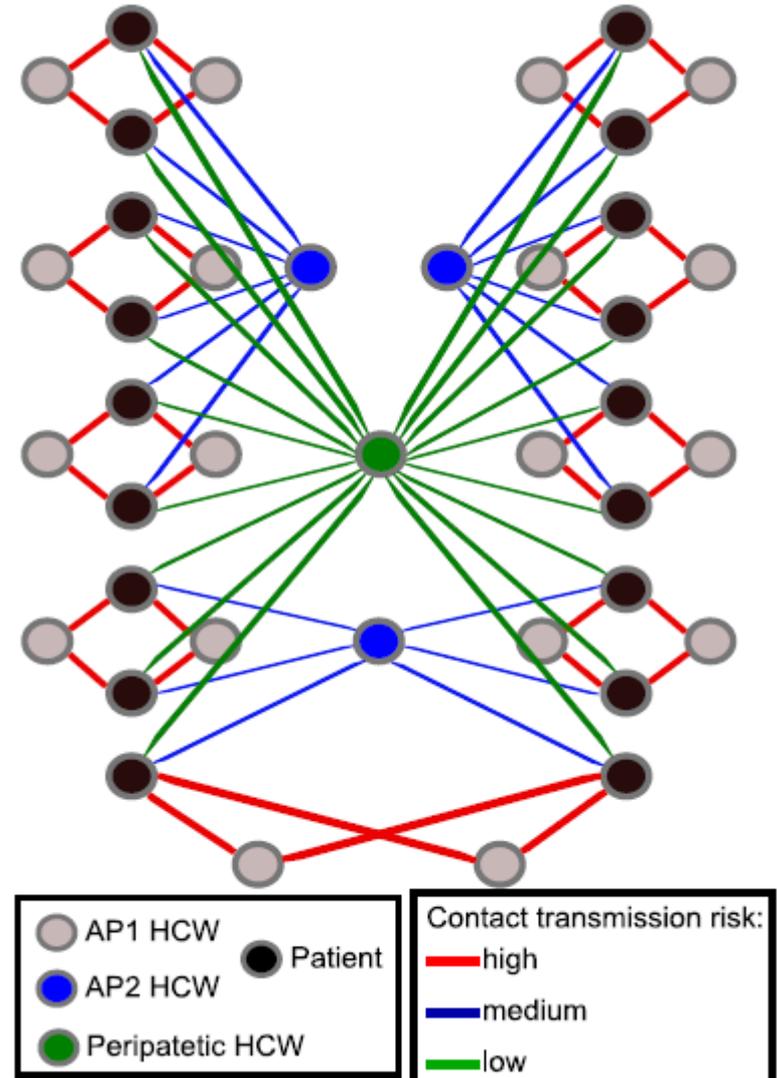


Modell einer Intensivstation mit 18 Betten – Untersuchung des Einflusses von Nicht-Compliance gegenüber HD verschiedener Mitarbeiterprofile an Hand eines simulierten MRSA-Ausbruchs

AP1 HCW = Pflegekraft mit vielen Kontakten zu wenigen Patienten

AP2 HCW = Pflegekraft oder Arzt mit einigen Kontakten zu mehreren Patienten

Peripatetic HCW = 1 Kontakt pro Patient (alle Patienten) und Tag, z. B. Radiologie etc.





- Modell: HCW sind 100% oder 0% compliant NACH Patientenkontakt, VOR Patienten-Kontakt immer 0%
- Ein MRSA Index-Patient, alle anderen Patienten sind MRSA-frei
- Beobachtungsperiode 1 Monat

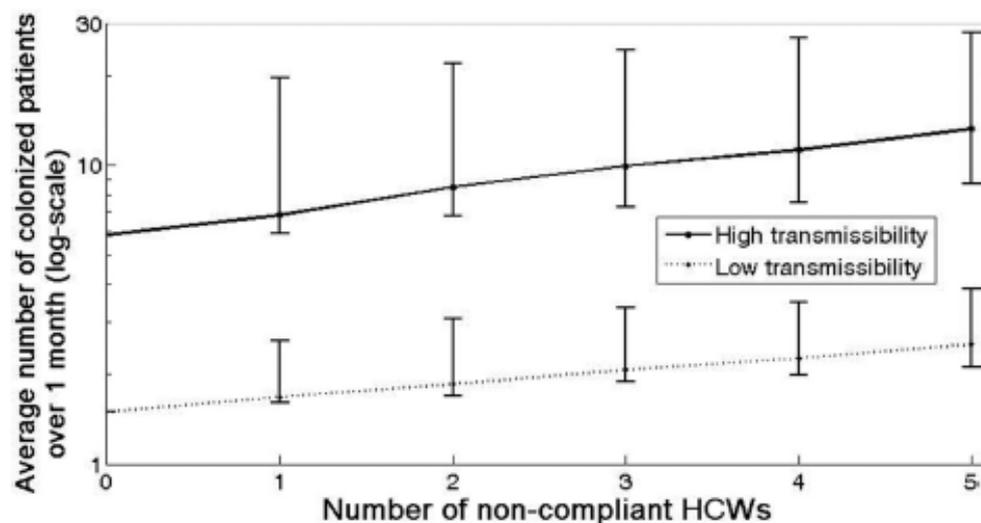


Fig. 2. Total number of patients colonized over 1 month following a single index case (on a log-scale), as a function of the number of noncompliant HCWs. A range of transmissibilities are investigated for the pathogen, from low (dotted line) to high (full line). Lines provide the mean of outbreak sizes computed for all possible scenarios regarding the identity of noncompliant HCWs among the staff. Error bars provide the minimum and maximum among these outbreak sizes.



Der Einfluss von Nicht-Compliance auf die Transmissionshäufigkeit war am höchsten bei peripathetischen Mitarbeitern

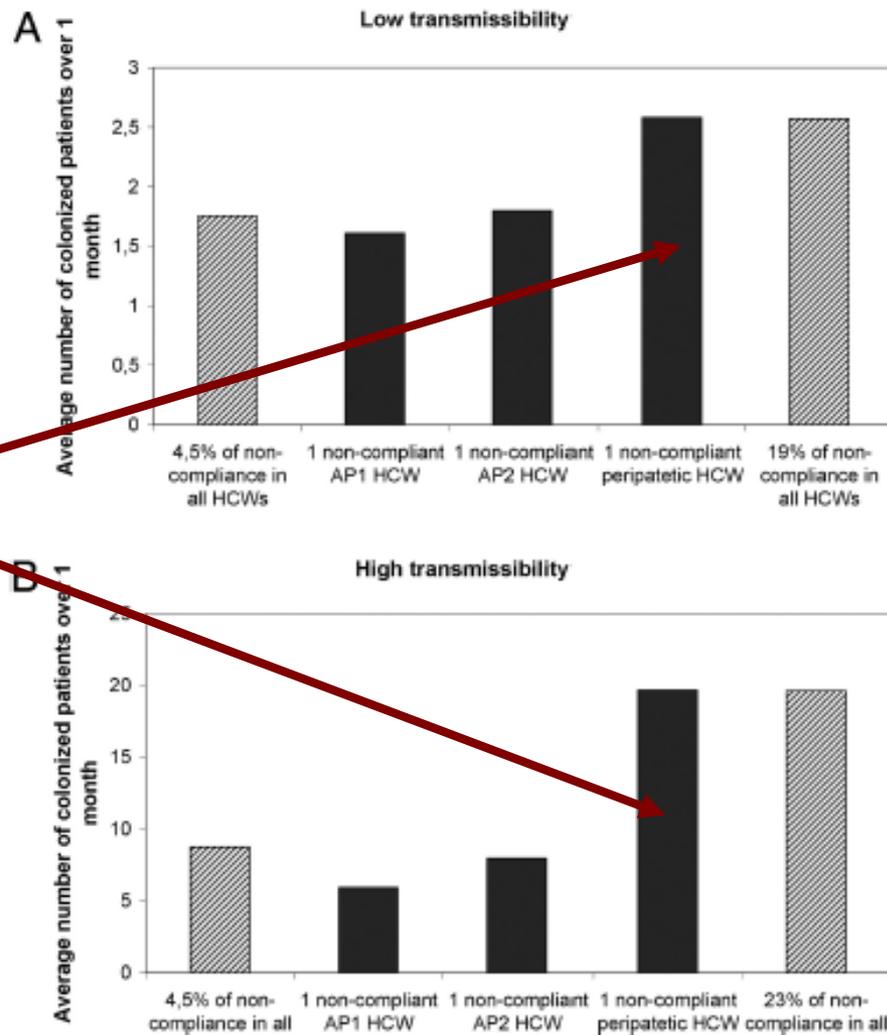


Fig. 3. Total number of patients colonized over 1 month following a single index case, (A) for a low-transmissibility pathogen and (B) for a high-transmissibility pathogen, in the hypothesis of a single noncompliant HCW: assigned HCW (profile 1 or 2) or peripatetic HCW. The total number of patient cases computed in the hypothesis of a homogeneous reduction in compliance



Effect of Varying the Number and Location of Alcohol-Based Hand Rub Dispensers on Usage in a General Inpatient Medical Unit

Benjamin P. Chan, MD;^{1,2} Karen Homa, PhD;²
Kathryn B. Kirkland, MD^{1,2}

We sequentially increased the number of wall-mounted alcohol-based hand rub dispensers in a small medical unit to evaluate effects on hand hygiene performance. Above a certain point, addition of more dispensers did not increase hand hygiene frequency, which appeared to be influenced more by location than by total number of dispensers.

Infect Control Hosp Epidemiol 2013;34(9):987-989

- Intervention auf einer internistischen Normalstation
- Keine Beobachtungen zur Compliance
- Nach Intervention 3 Spender pro Patientenzimmer und 21 Spender im Flur
- Im gleichen Zeitraum H1N1 Pandemie



TABLE 1. Number of Alcohol-Based Hand Rub Dispensers at Each Level of Intervention

Intervention	Total no. of dispensers	No. of days at each intervention
Initiated study with 13 dispensers	13	35
Added 10 hallway dispensers	23	22
Added 10 room dispensers	33	34
Changed location of 10 room dispensers	33	28
Added 8 hallway dispensers	41	57
Added 10 room dispensers	51	22



56% HDG's im Flur, 44% HDG's im Patientenzimmer

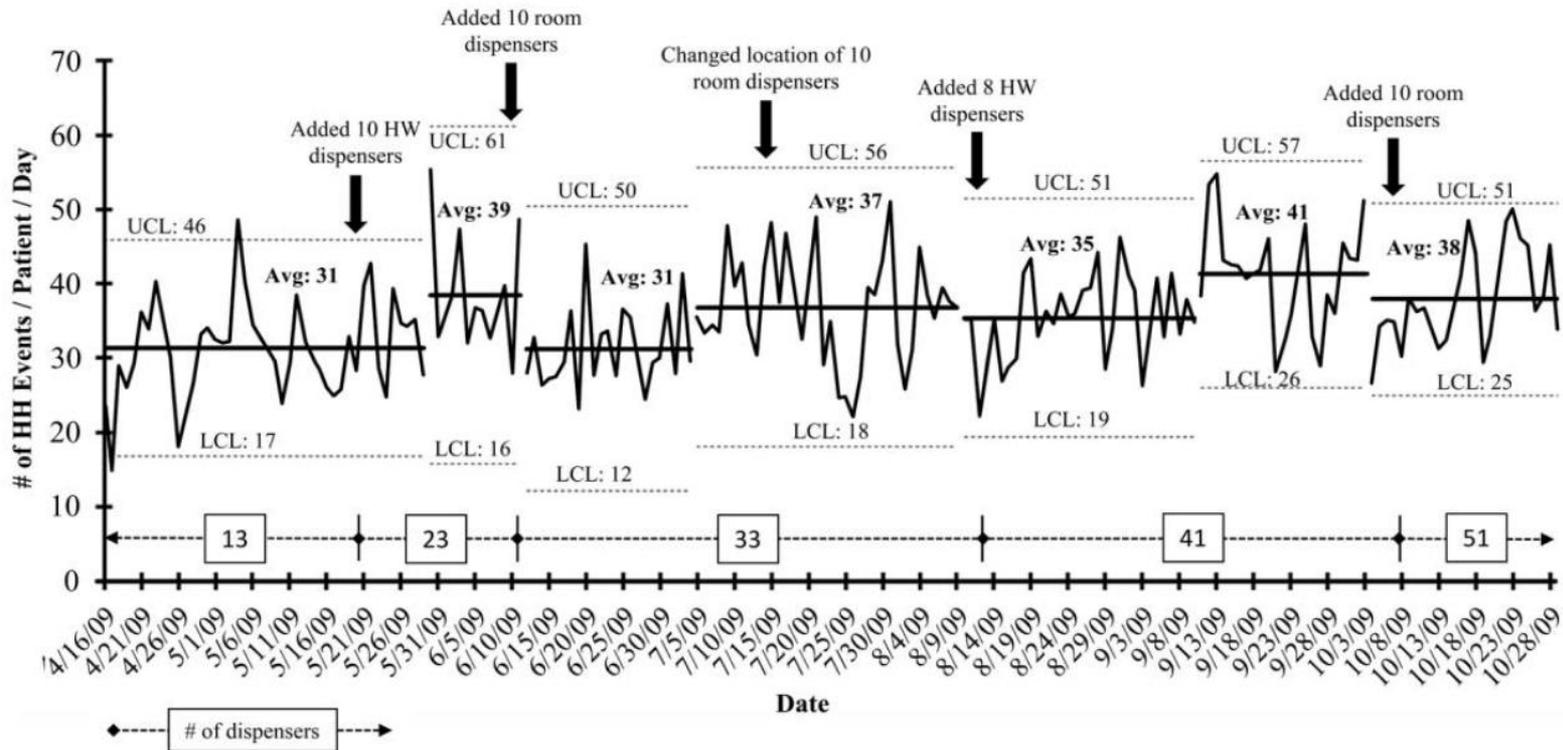


FIGURE 1. XmR chart of hand hygiene events per patient per day over the entire course of the study. Avg, average; HH, hand hygiene; HW, hallway; LCL, lower control limit; UCL, upper control limit.



- Weitere Compliancesteigerung riesige Herausforderung
- Weiter nach optimaler Spenderplatzierung suchen
- HD thematisch anbinden, z. Bsp. an Routineprozesse, Präventionsstrategien etc.
- Einbinden aller Berufsgruppen

- Finanzierung und „Akquise“ als Grundlage der weiteren Arbeit
- Validierung der erhobenen Parameter sowie der Effekte
- Langfristige Orientierung
- Abschluss neue HD-Richtlinie