

unit (ICU) of the Amphia Hospital Breda, The Netherlands. The implementation of this bundle was associated with sustainable low CLABSI rates (1 per 1,000 CVC days). There was no surveillance of CLABSI in the other departments of the hospital. **Objectives:** We implemented semiautomated surveillance for CLABSI in non-ICU inpatients. **Methods:** A single-center, retrospective study was conducted in a 1,370-bed teaching hospital in The Netherlands between January 2017 and December 2018. All hospitalized patients (aged ≥ 18 years) in non-ICU wards, with a CVC inserted, were screened for CLABSI. CLABSIs were diagnosed using the definitions of the national nosocomial surveillance network PREZIES, excluding infections already present on admission and secondary bloodstream infection. CLABSI rates were calculated as cases per 1,000 CVC days with 95% CIs. **Results:** In 2017, 14 CLABSI were reported during 4,656 CVC days (3.0 per 1,000 CVC days; 95% CI, 1.8–5.1). In 2018, 13 CLABSIs were reported during 4,995 catheter days (2.6 per 1,000 CVC days; 95% CI, 1.5–4.5). The mean duration of CVC days prior to CLABSI in 2017 and 2018 were 20 days (range, 4–28) and 14 days (range, 4–25), respectively. Most CLABSI events occurred in patients admitted to the hematology ward (13 of 27, 48.1%). Of those, 11 of 13 (84.6%) were patients with an acute myeloid leukemia (AML) and severe mucositis due to the intensive chemotherapy at the time of CLABSI. The remaining cases occurred in patients of 4 different surgical departments. Coagulase-negative staphylococci were the most common organisms recovered (25 of 27, 92.6%). **Conclusions:** To our knowledge, this is the first report of CLABSI-rates in non-ICU wards in the Netherlands. The CLABSI rates were higher in non-ICU wards compared to the ICU of our hospital. This difference was mainly because of the high CLABSI rate in the patients with AML.

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Understanding the Short-Term Dynamics of MRSA Between Patients and Their Immediate Environment

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Background: Methicillin-resistant *Staphylococcus aureus* (MRSA) colonization of patients and contamination of their immediate environmental surfaces is common in the acute care setting, but there is much to be learned about the dynamics of MRSA transmission over a short period of time. **Methods:** A prospective, observational time-motion qualitative study was conducted at 2 hospitals: 1 in Michigan (hospital 1) and 1 in Zurich, Switzerland (hospital 2)—between November 2018 and July 2019. Hospitalized patients with a MRSA infection or colonization were enrolled. Microbiologic cultures for MRSA were collected from patient nares, axilla, groin and hands and several high-touch surfaces in their room (bed controls, call button, tray table, etc) at the first visit, and patient hands and high-touch surfaces continued to be swabbed every 90 minutes over the course of 5

hours. Patient hands and environment were disinfected after each swabbing. Clinical data were collected from patient's medical chart. **Results:** We recruited 10 MRSA colonized or infected patients for the study with 50 hours of observation and obtained 360 patient and environmental swabs. Most were women (7 of 10); the average age was 52.8 years (Table 1). At the first visit, 8 (80%) patients were MRSA-colonized (at 1 or more body sites) and 5 (50%) rooms were MRSA-contaminated (at 1 or more surfaces). Also, 6 patients (60%) had an active MRSA infection and were actively receiving an anti-MRSA agent (eg, Vancomycin). Among those 6 patients receiving an anti-MRSA agent, 4 patients (67%) and 2 rooms (33%) were contaminated at the first visit. Among those 4 patients not receiving an anti-MRSA agent, all 4 patients (100%) and 3 rooms (75%) were contaminated at the baseline visit. Acquisitions (ie, MRSA recovered from a site it was not previously recovered from) occurred on 3 of 7 patient hands (43%) and on 6 occasions in the room (among 5 patients), most commonly at the toilet seat (2 of 6 times). MRSA prevalence on patient and room surfaces for the 5 patients enrolled at hospital 2 are illustrated in Figure 1, which shows colonization of patient and contamination of environment as well as activities performed by the patient in between culturing. **Conclusions:** We evaluated transmission of MRSA over brief periods of time; our results show that transmission of MRSA depended on patient activity in the room. Furthermore, degree of patient colonization is reflected by environmental contamination and supports the notion of constant transmission of MRSA from patients to environment.

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Table 1.

Table 1. Baseline demographics

Characteristics	Hospital 1 n = 5	Hospital 2 n = 5	Total N = 10
Age, mean (standard deviation)	49.8 (23.0)	55.8 (22.5)	52.8 (21.7)
Male	2 (40)	1 (20)	3 (30)
Active MRSA infection	4 (80)	2 (40)	6 (60)
Receiving antibiotics	5 (100)	4 (80)	9 (90)
Anti-MRSA agent	4 (80)	2 (40)	6 (60)
Some ADL impairment	2 (40)	2 (40)	4 (40)
Indwelling device(s)	3 (60)	4 (80)	7 (70)
Open wound(s)	4 (80)	1 (20)	5 (50)
MRSA-positive patient cultures (at anytime)	4 (80)	5 (100)	9 (90)
Hands	2 (40)	3 (60)	5 (50)
Nares	1 (20)	3 (60)	4 (40)
Groin	2 (40)	4 (80)	6 (60)
Axilla	0 (0)	2 (40)	2 (20)

Data are No. (%) unless otherwise specified.