employees who refused the vaccine due to strong internal beliefs (ie, concerns about government/pharmaceutical industry) may have been more likely to participate in our survey, compared to those with less emotionally charged reasons (ie, forgot or sick when offered), creating a bias toward those with grievances about the vaccine. Nonetheless, given that 50% of our respondents chose "other" as a reason for declination, we recommend that future survey designs include candid comments from HCP.

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Laila Castellino MD;[1,2]
V. Lorraine Cheek, MPH, RN-BC;[1]
Robin L.P. Jump MD, PhD[3]

Affiliations: 1. Infectious Disease Section at the Dayton Veterans Affairs Medical Center (VAMC); 2. Wright State University Boonshoft School of Medicine, Dayton, Ohio; 3. Geriatric Research, Education and Clinical Center (GRECC) and Infectious Disease Section at the Louis Stokes Cleveland VAMC and the Division of Infectious Disease and HIV Medicine, Department of Medicine, Case Western Reserve University School of Medicine, Cleveland, Ohio.

Address correspondence to Laila Castellino MD, Veterans Affairs Medical Center, 4100 W 3rd St (111W), Dayton OH 45428 (laila.castellino@va.gov).

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Achieving "Zero" CLABSI and VAP after Sequential Implementation of Central Line Bundle and Ventilator Bundle

To the Editor—Ventilator-associated pneumonia (VAP) and central-line–associated bloodstream infection (CLABSI) are two common healthcare-associated infections (HAIs) that can result in increased mortality, morbidity, and length of hospital stay among critically ill patients.[1–5] Recently, several prevention interventions have been divided into the two major care bundles by the Institute for Healthcare Improvement (IHI): the "ventilator bundle" and the "central line bundle." Many studies have proven that the ventilator bundle and the central line bundle can significantly reduce the incidence of VAP and CLABSI, respectively. However, studies investigating the usefulness of concomitant implementations of these two bundles in the same unit are scarce. At our institution, we sequentially introduced the ventilator bundle and the central line bundle in an intensive care unit (ICU). We evaluated the clinical impact of sequential care bundles on HAI rates, including VAP and CLABSI, in a medical ICU.

This study was performed at a regional teaching hospital in a medical ICU that has 7 adult ICU beds and 1 intensivist. In 2011, we introduced the ventilator bundle, which includes (1) maintenance a semi-recumbent position (ie, 30°–45° elevation of the head to the bed), (2) daily interruption of sedation, (3) daily spontaneous breathing trials, (4) performance of oral care with an antiseptic solution (ie, 0.2% chlorhexidine gluconate), and (5) maintenance of endotracheal tube cuff pressure >20 cm H2O. In 2013, we further introduced the central line bundle, including (1) hand hygiene, (2) maximal sterile barriers, (3) chlorhexidine gluconate for skin preparation, and (4) avoidance of femoral vein as an access site. Our maintenance bundle includes (1) hand hygiene, (2) proper dressing change, (3) aseptic technique for accessing and changing needleless connector, and (4) daily catheter review. In addition, educational programs were arranged at the same time for the staff members in the ICU, including attending physicians, respiratory

TABLE 1. Rates of VAP, CLABSI, and CAUTI in an Intensive Care Unit

Year	Rate of VAP (per 1000 ventilator days)	Rate of CLABSI (per 1000 catheter days)	Rate of CAUTI (per 1000 catheter days)
Introduction of ventilator bundle			
2010	1.75	7.20	1.93
2011	2.27	3.47	3.16
2012	2.58	0.70	3.28
Introduction of central line bundle			
2013[a]	0.00	0.00	1.28
Overall	1.72	2.73	2.52

NOTE. VAP, ventilator-associated pneumonia; CLABSI, central line-associated bloodstream infection; CAUTI, catheter-associated urinary tract infection.
[a]Only from January to September, 2013.

therapists, and nurse practitioners. Patient days, device days, and rates of VAPs, CLABSI, and catheter-associated urinary tract infections (CAUTI) were collected monthly by the infection-control practitioner from January 2011 to September 2013.

During this study period, 14 episodes of CLABSI and 8 episodes of VAP were recorded. The rate of CLABSI was 2.73 per 1,000 catheter days, and the rate of VAP was 1.72 per 1,000 ventilator days. In addition, 17 episodes of CAUTI were recorded, with a rate of CAUTI 2.5 per 1,000 catheter days. The data trends of VAP, CLABSI, and CAUTI are shown in Table 1. The rates of all 3 HAIs gradually declined over time, and the rates of CLABSI and VAP were zero during the last 9 months of the study period.

From this midterm survey, we report several findings. First, sequential implementation of the ventilator bundle and the central line bundle reduced the development of CLABSI and VAP. Second, although the implementation of each care bundle may have increased the workload of all ICU members, we introduced these bundles gradually so that team members could effectively implement them without feeling overloaded. Finally, we have demonstrated the positive impact of these care bundles on HAI rates.

The rate of CLABSI gradually decreased from 2010 (after introduction of the ventilator bundle) to 2012 (before introduction of the central line bundle). During these 3 years, we implemented only 1 infection control measure, the ventilator bundle, and no other infection control policy was changed. The declining rate of CLABSI may have been due to the change of culture and clinical practice after the implementation of the ventilator bundle and its associated education. Thereafter, all of the team members better understood the clinical significance of the infection control policy and focused on preventing HAIs. In addition, the rate of CAUTI gradually declined over time after the introduction of the ventilator bundle and the central line bundle prior to the introduction of the CAUTI bundle. These findings and those of a previous study[6] indicate that the impact of the ventilator bundle and the central line bundle may not be limited to the rates of VAP and CLABSI; they may also have a positive impact on other types of HAIs.

Finally, we have also demonstrated that zero rates of VAP or CLABSI can be achieved by effective infection control measures. The implementation of these care bundles can eradicate HAIs. However, large-scale studies are needed to further confirm the long-term effects of these measures.

In conclusion, the sequential introduction of the ventilator bundle and the central line bundle can prevent the development of VAP and CLABSI. Each care bundle may have a positive impact on preventing other HAIs.

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Hung-Jen Tang, MD;[1,2]
Chien-Ming Chao, MD;[3,4]
Pak-On Leung, MD;[3]
Chih-Cheng Lai[3]

Affiliations: 1. Department of Medicine, Chi Mei Medical Center, Tainan, Taiwan; 2. Department of Health and Nutrition, Chia Nan University of Pharmacy and Science, Tainan, Taiwan; 3. Department of Intensive Care Medicine, Chi Mei Medical Center, Liouying, Tainan, Taiwan; 4. Department of Nursing, Min-Hwei College of Health Care Management, Tainan, Taiwan.

Address correspondence to Chih-Cheng Lai, Department of Intensive Care Medicine, Chi-Mei Medical Center, Liouying, Tainan, Taiwan (dtmed141@gmail.com).

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Psychodidae (Drain Fly) Infestation in an Operating Room

To the Editor—Insect infestation is a problem in many hospitals, mostly related to food storage, drainage systems, or open access to the outside environment. However, its occurrence in operating rooms is a rare occurrence. We report a case of drain fly infestation, the associated technical investigation, and pest control measures and discuss the potential medical implications and preventive measures.

The infection control team was urgently alerted because the staff of an outpatient surgical center spotted insects, later identified as drain flies (Psychoda grisescens), in one of the operating rooms.

Because of the large quantity of insects the operating room was closed and sealed.

During the on-site inspection drain flies were seen in one of the operating rooms (room 3) in large numbers adjacent to an air vent of the ventilation system equipped with a HEPA-filter and in small numbers in a neighboring operating room (room 4) close to an electric outlet.

The revision openings of the ventilation ducts were opened but no insects could be detected. However, the ducts appeared dusty and were thoroughly cleaned.

Because a fly was spotted on a ceiling panel the ceiling was opened and in the ceiling space several drain pipes and electric wiring pipes were visible in close proximity without adequate fitting. Finally the electric outlets were removed and several hundred dead and living drain flies as well as larvae were spotted. The wiring duct could be followed into the cellar, where recent flooding had caused water damage and standing water for several days, immersing drain pipes connected to the ducts that were unintentionally interconnected to the electric wiring ducts. There were water marks indicating flood water entering the duct system. Currently this is thought to be the route of entry.

An approved insecticide was sprayed into the duct system by a licensed exterminator. All openly stored material in the operating rooms was removed, and sinks and their siphons in the rooms adjacent to the operating rooms were thoroughly cleaned in order to destroy potential food sources and nesting grounds.

Several technical measures were implemented, including closure of connecting duct systems, installation of flood-safety valves in the draining pipe system, and special isolation of the electric wiring as required by the applicable technical norms and building codes.

After clearance by the exterminator the operating rooms were cleaned and disinfected according to local standard operating procedures and reopened for service without further incidence.

Moth flies, also known as drain flies, are small true flies (Diptera) with short, hairy bodies and wings, giving them a "furry" moth-like appearance. Among Diptera this family of flies is probably also the most diverse biologically and taxonomically.[1] Our species were identified as *Psychoda grisescens*. The adult insects have long antennae and the wings are leaf-shaped, showing little more than a series of parallel veins without cross veins. Adult drain flies typically live in damp habitats and show a nocturnal life pattern. There are 6 subfamilies, whose relationships are not well understood. The larvae of the subfamilies Psychodinae, Sycoracinae, and Horaiellinae are aquatic, semiaquatic, or marginal in habit. Their larvae play major roles in the breakdown of mammalian dung,[2] in nutrient recycling in freshwater habitats, and as saprophages on fallen leaves and animal remains. They also often abound in latrines, septic tank outflows, and organically polluted mudflats, streams, etc.,[3] and in sewage disposal systems, especially trickling filter beds.[4] Some species are commonly found in bathrooms, where they find food sources such as hair clogs in drains and biofilm in siphons.

The subfamily Phlebotominae (called sand flies outside the United States) includes many blood-feeding species that are inhabitants of more arid regions and a very important group medically, transmitting various tropical diseases like kala-azar leishmaniasis and described as vectors for bartonellosis and bunyaviridae.[5–7]

The European species *Sycorax silacea* has been shown to transmit microfilarian worms.

However, none of those complications have been reported with *Psychoda grisescens*, which are under normal circumstances more of a nuisance in bathrooms and kitchens. Because they primarily live in or near sewage water and were most likely introduced by flood water into the surgery center, carriage of typical fecal bacteria and the risk of contact infection had to be considered in an operating room, making the immediate closure necessary, given the large number of observed insects.

Rapid communication between technical staff, the infection control team, and an exterminator was essential for the quick resolution of the situation, and no patient was harmed.

With more and more construction projects using hanging ceilings and connected duct systems, a detailed wiring and pipe plan should be mandatory for new buildings in the medical