RECOMMENDATIONS TO BE INCLUDED IN GUIDELINE	
General Recommendations	
1	Clinicians should review a patient's clinical data (such as vital signs, existing laboratory/imaging data, urine output, recent cultures, current antimicrobial therapy) prior to making the decision to order or not order a blood culture.
2	Clinicians should perform a physical exam prior to making the decision to order or not order a blood culture.
3	Clinicians should discuss a patient's clinical status with bedside nurse to inform the decision to order or not order a blood culture.
4	Avoid surveillance blood cultures (e.g. daily screening blood cultures) in all patients. 4a Avoid surveillance blood cultures (e.g. daily screening blood cultures) for patients on ECMO (extracorporeal membrane oxygenation). 4b Avoid surveillance blood cultures (e.g. daily screening blood cultures) for patients on continuous renal replacement therapy. 4c Avoid surveillance blood cultures (e.g. daily screening blood cultures) in immunocompromised patients WITH or WITHOUT central venous catheters.
5	Avoid blood cultures in asymptomatic patients who experience an inadvertent central venous catheter disconnection.
6	Avoid blood cultures in asymptomatic patients who have a broken or cracked catheter.
7	Avoid drawing blood cultures from peripheral IVs.
Symptomatic, immunocompetent clinical scenarios	
8	Avoid blood culture in patients with a viral syndrome (such as bronchiolitis), NEW fever, no signs of sepsis in patient, and WITHOUT central venous catheter in place.
9	Avoid blood culture in patients with a viral syndrome (such as bronchiolitis), PERSISTENT fever within expected time course for viral infection, no signs of sepsis, and WITHOUT central venous catheter in place.
10	Avoid repeat blood cultures in patients with a symptomatic viral infection (such as bronchiolitis), PERSISTENT fever within expected time course for this viral infection, no signs of sepsis, and who has already had at least one negative blood culture obtained since the start of fever, WITH central venous catheter in place.
11	Avoid blood culture in patients with a localized bacterial source of infection (ex: urinary tract infection or focal pneumonia), PERSISTENT and expected fever, no signs of sepsis, and at least one negative blood culture obtained since the start of fever, and WITHOUT a central venous catheter.
12	Avoid blood culture in patients with a documented localized bacterial infection (ex: urinary tract infection or focal pneumonia), PERSISTENT and expected fever, no signs of sepsis, and who has a blood culture that is negative to date obtained within the last 48 hours, and WITH a central venous catheter.
13	For PERSISTENT fever in immunocompetent patients WITH a central venous catheter, suspected non-infectious etiology of fever and no documented source of infection, without signs of sepsis, and initial set of blood cultures were negative, avoid additional blood cultures.
14	Avoid blood culture in patients with NEW fever, no signs of sepsis, and with symptoms of withdrawal while undergoing wean of sedative/opioid infusions WITHOUT a central venous catheter in place.
15	Avoid blood culture in patients with NEW fever, no signs of sepsis, and with symptoms of withdrawal while undergoing wean of sedative/opioid infusions, WITH a central venous catheter in place, who defervesces in response to treatment for withdrawal.
16	Avoid blood culture in patients with NEW fever within 24 hours after surgery, with no signs of sepsis, WITH or WITHOUT a central venous catheter in place.
17	For PERSISTENT fever in patients with central catheter and without signs of sepsis, if a recent set of blood cultures from the catheter is no growth to date, then subsequent cultures, if indicated, do not need to be drawn from the catheter.
Symptomatic, immunocompromised clinical scenarios	
18	After repeated negative-to-date blood cultures, avoid additional blood cultures in immunocompromised patients with PERSISTENT fever but without signs of sepsis or infection in whom you do not plan to change/broaden the current antimicrobial regimen.
19	For PERSISTENT fever in immunocompromised patients without signs of sepsis, if initial set of blood cultures from all lumens of central venous catheters were negative, avoid repeatedly culturing more than one lumen of that central venous catheter.

Fig. 1.

Presentation Type:
Oral Presentation

Building/Campus Characteristics and *Legionella* in Potable Water Systems at Veterans Health Administration Facilities

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Background: When control mechanisms such as water temperature and biocide level are insufficient, *Legionella*, the causative bacteria of Legionnaires' disease, can proliferate in water distribution systems in buildings. Guidance and oversight bodies are increasingly prioritizing water safety programs in healthcare facilities to limit *Legionella* growth. However, ensuring optimal implementation in large buildings is challenging. Much is unknown, and sometimes assumed, about whether building and campus characteristics influence *Legionella* growth. We used an extensive real-world

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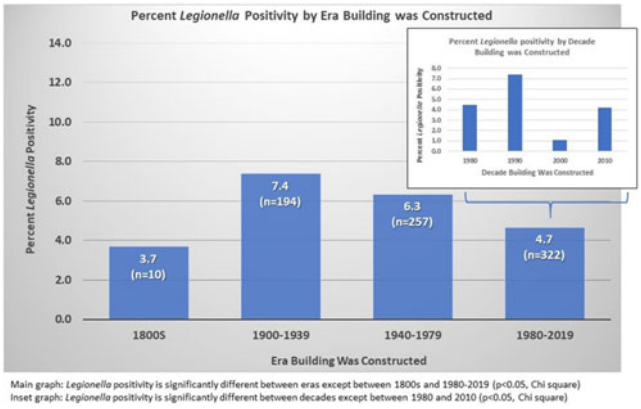

Fig. 1.

environmental *Legionella* data set in the Veterans Health Administration (VHA) healthcare system to examine infrastructure characteristics and *Legionella* positivity. Methods: VHA medical facilities across the country perform quarterly potable water sampling of healthcare buildings for *Legionella* detection as part of a comprehensive water safety program. Results are reported to a standardized national database. We did an exploratory univariate analysis of facility-reported *Legionella* data from routine potable water samples taken in 2015 to 2018, in conjunction with infrastructure characteristics available in a separate national data set. This review examined the following characteristics: building height (number of floors), building age (reported construction year), and campus acreage. Results: The final data set included 201,936 water samples from 819 buildings. Buildings with 1–5 floors (n = 634) had a *Legionella* positivity rate of 5.3%, 6–10 floors (n = 104) had a rate of 6.4%, 11–15 floors (n = 36) had a rate of 8.1%, and 16–22 floors (n = 9) had a rate of 8.8%. All rates were significantly different from each other except 11–15 floors and 16–22 floors ($P < .05$, χ^2). The oldest buildings (1800s) had significantly less ($P < .05$, χ^2) *Legionella* positivity than those built between 1900 and 1939 and between 1940 and 1979, but they were no different than the newest buildings (Fig. 1). In newer buildings (1980–2019), all decades had buildings with *Legionella* positivity (Fig. 1 inset). Campus acreage varied from ~3 acres to almost 500 acres. Although significant differences were found in *Legionella* positivity for different campus sizes, there was no clear trend and campus acreage may not be a suitable proxy for the extent or complexity of water systems feeding buildings. **Conclusions:** The analysis of this large, real-world data set supports an assumption that taller buildings are more likely to be associated with *Legionella* detection, perhaps a result of more extensive piping. In contrast, the assumption that newer buildings are less associated with *Legionella* was not fully supported. These results demonstrate the variability in *Legionella* positivity in buildings, and they also provide evidence that can inform implementation of water safety programs.

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Oral Presentation

Burden of *Clostridium difficile* Infection (CDI) Across Whole Healthcare Economies and European Borders; COMBACTE-CDI Results

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Background: The burden of *C. difficile* infection (CDI) on healthcare facilities is well recognized. However, studies focusing on inpatient settings, in addition to ascertainment bias in general, have led to a paucity of data on the true burden of CDI across whole healthcare economies. **Methods:** Sites testing both inpatient and community samples were recruited from 12 European countries (1 site per 3 million population). On 2 selected days, all diarrheal fecal samples (regardless of tests requested) were sent to the European Coordinating Laboratory (ECL) for *C. difficile* toxin testing and culture. The CDI results and tests not requested at each submitting site were compared with the ECL results to determine the number of missed CDIs. Contemporaneous *C. difficile* isolates from food and animal sources were collected. All isolates underwent PCR ribotyping and toxinotyping; prevalences of ribotypes among regions of Europe and reservoir settings were compared. **Results:** Overall, 3,163 diarrheal fecal samples were received from 119 sites. The burden of CDI varied by country (positivity rates, 0–15.8%) and by European region; the highest positivity rate in Eastern Europe was 13.1%. The testing and positivity rates in community samples were 29.6% and 1.4% vs 74.9% and 5.0% in hospital samples; 16% and 55% of samples positive for CDI at ECL were not diagnosed in hospitals and the community. The most common *C. difficile* ribotypes from hospital samples were 027 (11%), 181 (12%), and 014 (8%), although prevalence varied by country. The highest prevalence of toxinotype IIIb (ribotypes 027, 181, and 176) was seen in Eastern Europe (55% of all isolates), which also had the lowest testing rate. For hospital samples, the proportion of toxinotype IIIb was inversely related to the testing rate ($r = -0.79$) (Fig. 1). The most common ribotypes from food sources were 078 (23%) and 126 (13%) (toxinotype V), and most common ribotypes from community samples were 078 (9%) and 039 (9%). Overall, 106 different ribotypes were identified: 25 in both the hospital and community and 16 in the hospital, community, and food chain. **Conclusions:** The diagnosed burden of CDI varies markedly among countries in both hospital and community settings. Reduced sampling/testing in Eastern Europe is inversely related to the proportion of toxinotype IIIb strains identified, suggesting that lack of suspicion leads to underdiagnosis and