Disruptions in Availability of Becton Dickinson (BD) BACTEC™ Blood Culture Bottles Blood Culture Bottles

Emergency Preparedness and Response

HEALTH ALERT NETWORK

This is an official CDC HEALTH ADVISORY

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Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to inform healthcare providers, laboratory professionals, healthcare facility administrators, and state, tribal, local, and territorial health departments of a critical shortage of Becton Dickinson (BD) BACTEC™ blood culture media bottles. This shortage has the potential to disrupt patient care by leading to delays in diagnosis, misdiagnosis, or other challenges in the clinical management of patients with certain infectious diseases. Healthcare providers, laboratory professionals, healthcare facility administrators, and state, tribal, local, and territorial health departments affected by this shortage should immediately begin to assess their situations and develop plans and options to mitigate the potential impact of the shortage on patient care.

Background

Blood cultures are critical for assisting healthcare providers with diagnosing patients with bloodstream infections and associated conditions including endocarditis, catheter-related bloodstream infections and sepsis. Blood cultures can identify the microorganisms causing these infections, and follow-on antimicrobial susceptibility testing can be performed to help guide optimal therapy. Repeat blood cultures may be used for patients with certain infections, like *Staphylococcus aureus* bacteremia, to help guide treatment duration. Most blood cultures in the United States are performed using continuous-monitoring blood culture systems; the BD continuous-monitoring blood culture system is used in about half of all U.S. laboratories and is only compatible with BD BACTEC™ blood culture media bottles.

Unnecessary and incorrect blood culture collection are not only detrimental to patient care but can contribute to or exacerbate shortages of blood culture media bottles. Thus, experts in laboratory utilization recommend that all facilities should implement diagnostic stewardship best practices to improve blood culture ordering and collection practices. Several studies have demonstrated that unnecessary blood cultures can be reduced without an increase in adverse events. These studies can serve as a template for collaborative efforts to reduce the number of unnecessary blood cultures performed in healthcare facilities. In addition, CDC offers a quality tool to prevent blood culture contamination and improve diagnostic accuracy.

Recommendations for Healthcare Providers and Phlebotomists

- Implement practices to optimize the use of blood cultures at your facility.
- Take steps to prevent blood culture contamination.

- Ensure that the appropriate volume is collected when collecting blood for culture.

Recommendations for Laboratory Professionals and Healthcare Facility Administrators

- Determine the type of blood culture bottles your laboratory or facility uses and whether this shortage will impact you.
- Implement practices to optimize the use of blood cultures at your facility. Doing so may be helpful even for facilities not affected by the shortage.
- Take steps to prevent blood culture contamination. Contamination can negatively affect patient care and may require the collection of more blood cultures to help determine whether contamination has occurred.
- Ensure that the appropriate volume is collected when collecting blood for culture. Underfilling bottles decreases the sensitivity to detect bacteremia/fungemia and may require additional blood cultures to be drawn to diagnose an infection.
- If your laboratory or facility will be impacted by the bottle shortage, determine whether you have alternative options for blood cultures (e.g., working with a nearby facility or sending samples out to a laboratory not affected by the shortage).
- Monitor current and future supplies of blood culture bottles at your laboratory or facility and report any potential shortages or interruptions to the Food and Drug Administration (FDA) at deviceshortages@fda.hhs.gov.
- If your facility will be impacted by the bottle shortage, convene a group of local laboratory and clinical experts to determine how a limited supply of blood culture bottles will be prioritized for use in your facility.

Recommendations for State, Tribal, Local, and Territorial Health Departments

- Contact hospitals and laboratories in your jurisdiction that serve acute care patients (i.e., patients who are hospitalized or visiting an emergency department) to determine what type of blood culture bottles they use and whether this shortage will impact them.
- Focus the following interventions on impacted facilities and laboratories:
  - Provide education on the supply shortage, optimal use of blood cultures, and mechanisms for reporting supply chain shortages or interruptions and suspected adverse events to the FDA.
  - Facilitate communication between laboratories and facilities willing to assist others in need, either by sharing supplies of available blood culture bottles or working out arrangements for nearby laboratories using continuous monitoring blood culture systems unaffected by the shortage to perform blood cultures on behalf of the affected laboratory or facility.

For More Information

- BD Update, CDC Blood Culture Quality Tools, and Blood Culture Utilization | CDC's Laboratory Outreach Communication System (LOCS)
- Disruptions in Availability of BD BACTEC Blood Culture Media Bottles – Letter to Health Care Providers | FDA
- Medical Device Shortages List | FDA
- Blood Culture Contamination (BCC) Prevention | CDC
- Preventing Adult Blood Culture Contamination: A Quality Tool for Clinical Laboratory Professionals | CDC
- Blood Culture Contamination: An Overview for Infection Control and Antibiotic Stewardship Programs Working with the Clinical Laboratory | CDC
- Guide to Utilization of the Microbiology Laboratory for Diagnosis of Infectious Diseases: 2024 Update by the Infectious Diseases Society of America (IDSA) and the American Society for Microbiology (ASM)
- Blood Culture Stewardship | Johns Hopkins Medicine

References

1. Fabre V, Carroll KC, Cosgrove SE. Blood Culture Utilization in the Hospital Setting: a Call for Diagnostic Stewardship. *J Clin Microbiol*. 2022; 60(3):e01005-21. DOI:10.1128/JCM.01005-21

2. Fabre V, Klein E, Salinas AB, et al. A Diagnostic Stewardship Intervention To Improve Blood Culture Use among Adult Nonneutropenic Inpatients: the DISTRIBUTE Study. *J Clin Microbiol*. 2020; 58(10): e01053-20. DOI:10.1128/JCM.01053-20
3. Temkin E, Biran D, Braun T, et al. Analysis of Blood Culture Collection and Laboratory Processing Practices in Israel. *JAMA Netw Open*. 2022; 5(10):e2238309. DOI:10.1001/jamanetworkopen.2022.38309
4. Fabre V, Davis A, Diekema DJ, et al. Principles of diagnostic stewardship: A practical guide from the Society for Healthcare Epidemiology of America Diagnostic Stewardship Task Force. *Infect Control Hosp Epidemiol*. 2023; 44(2):178-185. DOI:10.1017/ice.2023.5
5. Woods-Hill CZ, Fackler J, Nelson McMillan K, et al. Association of a Clinical Practice Guideline With Blood Culture Use in Critically Ill Children. *JAMA Pediatr*. 2017; 171(2):157-164. DOI:10.1001/jamapediatrics.2016.3153
6. Wang MC, Zhou KJ, Shay SL, et al. The impact of a blood-culture diagnostic stewardship intervention on utilization rates and antimicrobial stewardship. *Infect Control Hosp Epidemiol*. 2024; 45(5):670-673. DOI:10.1017/ice.2023.265
7. Seidelman JL, Moehring R, Gettler E, et al. Implementation of a diagnostic stewardship intervention to improve blood-culture utilization in 2 surgical ICUs: Time for a blood-culture change. *Infect Control Hosp Epidemiol*. 2024; 45(4):452-458. DOI:10.1017/ice.2023.249
8. Lee A, Mirrett S, Reller LB, Weinstein MP. Detection of bloodstream infections in adults: how many blood cultures are needed? *J Clin Microbiol*. 2007; 45(11):3546-8. DOI:10.1128/JCM.01555-07
9. Fabre V, Sharara SL, Salinas AB, et al. Does This Patient Need Blood Cultures? A Scoping Review of Indications for Blood Cultures in Adult Nonneutropenic Inpatients. *Clin Infect Dis*. 2020; 71(5):1339-1347. DOI:10.1093/cid/ciaa039

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

HAN Message Types

- **Health Alert:** Conveys the highest level of importance about a public health incident.
- **Health Advisory:** Provides important information about a public health incident.
- **Health Update:** Provides updated information about a public health incident.

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This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations.

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