"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

INTRODUCTION

Form Approved
OMB No. 0920-XXXX
Exp. Date xx/xx/20xx

Purpose of the Survey: This baseline survey is being performed for the Centers for Disease Control and Prevention (CDC) and the American Society for Microbiology (ASM) to learn about laboratories' practices and policies for reducing blood culture contamination with the goal of improving practice and patient care. This survey will take approximately 35 minutes to complete.

Security Information: All information collected in this survey will be kept in a secure manner. We ask you to include your CLIA number to ensure that only one response per laboratory is recorded. We also ask you to include your email address to follow-up if needed. Your CLIA number and email address will not be stored in a database and they will not be linked to your survey responses. Your IP address will NOT be retained.

Participation is voluntary; you are free to withdraw from this survey at any time. If at any point you do not want to continue, you can simply leave this website. If you do not click on the “done" button at the end of the survey, your answers and participation will not be recorded.

Asterisks (*): Questions marked with an asterisk require an answer before you can proceed to the next question.

How the findings will be used: The results from the survey will be compiled and shared in aggregate as a learning tool, presented at professional conferences, and potentially published in a professional journal in the field of laboratory science.

Contact Information: If you have concerns or questions about this survey please address them to clinmicro@asmusa.org.

Approximately six months later, we will invite you to voluntarily participate in a post-survey.

Agreement: By beginning the survey, you acknowledge that you have read this information and agree to participate in this survey, with the knowledge that you are free to withdraw your participation at any time without penalty.

Public reporting burden of this collection of information is estimated to average 35 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Information Collection Review Office, 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333; ATTN: PRA (0920-XXXX).

Thank you for taking the time to complete this CDC and ASM survey. Your feedback is important for guiding CDC and ASM in their efforts to improve laboratory practice and patient care. The survey should take approximately 35 minutes of your time. All answers will remain completely anonymous.

*** 1. Position/Title of Person Completing Survey:**

*** 2. Email address:**

*** 3. Laboratory Name:**

*** 4. CLIA #:**

*** 5. How did you learn about this survey?**

- ○ Laboratory Response Network Request
- ○ ClinMicroNet
- ○ DivCNet
- ○ Clinical Microbiology Issues Update
- ○ Microbe, ASM's monthtly news magazine
- ○ Other (please specify)

*** 6. Did you already fill out this survey?**

- ○ Yes
- ○ No

If answered "Yes", respondents have completed the survey.

7. Date:

12/05/2015

MM / DD / YYYY

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 8. Which of the following best describes your laboratory setting? (Select the best choice.)**

- ○ University hospital/Academic medical center
- ○ City/County/State Hospital
- ○ Military/VA Hospital
- ○ Other Hospital not listed above
- ○ Independent laboratory
- ○ Public Health Department,non-hospital
- ○ Physician office/ambulatory care laboratory
- ○ Other (please specify)

*** 9. How would you characterize your institution?**

- ○ For profit
- ○ Non-profit

*** 10. How many pathologists or other physicians are in your laboratory? (Do not include residents, fellows or trainees/medical students.)**

*** 11. Is your laboratory located in an institution that provides direct patient care?**

- ○ Yes
- ○ No

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 12. My institution is**

- ○ hospital based.
- ○ non-hospital based.

*** 13. What kind of patient population is at your institution? (Select all that apply.)**

- ☐ Inpatient
- ☐ Outpatient
- ☐ Non-patient
- ☐ Other (please specify)

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 14. How many hospital beds does the microbiology section serve?**

- ○ >500 beds
- ○ 101-500 beds
- ○ 50-100 beds
- ○ <50 beds
- ○ Only have outpatients

*** 15. What is your laboratory's zip code?**

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 16. Are any of your laboratory staff currently members of the American Society for Microbiology (ASM)?**

- Yes
- No
- Do not know

If answered "No" or "Do not know", respondents skip to question 18.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 17. Do any of those members subscribe to (select all that apply)--**

- [ ] ASM's ClinMicroNet listserv
- [ ] ASM's DivCNet listserv
- [ ] No, do not subscribe
- [ ] Do not know

*** 18. Does the microbiology laboratory have a doctoral-level clinical scientist or consultant?**

- ( ) Yes
- ( ) No

If answered "No", respondents skip to question 20.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

DEMOGRAPHICS

*** 19. What is their board certification? (Select all that apply.)**

- [ ] D(ABMM) Diplomate, American Board of Medical Microbiology
- [ ] D(ABB) Diplomate, American Board of Bioanalysis, HCLD (High Complexity Laboratory Director)
- [ ] D(ABB) Diplomate, American Board of Bioanalysis, BCLD (Bioanalyst Clinical Laboratory Director)
- [ ] Ph.D., other board certified
- [ ] Ph.D., non-board certified
- [ ] ABP (American Board of Pathology) Sub-boarded in Medical Microbiology
- [ ] ABIM (American Board of Internal Medicine) Sub-boarded in Infectious Disease
- [ ] M.D./D.O.
- [ ] Do not know
- [ ] Other (please specify)

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 20. Does your laboratory perform blood cultures for bacteria?**

- Yes
- No

If answered "No", respondents have completed survey.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 21. Approximately, how many blood cultures does your laboratory collect or process on a yearly basis?**

- <1,000
- 1,000-5,000
- 5,000-10,000
- >10,000

*** 22. Does your laboratory track the percentage of blood culture contamination?**

- Yes
- No

If answered "No", respondents skip to question 24.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 23. What is the percentage of blood culture contamination in your laboratory?**

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 24. Does your laboratory track the percentage of blood culture contamination in the emergency department of your institution?**

- Yes
- No

If answered "No", respondents skip to question 26.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 25. What is the percentage of blood culture contamination in the emergency department or other specific departments of your institution?**

*** 26. Does your laboratory follow published guidelines for reducing blood culture contamination?**

- Yes
- No

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

CURRENT PRACTICE

*** 27. Which organization has published guidelines that your laboratory considers useful to follow? (Select all that apply.)**

- [ ] American Society for Microbiology
- [ ] Infectious Disease Society of America
- [ ] Clinical and Laboratory Standards Institute
- [ ] Centers for Disease Control and Prevention
- [ ] Laboratory Medicine Best Practice Work Group and Initiatives supported by the Centers for Disease Control and Prevention
- [ ] Do not follow published guidelines
- [ ] Other (please specify)

*** 28. Which guidelines does your laboratory consider useful to follow? Please insert name of guideline (e.g., ASM Cumitechs, CDC MMWR, etc).**

American Society for Microbiology	
Infectious Disease Society of America	
Clinical and Laboratory Standards Institute	
Centers for Disease Control and Prevention	
Laboratory Medicine Best Practice Work Group and Initiative supported by the Centers for Disease Control and Prevention	
Other, please insert guideline title	
Do not know	

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

Current Practice

*** 29. Who collects blood cultures at your institution? (Select all that apply.)**

- [ ] House Staff Physicians (residents, trainees, fellows)
- [ ] Medical Staff (physicians with institutional privileges)
- [ ] Clinical Laboratory Scientists/Medical Technologists
- [ ] Medical Laboratory Technicians
- [ ] Phlebotomists
- [ ] Nurses
- [ ] Physicians Assistants
- [ ] Medical Assistants
- [ ] Medical Students
- [ ] Emergency Medical Technicians
- [ ] Paramedics

*** 30. Of the groups who collect blood cultures at your institution, approximately what percentage does each collect?**

House Staff Physicians (residents, trainees, fellows)	
Medical Staff (physicians with institutional priveleges)	
Clinical Laboratory Scientists/Medical Technologists	
Medical Laboratory Technicians	
Phlebotomists	
Nurses	
Physicians Assistants	
Medical Assistants	
Medical Students	
Emergency Medical Technicians	
Paramedics	
Do not know	

*** 31. Is specific training provided for staff who collect blood for culture?**

- ○ Yes
- ○ No
- ○ Do not know

If answered "No", respondents skip to question 36.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

Current Practice

*** 32. Which groups receive training? (Select all that apply.)**

- [ ] House Staff Physicians (residents, trainees, fellows)
- [ ] Medical Staff (physicians with institutional privileges)
- [ ] Clinical Laboratory Scientists/Medical Laboratory Technologists
- [ ] Medical Laboratory Technicians
- [ ] Phlebotomists
- [ ] Nurses
- [ ] Physicians Assistants
- [ ] Medical Assistants
- [ ] Medical Students
- [ ] Emergency Medical Technicians
- [ ] Paramedics

*** 33. What is frequency of training? (Select all that apply.)**

- [ ] Upon hire
- [ ] Annually
- [ ] Every three months
- [ ] Every six months
- [ ] Special training circumstances
- [ ] Other (please specify)

*** 34. Briefly describe the training:**

*** 35. Who provides training?**

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

Current Practice

*** 36. Is staff required to demonstrate competency prior to collecting blood from patients?**

- Yes
- No
- Do not know

*** 37. What antiseptic is primarily used to decontaminate skin prior to collecting blood? (Select the most common if more than one is used.)**

- Iodine
- Iodophor
- Chlorhexidine
- Isopropyl Alcohol
- Do not know

*** 38. Do you allow blood collection from IV catheters?**

- Yes
- No

If answered "No", respondents skip to question 42.

*** 39. How often?**

- Always/nearly always
- Sometimes
- Rarely

*** 40. Do you have a guideline in place for diagnosing central line IV associated infections?**

- ○ Yes
- ○ No

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

AWARENESS

*** 41. Which organization's guideline do you follow for diagnosing central line IV infections?**

- ○ American Society for Microbiology
- ○ Infectious Disease Society of America
- ○ Clinical and Laboratory Standards Institute
- ○ Centers for Disease Control and Prevention
- ○ Laboratory Medicine Best Practices Work Group and Initiatives supported by the Centers for Disease Control and Prevention
- ○ Do not follow published guidelines
- ○ Other (please specify)

*** 42. How often is blood collected using pre-packaged kits?**

- ○ Always/nearly always
- ○ Sometimes
- ○ Rarely
- ○ Never
- ○ Do not know

*** 43. Have you seen or did you know about the publication, "Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis," (Clinical Biochemistry 45[2012] 999-1011), citing recommendations for decreasing blood culture contamination rates? If you did not know about this publication or have not read it, you are encouraged to do so now. The guideline is available at https://clinmicro.asm.org/index.php/bench-work-resources/guidelines/74-guidelines/446-evidence-based-laboratory-guideline.**

- ○ Yes
- ○ No

If answered "No", respondents skip to question 48.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

AWARENESS

*** 44. How did you find out about this publication? (Select all that apply.)**

- [ ] Direct communication from colleague
- [ ] Professional organization publications (e.g. Practical Guidance for Clinical Microbiology [formerly Cumitechs], Clinical Microbiology Procedures Handbook)
- [ ] Electronic communication via listserv, social media, newsletters
- [ ] Lab Medicine Best Practices website or other internet website
- [ ] PubMed or journal
- [ ] Professional meeting or conference
- [ ] Attendance at regional meetings
- [ ] Webinars/webcasts or other training
- [ ] This survey
- [ ] Other (please specify)

*** 45. Provide specifics about how you learned about this publication (e.g., which internet site, journal name, name of meeting or meeting sponsor, training activity)?**

*** 46. Did you read the publication?**

- ( ) Yes
- ( ) No

*** 47. Check all statements that apply:**

- [ ] I read the entire document.
- [ ] I skimmed parts of the abstract or manuscript.
- [ ] I found it useful.
- [ ] I shared it with colleagues.
- [ ] I found it informative.
- [ ] I found it easy to understand.
- [ ] I found it easy to read.
- [ ] I did not read it.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

AWARENESS

*** 48. How do you prefer to receive information on new laboratory guidelines and recommendations? (Select your top three preferences.)**

	First Preference	Second Preference	Third Preference
Direct communication from colleague	○	○	○
Professional organization publications (e.g. Practical Guidance for Clinical Microbiology [formerly Cumitechs], Clinical Microbiology Procedures Handbook)	○	○	○
Electronic communication via listserv, social media, newsletters	○	○	○
Lab Medicine Best Practices website or other internet website	○	○	○
PubMed or journal	○	○	○
Professional meeting or conference	○	○	○
Attendance at regional meetings	○	○	○
Webinars/webcasts or other training	○	○	○
Face-to-face meeting/mentoring program	○	○	○
Online training	○	○	○

*** 49. Are there other ways you prefer to receive information on new laboratory guidelines and recommendations?**

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

ADOPTION/IMPLEMENTATION

*** 50. Does your institution use a phlebotomy team?**

- ○ Yes
- ○ No

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

ADOPTION/IMPLEMENTATION

*** 51. Did this publication influence your decision to use a phlebotomy team?**

- Yes
- No
- Already doing this
- Not applicable, have not seen publication

If answered "No" or "Already doing this", respondents skip to question 53.

If answered "Not applicable", respondents skip to question 59.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

ADOPTION/IMPLEMENTATION

*** 52. What motivated you to adopt these phlebotomy recommendations? (Select all that apply.)**

- [ ] Decrease laboratory cost from reducing multiple blood draws.
- [ ] Decrease overall hospital costs.
- [ ] Decrease cost to patient.
- [ ] Decrease patient discomfort from drawing multiple blood cultures.
- [ ] Other, please describe:

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

ADOPTION/IMPLEMENTATION

*** 53. Did your laboratory stop collecting blood from IV catheters based on recommendations provided in the publication?**

- Yes
- No

If answered "No", respondents skip to question 55.

*** 54. Except for diagnosing IV catheter infection, has your laboratory stopped collecting blood through IV catheters?**

- Yes
- No

If answered "Yes", respondents skip to question 56.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

ADOPTION/IMPLEMENTATION

*** 55. Why are you still collecting from IV catheters? (Select all that apply.)**

- [ ] Immunocompromised patient
- [ ] Newborn
- [ ] Other (please specify)

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

BARRIERS

*** 56. Do you perceive barriers to adoption/implementation in your laboratory?**

- Yes
- No

If answered "No", respondents skip to question 59.

"Effectiveness of Practices to Reduce Blood Culture Contamination: A Laboratory Medicine Best Practices Systematic Review and Meta-Analysis"

BARRIERS

*** 57. What are they? (Select all that apply.)**

- [ ] Too expensive to implement (benefits not worth the cost).
- [ ] Cost to patient (or lack of coverage by insurance).
- [ ] Cost to lab (or lack of reimbursement).
- [ ] Time spent not worth the benefit.
- [ ] Lack of time for staff training.
- [ ] Lack of educational materials or time to develop.
- [ ] Physicians/pharmacists do not think it is necessary.
- [ ] Do not agree with interpretation of evidence or insufficient evidence.
- [ ] Conclusions are biased.
- [ ] Not certain implementation will achieve improved results (reduction of morbidity/mortality, decrease in cost)
- [ ] Infectious Disease physicians are afraid it will limit autonomy.
- [ ] Recommendations are not practical.
- [ ] Not applicable to my laboratory/patient population
- [ ] Did not know about it
- [ ] Other (please specify)

*** 58. What are the top three barriers for your institution?**

	1	2	3
Too expensive to implement (benefits not worth the cost)	○	○	○
Cost to patient (or lack of coverage by insurance)	○	○	○
Cost to lab (or lack of reimbursement).	○	○	○
Time spent not worth the benefit.	○	○	○
Lack of time for staff training.	○	○	○
Lack of educational materials or time to develop.	○	○	○
Physicians/pharmacists do not think it is necessary.	○	○	○
Do not agree with interpretation of evidence or insufficient evidence.	○	○	○
Conclusions are biased.	○	○	○
Not certain implementation will achieve improved results (reduction of morbidity/mortality, decrease in cost).	○	○	○
Infectious Disease physicians are afraid it will limit automony.	○	○	○
Recommendations are not practical.	○	○	○
Not applicable to my laboratory/patient population.	○	○	○

59. Are there any other blood culture contamination methods purported to reduce blood culture contamination that we need to evaluate in future updates of this publication?

60. What can ASM and/or CDC do to help remove barriers and make it easier to implement the recommendations/guideline?