

Utilization of a Discard Tube for Initial Specimen Diversion During Blood Culture Collection: A Pilot Study on Reduction of Contaminations



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Background

- Blood Cultures (BC) are commonly collected in the emergency setting as part of the clinical work up when systemic or bloodstream infections are suspected.
- Blood cultures play an important role in the treatment decision and monitoring of progress.
- Blood Culture Contaminations (BCC) are a costly problems for hospitals & detrimental to patients.
- Proper collection and prevention of contaminations are vital to decreasing unnecessary treatment & reducing hospital length of stay (LOS).

Purpose

- The purpose of the blood diversion device to remove the initial blood from going into the blood culture vial has shown to reduce false positives & contamination numbers by diverting contaminants. Using a discard blood tube is significantly cheaper than other blood diversion devices.

Methods

- 3-month pilot in the ECC utilizing a blood tube as a discard to act as an Initial Specimen Diversion device (ISDD) during collection by RNs for all BC.
- Education on blood culture collection was provided to all ED RNs & discussed prior to the start of pilot data collection period.

Results

- Pre-pilot average : 2.76%
- Pilot average : 2.41%
- The usage of the ISDD showed a decrease of .35% in BCC.
- This reduction equates to a decrease of 57.54 BCC per year based on 2022 data of 16,439 blood cultures. With the average LOS per BCC at 2.35 days, this would equate to a reduction in LOS from BCC by 135.22 hospital days annually.

Discussion

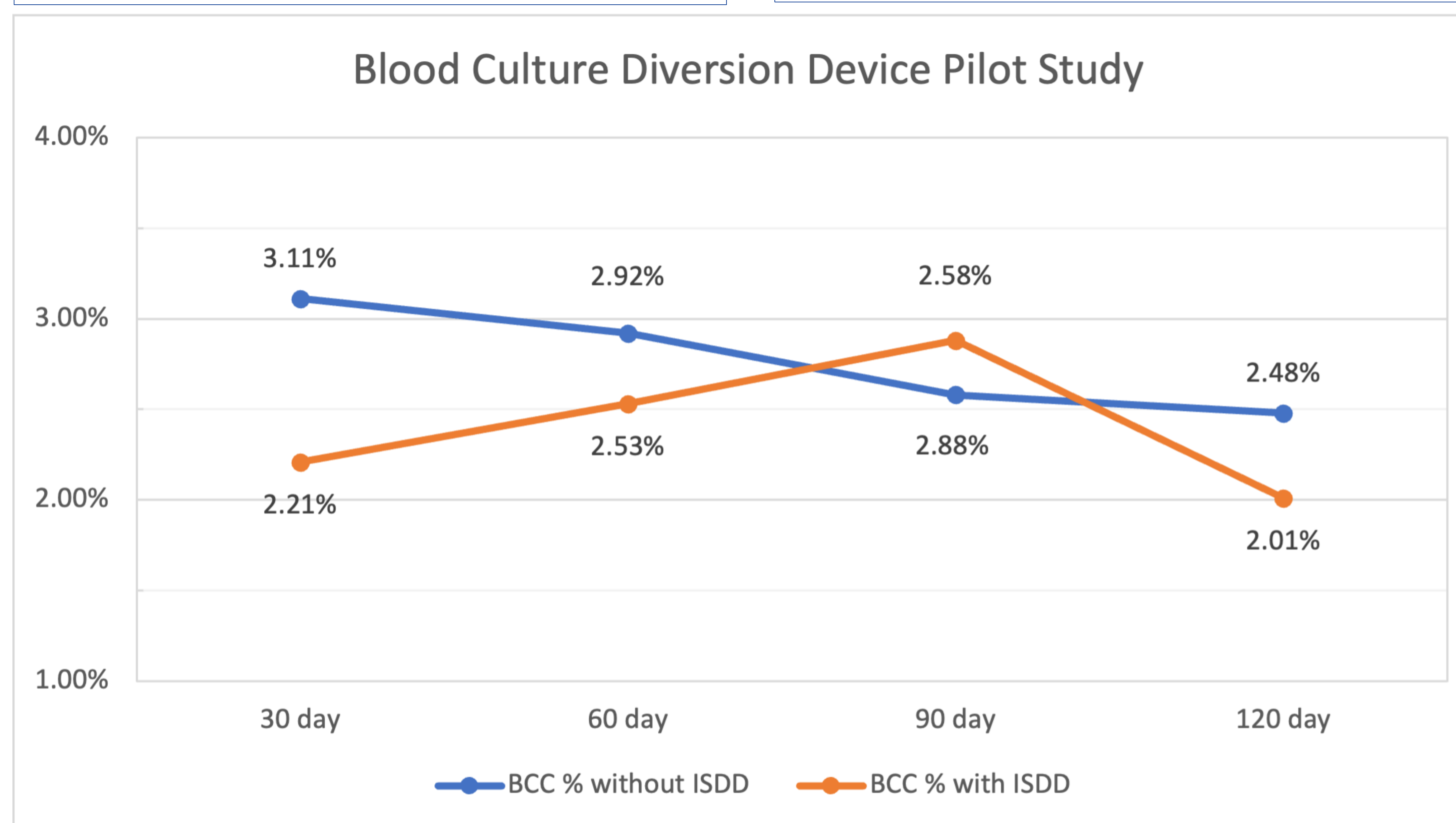
- BCC has significant financial impact. One false positive equates to \$4,500 each or over \$2M annually. The reduction of 57.54 BCC is a savings of \$258,930.
- Many of factors related to nursing workload, availability of resources, years of experience & usage of travel nurses should be discussed in reducing BCC.

Implications for Practice

- Adoption for all BCs drawn would help decrease the contamination rate. This would decrease LOS, improve patient satisfaction, and improve overall patient outcomes by reducing unnecessary treatments.

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References available upon request.