

## **Not Your "Average" ED: a CNS Led Project That Reduced Blood Culture Contaminations in One Emergency Department to Below Expected Levels**

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**Background/Significance:** Blood culture (BC) contamination makes interpreting results difficult and can cost millions. The American Society for Microbiology reports under the ideal conditions contamination rates average from 2 -3%. In 2012, the emergency services CNS, in conjunction with the phlebotomy manager, implemented many strategies to reduce contaminations. Yet, despite numerous evidenced based educational initiatives, results varied. Despite the variability, our rates remained low, until in 2017, when our blood contamination rates soared favorably downward.

**Evaluation Methods:** In January of 2017, the CNS for the emergency department (ED) performed a study on the current state of BC collection at our hospital. As a result, the ED CNS revamped our evidenced based blood culture protocol. In conjunction, a new innovative blood collection device was introduced: The Kurin® BC collection device is a FDA approved product promoted to reduce BC contaminations.

**Outcomes:** From 2013 to 2016, the average yearly contamination rate ranged from 2.1% to 1.6% respectively. Although 1.6% seems minimal, it equates to 99 contaminations resulting in an estimated cost of \$5,200 per contamination with a total cost of \$514,800. Three months post project implementation, the average contamination was 0.8% for a total of 8 contaminations. Taking into account the cost of the Kurin® device at 0.8% we estimate an annual savings of \$186,300/year minimally.

**Implications:** Although our hospital was at an "expected" rate, this process improvement demonstrates that we can push even lower. Using a combination of education, close monitoring and the Kurin® blood collection device we will only continue to improve these rates.