Blood Sample Rejection Rates in the Emergency Department
Background

- Laboratory blood sample rejection rate at a local emergency department during 2014 averaged 2.8%.

- National average for laboratory blood sample rejection rate ranges from 0.3% to 0.8% (Shahangian & Snyder, 2009).
Question

How can the emergency department reduce its blood specimen rejection rate?
Objectives

● Explore best practice methods to improve blood sample collection.
● Discover why laboratory is rejecting blood samples.
● Determine personnel population with highest rate of rejections.
Methodology

- Use laboratory data and narrative interviews to analyze most common reasons for rejection.
- Cross-reference laboratory data with employee list to determine personnel with highest rates of lab rejection.
- Review literature to determine best practices for blood sample collection.
Laboratory Rejection Rates 2014

Number of Samples

Jan  Feb  March  April  May  June  July  Aug  Sept  Oct  Nov  Dec

Month

Hemolyzed
Clotted
Quantity Not Sufficient
Laboratory Rejections by Personnel

- Registered Nurse: 63%
- Emergency Department Tech: 32%
- Licensed Practical Nurse: 1%
- Clinical Manager: 1%
- Unit Secretary: 1%
Results

- Hemolysis and clotting are main reasons for laboratory rejection.
- Registered nurses are dominant group of personnel with laboratory rejections.
- Hemolysis is lower in blood samples drawn through butterfly needles as opposed to intravenous catheter (IV) starts (Wollowitz et al., 2013).
- Use of ED techs or a dedicated phlebotomist in lieu of nurses decreases blood sample rejections (Lowe et al., 2008).
Discussion

- Study effectively identified common lab rejection errors and probable reasons for errors.
- Tendency to draw blood samples when starting IVs may account for registered nurses’ higher rejection rate.
- Reducing laboratory rejection rate is particularly important in the emergency department, where every second counts.
- Laboratory rejections also increase healthcare costs and decrease patient satisfaction (Kaushik & Green, 2014).
Recommendations

- Revise policy to prohibit drawing blood from IV starts.
- Educate staff annually on best practice for decreasing blood sample rejections.
- Explore feasibility of using a dedicated phlebotomist or ED technicians to draw blood samples instead of nurses.
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