



Centralized Versus Decentralized Phlebotomy

As hospitals assess patient care and ways of improving efficiency of personnel, the debate on whether to centralize sample collection with a staff that is part of the clinical laboratory or decentralize blood collection by having nursing and support staff draw specimens is often considered. There is also a third option with some combination of the two. If this is the case, laboratory personnel collect the majority of inpatient specimens and certain departments, e.g. the emergency department or ICUs, will collect their own.



There are pros and cons to both the decentralized and centralized approach. The decentralized approach lends itself to more efficient use of staff and minimizes the number of healthcare workers caring for the patient resulting in more personalized, focused care. Nursing staff often have a better grasp of patient circumstances and the benefit of an established relationship. This may create a more positive patient perception of the blood collection experience and overall hospital stay.

Nurses, nursing assistants or patient care technicians may also collect specimens in a more timely manner than laboratory staff responsible for multiple collections, which will reduce turn-around time. Due to the close proximity to the patients they care for, they can collect samples as they are ordered and get them to the lab faster especially with the prevalence of pneumatic tube systems in most facilities.

Laboratory personnel, on the other hand, collect specimens on a routine basis and typically understand the sample requirements for any given test including tube type, order of draw, specimen handling as well as techniques involved in obtaining a good quality specimen. Because the overwhelming majority of patient diagnoses are made based on clinical laboratory results, the quality of the specimens used for generating these test results is of utmost importance.

Most studies indicate that specimen quality and rejection rates are significantly lower when the laboratory is responsible for blood collection. Hemolysis, clotted samples, culture contaminations rates and mislabeled specimens have all been shown to be problematic when phlebotomy is decentralized. This causes an increase in sample rejection, redraws and, potentially, inaccurate test results. There is a cost associated with all of these in terms of labor, supplies, patient satisfaction and, in the case of culture contamination, cost due to increased length of stay. Additional concerns include increased risk of needlestick injuries and exposure to bloodborne pathogens when nursing staff are responsible for collection with devices they may not be properly trained to use. These costs must be weighed against the cost of maintaining a staff exclusively devoted to specimen collection. This type of assessment has led to some facilities that have tried decentralized specimen collection to move back to a primarily centralized model.

Many assume that nurses are trained in phlebotomy. However, this is not typically part of the nursing curriculum. It may also be mistakenly assumed by some that inserting an IV is the same process as venipuncture so nurses should be able to draw blood. Again, those individuals trained in phlebotomy or laboratory diagnostics know this is not the case. With the proper training and support, nursing or support staff could successfully draw blood samples but managing this training and ensuring ongoing competence could be an overwhelming proposition without the appropriate infrastructure.

Even education for phlebotomists can be an issue if they are not certified by a recognized agency. Due to lack of any national requirement for certification, there is a range of training programs from those that claim to teach proper technique in a half-day course to programs affiliated with healthcare facilities or recognized educational institutions that are appropriately

accredited. In order to cover the necessary information to prepare candidates for taking the certification exam, these types of programs may be 12 weeks or longer when considering clinical rotation.

Regardless of whether the centralized, decentralized or some combination model is chosen, it is important that competency is established and maintained. If a decentralized model is chosen, training and ongoing competency should include both laboratory and nursing staff to ensure that both are held accountable and remain engaged in the success of the process. It has also been demonstrated that establishing and routinely measuring quality metrics for specimen collection ensure that issues are identified and can be immediately addressed with the appropriate individuals. Examples of such matrices include sample labeling, hemolysis rates, quantity not sufficient and redraw rates.

Laboratory personnel can easily meet on a regular basis to review these matrices to gage performance. Some labs also post performance/quality information to make staff aware of how their performance compares and encourage improvement. If nursing or support staff is involved in blood collection, this may mean routine meeting of appointed representatives that then must disseminate this information appropriately or post it in their respective units.

The emergency department may present unique challenges due to the fast-paced environment. Regardless of the phlebotomy configuration for the rest of the hospital, this is one area where nursing frequently draws blood and many laboratories see specimen quality issues increase due to collections during IV insertion. Laboratories have some options to minimize quality issues by educating staff on proper collection techniques with vascular access devices, the benefits of specimen collection by venipuncture, ensuring that appropriate transfer devices are used when drawing from an access device or staffing the ED with phlebotomists.

The ultimate goal is to collect a specimen that is representative of patient status. Greiner Bio-One is invested in helping customers achieve this by providing quality products, training and educational materials for those involved in blood collection. Greiner Bio-One has a dedicated team of Product Specialists who provide onsite support to ensure that appropriate personnel are trained to properly use VACUETTE® products. Greiner Bio-One also routinely conducts free webinars on preanalytic topics for P.A.C.E.® credit and sponsors phlebotomy educational events that provide unique opportunities for our customers to stay current on phlebotomy related issues. These tools will help educate all staff involved in specimen collection.

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