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LEARNING OBJECTIVES

1. Describe how healthcare facilities are paid.
2. Explain how SPD functions are connected to reimbursements.
3. Discuss key SPD activities that can improve reimbursement.

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SELF-STUDY SERIES

The impact of sterile processing functions on hospital reimbursement

by Heide Ames and Sandra Beauclair

Healthcare facilities generate revenue by providing services to individuals. These services can include such things as laboratory tests, diagnostic procedures, medical consultations and surgeries. Though the patient receives the service, payment for that service is rarely the patient's responsibility alone. Private insurers, Medicare, Medicaid and other government-provided healthcare coverage plans pay a significant portion. These organizations also negotiate the billable charges and set pricing for each of these services with U.S. healthcare facilities. Payments made by these organizations are categorized as reimbursement. Hospitals receive 90% or more of their revenue in reimbursement dollars.

Of all the insurance plans working with healthcare providers, Medicare and Medicaid have the greatest number of members. They cover 49 percent of the US population and are responsible for 55% of the healthcare that is provided.¹ As a result, the Centers for Medicare & Medicaid Services (CMS) has a lot of influence over healthcare reimbursement amounts and the conditions under which hospitals will receive reimbursement. Recent changes to these conditions have caused an intense focus on how hospitals can improve the delivery of medical services.

Cost center vs. revenue center

Why are we talking to sterile processing professionals about Medicare and Medicaid? Because sterile processing departments (SPDs) have a direct impact on the costs associated with specific medical services, such as surgical procedures. They are often treated as cost centers (expenses rather than revenue producers), so an SPD's operational costs are incorporated into the total costs for their facilities' medical procedures. Since they directly affect the net reimbursement to the hospital for surgical and diagnostic procedures, it follows that how poorly or well a department

performs its jobs can also impact a facility's reimbursement.

By definition, cost centers do not directly generate revenue or income for the facility by the work they perform. However, their work is needed to enable revenue-producing work. The Environmental Services Department (EVS) is another example of a cost center. EVS employees do not perform surgeries or take care of patients. But in order for others to perform direct patient care and conduct surgical procedures, the entire facility must be maintained in good operating condition, with lights, heat/cooling, and all utilities. Operating rooms and patient rooms must be cleaned and decontaminated, and hospital equipment must be maintained. EVS services require an operating budget to pay employee wages and purchase supplies and equipment, but since they do not directly produce billable medical services, where does their operating budget come from? It must come from the hospital's revenue centers.

Revenue generators are services and product charges that are billable to the patient. These include surgical procedures, tests, pharmaceutical supplies and certain disposable supplies. In some cases, sterilization services performed in the SPD are billable because they are related to specific revenue centers. Emergency rooms, labor and delivery and many outpatient centers are revenue-generating departments the SPD serves, but the most common revenue-generating function tied to SPD services is the surgical department.

New reimbursement rules

In the past, every time a service (like a blood test) was performed, it was billed to the patient and reimbursed by CMS. This included services and costs that may have occurred due to poor medical care. This is no longer the case. CMS has initiated new reimbursement models that reward the delivery of good care while

penalizing healthcare facilities that deliver suboptimal care.

In April 2011 CMS made a historic change in how they would pay healthcare providers; they launched the hospital Value-Based Purchasing Program. For the first time, 3,500 hospitals across the country were being paid for inpatient acute-care services based on

1. The quality of care provided
2. How closely best clinical practices are followed
3. How well hospitals enhance patients' experiences of care during hospital stays

These values were evaluated within four domains:

- Safety
- Clinical Care
- Efficiency and Cost Reduction
- Patient and Caregiver-Centered Experience of Care Coordination

Reimbursements were directly tied to the success of obtaining good ratings in each of these domains. Failure to meet specified conditions resulted in a lower reimbursement rate from CMS for all procedures performed. This can be thought of as a mandated discount for poor service.

However, there was also an up-side. This reimbursement model also rewarded good performance in key areas. Hospitals that achieved high scores received bonuses *in addition to the full reimbursements*. The surgical site infection (SSI) rate is one of the key safety measures for which hospitals can receive penalties or rewards.

Under the Value-Based Purchasing Program, a second reimbursement model was implemented in 2016. The Comprehensive Care for Joint Replacement is an episode-based payment initiative. An episode of care is "the set of services provided to a patient for a particular condition within a specific period of time across a continuum of care."² The model tests bundled payments and quality measurements for episodes of care associated with hip and knee replacement surgeries. The intent of the initiative is to encourage hospitals, physicians, and post-acute care providers to work together to improve the quality and coordination of care from initial hospitalization through recovery and rehabilitation.

The third and most recently launched value-based reimbursement program is The Affordable Care Act Hospital Readmissions Reduction Program, which instructs CMS to "penalize hospitals with higher-than-expected readmissions for

specific clinical conditions in order to encourage efforts to reduce those excess readmissions."³ This pay-for-performance program lowers payments to hospitals with too many readmissions.

SSIs are the primary cause of hospital readmission. They are associated with serious illness and death among infected patients. The number of SSIs has continued to increase nationally, adding an estimated \$10 billion of additional cost per year to the US healthcare industry.³ In 2015, CMS expanded the penalties for readmissions to include elective total hip and total knee arthroplasties (reconstruction or replacement procedures).



Open-heart surgical site infection

The SPD's important connection to reimbursement

SPD activities have a direct impact on the measurements used to determine reimbursement rates. The first measurement affected is safety.

Surgical site infections resulting from colon surgical procedures, abdominal hysterectomies, total hip arthroplasties and total knee arthroplasties can come from a variety of sources. Contaminated devices, the total time the surgical site is open, and the use of immediate-use steam-sterilized items have all been implicated in surgical site infections. SPD professionals play a key role in ensuring that these risks are reduced or eliminated.

No contaminated devices, ever

The most obvious way that an SPD helps reduce risk is by providing sterile instrumentation to the OR every time. Failure to remove residual debris, address bacteria-harboring damage, or improperly prepare instrumentation for sterilization can lead to a contaminated device that carries disease-causing bacteria entering the

patient's surgical site, a direct inoculation for disaster.

However, even if the contaminated instruments are discovered in the OR before they are used for surgery, they can lower reimbursement because of delayed or cancelled procedures. One startling example of a worst-case scenario appeared in 2018.^{5,6,7} A doctor sued the hospital that performed her hip reconstruction surgery after she nearly died from a SSI. The state investigation revealed that "the facility experienced system failures that led to inadequate sterilization of surgical equipment ... The contaminants included chunks of bone, blood, cement, black residue, dead bug and hair." In addition, the consequences to the facility were dire:

- "Delays occurred in scheduled surgeries because clean instruments were not available in a timely manner."
- "Surgeries were interrupted because clean instruments were not available."
- "Health officials [said], "since the facility is certified by the Centers for Medicare and Medicaid Services, CMS may, at its discretion, impose sanctions."

The hospital eventually paused all surgeries until the situation was resolved.⁸ In addition to the pain and suffering of affected patients, imagine how much surgery reimbursement was lost during this period.

Your best practices matter

In order to maintain high patient safety scores that optimize reimbursement, every aspect of instrument reprocessing must be thoroughly and consistently performed. Technicians must assure that instruments and devices are thoroughly cleaned, inspected and prepared for sterilization in accordance with manufacturer instructions for use, regardless of how long that takes.

Employing cleaning indicators and cleaning efficacy tests is another best practice that helps ensure devices are clean enough to be sterilized. Thorough inspection of matted surfaces, pliable components, insulation and seams is also necessary to capture nicks, breaks and crevices that can trap debris and allow bacteria to thrive in "hiding places" that shield them from the sterilization process.

Finally, proper sterilization techniques using validated sterilization equipment and packaging is critical to ensure sterility penetration to the bacteria within. This also includes the use of biological and chemi-

cal indicators to verify the lethality of the sterilization process and provide evidence that the sterilant reached the instruments within the packs being sterilized.

Tighten surgical close times

SPD activities can also impact the length of time that a patient's surgical site is open. Increasing the length of the surgical procedure directly relates to an increased probability of a surgical site infection. Surgeons, nurses and surgical techs work quickly to complete the procedure and close and suture the surgical site as soon as possible. To be most efficient, the operating room staff must have all the required instrumentation present and in good working order. Opening a case cart or set to find a missing or damaged device during the procedure causes delays in completing the procedure if a new instrument must be located and brought to the sterile field.

The SPD must ensure that instrument sets are complete and that all devices are functioning fully. Missing devices must be identified before the start of the procedure and alternatives made immediately available, batteries must be charged, and if an item is needed in the OR quickly, runners must respond as quickly as possible.

The best practice is to establish policies and procedures that prevent instrument sets from proceeding to the OR with missing instrumentation. Instrument tracking systems can assist in uniquely numbering each instrument in the inventory, identifying additional locations for missing instruments, and finding any missing device more quickly.

Eliminate Immediate Use Steam Sterilization (IUSS)

IUSS can be a safe and effective alternative sterilization method for required instrumentation in a medical emergency. However, the pressure to turn operating rooms and surgical sets faster to keep up with schedules has led some facilities to circumvent best-practice terminal sterilization and replace it with IUSS. Many times, due to lack of sufficient device inventory or dated equipment, this has become the norm instead of the exception.

Consider the amount of time it takes to reprocess an instrument for IUSS, whether it is a single instrument or a tray of instruments. Cleaning and decontamination of the instrument or instrument tray takes 15 to 25 minutes before sterilization. Then a four-minute prevacuum IUSS cycle at 270°F (132°C) with a 1-minute dry time takes

about 15 minutes to complete due to the amount of time it takes for the conditioning and exhaust phases. To prevent burn injuries, the instrument must cool prior to use, which adds 5 to 10 minutes. This adds up to between 35 and 50 minutes of surgical delays, or delays in closing a surgical procedure while waiting for instrumentation. In addition, IUSS has been shown to relate to higher infection rates compared to surgical procedures that did not employ IUSS.

Best practice is to eliminate the need for IUSS altogether. It is within the power of each SPD to work toward this goal. Whether it's accomplished by increasing the instrument inventory or by establishing a priority processing method, or both, the SPD must ensure that all surgical devices arrive properly reprocessed, complete, fully functional, and in time for every procedure.

Today there are faster and safer equipment alternatives that provide terminally sterilized surgical instruments in the same amount of time as IUSS or less. Newer low-temperature hydrogen peroxide systems can terminally sterilize a wide variety of instruments (even ones with multiple material compatibility requirements) in 16 to 28 minutes, depending on the type of device and size of the load.

SPDs have the power to be reimbursement enhancers

The bottom line is: your sterile processing activities are a critical factor in the amount of reimbursement your facility receives from CMS. If you choose to apply a comprehensive approach that addresses all instrument reprocessing risk factors and helps provide clean, sterile, and complete instrumentation every time to every OR, you will be able to take credit for helping your facility reduce surgical delays, tighten surgical closing times, and potentially reduce SSI rates. These improvements may help boost your facility's CMS scores and reimbursements, and could increase your credibility and value as a revenue-enhancing cost center. **HPN**

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CONTINUING EDUCATION TEST • MARCH 2019

The impact of sterile processing functions on hospital reimbursement

Circle the one correct answer:

1. Because it is a cost center, the SPD has no effect on potential CMS reimbursements.
 - A. True
 - B. False
2. The Hospital Value-Based Purchasing program is a CMS payment model that pays participating hospitals for inpatient acute care services based on:
 - A. Quality of care provided.
 - B. How closely best clinical practices are followed.
 - C. How well hospitals enhance patients' experiences of care during hospital stays.
 - D. All of the above
3. CMS has reimbursement models that reward the delivery of good care while penalizing healthcare facilities that deliver poor care.
 - A. True
 - B. False
4. Examples of revenue-generating functions tied to SPD services include:
 - A. Emergency rooms, labor and delivery
 - B. Outpatient centers, surgical departments
 - C. Environmental services, Cafeteria
 - D. A and B
5. Hospital revenue centers do not need facility cost centers to function well.
 - A. True
 - B. False
6. The intent of the Comprehensive Care for Joint Replacement initiative is to
 - A. Encourage hospitals to hire more physicians and post-acute care providers who will work together as a team
 - B. Improve the quality and coordination of care for an episode of care
 - C. Include recovery and rehabilitation services.
 - D. B and C
7. Cost centers do not generate revenue or income for the facility by the work they perform.
 - A. True
 - B. False
8. Low-temperature hydrogen peroxide sterilization systems can replace IUSS and provide which of the following advantages?
 - A. Terminal sterilization
 - B. Multiple material compatibilities
 - C. Cycle time anywhere from 16 minutes to 28 minutes
 - D. All of the above
9. Best practice for IUSS is to eliminate the need for IUSS altogether. Two ways to work toward this goal are:
 - A. Increase the instrument inventory
 - B. Set aside broken instruments
 - C. Establish a priority processing method
 - D. a and c
10. In order to maintain high patient safety scores that optimize reimbursement, every aspect of instrument reprocessing must be thoroughly and consistently performed. This should include:
 - A. Thorough cleaning, inspection and prep for sterilization
 - B. Use of cleaning indicators, efficacy tests, and biological and chemical indicators
 - C. Using validated sterilization equipment
 - D. All of the above

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