Hospital A

Source:  Manager, Cardiac Cath Lab

Hospital A is a 350-bed, not-for-profit teaching hospital in the Midwest. Catheterization laboratory (cath lab) administrators are responsible for scheduling the procedures of two physician groups and six to seven independent physicians in four cath labs. One of these cath labs is primarily devoted to electrophysiology (EP) and pacemaker procedures.

Previously, lab managers scheduled procedures on a first-come, first-serve, open booking basis. However, physicians would create phony bookings in order to block out times for themselves, would cancel or rearrange appointments, and intentionally underestimate the time required for complex cases. Furthermore, there was considerable discord among physicians and much dissatisfaction among all parties involved—cath lab staff, physicians, and patients.

**Hybrid of open and block scheduling remedies flaws of open scheduling**

In order to improve scheduling efficiencies and overall satisfaction, cath lab managers developed a hybrid open and block system of scheduling in 2001. Administrators examined the number of total hours of lab availability and dedicated half the time to block booking. Then, administrators ran a database query to review the number of procedures each physician performed in an average month. Managers assigned blocks of time to physicians according to the proportion of total hospital procedures performed by the doctor. Moreover, the physicians who performed the most cases had the choice of the most popular time blocks, such as those in the early morning. Every few months, managers re-examine usage statistics to potentially increase or decrease block times slightly for physicians.

**Block scheduling attracts physicians from competing hospitals**

This method of allocation was well-received by physicians, who are currently very satisfied with the system of scheduling. Two physicians who practiced primarily at competing hospitals have also chosen to bring all of their business to the hospital because of the convenience of block scheduling. Although those physicians who perform relatively few procedures were not allotted the best times, they nonetheless have the opportunity to either leverage the advantage of block times or to schedule cases at more convenient times through the open slots in the schedule.

While physicians and physician groups have preferences for different rooms, administrators force all physicians to work in more than one room and become comfortable with different equipment and staffs. This method of scheduling prevents a situation wherein a physician who always works with the staff of one lab is forced to work with the staff of another lab in an emergency situation. Within their time blocks, however, physicians are free to schedule patients according to their personal preferences.
Overbooking penalization improves patient satisfaction, inter-group relations

Managers recommend that physicians allot one hour for standard cardiac cath procedures and 1.5 hours to complex procedures. Nonetheless, administrators place the onus on physicians for accurately predicting the amount of time that cases will require. Previously, physicians would deliberately pass off complex cases as simple cases. However, with the transition to the current scheduling system, managers announced that if physicians do not complete all of their cases within their daily allotted block of time, remaining cases are bumped to the end of the day. After managers penalized two physicians, physicians across all groups ceased to inappropriately schedule their patients. As a result, the timeliness of starts has improved dramatically—notwithstanding emergent cases and situations in which physicians make unexpected findings that increase the length of a procedure and for which they are not penalized. As timeliness and physician responsibility have increased, patient satisfaction and relations among physicians have also improved.

Allocation of times for inpatient procedures improves patient satisfaction

With time, cath lab managers realized that physicians preferred to book days fully with outpatient procedures, leaving inpatient procedures to after the normal business hours of 7:00 a.m. to 5:00 p.m.. Inpatient patients were extremely dissatisfied with this method of scheduling because they were forced to wait the entire day and return to their rooms late at night. Furthermore, cath lab staff members had to work several hours of overtime on a regular basis. To reduce both problems, cath lab administrators decided to dedicate time in the schedule during normal business hours for at least half of the average number of inpatient procedures on a given day. Additional inpatient cases may be added at the end of the day as needed, but administrators have eliminated most after-hours add-on cases.

Policies decrease late starts, eliminate cancellations

Because patients and physicians are equally dissatisfied with late starts, administrators also found it necessary to address the problem of physicians arriving late for the first procedure of the morning, which caused all subsequent starts to be delayed. When several other tactics to correct the problem failed, administrators simply added an extra half-hour to the time of the first case in order to account for physicians’ tardiness. After hours, physicians provide emergency call coverage between the hours of 5:00 p.m. and 7:00 a.m. through a rotational schedule established by lab managers. During the day, patients requiring emergent cardiac care are accommodated in the first available cath lab and all subsequent cases are bumped. While this causes some disruption to the schedule, no-shows and cancellations have been nearly eliminated since the development of the current scheduling policy.

Administrators have found that the cath labs are consistently full during the blocked times in the schedule. While they are often unable to fill all open time slots, they do not believe it is possible to schedule cath labs in such a manner that they are always full. Nonetheless, administrators believe their method of scheduling to be very efficient and to be responsible for many positive changes in patient satisfaction and physician relations.
Hospital B

Source: Manager, Cath Lab

Hospital B is a 250-bed, not-for-profit community hospital in the Northwest. Cath lab administrators at the hospital are responsible for scheduling approximately 4,000 procedures each year in four cath labs. Members of six physicians groups use the labs on a regular basis. In order to accommodate the preferences of all the physicians, administrators have chosen to implement a first-come, first-serve method of scheduling. When deciding which scheduling method to use at the hospital, managers considered the following characteristics of their practice:

- **Degree to which physicians are consolidated in groups**—If most physicians are members of groups, block scheduling may be effective. However, independent physicians prefer first-come, first-serve scheduling as it increases their access.
- **Number of physicians**—More physicians limit the practicality of block scheduling.
- **Total volume of procedures**—Block scheduling became impracticable at the hospital as volumes grew and pressure to fill every time slot increased.

**Open scheduling generates satisfaction, accommodates physician preferences**

While administrators believe that both block scheduling and first-come, first-serve scheduling can work, depending on the above characteristics, they have chosen the latter method as more efficient as volumes have grown and the number of cardiologists using the labs remain high. Overall, physicians have expressed great satisfaction with the model, because it allows them the greatest opportunity to perform procedures at convenient times.

Because scheduling decisions are the responsibility of individual physicians instead of physician groups, administrators need not make politically difficult decisions to award favorable start times or newer labs to certain groups. Administrators schedule all diagnostic procedures as potential interventional cases. Consequently, all procedures—with the exception of EP of peripheral procedures—can be performed in any room. Furthermore, physicians are allotted 1.5 hours for every procedure.

**Cases bumped with eye on physicians’ daily schedules**

When patients in the ED require immediate cath lab procedures, the chief cath lab administrator decides which scheduled case to bump. The administrator tries to first accommodate the patient in a room where cases are in transition. If such a room is unavailable or will not be shortly available, he next looks to bump the cases of a physician who is performing multiple procedures on that day or who does not need to travel to a clinic shortly. If possible, the administrator does not bump the case of a physician with only one procedure scheduled for the day, because to do so would cause relatively greater inconvenience for that physician than the physician who intends to remain in the cath lab for several hours.

In order to provide for emergent cases that occur after normal cath lab hours—which are from 6:00 a.m. to 6:00 p.m.—an x-ray technician and two nurses are always on call. Every physician group also has a physician member on call 24 hours per day. However, group leaders determine these call coverage schedules independently of hospital administrators.
Absence of managerial intervention forces physicians to solve conflicts efficiently

While the cath lab manager bumps procedures in the case of emergencies, he refrains from bumping or rearranging cases due to physician preferences. When physicians wish to reschedule a case, they must personally call another physician and arrange for the transfer. Because physicians generally wish to remain on good relations with their peers, this method makes physicians more responsible and less likely to rearrange their schedules merely due to the inconvenience of a time.

As manager of the cath lab, Mr. Samons believes that the strategies appropriate for achieving maximum efficiency in cath lab scheduling are dependent upon the particulars of the institution. As such, he welcomes you to contact him directly to discuss various scenarios and considerations for scheduling. Furthermore, he recommends demonstrating no preferences for particular groups as physicians are more likely to cooperate in meeting administrators’ scheduling needs when they know that they are treated fairly and are not inconvenienced more frequently than their peers.

Hospital C

Source: Manager, Cardiac Cath Lab

Hospital C is a 300-bed, not-for-profit teaching hospital in the Northwest. Administrators at the hospital are responsible for ensuring that five physician groups may access two cath labs and two EP labs. These groups’ physicians regularly perform procedures in the cath labs between the hours of 7:00 a.m. and 5:30 p.m., Monday through Friday, although the labs are available 24 hours per day, 7 days a week for emergent cases. While physicians may schedule cases to begin as early as 7:00 a.m., the cath lab does not generally open for its first case until 7:30 a.m. or 8:00 a.m. because these times are more convenient for physicians. Furthermore, cath lab staff often work late once or twice a week to accommodate a maximum number of patients.

Scheduling department leverages information centralization for efficiency improvement

Cath lab administrators leverage the expertise of a centralized scheduling department that handles scheduling for cardiac interventional, cardiac diagnostic, radiology, and other hospital procedures performed on both an inpatient and an outpatient basis. The centralized scheduling department offers many benefits to physicians and cath lab managers, including staff efficiencies and centralized information sharing on the rules governing the different cath labs and the allowed timeframes for each procedure. This information is important to obtain, because some rooms do not support the use of lasers or other equipment necessary for certain procedures. Similarly, physicians have the opportunity to provide information regarding patients’ clinical and financial information that is necessary for hospital staff to obtain and to provide general feedback.

One of the primary advantages of the centralized scheduling department is the degree to which it incorporates technology. Physicians may access all the rules and guidelines governing cath lab use online and may even fully schedule online. However, for routine appointments, most cardiologists prefer to call a scheduling staff member. Nonetheless, hospital staff members make full use of the computerized scheduling, which may be accessed throughout the hospital by most staff members—including non-cath lab staff—thereby promoting coordination of patient care, which is particularly important for inpatient patients. At the close of business, the cath lab supervisor prints out the schedule of procedures for the following day.
**Block scheduling places risk on hospital, creates inter-group tensions**

Physicians schedule procedures strictly on a first-come, first-serve basis. The cath lab manager has chosen this model because she previously oversaw cath labs at other institutions with block scheduling and has found that it generates multiple inefficiencies, which have led her to advise against the practice. Cath lab managers using block scheduling risk not filling expensive cath lab slots because the physician group does not release its block until 24 hours in advance, leaving cath lab staff members to scramble to fill the remaining times. Additionally, other physicians and physician groups may find block scheduling unfair because it inherently awards preference to one group. Furthermore, physicians’ preferences for procedure times often diverge from the block times allotted to their groups. Because of the greater number of physicians, larger groups are thus more difficult to coordinate with block scheduling than smaller groups.

**Open scheduling more efficient for hospital, still inconveniences smaller groups**

Consequently, administrators use first-come, first-serve scheduling to allow physicians to define their own preferences for time and rooms. Given the information provided by the central scheduling department, physicians are empowered to make their own decisions concerning scheduling—including the reservation of specific rooms and start times, and the accommodation of procedure-based needs and preferences. As a result, cath lab managers are free to focus on other operational issues. The primary drawback of the system is that—despite its inherent fairness—physicians in small groups may believe that they do not have full access to the cath labs if they call shortly before the day of a procedure and find that other groups have already reserved the rooms at preferential times. Faced with such complaints, administrators are often forced to articulate the need to reserve slots early.

When emergent cases are presented to the cath lab, the lab supervisor personally reviews the schedule of the day’s cases. While the supervisor typically finds it necessary to bump multiple cases, physicians are generally understanding of the situation. Physicians also provide 24-hour call coverage through their groups. Each group establishes its own call coverage schedule, which is available to cath lab staff. Additionally, four cath lab staff members are on call at all times. Cath lab supervisors arrange this call schedule and compensate individuals according to the hours they are on call and for the time actually spent in the lab in an emergency.

Having served at other institutions with block scheduling, this cath lab manager counsels against its use for the reasons outlined above and finds that the first-come, first-serve model is both the simplest for staff and the best to ensure that cath labs are fully utilized.
**Hospital D**

Source: Nursing Director, Cardiovascular Cath Labs

Hospital D is a 250-bed, for-profit community hospital in the South. Administrators at the hospital are responsible for accommodating the preferences of four physician groups utilizing three cath labs and one EP lab. However, because the groups control very unequal shares of total hospital cath volumes, cath lab managers assign clear priority to certain groups. Specifically, members of one group perform 90 percent of the hospital’s cath procedures, in part because they exercise a monopoly on treating the unassigned cardiac patients who present in the ED. Because this group is such an important partner for the hospital and the loss of their business would significantly damage the profitability of the cath labs, cath lab managers have the full and explicit support of top hospital executives to favor the group.

**Two largest groups awarded starting times in two rooms**

The largest group is granted exclusive use of the newest room. Managers allow the second largest group, which controls eight percent of the hospital market, to perform procedures in another lab at 8:00 a.m. Groups highly desire the 8:00 a.m. starting time slot because it minimizes the chances of delayed procedures and because cath lab managers will not evict a group from a room until they have completed all the procedures they wish to complete. Having shown preference for the two largest groups, managers make the last room and the later time slots in the second room available to physicians in the smaller groups and, more commonly, to additional physicians in the largest group on a first-come, first-serve basis.

Unsurprisingly, members of the smaller groups find the system unfair. While cath lab managers treat them with courtesy and—with the open time periods, equality—they are unwilling to award these groups preferred times until they demonstrate a greater commitment to bringing business to the hospital. When conflicts arise between physician groups, managers are willing to work on behalf of any group, even a group with low volume, to resolve it. Nonetheless, managers choose not to become involved in many disputes because they are either intractable or because physicians are more responsible when dealing directly with their peers.

**Emergencies and cancellations present minimal disruption to schedule**

Because members of the largest group treat the majority of emergency cardiac cath patients, physicians of that group merely bump their own patients. Whenever possible, managers assign the emergent patient to an empty room, to a room in transition, or to a room where a procedure is soon concluding. Regardless of the group, physicians are understanding of emergent cases and the issue is perceived as apolitical by all parties involved.

Facing strong pressures from their groups’ administrators to achieve maximum productivity, physicians cancel cases only because of clinical problems revealed by a patient’s bloodwork. Whenever cases are cancelled, cath lab staff bring in the next patient and the schedule is bumped up. Overall, cath lab staff strive to demonstrate speed, safety, and customer service.
If requested, cath lab managers will schedule cases in the evening to accommodate physicians’ special needs. However, managers generally attempt to perform all procedures between normal business hours, which depend on the particular room as rooms open and close at different times. The first regularly scheduled cases in the hospital occur at 8:00 a.m. and continue through approximately 5:00 p.m., although the staff of each room generally do not work more than eight hours. The staff assisting in the final cases of the day are members of the call crew who will be available to return to the hospital during the night in the case of an emergency. While physicians provide 24-hour call coverage, each group is responsible for determining its own rotation.

Physicians’ schedules offer insights into idle cath labs

Cath lab managers recommend examining physician groups’ schedules to determine potential reasons why cath labs are not always full. Sometimes, group members prioritize work in clinics over time in the cath lab or prefer to attend the clinic at certain times. While managers can find methods to accommodate physicians’ responsibilities in clinics, on hospital rounds, and reading test results, they should not allow these preferences to generate financial losses for the hospital by the means of idle cath lab times. If the situation warrants, managers may need to address the issue of idle cath labs and articulate the hospital’s needs at quarterly cath lab meetings with physician leaders. If a solution cannot be reached with physicians, managers may prefer to delay opening rooms or shut them down entirely rather than pay crews to remain idle.
Research Methodology

During the course of research, Original Inquiry staff searched the following resources to identify pertinent information:

- Advisory Board’s internal and online (www.advisory.com) research libraries
- Factiva™, a Dow Jones and Reuters company
- Internet, via search engines and multiple websites, including the following:
  ✓ American Hospital Directory at www.ahd.com

Based on leads generated from the above sources, staff members contacted cardiac cath lab administrators with multiple labs and physician groups.

Professional Services Note

The Advisory Board has worked to ensure the accuracy of the information it provides to its members. This project relies on data obtained from many sources, however, and the Advisory Board cannot guarantee the accuracy of the information or its analysis in all cases. Further, the Advisory Board is not engaged in rendering clinical, legal, accounting, or other professional services. Its projects should not be construed as professional advice on any particular set of facts or circumstances. Especially with respect to matters that involve clinical practice and direct patient treatment, members are advised to consult with their medical staffs and senior management, or other appropriate professionals, prior to implementing any changes based on this project. Neither the Advisory Board Company nor its programs are responsible for any claims or losses that may arise from any errors or omissions in their projects, whether caused by the Advisory Board Company or its sources. 1-IVNRP

© 2005 by the Advisory Board Company, 2445 M Street, N.W., Washington, DC 20037. Any reproduction or retransmission, in whole or in part, is a violation of federal law and is strictly prohibited without the consent of the Advisory Board Company. This prohibition extends to sharing this publication with clients and/or affiliate companies. All rights reserved.