

QA IN MAINTENANCE AND ENGINEERING

Bridging the Healthcare Performance Gap

BUILDING YOUR DEPARTMENT'S QUALITY CONTINUUM

A healthy quality program has three critical component. These include quality assurance, quality improvement and performance improvement. Together, these are collectively known as the quality continuum.

Just as every healthcare organization needs to have a healthy quality continuum if it is to be operationally and financially successful in meeting the needs of its patients and communities, every department needs to have an effective continuum if it is to be what it needs to be for the organization. A strong quality continuum helps an organization in living up to the expectations of the people who count on it to meet their needs for access to great patient care.

Historically, the healthcare team has been thought of as those clinically-oriented departments that are directly involved in the delivery of patient care. While they are key members of the team, it is important to recognize that they could not be as effective in their roles if it were not for the contributions of the non-clinical members of the team such as the maintenance and engineering department. There would not be a building or an appropriate environment in which to deliver safe patient care if it were not for the efforts of the people who maintain the physical plant, ensure that equipment

is in appropriate working condition and provide for a safe environment in an emergency situation.

The maintenance and engineering staff control three critical encounters in the patient experience. This very important department controls the first impression that people have of the healthcare organization, the aesthetic perception of the building and the general safety of people when they are inside. (See the on-line module titled *Building the Patient Experience*.)

As the saying goes, "first impressions are lasting impressions" and they set the stage for how the patients and visitors to an organization will perceive their next experience. The first encounter starts when a patient or visitor pulls up to the front of the facility. Some of the critical impressions that maintenance and engineering control are:

1. How easy is it to find the facility?
2. How easy is it to find the right entrance (for example, most hospitals have a minimum of four entrances (main, emer-

gency, clinic and outpatient—so how easy is it to get to the right entrance)?

3. How easy is it to find parking?
4. How safe do people feel on the grounds of the organization (lighting is an important issue along with terrain, especially for the elderly and disabled)?
5. How easy is it for a patient or visitor with limitations to access the building?
6. How well cared for are the building and grounds (does the physical appearance convey that quality lives inside)?

In addition to first impressions, the maintenance and engineering staff are the primary people who control for physical safety in a healthcare organization. They control for and monitor numerous aspects of the organization that create the environment where patients, team members and visitors can feel safe. As you review the enclosed list of quality assurance activities for which maintenance has primary responsibility, one can appreciate just how important this department's role is as a member of the healthcare team.

A healthy quality continuum allows our people to know that:

1. *they are in control of their futures;*
2. *their efforts make a difference, and*
3. *that they are part of creating something better for tomorrow than what already exists today.*

They come to appreciate the contributions they make in meeting the mission and creating the vision of the organization.



SO WHAT IS QUALITY!

Quality in healthcare encompasses the ability of an organization or provider to make patients feel very well cared for at the same time they are making them feel deeply cared about. When patients define quality, these are the two things that they repeatedly say they are looking for. For health care's customers, these seem like pretty easy requests and they are becoming less and less tolerant when providers don't get them right.

In today's healthcare environment, quality is about making people feel safe in an environment where they can also feel that they are receiving state-of-the-art care from people who are on top of those variables that could place them in harms way. Safety is a pretty broad term for patients as it ranges from a sense of feeling physically safe in the environment to feeling that they are receiving the very best care that can be delivered by people who genuinely care about the outcomes that their actions lead to. They also want to feel informed and in control of their

patient experience.

For the people in the maintenance and engineering department, quality means creating a physical space where patients feel that quality patient care is likely to live. Most people inside healthcare fail to understand the critical importance of the physical plant in creating healthy patient perceptions. The condition and appearance of the physical plant is one of the critical pseudo-measures that patients use to determine the likelihood that they will receive high quality patient care.

The average patient can not actually judge the quality of the patient care they receive to a level that creates a genuine level of comfort. They can not determine if the battery of tests being ordered by the physician are truly the best tests or if the treatment and drugs are truly the best interventions. Because they need some measures that help them to feel good about their choices, they tend to rely heavily on pseudo-measures of health-

care quality.

Pseudo-measures are measures that patients and family members can judge more easily because they are familiar with what they are and what they should look like if quality exists. The most common pseudo-measures in healthcare are cleanliness, friendliness, physical appearance, physical safety, quality of the food and the perception of teamwork. If these pseudo-measures convey a sense of quality, people assume that there is a pretty good chance that the quality of the clinical care is good also.

The measure of quality for people looking to health care is found in the attention to details that they observe. The more attention to details that they witness in pseudo-measures, the more comfortable they are that the same attention is given to the details of direct patient care. Great reputations are not built on being average. They are built on reaching well beyond average and paying close attention to the details that convey a message that providers take their roles in the delivery of great care seriously.

WORKING WITH YOUR QA CALENDAR

The quality assurance calendar is a tool that helps a department to organize and manage its compliance-related activities in a way that reduces resource consumption and the risk of falling behind (see the PACE Workbook on *Working with Your Quality Calendar*). Historically, healthcare organizations have not utilized highly structured systems to collectively organize and manage their quality assurance or compliance-related activities. The lack of such a system has been one of the major contributing factors in prompting healthcare organizations to find themselves in trouble on surveys and having to put an inordinately large number of resources into ongoing efforts to maintain compliance.

Quality and compliance inside health care does not just happen. They are activities that needs to be managed. As one looks at the list of compliance and quality assurance-related activities on the following pages, it is obvious how easy it would be to overlook something or get behind if you do not have a system that allows you to manage the activities.

As most of these activities are time sensitive, once they don't happen it is impossible to make them up. For example, if the generator doesn't get run under load once during the month, it is impossible to make it up once the month has gone by. If the annual fire extinguisher certification by an outside source does not happen before the year is up, there is no turning the clocks back.

As the healthcare industry continues to become more complex and more and more is asked of our people, systems like the quality calendar can help to better manage activities as it becomes increasingly necessary to find ways of doing more with fewer resources. The answer is not in working harder. It is in working smarter and the quality assurance calendar is a tool that can help department managers to do that.

Some important points in using your calendar are:

1. Only schedule activities that must be done on a Monday for that day. Mondays tend to be bad days in healthcare organizations because of the many issues that spill over from

the weekend. As most legal holidays fall on Mondays, it is the one day of the week that prompts people to more easily get behind because things from the holiday must be pushed to Tuesday.

2. Similarly, it is best if you minimize the number of flexible activities that need to be done on a Friday because that is generally the day that people are pushing to get things done for the weekend. It is also the most common day that people request off to have a long weekend.
3. Try to always set the schedule up so that compliance related activities never consume more than two hours in a given day for any one person. This is one of the reasons that a calendar is so helpful. It allows you to plan and balance things out. Most people can plan to commit up to two hours of the day to designated activities. They can also tend to find time to make those activities happen even on a day when there seems to be one crisis after another.
4. Try to always set the schedule so that

CREATING YOUR QA CALENDAR!

The topics in the tables on the next pages list out the common quality assurance or compliance type activities that could be found on a QA calendar for Maintenance. Some may not apply to all organizations and others may need to be added as compliance standards are dependent on the services offered. Please review these tables to determine which topics are important to your calendar and then follow the instructions in the PACE training workbook titled *Working with Your Quality Calendars* to build you calendar. Please note that health care is a very dynamic industry and constantly subject to change. The completeness of the list and frequency recommendations in these tables should be regularly checked against those established by federal, state and local regulatory agencies.

	QA Accountability	Frequency
1	Generator fire up	Weekly
2	Generator 1 hour load test	Monthly
3	Generator 4 hour load test	Whenever the fire-up or one-hour load test results in a "wet stack test"
4	Fire extinguisher integrity checks	Monthly
5	Fire extinguisher certification	Annually
6	Fire drills	Monthly so that there is one test on each shift during the quarter
7	Fire door integrity	Monthly so that they are tested during fire drills
8	Fire signage lighting	Monthly
9	Fire alarm system certification	Annually
10	Sprinkler System Integrity (structurally sound and 18 inch spacing from storage and articles)	Check monthly and repair as interrupted
11	Sprinkler certification	Annually
12	Smoke wall barriers	Check monthly and repair immediately upon penetrations
13	Fire wall integrity	Check monthly and repair immediately upon penetration
14	Water temperature at the boiler or hot water tank point	Daily
15	Water temperatures at patient sinks usage points	Weekly
16	Boiler certification	Annually
17	Air handler filters	Monitor monthly and change as needed or quarterly, whichever comes first
18	Room filters	Monitor monthly and change as needed or quarterly, whichever comes first
19	Surgery air filters	Monitor monthly and change as needed or quarterly, whichever comes first
20	Grease air handler and check belts	Monitor monthly and change as needed or quarterly, whichever comes first
21	Electric integrity checks for electric equipment	On purchase and annually (on safety tours)
22	Biomedical checks for clinical equipment	On purchase and annually
23	Clean grease hood	Check monthly and clean as needed or quarterly, whichever comes first
24	Refrigerator filters	Monitor monthly and change as needed or quarterly

CREATING YOUR QA CALENDAR!

	QA Accountability	Frequency
25	Elevator checks and maintenance	Monitor monthly and service as needed or every two months, whichever comes first
26	Elevator certification	Annually
27	Clean ceiling vents	Check monthly and clean as needed or quarterly, whichever comes first
28	Dispose of biohazardous waste	As needed or at least every 90 days, whichever comes first
29	Service contract review	Annually
30	Service contract renewal	Annually or on term
31	New chemical training	Before use
32	Secure MSDS and assure appropriate precautions	Before new chemical use
33	Employee right-to-know MSDS training	On orientation before chemical use and annually
34	Chemical labeling and storage	Daily
35	Hazardous chemical storage	Daily
36	Cooling tower maintenance	Check monthly and service as needed and as recommended by manufacturer
37	Bulk O2 tank integrity	Monthly and certify any time it is interrupted
38	Medical gas integrity	Monthly and certify any time it is interrupted
39	Medical vacuum integrity	Monthly and certify any time it is interrupted
40	Exterior lighting	Weekly
41	Emergency lighting	Monthly and repair immediately upon interruption
42	Emergency call system	Monthly and repair immediately upon interruption
43	Call Light and communication systems	Monthly and repair immediately upon interruption
44	Water softners check	Weekly and service as needed and as recommended by manufacturer
45	Water integrity systems	Weekly and service as needed and as recommended by manufacturer
46	Ceiling integrity (tile and plaster integrity)	Monthly and repair immediately upon breach or penetration
47	Flooring integrity	Monthly and repair immediately upon breach, break or penetration
48	Baseboard integrity	Monthly and repair immediately upon breach
49	Surface washability	Daily and repair immediately upon breach
50	Pest control	Check high risk areas weekly and all other areas monthly with spraying as needed or on recommended schedule, whichever comes first
51	Annual fire safety training	Annually
52	Annual general safety training	Annually

CREATING YOUR QA CALENDAR!

	QA Accountability	Frequency
53	Annual infection control training	Annually
54	Staff certifications for special equipment management and skills	Before expiration
55	Annual policy and procedure review	Annually
56	Employee training on new/revised policies and procedure training	On creation of or revision policy or procedure
57	Ergonomics compliance	Continuous
58	PPE compliance	Continuous
59	Lock out-tag out compliance	Working on electric or mechanical equipment
60	Electrical panel integrity	Daily and secure as opened
61	Exposed wire control	Daily secure as interrupted
62	Humidity integrity in operating room	Check weekly
63	Temperature control in operating room	Check daily
64	Humidity integrity in general building	Check weekly
65	Temperature control in general building	Check daily
66	Air flow integrity	Check monthly and address when interrupted
67	Emergency response plan	Annually and on
68	Emergency water supply plan	Annually
69	Sharps box management	Monitor continuously with disposal as needed or at least quarterly
70	Door alarms	Check monthly and address as issues are identified
71	Portable tank control & security	Check daily
72	Security camera integrity and management	Check daily
73	Heat pump maintenance	Check monthly and service as needed and based on manufacturer recommendations
74	Extension cord management	Daily
75	Parking lot safety	Daily
76	Handicap accessibility	Daily
77	General safety inspections	Monthly
78	General trash management & disposal	Daily
79	Lighting Safety (no exposed light bulbs and lighting fixtures)	Daily
80	Light bulb replacement	Daily
81	Outlet management in public areas	Daily
82	Eye wash station integrity	Check monthly and service as needed
83	Ice maker integrity	Check monthly and clean/treat as needed or at least quarterly whichever comes first
84	Enhanced surveillance during construction	Upon and throughout construction
85	Notice of impact during construction	Upon and throughout construction
86	HIPAA compliance	Daily

KEEPING PACE WITH TODAY'S STANDARDS

Quality assurance or compliance related activities are extremely important in a healthcare organization because they are generally related to patient and public safety. They frequently involve precautionary steps taken by an organization to prevent an untoward event and to be prepared in the event of a disaster or break in the routine that could place people in harm's way.

For example, while providers hope they will never need them, there are many precautionary activities that healthcare organizations need to be skilled at in the event there is a fire. They need to know that the generator will run in the event of a power outage. They need to know that we have a strong plan to protect people in the event of a natural disaster.

Healthcare organizations also need to know that the day-to-day risk is reduced for people who come into their buildings. They need to know that the elevators are in good working order; emergency call systems function properly and in-house systems for oxygen and medical gases delivery are what they need to be.

Too often healthcare organizations find themselves at risk because they become complacent about quality assurance related activities. As so many of the activities are precautionary in nature and many organizations may never actually have to enact them, it is very easy for an organization to elect to take short cuts or overlook striving for 100% compliance. The danger is in the fact that an organization can't make it up to a patient or a community member or employee when its failure to stay current negatively effects any one of them. If its reputation in the community is damaged, it may never recover.

Proactive compliance is significantly less resource intensive than running to catch up. Developing a corrective action plan in response to a Medicare Condition of Participation survey is never the best way to achieve compliance. Working to overcome the damage created by a negative outcome is definitely more expensive and resource intensive than ensuring the negative outcome could not happen. As the saying goes, "an ounce of prevention is more valuable than a pound of cure." This is particularly true in health care where the cost of a negative outcome can be particularly steep. A well structured quality assurance program inside the quality continuum can provide for that ounce of prevention to

protect an organization.

The majority of the compliance standards for the maintenance and engineering department relate to physical plant integrity and emergency preparedness. These are two very big areas of responsibility where compliance is critical. When any of these areas of responsibility fall out of compliance it is important to bring them

back
into
line as
soon as
possible.

Because of the magnitude of some of the responsibilities, retrospectively trying to fix them can be a nightmare in addition to placing the organization at risk because of non-compliance. For example, penetrations in smoke and fire barriers can be extremely time intensive to find and fix after the fact. Retrospectively, it requires staff members to look above ceiling tiles to find the breaches. When managed proactively, the breaches are identified at the time they are made with a requirement that they are repaired at the time of the breach with follow-up monitoring by the individual assigned responsibility for "fire and smoke wall" integrity within 48 or 72 hours, there is no need to play catch-up. Proactively dealing with issues through prevention can reduce resource consumption by as much as 25-33%. Every minute appropriately spent on planning (such as the creation of a balanced QA calendar) can save 10 minutes in execution time.

Historically, healthcare organizations have had poor systems for managing and documenting quality assurance related activities. Too often those systems for managing these activities have existed in the minds of our managers. While the mind is a very powerful place, the stresses of today's healthcare environment make it a poor stand alone tool in creating the kind of efficiency and effectiveness we need. As a result, too many things end up being retrospectively repaired rather than proactively managed. The quality calendar system is an approach to proactive activity management. If the average maintenance department is able to reduce time and/or resource consumption by an average of 33% because it uses tools to improve its efficiency and effectiveness, it can find itself capable of managing more with

less in a less stressful environment. This is an important goal in today's healthcare environment. It also reduces the amount of time spent on crisis management which is one of the industry's greatest threats to resources.

When a quality assurance or compliance activity goes out of compliance, it is a department's responsibility to bring that activity back into compliance as quickly as

QA Calendar

	Frequency	Responsible Party	Jan	Feb	March	April	May	June
Water Temp	Weekly	Mark	MK OK	MK OK	MK QI	MK OK	MK OK	MK OK

possible in a way that will hold the compliance. The department needs to document the steps it took to achieve that compliance and the ongoing activities to monitor it.

The first step is to set up the quality assurance calendar with all of the compliance-oriented activities that are important to the organization. Once the list is complete, the manager, with the assistance of his or her departmental team, defines when each activity is to be completed along with who will be responsible for it. (Remember the stronger the team approach, the greater the potential for success and the more that can be achieved with fewer resources) As long as activities remain in compliance the only documentation that is necessary is to complete the required log for the activity and to indicate an OK on the calendar. When an activity moves out of compliance, a department should be able to demonstrate that it has quickly moved through the steps of the PACE cycle. Documentation should demonstrate that it quickly identified the issue (moving the issue to its quality improvement calendar), PLANNED to re-establish compliance, ACTED to initiate the plan, CHECKED to make sure that the plan achieved the designed results and ENHANCED the plan to achieve the best outcomes possible. Once compliance is re-established and a short period of more intensive monitoring demonstrates compliance, the department can return to its normal schedule of monitoring as defined by the calendar.

The calendar should be evaluated each year as part of the annual review of services to determine needed additions and revisions that would increase departmental efficiency in achieving continuous compliance.



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*Success has a price tag on it, and it reads
COURAGE, DETERMINATION,
DISCIPLINE, RISK TAKING,
PERSEVERENCE, and
CONSISTENCY—doing the right
THING for the RIGHT REASONS and
not just when we feel like it.*

James B. Menton

The Future Starts with a Strong Today!

Building a strong reputation and future for a healthcare organization starts with building a strong today. In many ways it is like building a new building. If you don't start out with a sound foundation it becomes increasingly difficult to build a structure that can be as tall as you would like or that can withstand the various elements that place stress on it. When the foundation isn't strong, you frequently find yourself having to put additional resources into shoring it up and to apply patches where necessary. You also tend to find yourself having to monitor it more closely every time the structure is placed under stress to make sure it will hold up. A healthy quality assurance program is about making sure a healthcare organization has a strong foundation on which to build tomorrow and the future. If an organization is constantly struggling to maintain compliance with today's standards, the activities steal valuable time and resources away from efforts that could be used to build a healthier tomorrow. Given the strain on today's healthcare resources, providers need to ensure that they are getting the most they can from what they have. They need to make sure that quality lives today so it is easier to build a better tomorrow.

BRINGING IT ALL TOGETHER

A healthy quality program is about making sure that our organizations are being true to the business of health care. That business is the delivery of high quality patient care in an environment that makes our patients and communities feel well cared for and deeply cared about. It is about making sure that our organizations are healthy and strong for today, tomorrow and into the future.

The quality program creates the structure to support the creation and implementation of the many systems that (1) ensure that our organizations and patient care services are what they need to be to make our organizations strong for today, (2) continuously work to improve and meet the changing needs of tomorrow as technological advancements continue to reshape the delivery of patient care, and (3) bring the strategic plan and vision of an organization to life while holding true to the mission and values of the organiza-

tion. A healthy quality program is about much more than making sure that our organizations are meeting the expectations of outside regulators and the many external customers that enter our doors every day.

The mission defines why our healthcare organizations exist. The vision defines where we picture our organizations to be at some point in the future if the organization is to remain strategically positioned for success while it remains true to its mission and values. Our values define those behaviors we hold to be important to every day life if we are to remain true to our missions (who we are).

It can be very easy for these important messages to become fluff and pie-in-the-sky words that only raise more doubt and questions if people can not see the path that brings them to life. A healthy quality program provides that path by creating

the structures and systems that make proactive change possible.

The mission, vision and values of an organization come to life when they are successfully married together through the organization's quality program and strategic planning activities. These two activities create the environment for the creation of a culture for quality where patients feel well cared for and deeply cared about while healthcare providers have the potential to feel good about their contributions in improving the quality of life for the public that entrusts them with their care.

