

# 10 QUESTIONS TO ASK ECG SOLUTION PROVIDERS

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## The Challenge

For organizations that face the daunting task of managing large volumes of ECG tests, electronic management has become a necessity. Electronic management certainly promises greater reliability, cost effectiveness and productivity than a paper-based system. However, many of these organizations often delay the adoption of an electronic solution because they are paralyzed by the difficulty in separating the hype from the reality and in identifying the key criteria that will point them towards the solution and the vendor that are right for them.

As a way of providing structure and guidance to the process of distinguishing the various electronic management options, this paper sets out ten questions that can be used by a healthcare organization to strategically demystify the selection process. Preferred responses to these questions are also provided.

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*“Healthcare organizations are paralyzed by the difficulty in separating the hype from the reality”*

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# 1. Can we keep using our existing testing equipment?

## Why should you care?

You want to know the answer to this question for any or all of the following reasons:

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***Why pay for hardware you don't need to get the software that you do need?"***

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- 1) You have recently invested in new testing equipment and it is too early to make another financial investment in the same type of equipment.
- 2) Your testing staff already has proficiency in using your existing equipment; allowing them to continue using that equipment reduces the amount of change that has to be managed.
- 3) What you really want is software (i.e. - a data management system). Why should you have to pay for hardware that you don't need in order to get that software?

## What's the best answer?

Your ideal solution is a vendor-neutral system that can accommodate a wide range of digital ECG recorders. Furthermore, your preferred vendor will take care of the required interfacing with its own, experienced engineering team. As a result:

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***Get a vendor-neutral system that can accommodate a wide variety of digital ECG recorders.***

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- 1) Your investment in an ECG system is reduced because you will not need to replace all of your recording devices.
- 2) You can leverage the investments that you have already made in recording equipment by phasing out old recorders on your own timeline.
- 3) Your IT personnel do not have to be diverted from other projects to work on the necessary integration of your existing equipment to the new system. This is particularly important if your IT needs are outsourced to third parties.

## 2. Will you customize your application for our specific needs?

### Why should you care?

Although diagnostic laboratory networks share basic processes in the management of ECG tests, your individual organization has certain ways of doing things that are unique to your organization. For instance, you use paper forms that look different than the forms used by others, you use terminology and acronyms that are not used by others and you want your billing information collected and displayed in a unique way. While the change to electronic management is ultimately going to be beneficial to your organization, there will be some disruption to your people and some frustration in the short run. Wouldn't you like to keep that frustration to a minimum by working with a vendor that will mold its technology to your way of doing things instead of asking you to change what you do? Wouldn't it minimize stress to your people if the terminology that the software used was exactly the same as the terminology they had been using for years? Wouldn't it be helpful if your staff looked at 'screens' that looked like the paper forms that they are used to working with?

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*You want software that will be continually customized to reflect your organization's best practices, now and as they continue to evolve.*

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### What's the best answer?

A rollout of a one-size-fits-all solution carries a high risk of failure, because it fails to satisfy the needs of every user group. Therefore, your preferred vendor will work with all stakeholder groups to identify the particular needs of each and to develop a solution that suits them all. Ideally, your vendor should have extensive experience working with organizations that are similar to yours, so that it can provide direction to discussions by raising issues that you have not yet considered.

### 3. How will test results from our system get into our existing information systems?

#### Why should you care?

The move from paper-based to electronic management of your ECG data will increase productivity and reliability. By automating or eliminating tasks that have been traditionally performed by your staff, you reduce the time it takes to perform those tasks and eliminate human errors that occur when those tasks are performed. Therefore, wherever possible, the redundant entry of information should be avoided. At the front end of the processing cycle, your new system should be able to extract patient and booking data from your existing system and pull it into the ECG system. At the end of the processing cycle, the ECG system should feed test results and appropriate billing information into your existing systems. Interfacing between your new management system and your existing systems will be required. This raises the questions of who will develop and implement the required interfaces and how much this process will drain your IT resources.

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***Interfacing your ECG solution with your other information systems eliminates redundant data entry.***

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#### What's the best answer?

Your ideal solution ensures interoperability through open standards so that it can offer two-way communications with your existing information systems. It also 'future proofs' your ECG solution for easier integration with new applications that you adopt down the road. Your preferred vendor will be the one that is willing to do the necessary engineering for you and has extensive experience in developing the interfaces necessary to ensure seamless information exchange among your systems. You will benefit by elimination of redundant data entry, reduction in the risk of error and conservation of your IT resources for other projects.

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***Open-standard technology "future-proofs" your solution by ensuring easy integration with new applications you adopt down the road.***

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## 4. Can your system direct a specific test to a specific physician for interpretation?

### Why should you care?

The relationship between the Specialists and a diagnostic laboratory network is different than the relationship between Specialists and a hospital. Generally, in a hospital, ECG tests go to the Cardiology Department and are interpreted by whoever is available at the time. In other words, all of the Reading Physicians are members of the same group. However, the relationship between the lab network and its Readers is more complex. Tests from a specific test site may require interpretation by a specific Interpreting Physician. Tests that originate from a specific Ordering Physician may require interpretation by a specific Reader. In some cases, a test may even be read by the Ordering Physician. Because of all these possibilities, a diagram that illustrates the flow of a lab network's ECG information shows an intricate pattern of intersecting and converging lines of communication. In order to ensure, in each case, that the correct test gets from the correct testing site to the correct Reader and, subsequently, to the correct Ordering Physician, it is essential that each Reader has a unique work list for tests that require interpretation.

### What's the best answer?

The best solution can be pre-programmed with all your appropriate information flows (e.g. - tests from Ordering Physician X must be read by Interpreting Physician Y). When the system receives information, from the Technician or your booking system, on the identity of the Ordering Physician it automatically selects a data route to the correct Interpreting Physician, and when the test is completed, the system places that test in the work list that is exclusive to that Interpreting Physician. If there is an unacceptable delay in interpretation of the test, an authorized manager has the ability to take the test out of the work list of one Interpreting Physician and assign it to the work list of another Interpreting Physician.

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*The best solution can be pre-programmed with all your appropriate information flows so that each test is automatically routed to the correct Interpreting Physician.*

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## 5. What kind of management reports can your system generate?

### Why should you care?

A good ECG management system will automate your work flow processes. A great system will do that and more. Your managers, administrators and clinicians need to be able to create timely and accurate tracking, activity and productivity reports. Most solutions offer standardized, 'off the rack' reports for you, but will not provide you with the ability to customize reports for you, based on the information that you want and the way you want it formatted.

Here are some questions you may want to ask:

Can your system support searches across multiple sites and multiple users?

Does your software include a sophisticated retrieval query engine allowing user defined search variables?

Does your system allow searches by user-defined category?

Can tests be tracked by patient, by test type, by test site, by Reader?

Are there audit logs to track all actions related to each test and to verify data integrity?

Can activity reports be generated by Technician, by test site, by region, by Reader?

Does the proposed software support document searches employing a range of dates?

Can query response lists be filtered by user permission level - only show results the user is authorized to see?

### What's the best answer?

The ideal management system include tracking reports on the status of individual tests, reports on the activities at individual or groups of testing sites, reports on the activities of individual employees and Readers, reports for billing purposes. There should be Quick Links to the reports that you use the most. Your vendor should be willing to add fields to capture the information you want and to provide you with reports that are customized to fit your preferences in format.

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*Your managers, administrators and clinicians need to be able to create timely and accurate tracking, activity and performance reports.*

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## 6. What happens when there is a disruption to our internet service?

### Why should you care?

Early ECG management systems provided value by eliminating time-consuming, manual procedures. When such systems moved to a web-based platform, they provided even more benefits through the promise of real-time information sharing. However, if you are using such a system, what happens to your ECG testing operations when there is a disruption to internet service? You don't want to make your patients (and their Ordering Physicians) unhappy by forcing them to wait until service resumes, and you don't want to keep 'old style' recorders on hand just in case. Also, requests for test information that is already in your system won't stop just because your internet service did, so you need to ensure continuous access to the tests that are already in your system.

### What's the best answer?

The ideal solution blends available technologies so that test acquisition is not reliant upon the availability of internet service. Therefore, testing can continue during a disruption to internet service. The internet is used only for transmission of the test data. When internet service is disrupted, the test data is collected and is transmitted to the Interpreting Physicians when internet service resumes. In addition, your vendor should provide a local database for each testing site, so that, even during an internet disruption, each site has access, through its local network, to tests that were taken at that site. Your vendor should also be willing to set up databases at regional and head offices, so that there is also local access to test results at those locations. A training session should ideally be 20-25 minutes in duration.

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*When there is a disruption to internet service, you don't want to keep your patients and their physicians waiting.*

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## 7. What kind of training services do you provide?

### Why should you care?

Even with an intuitive system, implementation causes confusion and is unsettling. There are probably very few people on your staff who are anxious to learn a new application. Most don't have the inclination and all don't have the time (particularly the physicians). You need a system that is very user-friendly and a vendor that will provide training that is thorough and minimally disruptive. You also need training materials that are easy to use and have been updated to reflect the software customizations that were developed for you. This includes 'cheat sheets' because your Technicians will not have time to check a user guide or check online help guides when there is a patient on the testing bed. In addition, you need access to ongoing training to deal with issues caused by staff turnover. Here are some questions you may want to ask:

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***Training should be client-specific, user-specific, face-to-face and be available on an ongoing basis.***

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Is on-site training available during the installation of the software?

Is on-site training available on an ongoing basis?

Can the training be customized to meet our specific needs?

Is training targeted towards each type of user (e.g. – Reader, Administrator, Technician)?

Are training manuals provided during training?

How long will the training take?

### What's the best answer?

Your vendor should client-specific training programs for the users of each client, including Specialists, Technicians, Administrators and Managers. The delivery program must accommodate your scheduling needs. Training should be available in face-to-face sessions at the same time as installation takes place. Your vendor should offer re-training sessions or refresher sessions as needed by you. Training materials must be customized to reflect the customizations that are made for you.

## 8. What kind of support services (including site visits) do you provide?

### Why should you care?

You need ECG management to be a worry-free, hassle-free experience. When something goes wrong, you want to know that it's going to be fixed quickly and effectively, the first time. You need to have support available whenever you need it, whatever time of the day. The vendor you need provides two types of support, software and hardware. The software support should be always available. Your Technician may be phoning with a patient on the testing table—you need help fast and you need it to be good! Sometimes, equipment does break down and when it does, you want someone nearby who can get to the site quickly and make the repair or replacement. Your lab staff, your office staff and your physicians are not IT professionals, so nobody should be asking them to install or dismantle equipment. You want your vendor to be the one who does the work and you want your downtime to be minimal. That's why your vendor should have an office, with a complete stock of inventory and available technicians, within easy driving distance of all your sites. Here are some questions you may care to ask:

Do you fully support the version of the software that was customized for our organization?

Will a Help Desk offering live telephone support be available during our normal business hours (when live usage takes place)?

Is live Help Desk support available 24/7 (to support Interpreting Physicians)?

Is there a local source of support available for your product (to handle equipment issues)?

Is the local support provided by your company or by a third party support group?

When on-site support is needed, what is the guaranteed response time?

### What's the best answer?

Your vendor should provide both hardware support from a local office and should be backed up by a call centre that provides 24/7 live software support. Preferably, your vendor's technical support team can remotely connect to any user's computer and troubleshoot the problem, quickly and correctly. When on-site support is required, a site visit must be made within a guaranteed response time that suits your needs. All service and support should be available directly from the vendor, not through a third party. Support personnel must be prepared to provide support on the software, as customized for you.

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*Problems are going to occur. Your satisfaction will depend on how quickly and effectively your vendor responds.*

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## 9. How does your web-based system keep our information under control and separated from the information of other clients?

### Why should you care?

Privacy and confidentiality are the two most important words when it comes to the maintenance of personal health information. As a collector of such information, the onus is upon you to keep it confidential from all unauthorized eyes. In addition, it is essential that the repository for this information be under your control at all times.

### What's the best answer?

Your vendor should host a unique web server for each client to ensure that information is kept separate. All information must be encrypted to prevent interception of sensitive patient and medical information. In addition, your vendor must be prepared to keep the database(s) for your tests in your premises or under your physical control.

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***Your vendor must keep your information separated from information of other clients and be prepared to keep your database under your control.***

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## 10. Who are your current clients?

### Why should you care?

Vendors know that they are going to be asked for references and testimonials. Therefore, they are going to provide you with names and contact information for those organizations that will provide the best references. Therefore you should only be surprised if those references are less than glowing.

You should examine client lists and testimonials very carefully.

### What's the best answer?

Examine client lists and testimonials very carefully. Look for the following:

Are the references from organizations that are similar to yours?

Among the testimonials, is there representation from a wide array of stakeholders (e.g. – physicians, technicians, senior management, financial officers)?

Among the testimonials, is there mention of all the concerns that you will have in selecting a vendor (reliability of performance, quality of training, post-installation service)?

Is there detail on specific, quantified benefits delivered to an organization by the vendor?

Is there commentary on how does the vendor handle difficulties when they do arise?

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***Among the testimonials, is there representation from a wide array of stakeholders?***

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## Summary

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***Make the right choice  
by looking at the total  
solution, not just the  
technology.***

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Electronic management of ECG tests is the obvious way to dramatically improve reliability, cost effectiveness and productivity. Although the benefits of electronic management are impressive, organizations should not be seduced by the hype that is sometimes attributed to the technology. In order to achieve the maximum benefit from converting to electronic management, an organization must base its choice of vendor on that vendor's total solution. The questions set out in this document provide a suggested framework for measuring the value of that total solution.

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