

How to Support a Hospital:

Building a model for support in the healthcare industry

The role of technology in healthcare cannot be understated. For thousands of years medicine was something of an inexact science, foreign to the layman and not easily accessible. Yet since the industrial revolution we have seen consistent improvements in technology and processes making medicine safer and more available. We've moved from surgeries being performed by hand to being performed by robotic arms, and all but eradicated several life threatening diseases through improved research techniques. Technology has the potential to vastly improve the quality of life for our entire population, but there are complications arising invisible those outside the industry.

While it is true that advances in technology make medical treatment safer, easier, and more accessible, managing the implementation of this type of technology has only become more complicated. The pace at which technology advances is difficult for most medical facilities to keep up with and procedures can take even longer to be adopted. The amount of regulation that comes with new technologies slows adoption even further, as organizations must ensure their current equipment meets ever evolving standards. Furthermore, as costs continue to rise, investments are far more difficult to justify.

All of this leads to a paradoxical situation where an industry which should be on the cutting edge is often lagging behind. Many facilities suffer from outdated infrastructure which fails to meet modern compliance standards. This makes integration with newer hardware difficult and management of networks that much more complicated.

Also, providers are often not well trained in the use of new tools. This means, at best, they are left unutilized and at worst, they are used incorrectly. Potentially causing harm and interfering with treatment. Running a medical facility is challenging enough without the complications of IT.



Rather than attempt to manage everything internally, many healthcare providers have turned to IT partners as a solution. Having a collaborative organization that specializes in the management of infrastructure frees up valuable resources which could be better served improving the quality of care given to patients. Yet even this solution has potential drawbacks.

The challenges of supporting a medical facility are unique, and not all IT companies are up to it. To truly deliver the type of support necessary, an IT company must be knowledgeable, not just about emerging technology and practices, but about the medical field itself. It must react quickly, yet remain flexible enough to adapt to foreign situations. And most importantly, it must be reliable and provide consistent service at all times.

The standards set by top tier partners such as **CORPORATE [IT] SOLUTIONS** serve as a model for the industry. There are many organizations which simply do not understand the challenges unique to healthcare, or are simply ill equipped to meet them. IT providers should be made aware of the needs and issues that come with supporting a medical organization and healthcare providers should be aware of how to judge their potential partners.

Keeping Information At Hand

The most directly observable cause of problems in medical facilities is a lack of proper communication. Many a joke have been made at the expense of doctors' handwriting, but the issue is a serious one. Without proper channels for the exchange of information, both within and among medical facilities, mistakes are almost inevitable; either due to a lack of relevant facts or simple misunderstandings.

First and foremost, having access to a patient's entire medical history would greatly improve the quality of care that any facility can provide. Currently, many hospitals keep independent records and sometimes not all of those are transferred when they should be. Different facilities use different archiving methods while others have unique internal practices which do not lend themselves to an efficient transfer of data.

Making this data available to all facilities would be an excellent first step, however it does no good if the nurses and doctors are unable to access it when they need it. Current methods are far too reliant on pen and paper for communication. New tools and processes need to be put in place to ensure records can be accessed in emergency situations in real time.

Yet even with the tools and databases in place, without proper education for its staff, a hospital will not be able to make use of its investment. To accompany it, educational resources must be made available in order to teach providers how to best utilize the resources they are given. Thus there is a clear need for greater communication between medical facilities and their IT providers.

Recently, there has been a concerted push towards a unified records management system. Across the country, hospitals are beginning to

transfer their existing records into new databases to ease communication and make better use of the data. Not only do these EMR systems give providers access to historical patient data, they also allow for analysis when providing transitional care and have the potential for automatic proactive care in the near future.

As would be expected, supporting such infrastructure is not simple. The rate of data growth alone necessitates large and robust storage systems which can call upon any piece of information at a moment's notice. Not only that, but they must be resilient and protected against file corruption or equipment failure. Finally, IT provider that maintain these systems should be able to support both an on-site and hosted infrastructure to ensure they meet the demands of different types of medical facilities.

Furthermore, implementing these new systems is a daunting feat for a company without experience. There needs to be a constant flow of information among the medical facility, IT provider, and EMR vendor to ensure a fluid deployment. Inexperienced IT organizations would be wise to perform extensive research before attempting an implementation for the first time.

As an example, the **CORPORATE [IT] SOLUTIONS** private cloud is fully redundant, geographically diverse, and uses the latest archiving technology to keep client data secure. These technologies could also be implemented on-site to provide the same accessibility and redundancy as the hosted environment. Additionally, through a network of partners, **CORPORATE [IT] SOLUTIONS** has developed a series of best practices for deploying EMR systems. This sort of experience and support is essential for any IT provider hoping to support medical organizations.

Dealing With Red Tape

When it comes to regulation in the healthcare industry, government involvement can be both a blessing and a curse. Standards and mandates are a necessity if the care we want to receive is going to be of high quality. They are also required when it comes to granting additional funding in order to ensure it isn't wasted. The cynical view of regulation in the eyes of the public belies its true purpose, to make healthcare as universally available and acceptable as possible. But that isn't to say it doesn't cause any obstacles.

Regulations are restrictive and they intentionally limit what resources and technologies are available to the medical providers. Also, ensuring that the regulations are being met add operational costs, taking resources away from the main purpose of the facility. Furthermore, these regulations add functions to the jobs of individual practitioners which they are not as well versed in, in the name of security and privacy.

Dealing with regulations is a drain on resources, thus solutions must find a way to minimize cost. One of the most effective ways to ensure regulations are met would be augmenting existing assets. Providing basic training to employees and implementing changes in standard operating procedures would serve to prevent a large percentage of potential security risks. And dedicated Chief Security Officer could provide regular analysis of current policies and lower such numbers even further.

Unfortunately, when it comes to complying with government regulation, costs are unavoidable, and infrastructure is one of the largest drains. Steady investments in networking and security hardware such as switches and firewalls, as well as protected wireless networks are essentially to improving facility

functionality while ensure compliance. Additional security devices such as email and web filtering are also advised.

While providing such resources is not usually a challenge for IT organization, it becomes one when regulations are concerned. Ensuring compliance requires a high level of familiarity with the mandates, as well as frequent updates and reevaluation to ensure any new or altered guidelines are being met. This necessitates the hiring of specialists, not for medical facility, but for the IT provider's internal systems and policies as well.

The major advantage to top tier providers such as **CORPORATE [IT] SOLUTIONS** is that these investments are already in place. Providing high level security training ensures that client data is never lost due to user error, and HIPPA compliant infrastructure and security devices protects against more sophisticated attached.

Such partners are also able to extend their own resources to their clients, effectively filling any gaps in the on site IT staff. Most importantly, they have the ability to provide high level vetting of security devices, patches, along with the ability to revert any system changes nearly eliminates the danger from unforeseen bugs.

Doing More With Less

Innovative solutions are required if the medical industry is to keep pace with emerging technology, but without the capital to implement them, they won't be of much use. Hospital costs are one of the largest pain points when it comes to smooth operations, and their reduction is top of mind for any administrator.

Resources are already spread thin, so efficiency is of high priority. Adding IT staff or more nurses would only add to the cost burden without improving efficiency. Hospital staff need to be versatile, and their tools must support said versatility. Workflows and processes need to be set up around these tools to optimize their use, as well as appropriate channels for support should errors occur.

The back end infrastructure must be as versatile as the tools. It should be as simple as possible to reduce operational overhead, yet scalable to grow with the needs of the facility and adapt to new tech. Redundancy is also a necessity here, as it was for security and compliance. Should an unforeseen circumstance occur, operations must be able to resume quickly and with little impact.

The need to be more efficient with resources is the primary driver for medical facilities adopting new technologies. Devices such as 3d printed casts, surgical robots, and digestible sensors enable doctors to treat patients far more effectively. These changes are visible when it comes to internal policy as well, as many providers seek to implement bring your own device programs. A growing reliance on telemedicine allows doctors to extend their reach to underserved areas and reduce the need for time consuming patient visits. And with the growing healthcare wearable movement, doctors are starting to see the value in user generated data, hoping to combine it

with their own systems to get a more complete picture of their patient's lives.

These new tools have the potential to revolutionize the way medicine is practiced, but their adoption is hindered mainly by the cost to implement them. IT providers which hope to support such endeavors will need to be able to support multiple locations with varying network topologies and on unknown devices. Legacy infrastructure will also be a challenge as ripping and replacing current equipment is simply not an option for many facilities.

The specialization of hospital tools is a further challenge when it comes to support. Call volumes are high and SLAs are incredibly tight, there is a large amount of pressure put on the team. A large investment into internal training is necessary to learn proprietary applications, and the introduction of new tools requires a large time investment in vetting the technology and ensuring compatibility.

Using as **CORPORATE [IT] SOLUTIONS** a model, it is clear that certain any IT provider hoping to support medical facilities must fit within a certain framework. They must have a solution and experience with innovative application delivery solutions, such as Desktop as a Service, to allow for multiple equipment strategies and reliant uptime. Their service staff should be highly trained and certified along with being available 24/7 without the need for outsourcing.

Most importantly, there should be a high level of internal communication, among each department understanding its role and how that affects the workflows and processes of its clients. New technologies should be strenuously vetted and the its staff should be clear on their purpose before deployment. Overall, an IT provider in this field must have a culture of self improvement and growth.