

# 5 STEPS

## for Calculating the Total Cost of Ownership for Mobile Devices



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Mobile computing technology has grown rapidly in the healthcare industry during the past several years. Although cart-mounted computers are still quite common in hospitals, there is a growing preference for electronic health record (EHR) systems that leverage mobile applications for smartphones, tablets, and other handheld devices.

This technological shift poses a number of challenges for those in charge of health information systems. Mobile healthcare solution deployments present a number of unique compatibility, security, and application management issues that must be addressed. This can add to the overall total cost of ownership (TCO) for the mobile solution, and affect the return on investment (ROI) of the system.

Accurately calculating mobile TCO is critical for a successful deployment. Understanding TCO allows you better manage your mobile budget and improve your return on investment, even in scenarios where the cost savings or productivity improvements of the solution may initially be difficult to gauge.

Mobile TCO is more than just the cost of the hardware and software. These technology deployments include both capital expenditures and operating expenditures. VDC Research estimates that hard costs (capital expenditures) may only account for 10 percent or less of the TCO for a mobile solution over a five-year horizon. Ongoing support, maintenance, and management of the system (operating expenditures), along with device replacement cost and the cost of the downtime or lost productivity, account for the remaining 90 percent.

By calculating the true cost of a given solution, you can make a better comparison between different hardware and software combinations. A solution with a relatively low initial purchase price may cost you far more over the life of the solution through frequent upgrades or lost productivity than a more expensive, but more stable, alternative. Those investments in solid hardware and software up front may result in a larger expense in the short term, but can create long-term gains through reducing operating expenses, enabling additional productivity, and/or reducing costs.

Determining the TCO for your mobile solution can be challenging, especially because it includes expenses that are not always obvious. This eBook explores five steps you can take to gain a better, more accurate understanding of the TCO of mobile devices.

## STEP ONE: Estimate Data Usage



For mobile solutions that communicate via cellular networks, paying for what can be a large amount of data usage represents a potentially large hidden cost. Without a careful evaluation prior to deployment, healthcare organizations may find themselves incurring large monthly charges from their wireless carrier with very little power to make changes or reduce costs after the fact.

Some employees may exceed their monthly data limits, but a larger problem is paying for data capacity (or even voice minutes) that go unused. The first step in calculating and then managing this element of TCO is to understand how employees use their current mobile devices. In situations where organizations employ a bring your own device (BYOD) policy, there is the additional challenge of determining the appropriate reimbursement for each employee.

Conduct a thorough evaluation of how the proposed solution will impact wireless data consumption, and then work with your vendors and your wireless carrier to match actual employee consumption patterns to the appropriate wireless contract. This will give you a better picture of what your annual data charges will be, and what affect those charges will have on your operating budget.

## STEP TWO:

### Include Mobile Device Management Software



As the use of mobile devices in healthcare continues to increase, it is even more important to secure, support, manage, and monitor these devices. Mobile device management (MDM) software may add to the upfront cost of a solution, but can create long-term savings by automating time-consuming management and maintenance activities that can overwhelm even a well-staffed IT department.

MDM solutions allow IT staff to centrally provision, monitor, troubleshoot, and upgrade mobile devices. Software updates can be issued to all users simultaneously, with no loss of productivity. Clinical users can get remote support for the devices, no matter where they are. More importantly, security, password, and application restrictions can be monitored and enforced automatically. If a device is lost or stolen, an MDM solution allows IT staff to remotely locate, lock, or wipe data from the missing device.

Under HIPAA and HITECH requirements, failing to properly secure sensitive patient data could lead to hefty fines and other penalties. Mobile devices are the leading source of healthcare data breaches and compliance violations. Even though system administrators have more experience managing mobile devices and the devices themselves have become more powerful, securing device populations has become more challenging because of the expansion in devices, applications, interfaces, and operating systems that must be managed. Therefore, the MDM systems and policies that are used must be broad and flexible enough to accommodate an evolving device ecosystem.



## STEP THREE: Calculate Potential Labor Costs



Even with advanced management tools in place, a large number of mobile users on the network will increase the workload on an organization's IT department. When so many mobile devices are in use in a hospital, it is vital to have an internal IT team to handle any potential problems. If an IT team is already in place, then wireless problems or issues with the devices themselves can take employees away from other tasks — effectively costing the organization time and money.

In order to maximize the effectiveness of an IT staff and to minimize the cost of labor for mobile devices, organizations must analyze where poor workflow processes occur and find ways to reduce those inefficiencies in order to reduce TCO.

The use of MDM software, cloud-based or hosted software, third-party IT support, maintenance contracts, and other tools can reduce the strain on the IT department and reduce those costs.

## STEP FOUR:

# Compare Hardware and Software Costs

Determining hardware costs involves more than just the sticker price of the mobile devices. The calculation should also include estimated annual costs for lost or damaged devices, along with the potential costs of maintaining multiple devices for each end user if they need to use more than one type of mobile platform or create standardization.

Different operating system platforms (Apple iOS, Windows Mobile, Android, etc.) may present additional costs. Different types of devices may require more frequent OS and application software upgrades, or pose support challenges. Other platforms may pose integration or security challenges that can increase organizational risk.

Mobile device and operating system upgrades are another potential source of hidden costs. Manufacturers, software vendors, and wireless carriers have different update procedures and schedules. This can lead to interoperability problems that render the solution useless until the updates are completed. A platform that requires frequent application updates in order to stay current with frequent OS versioning can add support costs.

Hospitals may also have to choose between ruggedized mobile devices and consumer-grade smartphones or tablets. While they cost less initially, consumer devices often have a much higher TCO than their more expensive rugged counterparts. According to VDC research, this is especially true for tablets. The TCO for consumer-grade tablets has been measured at 51 percent higher than rugged devices. The research firm also reported that it is not uncommon for more than half of consumer-grade mobile computers to fail within the first year of a deployment.

Special sleds or cases can make consumer devices more durable, and even provide enhanced battery life and more robust barcode scanning capabilities. However, these accessories add costs and need to be thought through thoroughly.

Mobile software will also include an upfront purchase cost, along with annual maintenance or upgrade costs. There are different approaches to mobile software that can have a variable affect on TCO, depending on whether you buy a pre-packaged application, customize an existing solution, or develop a new custom app. Using cloud-based or hosted software (sometimes referred to as software as a service, or SaaS) can reduce these costs in some cases. Software support and maintenance may also generate new labor costs in the IT department as well.

## STEP FIVE:

### Don't Forget Training and General IT Support



Every mobile device will likely require support or maintenance of some sort during its lifecycle, whether that is for a simple repair or complete replacement. If the hardware vendor or value added reseller offers a service plan, you may be able to better control or reduce those support costs by outsourcing them to a technology partner. Warranty plans can also help keep TCO low.

These service plans can include simple break/fix services, spares pool management, depot repair, on-site repair, or completely outsourced service plans. Determining what service level is right for you will depend on the mobile device, and the criticality of the solution. More expensive on-site repairs may be worth the cost for mission-critical applications.

Training is another area that can balloon TCO both through direct cost of the training and lost productivity. If employees are unfamiliar with a device or the software, time must be spent to get them up to speed. Look for devices that can provide a familiar interface for users; that will cut down on training time and increase employee adoption of the solution and compliance with security and usage requirements.

# CONCLUSION

By following the steps discussed in this eBook, you can accurately gauge the TCO of a given solution and identify ways to reduce your TCO and improve the return on your mobile technology investment. The work doesn't end once you've selected the solution. TCO is not a stagnant concept. As new hardware and software updates become available, evaluate their ability to further reduce your TCO and improve the performance of the solution. In that way, you can better leverage your mobile solution to enable continuous improvements.

## About Futura Mobility

Futura Mobility helps healthcare organizations gain the perspective they need for successful mobile projects. Futura Mobility has more than 20 years of experience and 2,500 customers, including one out of every three hospitals in the U.S. Futura provides clients with experienced resources to enable high velocity adoptable mobility initiatives coupled with world class support. By leveraging broad mobility expertise across a diverse range of products, services, and support strategies, Futura serves as a complete "one stop shop" mobility partner, increasing operational efficiency and reducing costs for clients. Our full suite of mobility offerings are designed to allow healthcare organizations to take advantage of our successful mobility expertise combined with the cutting edge technology of today. Solutions range from strategic planning, mobile application development, wireless infrastructure design, mobility implementation, mobile device management, and both on-site and remote break/fix repairs of mobile devices.

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