

BEYOND SECURITY



Single Door Access Control Solutions for the Healthcare Market

Eliminating Battery and Key Replacement Cost
Centers in the Healthcare Market



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Executive Summary

As hospital and healthcare organizations expand and facilities enhance their level of care, there is a growing concern for increased security threats, including assaults, larceny and thefts, vandalism, data breach, and network intrusion. According to the 2012 Crime and Security Trends Survey, the number of crimes in hospitals increased by nearly 37 percent in just two years from just under 15,000 incidents to more than 20,500 in 2012. Note this survey was underwritten by the Foundation of the International Association for Healthcare and Security and Safety (IAHSS).¹ There are guidelines in place which mandate varying levels of security under some “environment of care” standards. However, decisions on which/what type of security solutions are determined at the individual healthcare facility level.

Historically, healthcare facilities managed access control with either keyed locks or mechanical pushbutton locks. However, with a surge in security issues, many hospitals and healthcare facilities are moving/have moved away from traditional access control technology to integrated access control systems. An integrated system enables a hospital or healthcare facility tight control over access in the building as well as outlying buildings and offers the ability to tap into CCTV system monitoring, accommodate time and attendance systems, integrate with infant abduction systems, access computers, and provide cashless vending.

However, because the cost per door of an integrated system is high, proper due diligence is required to determine if doors/access points are essential or non-essential to the integrated system. Accurately classified access points will help minimize the overall cost of an access control system and maximize its effectiveness.

Existing door locks that remain on non-essential doors—over time and with great usage—will require replacement. Multiple solutions are available in the market; however, as hospitals and healthcare facilities seek to reduce costs, a sustainable access control product could help achieve cost reduction objectives while meeting security standards and HIPPA compliance. This white paper will discuss four areas that hospitals need to consider when implementing access control products, including:

- Integrated access control vs. single door solutions
- Sustainability trends
- HIPPA and access control
- Cost factors

Integrated Access Control vs Single Door Solutions

Integrated access control versus stand-alone access control, which do you choose? Integrated systems offers many valid advantages such as the ability to link with CCTV, support the use of an existing credential, and integrate with third-party systems. Some hardware and software components to this type of system can include:

- Server \$2,000
- Software & installation \$2,600
- Enrollment reader \$100 ea
- Door controllers \$500 ea
- Reader interfaces \$125 ea
- Card readers \$150 ea
- Door locks \$230 ea
- Exit device \$100 ea
- Electric strike/magnetic lock \$200 ea
- Labor*

*Labor costs can include cutting the door frame for an electric strike latch plate, running wires from the door components to the controller/reader interface, and connecting the panel to the server.

With a cost per door that ranges from \$1,500 to \$2,500,² & ³ facility management needs to decide which doors are necessary for this upgrade. Critical access points can include research laboratories, emergency room, intensive care unit, neo-natal department, pharmacy, medical records, and parking lot. If certain doors are determined “non-essential”, then management needs to decide whether to maintain or install a conventional lock and key, mechanical pushbutton, or electronic lock. Non-essential access points/doors could include break rooms, storage areas, and administrative offices.

Trending: Sustainable Solutions

Healthcare organizations are finding ways to decrease their carbon footprint and increase their commitment to sustainability. Areas of concern include energy efficiency, toxin elimination, and waste reduction. Some hospitals and healthcare facilities have adopted Environmentally Preferable Purchasing (EPP) programs to buy products with sustainable attributes. Key initiatives include the elimination of unnecessary packaging/waste, substitutions for products that contain mercury or other toxic substances, provision of more nutritious foods, and procurement of reusable or recycled products.

According to the Health Care Without Harm coalition,⁴ environmentally preferable products are generally:

- Less toxic
- Minimally polluting
- **More energy efficient**
- Safer and healthier for patients, workers, and the environment
- Higher in recycled content
- Packed in less packaging material
- Fragrance-free

Other companies like Kaiser Permanente have laid out vast road maps and initiatives to drive sustainability and promote workplace safety with the net objective to improve the public's health. Kaiser is the pioneer of the Sustainability Scorecard, which the company developed to help them evaluate the sustainability of purchased medical items. The scorecard requires suppliers to provide information on their company's environmental commitment, use of potentially harmful chemicals in their products, and product and packaging recycling.⁵

HIPPA and Access Control

In an already increasingly security conscious world, the US government enacted the Health Insurance Portability and Accountability Act of 1996 or HIPPA specifically for the healthcare industry. The intent of HIPPA is to standardize processes, improve efficiencies and effectiveness while protecting its patrons.

Under HIPPA's Security Rule, it details three types of security safeguards required for compliance: administrative, physical, and technical. For each of these types, the rule identifies various security standards and names both required and addressable implementation specifications for the standards.

Listed below are some sections outlined by HIPPA⁶ for access control:

1. Facility Access Control Standard: 164.3109(a)(1)

"Implement policies and procedures to limit physical access to its electronic information systems and the facility (the physical premises and the interior and exterior of a building) in which they are housed, while ensuring that properly authorized access is allowed."

In other words, hospital security is required to have a system in place that restricts access to the IT areas of the facility, particularly areas containing the servers hosting electronic medical records. Doors to the server area might fall under the requirements for a wired system, but in most cases electronic access control meets the standard with its code entry and audit trail.

B. Facility Security Plan: Implementation Specification:

164.310(a)(2)(ii)

“Implement policies and procedures to safeguard the facility and the equipment therein from unauthorized physical access, tampering and theft.”

Hospital/healthcare security plans must document the use of physical access controls. No matter what type of access control a facility implements, it must ensure that only authorized individuals have access to facilities and equipment and that there are procedures to prevent tampering and theft of electronic protected health information and related equipment. These controls can include electronic locks on doors, surveillance cameras, and alarms.

Even though the Security Rule outlines what needs to be controlled, it does not mandate the type of access control device/solution. While key controlled and mechanical pushbutton locks (access code) function with no batteries, they have security limits. Keys can be handed to anyone and codes can be given out or overheard. Moving to electronic access control is a practical change. Electronic access control offers multiple users codes and an audit trail feature to know when and who entered an access point.

According to a recent IMS research study, “The healthcare industry continues to be one of the strongest developing markets for access control. Specifically, there has been a growing demand to expand the use of electronic-access control locks to cabinets and other filing systems as well as closets to protect patient clothing and belongings.”⁷ In addition, the study estimates that the forecast for electronic locks in the healthcare market (2014) is expected to be \$5.3 M and grow to \$6.4 M in 2017.⁸



Cost Factors

As in all industries, healthcare companies are constantly looking for ways to control and reduce costs. Healthcare reforms as well as quality mandates are forcing hospitals to review purchases within a new set of parameters. These rules are founded on evidence-based management, which improves outcomes by explicitly using proof. Evidence discovery is accomplished with research and data mining rather than by personal experiences. It disallows observations and gut reactions to make decisions. It uses metrics on a daily basis.⁹ Hospitals have measured patient outcomes and patient security and achieved results that support evidence-based purchasing decisions.

Access control purchasing decisions are part of the new set of procurement rules. Purchase decisions should be measured between the security the products offer and the cost to implement and maintain. Deciding which doors are essential versus non-essential doors is critical since there is probably insufficient evidence that supports securing every door with a \$2,500 locking system. Moving to electronic access control from mechanical includes costs other than the lock cost, including wiring, door preparation, and battery replacement. Some costs hospitals and healthcare facilities need to consider include:

- The average cost to rekey a commercial door is approximately \$85–\$100^{10 & 11}
- Cost for internal resource to replace batteries in electronic locks is \$10-\$18 per door
- Depending on the manufacturer and lock model, battery replacement could be every six months or more (high traffic doors)

Dismissing Evidence-Based Decisions

For decades the Kaba L1000 Simplex mechanical pushbutton lock was the preferred lock in many US and Canadian hospitals and healthcare facilities. A robust and durable solution, it requires no keys to manage and no batteries to replace. However, as security requirements evolved and staff became more accustomed to electronic solutions, facilities changed out mechanical pushbutton locks for integrated solutions that provided card-controlled access. Making a broad-sweeping ruling to replace all conventional keyed locks or mechanical pushbutton locks with a uniform solution dismisses evidence-based decisions and incurs enormous additional expenses. Not all access points in a hospital or healthcare facility need an integrated access control solution. Facilities should conduct proper access control assessments at every access point.

PowerPlex 2000

PowerPlex 2000 is a self-powered electronic lock that does not require batteries or other external power sources. The installation of PowerPlex on non-essential or non-system doors offers hospital or healthcare facilities an alternative to meet sustainability standards by removing battery waste disposal.

The lock generates its own power with every turn of the lever, making it one of the most efficient and versatile locks available with virtually no maintenance costs. Based on PowerStar™ technology, PowerPlex uses new super capacitor technology to store power longer and more efficiently. There is no handle pumping required to “wake up” the lock; built-in super capacitors hold a full charge for up to 10 weeks with no activity at the lock.

Providing exterior access by PIN code while allowing free egress, PowerPlex is as reliable as a mechanical pushbutton lock with the features of an electronic lock. With 100 user codes available and an audit trail of 1000 events, PowerPlex 2000 meets HIPPA approval for high-security areas, including patient records, hazardous waste, and restricted areas.

PowerPlex eliminates problems and costs associated with issuing, controlling, and collecting keys/cards, and it requires no wiring to or through the door, eliminating the risk of damage from pinched wires that can result in costly callbacks.

PowerPlex also offers a unique feature: privacy. Once an authorized user has entered their code and entered the room, they can throw the privacy latch. This allows them to secure the room from the inside and will not allow even other authorized users in.

PowerPlex offers the flexibility of programming at the lock keypad or computer using Excel®-based software. The lock offers multiple locking device options, including cylindrical, mortise and exit trim, and it is BHMA Grade 1 Certified and ADA compliant.



Conclusion

Security is not an amenity, but an expectation among staff, patients, and visitors. Hospitals and healthcare facilities must seek access control solutions that balance the security of their staff and patients with cost effective products—and if the solutions match with Green/LEED initiatives, then healthcare organizations gain the additional dividend.

On non-essential doors or stand-alone access points, the PowerPlex 2000 provides hospitals and healthcare facilities an ideal access control solution that:

- Supports sustainability with the elimination of batteries
- Meets security and HIPPA requirements
- Offers significant cost savings over a conventional keyed door lock
- Allows a simple upgrade path to electronic access control

References

1. "Healthcare Facilities See Rising Crime Rates," Joel Griffin, February 4, 2014, <http://www.securityinfowatch.com/article/10863653/new-survey-underwritten-by-iahss-shows-crime-on-the-rise-at-hospitals-nationwide?vm=>
2. <http://www.costowl.com/b2b/access-control-door-cost.html>
3. John Dinapoli, product manager systems integration, Kaba ADS Americas
4. Healthcare Without Harm international coalition, Reston, VA
5. "Kaiser Permanente Launches Sustainability Scorecard for Medical Products," May 4, 2020, <http://share.kaiserpermanente.org/article/kaiser-permanente-launches-sustainability-scorecard-for-medical-products/>
6. Health Insurance Portability and Accountability Act of 1996, August 21, 1996-January 1, 2013
7. "The World Market for Electronic Physical Access Control Equipment, 2013 Edition," Blake Kozak, Austin, TX
8. Table 2.34 Americas Market for Electronic Physical Access Control Electronic Locks by end user industry
9. "Evidence-Based Management in Healthcare," Lynn McVey, Kenneth Fazzino, Jeffrey Palmucci
10. Paul Hunt, Eastway Lock and Key, Inc., Charlotte, NC
11. "The 2013 ALOA SPAI Pricing Survey," June 2013 Keynotes Magazine