



Benchmarking: Healthcare Visitor Management and Weapons Detection Technology

Methodology

In 2023 a healthcare client of Security Advisors Consulting Group (SACG) commissioned SACG to conduct benchmarking study researching the prevalence and user impressions of visitor management and weapons detection technology in the hospital environment. The research sought to identify:

- The prevalence of visitor management software usage at hospitals.
- How are hospitals using visitor management software.
- Market share and user perceptions of various visitor management software platforms.
- The prevalence of weapons detection technology usage at hospitals.
- How are hospitals using weapons detection technology.
- Market share and user perceptions of various weapons detection technology platforms.

This whitepaper is drawn from and summarizes that research. The data reflected in this survey was collected via a web-based survey tool which was distributed to healthcare Security leaders via e-mail, via posting in the discussion forums of both the International Association of Healthcare Security and Safety and ASIS International, and via posting to social media including LinkedIn.com and Facebook.com. Phone interviews were also conducted with select respondents to clarify answers or request elaboration on points made.



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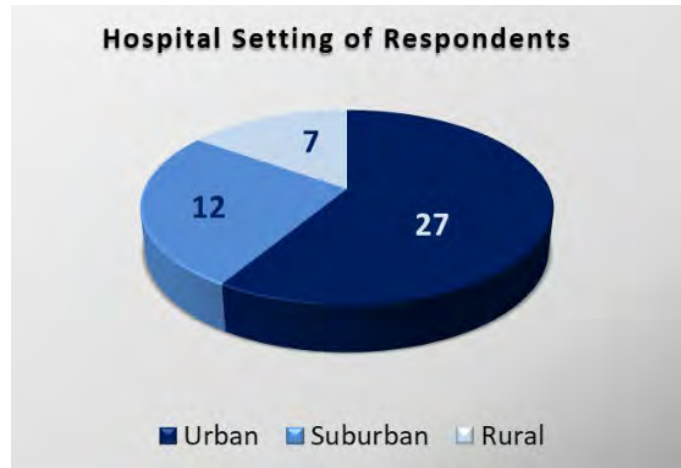
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Participants

In total, representatives from forty-six hospitals responded and contributed their data to the survey, these respondents overwhelmingly self-identified their role within their organization as “Safety and Security Management” (40, 85%) with two respondents each identifying as “Facilities Management” and “Administration”, and one each identifying as their role as “Guest Services/Visitor Management”, “IT”, and “Workplace Violence”,

The forty-six hospitals represented were all located in the US and self-identified as 58.7% located in “Urban” settings, 26.1% located in “Suburban” settings, and 15.2% located in “Rural” settings. These hospitals ranged in size from 2,025 to 44 licensed inpatient beds, with a median bed count of 328 and an average bed count of 427.¹ Twelve of the responding hospitals (26.1%) are accredited as Level I Trauma Centers, fifteen (32.6%) as Level II Trauma Centers, five each (10.9%) as Level III or Level IV Trauma Centers, and the remaining nine (19.6%) did not have a Trauma Center designation.



VISITOR MANAGEMENT

Prevalence

Of the forty-six respondent hospitals, thirty-one (67.4%) stated that they were utilizing visitor management software in some capacity. Interestingly, rural

¹ Excluding two hospitals that did not provide their licensed bed count.





hospitals were the most likely to have deployed visitor management technology, with six of the seven (86%) rural hospitals responding to the survey indicating that they did utilize visitor management technology, while seventy-four percent of urban hospitals and only forty-two percent of suburban hospitals indicated that they had deployed a visitor management technology system.

The following percentage of differing Trauma Center designations stated that they had deployed visitor management software:

- Level I – 75%
- Level II – 60%
- Level III – 20%
- Level IV – 100%
- Not a Trauma Center – 77%

There were not significant correlations to Trauma Center designation on whether or not a hospital had deployed visitor management software, except that Level III Trauma Centers were least likely to have deployed the technology while all of the Level IV Trauma Centers included in the study had deployed visitor management technology.²

Deployment and Integration

After collecting demographic information, the survey requested information from the respondents regarding how they were utilizing their visitor management systems and how they are currently integrated into their operations.

Pre-registration of visitors via a web portal or app is a feature of several visitor management software solutions and can be used to reduce check-in time. We explored the use of this feature with the survey respondents and nine hospitals (34.6%) stated that the system they use has features that allow for pre-registration and that they do utilize those. The survey also explored the use of self-registration via unstaffed kiosks for visitors, the majority of hospitals utilizing visitor management (61.5% of respondents) did not utilize a self-registration feature and require visitors to interact with an employee to complete the check-in process. Another 11.5% allow for initial visitor registration via self-service kiosk but then require that the visitor interact with an employee to validate the information

² It should be noted that this data may be affected by the low response rate from Level II and IV Trauma Centers with only five of each responding.



provided. While twenty-three percent allow visitor registration to occur completely via self-service kiosk for all visitors, and one hospital (3.8%) allows for self-service check-in of vendors but requires other visitors to interact with an employee to complete the check-in process.

The survey also sought information regarding the use of features in visitor management software that allow for visitor records to be queried against criminal history and sex offender registration databases. A small majority of the responding hospitals (53.8%) who utilize a visitor management system indicated that they do not currently conduct any type of query against criminal or sex offender databases during visitor registration.³ The remaining forty-six percent indicated that they do utilize their visitor management system to query outside criminal record databases, although nearly half of those indicated that they query only against sex-offender registration databases rather than databases containing full criminal records, and two of the hospitals indicated that they only query outside databases for visitors to specific areas of the hospital. While the survey did not seek clarification on what areas of the hospital or what types of hospital are most likely to screen against outside databases, our experience indicates that Children's hospitals are significantly more likely to conduct screening to identify potential registered sex-offenders than are general acute care facilities serving primarily adults.

Several of the survey respondents provided feedback that integration with other software platforms within the hospital can be key to the success of a visitor management system, and twenty-three percent of the respondents indicated that their visitor management software was integrated with their electronic medical record (EMR) software although only six⁴ hospitals (23%) indicated that they had any level of satisfaction with the integration. The majority of the hospitals indicating successful integration also indicated that they utilized EPIC as a EMR with two hospitals indicating that they had successfully integrated with Cerner and Meditech EMRs. Visitor management systems listed as successfully integrated with various EMRs included HID Safe, Passage Point, and Threshold.

Of the twenty-six respondent hospitals using a visitor management software solution, only one reported that their visitor management software had been integrated with their electronic access control (EAC) system in order to allow them

³ It should be noted that while two hospitals did state that their system does not allow for querying of outside sex offender or criminal record databases, the systems that they referenced using Omnigo and Passage Point do actually provide this feature, but the respondents may have been unaware of its availability.

⁴ Four of the hospitals who indicated a level of satisfaction with the integration utilize HID Safe, and one each utilizes Passage Point and Threshold.



to program visitor badges to open select electronically access controlled doors. The single facility that indicated that this integration was currently in use, was an Urban Level I Trauma Center with approximately seven hundred licensed beds and indicated that they had integrated their HID Safe visitor management system to provide QR codes on visitor badges that could be used with their Genetec Synergis electronic access control system to allow visitors to access certain controlled access areas.

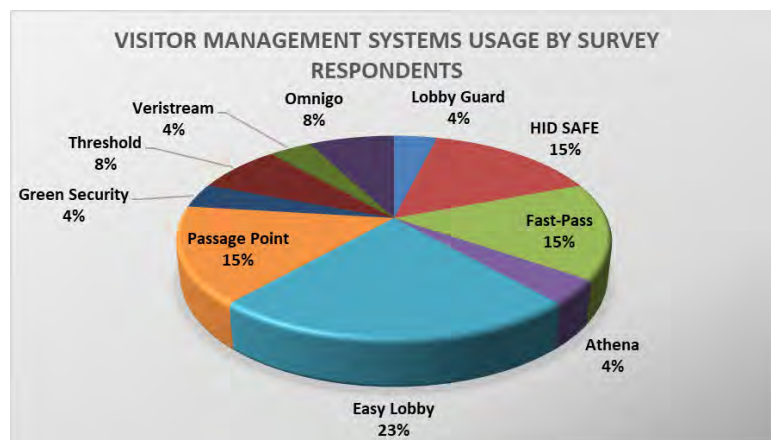
Market-share and User Perceptions

The respondents were asked several questions regarding the manufacturer of the visitor management software that they were currently utilizing and their perception of the ease of use of the system and the level of support provided by the vendor.

Based on these responses, ten different visitor management software solutions were in use across the twenty-six respondents that had indicated that they were currently deploying a visitor management software solution at their hospital.

Systems in use included:

- Easy Lobby
- Passage Point
- Fast-Pass
- HID Safe
- Omnigo
- Threshold
- Athena
- Veristream
- Lobby Guard
- Green Security



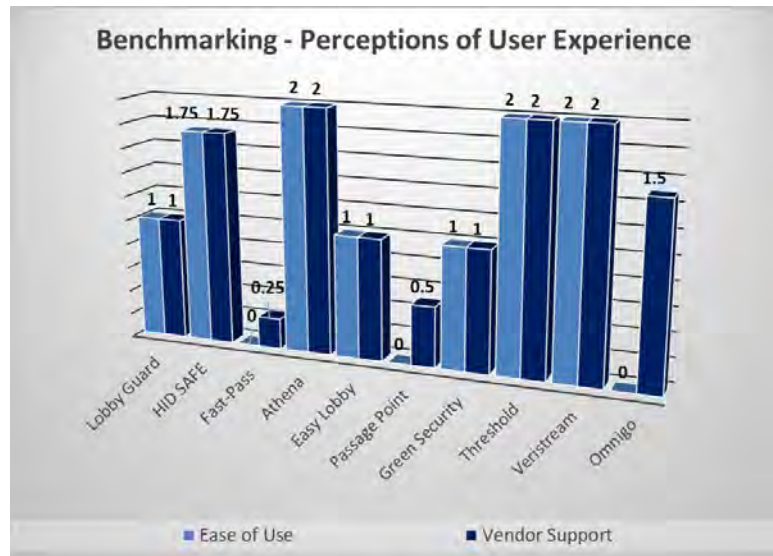
Of these systems, Easy Lobby garnered the largest market share with six hospitals (23.1%) indicating its use. Passage Point, HID Safe, and Fast-Pass each were used at four of the respondent hospitals, with Threshold and Omnigo used at two each, and the remainder only reported as being in use at one of the respondent hospitals.



The survey requested the respondent’s input related to their level of satisfaction with the “ease of use” and “vendor support” for their current system using a five-point scale. With two points awarded for an answer of “Extremely satisfied” and two points subtracted for an answer of “Extremely unsatisfied”. This created a user perception score for both “ease of use” and “vendor support” on a scale from negative two to positive two where a score of zero indicates a neutral perception and a higher score indicates a more positive perception of the product.

Statement	Numerical
Extremely Satisfied	2
Somewhat Satisfied	1
Neither Satisfied nor Unsatisfied	0
Somewhat Unsatisfied	-1
Extremely Unsatisfied	-2

None of the visitor management systems mentioned scored low enough to indicate a negative perception of either ease of use or vendor support, although several did score a neutral perception as to ease of use, and respondents reported on average being “somewhat satisfied”⁵ with the ease of use of the systems and slightly more than “somewhat satisfied”⁶ with the vendor support for their systems.



Combined average ease of use and vendor support scores for each system ranged between a low of 0.125, or just slightly better than neutral, with three systems scoring 2.0 across both ease of use and vendor support categories indicating that the respondents were extremely satisfied with the product.⁷

⁵ Average ease of use score of 1.075

⁶ Average vendor support score of 1.3

⁷ It should be noted that of the three systems scoring highest, two were only reported on by a single respondent and one was reported on by two respondents so the data may be unduly influenced by a single person’s perceptions or experience.

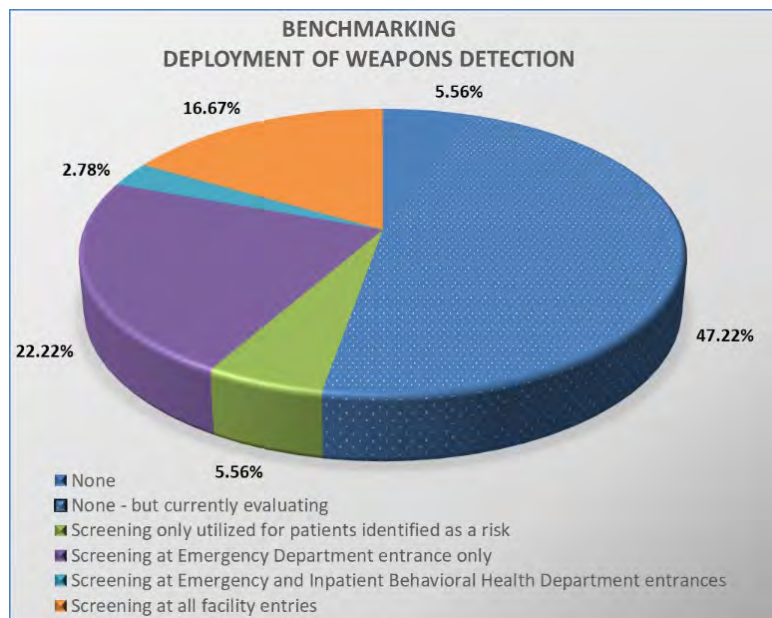


WEAPONS DETECTION TECHNOLOGY

Prevalence and Deployment

Of the thirty-six respondents that answered questions related to usage of weapons detection systems at their hospitals, seventeen (47.2%) stated that they were utilizing weapons detection technology in some capacity. While of the remaining fifty-three percent that were not currently deploying any weapons detection technology all but two indicated that they were currently in the process of evaluating whether and how to deploy it.

Of the seventeen facilities that did indicate that they currently deploy weapons detection technology, eight (47.1%) indicated that it is deployed at the Emergency Department entrance only, an additional six facilities (35.3%) indicated that it is in use at every entrance to the facility, while two facilities indicated that while they have weapons detection technology it is only utilized when a patient being admitted to a select area is identified as presenting a risk, and one facility indicated that they deploy it at entrances to both Emergency Department and Inpatient Behavioral Health units.



Hospitals self-identifying as being located in “suburban” areas were the least likely to deploy weapons detection technology with only one of twelve suburban hospitals indicating they utilized any weapons detection technology and that hospital indicating that it was only used in the Emergency and Inpatient Behavioral Health areas to screen patients who were identified as presenting a risk.

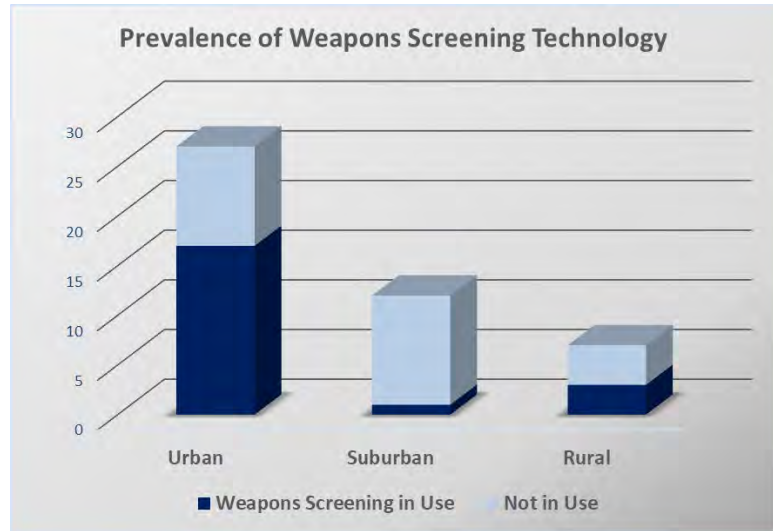
Three of the seven “rural” hospitals (42.8%) responding to the survey indicated that they do currently utilize weapons detection technology to at least some extent. With two rural hospitals indicating that they screen everyone entering the hospital with



weapons detection technology and one additional hospital indicating that everyone entering its Emergency Department is screened.

Of twenty-seven “urban” hospitals responding to the survey seventeen (62.9%) indicated that they do deploy weapons detection technology to at least some extent. Of these, four hospitals indicated that weapons detection

technology was utilized at facility entrances to scan everyone who enters the hospital, while eleven facilities utilize it only at the entrance to the Emergency Department and two conduct screening at both Emergency and Behavioral Health locations.



The following percentage of differing Trauma Center designations stated that they had deployed weapons detection systems:

- Level I – 50%
- Level II – 73%
- Level III – 20%
- Level IV – 0%
- None – 33%

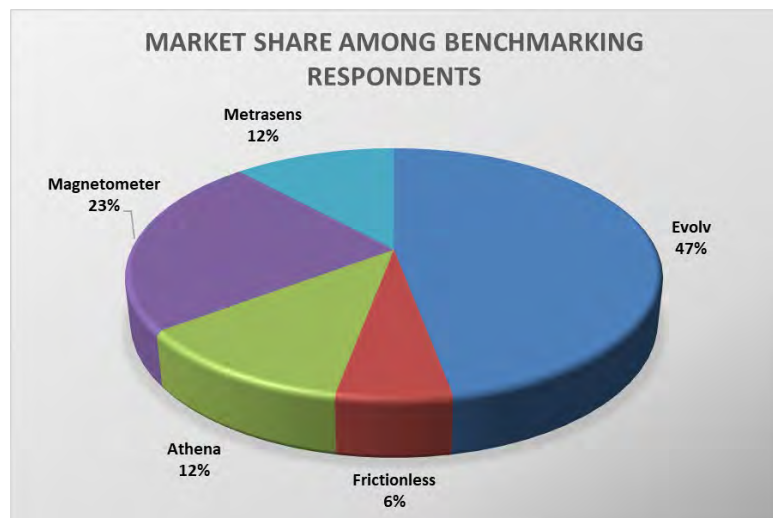
All Level I, II, and III Trauma Centers that do not currently deploy weapons detection technology did indicate that they are currently in the process of evaluating the potential for deployment. Of the six facilities that indicated that they currently using weapons detection technology to screen everyone entering the facility, four are located in urban areas and two in rural areas and all are under four hundred beds except for a single facility of more than two thousand beds. This is indicative of the fact that it may be easier to fully deploy weapons detection technology to screen everyone entering the facility at smaller hospitals than it is at larger facilities.



Market-share and User Perceptions

The respondents who indicated that they were currently utilizing weapons detection technology were asked several questions regarding the manufacturer of the weapons detection technology that they were currently utilizing and their perception of the ease of use of the system and the level of support provided by the vendor.

Based on these responses, five different weapons detection solutions were in use across the twenty-one respondents that had indicated that they were currently deploying a weapons detection solution at their hospital. Five of these twenty-one facilities (23%) indicated that they were currently utilizing traditional magnetometer technology while sixteen indicated that they were utilizing one of four next generation AI enabled or “smart” weapons detection systems. Systems named by respondents as in use included:



- Evolv
- Athena
- Metrasens
- “Frictionless”⁸

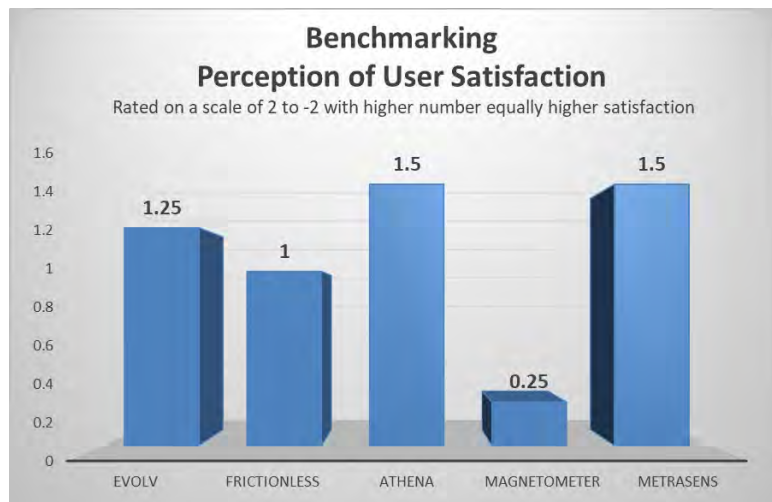
Of these systems, Evolv garnered the largest market share with eight hospitals (47%) indicating its use.

⁸ We are unaware of a product named “frictionless” although several manufacturers do use this word to describe their product as such we are unsure if the hospital naming “Frictionless” as their solution is using one of the other manufacturers (potentially Evolv) or if it is a separate manufacturer that we were unable to identify.



The survey then asked the respondent’s input related to their perception of “effectiveness of this technology” for their current weapons detection system using a five-point scale. With two points awarded for an answer of “Extremely satisfied” and two points subtracted for an answer of “Extremely unsatisfied”. This created a user perception score for system effectiveness on a scale from negative two to positive two where a score of zero indicates a neutral perception and a higher score indicates a more positive perception of the product.

Statement	Numerical
Extremely Satisfied	2
Somewhat Satisfied	1
Neither Satisfied nor Unsatisfied	0
Somewhat Unsatisfied	-1
Extremely Unsatisfied	-2



None of the visitor management systems mentioned scored low enough to indicate a negative perception of their effectiveness. Although the perception of the effectiveness of traditional magnetometers was ranked significantly lower (0.25) than any of the advanced weapons detection systems.⁹

CONCLUSIONS

A majority of hospitals responding to our survey are currently utilizing visitor management systems to identify and track those entering their facility, or specific areas of their facility. While there is no direct correlation to hospital size or location and whether or not a hospital utilizes a visitor management solution, suburban hospitals are less likely than their peers to have currently deployed a solution. The market for visitor management systems is fragmented with multiple companies offering solutions which are all rated as at least satisfactory by our respondents.

⁹ Between 1.0 for “Frictionless” to 1.5 for Athena and Metrasens.





While many of these visitor management systems offer advanced features and integrations including the ability to for visitors to pre-register, check-in via unstaffed kiosks, integration with patient electronic medical records, integration with electronic access control systems, and ability to automatically query sex-offender and criminal records database few facilities are making full use of these features.

Less than half of the respondents indicated that their facility currently deploys a weapons detection solution, although nearly all that do not did indicate that they are currently in the process of evaluating whether they should do so. Hospitals located in suburban areas are the least likely to currently deploy weapons detection technology while those located in urban areas are most likely.

Of the facilities that have currently deployed weapons detection technologies, the majority have deployed them only at entrances to higher risk areas, primarily Emergency Departments. Although, some facilities do currently screen visitors to their hospital with weapons detection technology located at every entrance. With one notable exception, those screening all visitors are typically smaller hospitals located in urban or rural areas.

“Next generation”, “smart”, or “AI” weapons detection systems with capabilities beyond those of a traditional magnetometer have made a significant penetration into the market, with more than three quarters of respondents who indicated that they are utilizing weapons detection indicating that the system in use is one of these rather than traditional magnetometer technology. Of these, Evolv has the most significant market share having captured nearly half of the market, likely due to significant marketing expenditures over the last several years. Users also rated their perception of the effectiveness of these systems significantly higher than they did for traditional magnetometers.

Of course, in spite of conclusions drawn from benchmarking data, each hospital must make its own decisions related to deployment of visitor management and weapons detection technologies based on its own individual threat environment, risk tolerance, culture, physical environment, and ability to support the solutions in the long term.