A New York Hospital converted from analog to IP surveillance to ensure safety for patients, personnel and property.

“We are a public facility that needs to be hospitable and accessible to the community on the one hand, but on the other hand, we see changes in such growing communities as ours where crime becomes more of an issue. We are committed to ensuring the safety of both our patients and employees,” says the Executive Vice President at a hospital in New York State. “It’s a vulnerable population with many of the patients being elderly or psychiatric, and we have to protect them at the same time as their loved ones who visit, and our own personnel who come and go at all times of the day and night.”

**Challenges:** This hospital in upstate New York has an active psychiatric ward, an alcohol and drug detoxification unit, a busy Emergency Room (ER), Maternity Ward, Operation Room (OR), on-site Pharmacy, cardiac and urology departments, a cancer treatment center, hospital vans, and a heliport. All require monitoring for protection against vandalism, disruptive and violent behavior, the threat of abductions, and theft of drugs or expensive medical equipment. Elderly patients can wander astray, and parking lots also require attention. Old analog surveillance solutions were different in each ward, not connected to each other, time-consuming in their operation, and expensive to expand for new facilities or changing needs.

**Solution:** The hospital chose a solution that includes Sony PTZ dome cameras and Axis video servers for converting the older analog camera images, all of it managed by Milestone XProtect Enterprise IP video surveillance software for the user interface and archiving.

**Advantages:** The hospital gained full overview of all their units via one system that is flexible, scalable, compatible with their IT architecture, and made efficient re-use of existing technology while introducing the IP platform that will serve them well into the future. Adding new cameras anytime is easy, and remote access affords every ward manager the ability to check on activities anytime of day or night.

"A hospital is like a community unto itself," says the Chief of Security at the hospital. "The security challenges are complex with many different kinds of patient care going on, and all of it round the clock. The multiple buildings and locations only add to the tough requirements."

This hospital in New York is an institution that manages over 200 beds, almost 1,000 employees, students in training, and visiting families of patients. 7,700 discharges per year have been cared for, along with 150,000 out-patients including the 23,000 who use the Emergency Room. Eight buildings cover about 400,000 square feet at its main campus, and four more locations handle physical therapy and warehousing of supplies.

“We have a combination of buildings that range from 80 to 20 years old, each designed with their own doors – there are many exits and entrances. Most of them are locked at night, but keeping track of all the complex activities throughout the entire campus is demanding. The pharmacy is very sensitive, where both access control and surveillance are absolutely required. Some areas of the hospital have very valuable assets that are worth a lot of money on the street: we have big investments in technology in the O.R., for example,” says the Executive Vice President at the hospital.

**More out-patients than ever**
The healthcare industry has changed dramatically over the years to a larger percentage of out-patient care. New and better drugs and technology in medical equipment have shortened or totally eliminated patient stays.
"Improvements in patient care and changing treatments have meant the recognition that, in fact, many patients can be discharged a lot earlier," he comments.

In recent years, a lot of the state hospitals for psychiatric patients have been closed down, so this hospital gets all of those patients now, increasing their security needs for dealing with disruptive and violent behavior. They have both a locked and unlocked psychiatric ward and a special psychiatric Emergency Room in the back of the normal ER. Cameras in that location let the nurses and clerks see what is happening at all times.

Increasing the turnover of patients and their families going in and out of the hospital is only one part of the population equation for security concerns, however.

"We have a program where high school students get to work with us for awhile, in all the units, to get some idea of options for future careers. We also have student nurses from the college level coming here to do their training year round," remarks the Chief of Security.

**Protecting assets and property, too**

"We think about things that happened in the past to prevent them from happening again with the new surveillance: several years ago we had a scope in the OR that was scratched and cost $10,000 to replace. We figured it was an employee but couldn't resolve it then," says the Chief of Security. "The street value of drugs is also a focus of concern with our Pharmacy on site, where we've got cameras and alarms to protect against theft."

The hospital has transportation vans and a warehouse for supplies in another location that need protection from vandalism. A high school nearby has also given them some problems with vandalism, both of the building property and to cars in the parking lots.

The increase in more out-patients, students and visitors also has brought more problems with the limited capacity for parking. The hospital has regulations for reserved spaces for physicians, staff, patients and visitors, and the surveillance can prove to be a useful tool in managing those areas.

**Homeland Security regulations and funding**

"Maternity is also a priority for our security because people are selling babies on the black market and we’re not going to let them come from here. Every time we hear about an incident – the last one was in Illinois, I think – the babies are being stolen right from the hospital wards. We have taken big steps to protect against that, both with access card readers for anyone entering or leaving that unit and with surveillance: we have a lot of cameras there," says the Chief of Security.

"In O.B. (obstetrics/maternity) wards, the industry has new standards for security today due to such publicized incidents in hospitals elsewhere in the nation where babies have been abducted: you have to lock it up and protect the children and parents from such theft. Access controls and video surveillance are a MUST to monitor every mode of egress: we have cameras in the unit and at the doors from the parking lots. We have this in place as a pro-active priority to avoid any such thing happening here," says the Executive VP.

The Department of Homeland Security has sent out many regulations for hospitals, along with other public facilities, and breaches in security like child abduction can shut down a hospital.

"We do drills with our employees from that unit and everywhere else in the hospital to keep on top of preparedness for such incidences – children could conceivably be taken from any waiting room in the hospital, for that matter," remarks the Chief of Security.

**Hot Lab with nuclear medicine**

This hospital got a grant from Homeland Security last year for Emergency Preparedness against bio-terrorism. The hospital has a cardiac and urology department that does radiation
therapy with nuclear medications for that purpose, in what is called a ‘Hot Lab’. A new Cancer Center will be opening that will also have a Hot Lab with vaults that require monitoring.

“Homeland Security regulations also require our heliport license to be monitored with a camera 24/7. That landing pad is used to bring patients from accidents or transporting on to trauma centers in Albany or Westchester – our facilities are used to stabilize them first. We’ve already had over 30 cases with the heliport from June to September this year,” relates the Chief of Security, who has completed a Quality Assurance report on this.

**Pitfalls of DVRs; upgrade to networked surveillance**
The objective with the new networked video surveillance solution has been to convert them campus by campus using Axis 4-port video servers for converting imagery from the old analog cameras they have, and to add 30-40 IP cameras from Sony to eventually make about 70 in all. The period of deployment can take several years.

The hospital’s previous monitoring provided only basic live viewing from analog cameras plus some VCRs and DVRs – something different in every ward and location. The Chief of Security describes the many pitfalls of using these outdated tools: time consuming procedures having to wind through entire videotapes to find evidence, or staff who were too busy with healthcare activities to remember to dump a DVRs memory to make room for new video images, leaving gaps in the security archiving that resulted in lack of evidence for resolving some theft issues.

“DVRs are terrible: if you want to look at a certain time when you know something happened, you can’t go straight to it like you can with Milestone software, you have to go all the way to the beginning when it started recording, then go through the entire day’s images to find what you need,” recalls the Chief. “It also took hours – at least four – to install new analog cameras for the VCR setups with the coax cable installations.”

**IP & wireless: flexible and easily scalable for future needs**
“What we like about the new system is that it can integrate our old analog cameras into the new system and be able to record what was previously just live monitoring. A lot of money was spent on those cameras, so it’s great to be able to re-use them and save that investment, with the ability to easily add new network cameras,” says the Chief of Security. “Now we can just throw a network camera up, hook it to the CAT-5 cabling and away we go!”

The hospital can implement both wired and wireless solutions depending on the location needs: just put up a wireless access point for a spot opportunity. There can be two-way audio and control with the Sony RZ30N with Pan/Tilt/Zoom camera. It simply plugs in and gets a wireless card in it, with an access point within 100 feet or so. Users just log on to that camera recording on the system. They can easily move it to another spot with another access point – it doesn’t matter where it is on the network as long as it is registered in XProtect, it will still do the recording.

The Milestone software allows the flexibility to optimize performance on any hardware setup by changing the resolution, frames per second, number of days archived, etc. It can also be set to record only on motion detection, which saves disk space on the system and makes searching for evidence faster.

“Our IT people had some concerns about broadband issues, but were demonstrated the IP solution’s capability with the architecture that exists at the hospital today,” adds the Chief. “The IP network solution also provides the ability to expand the system easily. PoE (Power over Ethernet) eliminates the need for power lines. So the hospital is set up for the future and ready for any growth or changes that may come.”