

# Automated Surveillance Facilitates Standardized Workflow & Documentation Across Six Hospitals, Saving Valuable Staff Time

In October 2017, Hartford HealthCare (HHC), one of the largest healthcare organizations in Connecticut, adopted Premier Inc.'s Clinical Surveillance tool, powered by TheraDoc® technology to automate electronic surveillance of healthcare-associated infections (HAIs). The goal was to increase the efficiency and reliability of HAI surveillance, identification, documentation and reporting across the six-hospital system.

Previously, HAI surveillance at HHC was based on a combination of automated surveillance with Premier's former surveillance technology, SafetySurveillor®, and manual review of medical records to collect data, spot infection trends, ensure appropriate isolation and compile and send reports to the National Healthcare Safety Network (NHSN) and other regulatory agencies. The manual review was labor-intensive and open to errors. It also was not standardized, as processes were handled differently across HHC's individual facilities.

Adopting TheraDoc technology has allowed HHC infection prevention (IP) staff members to automate and streamline their workflow across the system. TheraDoc technology now helps them quickly and efficiently meet surveillance and reporting goals, while freeing up valuable staff time for education, rounding, and other initiatives.

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**Results: Average time savings of 10 hours per week per infection prevention staff member – a savings of 1-2 full-time employees.**

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## CLINICAL SURVEILLANCE POWERED BY THERADOC®

HHC employs 10 IPs, one system director, and three epidemiology technicians, and each hospital has an epidemiologist. The adoption of TheraDoc technology was spearheaded by IP Kathryn R. Galvin, MS, MLS (ASCP)CM, CIC, who is based at The Hospital of Central Connecticut.

According to Galvin, IPs were familiar with the TheraDoc real-time clinical surveillance and alerting capabilities, and were looking to use the system to broaden and standardize their infection prevention efforts.

“As a system-wide department, it is critical to streamline practices,” Galvin said. “With the addition of TheraDoc, we were able to utilize one medical record and one data-mining tool system-wide, allowing us to standardize workflows, cover vacations and monitor facilities remotely, when needed. Increasing efficiency was vital – we were running at maximum capacity with limited time for added responsibilities such as monitoring ambulatory and specialty practices.”

## STANDARDIZED WORKFLOWS REAP RESULTS

Galvin led the efforts to implement TheraDoc, ensuring that critical patient information flowed to individual user dashboards. (All department staff members use the TheraDoc technology.) A key initiative was the development of 12 standardized IP workflows using the TheraDoc technology. The workflows cover numerous areas, such as reportable diseases, device-associated infections, daily isolation review, and NHSN uploads. The workflows, described by Galvin as “living documents,” can be easily adapted based on changing needs.

HHC has seen immediate and significant advantages using TheraDoc technology. “We’re now performing surveillance the same way using the same tools with the same feeds and data flows across all facilities, which is critical,” Galvin said. “We’re fully utilizing the dashboard capabilities with excellent results.”

According to Galvin, TheraDoc technology made an immediate impact on staff time devoted to clinical surveillance. “Our data analysis comparing 30 days of manual versus TheraDoc surveillance shows that our IPs are saving about two hours per day on surveillance activities – with surveillance time decreasing from an average of five hours a day to about three hours a day,” she said.

“This translates into a savings of 10 hours per week in time spent identifying high-risk patients, conducting patient reviews, completing documentation, and reporting infection data to NHSN. This is possible because all of the ground work is done by TheraDoc.”

Galvin said that other savings come from using real-time alerts for positive lab results. “We have been able to eliminate calls from the lab because we receive real-time alerts with TheraDoc, allowing us to dramatically reduce time to intervention,” she said.

<b>Tasks Using TheraDoc®*</b>	<b>Time Saved (hours per month)</b>
Notifiable disease reporting	<b>155</b>
Surveillance for device-associated & procedure-associated infections (does not include SSI letter generation & distribution)	<b>70</b>
Submission of NHSN data	<b>10</b>
Data compilation & dissemination	<b>10</b>

\*Data for The Hospital of Central Connecticut facility only (446 beds & average daily census of 200-220)



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### Clinical Surveillance

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**Kathryn R. Galvin**  
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is based at The Hospital of Central Connecticut.  
Galvin led efforts to adopt TheraDoc technology  
system-wide and spearheaded development  
of standardized workflows for the Infection  
Prevention Department, which covers six acute-  
care facilities in the Hartford HealthCare System.

Epidemiology technicians Bethany Juselis and Kathleen Houlihan agree that Premier's technology saves time and increases efficiency, especially when compiling internal reports. "We routinely run reports and create graphs and charts to share data with leadership across HHC, as well as locally at each facility," Juselis said. "Before TheraDoc, this was a manual, time-consuming process. TheraDoc workflows are customized to reflect how we complete our documents – automatically populating dashboards and allowing us to formulate and distribute data as needed."

Juselis said that reports are organized by unit and include information such as the rates of catheter-associated urinary tract infections, *C. difficile* infections, and ventilator-associated events (VAEs) for each acute care hospital, as well as the number of infections each month. "The reports have helped IP initiatives by pushing raw data for specific issues that may be present within a facility, allowing the Infection Control team to trend the data," Juselis said. "Leadership is thrilled with the new data reports and now expects them on a monthly basis."

"With the time we are saving using TheraDoc, we are able to spend more time rounding and educating on the floors," Houlihan said. "The extra time also allows us to focus on projects such as evaluating new products and performing point prevalence studies on all of our lines. And we've been able to invest more time in professional development and standardizing our practices outside of TheraDoc."

Galvin added that this increased productivity should lead to cost savings, citing as an example her team's ability to cover more ground without adding staff. "Early anecdotal evidence shows that using TheraDoc has

saved the department from adding one to two full-time employees (FTEs), if not more," she said.

### EXPANDED ROLE FOR THERADOC®

HHS plans to expand use of TheraDoc by automating surveillance of VAEs in the system's eight ICUs. "Currently, our epidemiology technicians manually monitor for VAEs, and when an event is triggered, it's sent to us for review – a process that takes about three days of their week," Galvin said. "Once the TheraDoc device interface is implemented, it will quickly identify patients with an event, saving at least 0.4 FTEs. Additional ICUs are planned, so we can expect even more time and cost savings."

In summary, Galvin said TheraDoc technology has helped HHC in a number of important ways. "The benefits are huge," she said. "It has made our processes more efficient, weeding out patients who don't need review, as well as all the negative cultures. It's also extremely customizable and can be adjusted at any time. So, if tomorrow a new organism came up, we could quickly add it to our workflows. TheraDoc has streamlined our processes, allowing for earlier intervention and better patient care."



Figure 1. The Hospital of Central Connecticut, New Britain, Conn.

Hartford HealthCare is one of Connecticut's largest healthcare systems with 1,954 licensed beds, HHC consists of six acute-care hospitals: Backus Hospital, Charlotte Hungerford Hospital, Hartford Hospital, The Hospital of Central Connecticut, MidState Medical Center, and Windham Hospital.