

CASE STUDY:  
Denver Health

- Improved Hand Hygiene Compliance rates from 40% up to 70% (a 75% increase)
- A full set of compliance reports to support Joint Commission requirements
- Wash in/wash out rules linked to individual caregivers with all wash events
- A map view displaying compliance information to identify where additional interventions are needed
- Audible alert option providing real-time reminders from staff badges to increase compliance when needed
- No disruption to clinical workflow

*"In general, healthcare workers want to do the right thing. By providing healthcare staff with their individual hand hygiene data, they are more aware of their performance and strive to improve adherence."*

– Heather Young MD,  
Medical Director of Infection  
Prevention at Denver Health

# Denver Health Medical Center's Hand Hygiene Compliance Rates Increased by 75% with Automated Location Monitoring Technology

## The Situation

Denver Health Medical Center, a safety net hospital with over 500 beds, has a longstanding commitment to the health of its community, evident in its quality of care and determination to achieve continuous improvement. Prior to implementing a technology aid, Denver Health placed emphasis on excellent hand hygiene as a central tenet of infection prevention. However, the organization recognized the limitations of using Direct Observation to monitor hand hygiene adherence.

Despite best efforts, infection preventionists and hospital leadership collected just a few hundred observations per month, and mostly during regular business hours. They were also cognizant of how the Hawthorne Effect (alteration of behavior due to the awareness of being observed) was likely inflating their compliance reports. The integrated location and hand hygiene monitoring system was a major appeal to Denver Health, collecting thousands of observations during all times of day without any interruption to clinical workflow or established hand hygiene protocols.

## The Solution

In April 2016, Denver Health bolstered its existing hand hygiene improvement program with Electronic Compliance Monitoring technology from CenTrak, as a means to both effect and measure change in hand hygiene. The technology provided objective measurements of hand hygiene adherence on its units, on all work shifts, and the ability to quantify the impact of certain interventions on hand hygiene compliance.

CenTrak's Enterprise Location technology strengthened Denver Health Medical Center's existing hygiene standards with location-based hand hygiene events. These events are collected by sensors directly integrated into the facility's dispensers and communicate wirelessly with lightweight badges worn by staff. CenTrak's electronic hand hygiene monitoring system captures 100% of hand hygiene events in which data is then viewed at the hospital-, department-, or individual-level. For example, this solution demonstrates if a healthcare worker washed their hands upon entering a room and again after their interaction with a patient. Failure to comply with hand hygiene protocols results in a gentle reminder from the staff member's RTLS-enabled badge. This allows Denver Health to audit hand hygiene processes, reduce the spread of unnecessary infections, improve patient outcomes, and lower costs.

## The Benefits

After two years, the results of this technology-based initiative are in. **The organization's baseline hand hygiene adherence rates jumped from approximately 40 percent to a sustained rate of over 70 percent (a 75% increase!).** Barriers to hand hygiene improvement, such as promoting change and collecting unbiased observations, were virtually eliminated. The addition of individualized feedback from automated monitoring systems has been an invaluable tool in making staff aware of their hand hygiene habits.

# What makes CenTrak Smarter?

**Clinical-Grade Locating™** – CenTrak's Second Generation Infrared (Gen2IR™) delivers certainty-based location data covering rooms, beds, bays, nursing stations, hallway segments and other relevant workflow areas. Rapid location and condition updates reliably capture interactions between equipment, patients and staff within seconds.

**Multiple form factors** – Largest selection of tags including reusable, single use, infant, wander, and staff badges provide options for all types of patients and care environments.

**Multi-Mode Technology** – A unique combination of Wi-Fi, CenTrak's Gen2IR, Low Frequency RF, UHF Active RFID, Bluetooth Low Energy (BLE), and others to future-proof investment and maximize ROI.

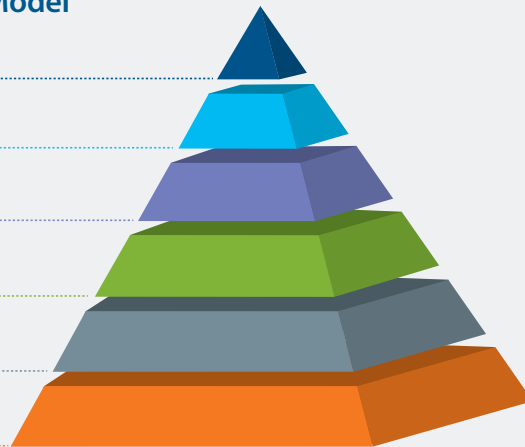
**Easy Installation** – Battery-powered devices are installed easily in patient care areas without the need to close rooms or deploy special infection prevention measures.

**Interoperability** – Open location platform for seamless integration with both existing and new applications including Nurse Call, Electronic Health Records, Capacity Management, Bed Management, Asset Management, Computerized Maintenance Management and Hand Hygiene Compliance

**Reliability** – Ensures critical location, condition and status updates are delivered to the application level. Enterprise-class monitoring provides at-a-glance visibility. Devices and tags are equipped with long-lasting batteries.

## Location Adoption Model

- Application Specific
- Sub-Room
- Clinical-Grade
- Limited Certainty
- Zones
- Presence Detection



- Hand Hygiene
- Capacity Management
- Staff Location
- ED Workflow
- Perioperative Workflow
- Asset Management
- Staff Duress
- Nurse Rounding
- Patient / Infant Safety
- Sterile Processing
- Asset Security
- Asset Tracking
- Wayfinding
- Inventory Management
- Nurse Call Automation
- Contact Tracing

*CenTrak's Enterprise Location Services leverage multiple technologies to maximize utility and ROI.*

## Patient Tags

Patient Tag Mini



newbaby™ Umbilical Tag



31-Day Tags



## Asset Tags



Asset Tag Mini



Asset Tag Micro



Multi-Mode Asset Tag

## Staff Tags



Staff Badge



Duress Badge

## Hand Hygiene



Hand Hygiene Monitor



Integrated Hand Hygiene Monitor



Integrated Hand Hygiene Monitor



Integrated Hand Hygiene Monitor



For more information please visit our website  
[www.centrak.com](http://www.centrak.com), email us at [marketing@centrak.com](mailto:marketing@centrak.com)  
 or call us toll-free at 800-515-2928.

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