



From condition monitoring to chain of custody and identity, Cardinal Health makes smart and growing use of OnAsset's suite of technologies



Cardinal Health Nuclear & Precision Health Solutions develops, manufactures, compounds, dispenses and delivers radiopharmaceuticals with expert efficiency to the highest regulatory standards. Cardinal Health distributes more than 12 million time-critical, patient-specific doses annually, with real time tracking to the point of care. To help serve customers effectively and reliably, Cardinal Health relies on OnAsset.

## The Challenge

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In anticipation of more complex, costly, time- and temperature-sensitive pharmaceutical products coming to market, Cardinal Health sought to implement a solution to monitor facilities and its supply chain for pharmaceutical products. In its 2019 search for solutions, OnAsset rose to the top. It had robust features, advanced technology and offered Cardinal Health the ability to scale.

## The Solution

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OnAsset's suite of products all work seamlessly together to offer location, sensor and process monitoring that can be rapidly deployed. The parent-child configuration, where a wireless-enabled SENTRY reads data from multiple Sentinels, appealed to Cardinal Health instantly. Traditionally, companies focused on tracking a vehicle, trailer, or container, OnAsset's family of technologies work together to monitor individual items within a shipment or facility, creating unique advantages for users that want to store and ship products with varying requirements.

Sentinels can be programmed to monitor individual, shipment-specific requirements. Several Sentinels, within a wide range, communicate via Bluetooth piece-level data

to a wireless-enabled SENTRY FlightSafe or other cellular device. Finally, OnAsset's standards-based software development kit make OnAsset products flexible, scalable, and easy to integrate.

OnAsset can be used for shipment tracking and environmental monitoring, and Cardinal Health chose to implement facilities environmental monitoring first. There are a variety of environments Cardinal Health needs to monitor, including refrigeration units and drug preparation heating systems.

## Getting Started

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OnAsset products proved to be easy to use, right out of the box. Its standards-based technologies made integrating with existing Cardinal Health systems seamless and simple. In a short time, OnAsset delivered the data Cardinal Health needed.

**"It was clear early in our search that OnAsset delivered a superior solution to meet our needs and budget."**

- Meredith Wood,

*Project Manager/Pharmacy Technology*

*Nuclear & Precision Health Solutions*

**"The move to OnAsset was future proofing, in essence. As more complex and valuable therapies come to market, we want to have the most powerful tools in place to monitor those products and see to it that they're delivered to patients safely and efficiently."**

- Joseph Petrucci,

*Director, Operations/Pharmacy Technology*

*Nuclear & Precision Health Solutions*

With the rapid data integration tools offered by OnAsset, deployment and technology onboarding were completed in a few short months, with weekly team meetings between Cardinal Health and OnAsset. Another service provided by OnAsset is the

testing and issuance of temperature accuracy certificates for each sensor device, which ensures the device's data accuracy and further streamlines the onboarding process. Within three months of Cardinal Health receiving the devices, they were programmed, calibrated, and sent to 130 pharmacies across the United States. Upon receipt of Sentinels and SENTRYs, pharmacy personnel simply:

- Logged into the settings screen of Isotracc™, Cardinal Health's proprietary nuclear pharmacy management system.
- Scanned the barcode on the OnAsset device, which would pull in the device ID, the model, the next calibration date and battery life.
- Selected where the devices would be used, for logistics or facilities monitoring.
- And assigned the devices to a location and/or zone.

**"The OnAsset team made development easy. They were always available to answer questions."**

- Pushpraj Mehta,  
*Onshore Technical Lead*



**"At the pharmacy level, we were braced for the implementation of new technology to be a lot more difficult than it proved to be. Set up was simple and quick."**

- Christopher Korherr,  
*Pharmacist*

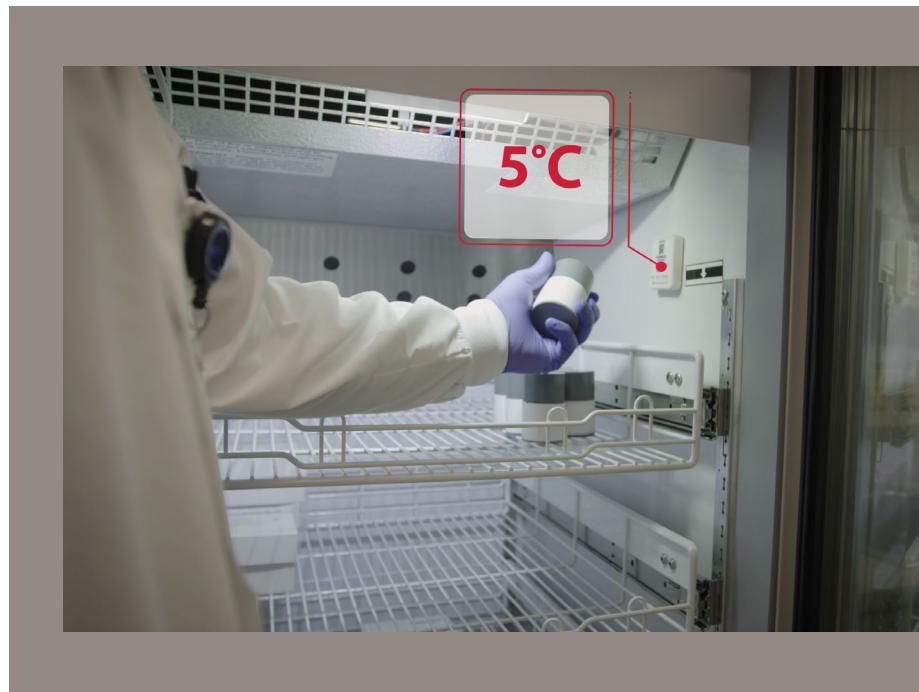
## The Results

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Prior to the OnAsset implementation, pharmacy personnel conducted scheduled, manual temperature checks of facilities. With active monitoring in place, Cardinal Health identified opportunities to improve the quality and consistency of temperature management. With Sentinels installed in key areas, temperatures are read hourly. Alerts notify personnel of any excursions so the staff can immediately remediate issues. This has helped Cardinal Health prevent loss and protect the integrity of its pharmaceutical products.

The company also discovered working patterns, such as opening refrigeration doors too often during certain times of day, that it could improve for the sake of maintaining ideal and consistent temperatures.

The company has been able to quickly remediate situations before they become issues. For example, one weekend, a pharmacy manager was notified of a drop in temperature in the facility. It was a run-of-the-mill HVAC issue in a packaging room. (A room that must be a certain temperature during packaging, but no work was happening over the weekend.) Because the team was proactively notified by the SENTRY device, there was no downtime.



With Cardinal Health's proprietary proof-of-delivery system, Accutrac™, Cardinal Health has successfully maintained a 99.7% on-time delivery rate for more than 40,000 patient doses daily within its custody and courier network. With OnAsset, it's able to gain visibility for all the products it uses and provides.

OnAsset devices also allow Cardinal Health to be shipper agnostic. Regardless of which airlines or couriers it uses, Cardinal Health can track radiopharmaceutical products with confidence and re-route or shift to Plan B as necessary.

## Going Forward

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With early success, Cardinal Health is now preparing to increase its use of OnAsset technologies for critical, lifesaving, and costly therapies like:

- **Theranostics.** These specialized radiopharmaceuticals are injected into the body to diagnose and treat disease. In this emerging field, drugs and/or techniques are uniquely combined to diagnose and treat medical conditions. These are critical time and temperature-sensitive radiopharmaceutical therapies that must be carefully monitored in transit.
- **Cell/gene and CAR-T therapies.** These treatments require collection of biological material, shipment to a manufacturing site for creating a personalized therapy, and shipment back to the patient in a tight timeframe and extremely low temperature mandates.

OnAsset technologies may soon be in use by Cardinal Health's suppliers. Those with facility monitoring needs have witnessed the ease with which Cardinal Health implemented OnAsset solutions and the potential benefits and expressed interest in implementing the same technology.

To enhance the chain of custody and chain of condition monitoring on products received from suppliers, Cardinal Health is building a third-party application that will allow suppliers to scan packages and Sentinels, linking them for visibility. Tracking in a single system paves the way for enhanced control and seamless integration between partners.

Cardinal Health wants full visibility and control over its pharmaceutical products – to understand and record chain of custody, location, ambient conditions, and handling conditions. The goal is 360 visibility and control to deliver high-quality products and services to customers. That vision is realized with the help of OnAsset.

**ONASSET**  
INTELLIGENCE