# CASE STUDY

## SpecimenTrace at UAB Medicine

Transforming specimen tracking and turnaround time across a major academic medical center

## CHALLENGES

**UAB Medicine** — one of the largest academic medical centers in the United States and the largest healthcare delivery system in Alabama — manages an enormous and growing volume of clinical specimens every day. As test menus expand, patient volumes increase, and new diagnostic pathways emerge, the number of specimens moving through UAB's system has risen dramatically.

**These specimens span multiple domains, including:**

- Tissue and biopsy samples for surgical pathology and oncology diagnosis.
- Microbiology cultures for infection detection.
- Chemistry specimens requiring refrigeration or freezing.

**Managing these specimens requires precision and coordination. Each must be:**

- Collected and labeled correctly at the bedside or procedure area.
- Entered into the EHR/LIS with accurate metadata.
- Placed at a designated pickup location — sometimes room temperature, sometimes refrigerated or frozen.
- Retrieved by pathology runners, who may walk several miles per shift across hospital campuses.
- Delivered to the laboratory within strict time windows.
- Processed and resulted within internal SLAs.

## A SYSTEM NOT DESIGNED FOR TODAY'S SPECIMEN VOLUMES

- Clipboards and paper logs, informal handoffs, and untracked pickups.
- No real-time visibility or reliable timestamp data.
- Standard and STAT SLAs frequently missed, driving clinician frustration and 'STAT inflation'.
- Risk of lost specimens across large campuses and complex routes.

## SOLUTIONS

Mobile Aspects partnered with UAB to deploy SpecimenTrace, an enterprise specimen-tracking platform purpose-built for hospital workflows, drawing on decades of RFID, barcode, and workflow expertise and deep EHR/LIS integration.

**What SpecimenTrace Delivers**

- Web-based, hospital-wide access on any device (on-prem or cloud).
- Integration with the EHR/LIS for seamless order association.
- Automatic timestamping at collection, placement, pickup, and delivery.
- Real-time notifications to runners and pathology for STAT items.
- Full chain-of-custody traceability and operational analytics for SLA management.
- Alerts for overdue specimens based on standard and STAT thresholds.
- Enterprise visibility dashboards for clinical, lab, and operational leaders.

## HOW IT WORKS FOR CARE TEAMS

- Provider documents specimen at collection; time and metadata automatically recorded.
- Specimen placed at pickup area (room temp, fridge, or freezer).
- Runner receives real-time location & priority alerts (especially STAT).
- Pickup is recorded with user identification.
- Delivery to pathology is time-stamped; SLA timers stop.
- Provider is notified when the lab result is ready; dashboards show live status.

## RESULTS AT UAB MEDICINE

In 2025, UAB processed over 32,000 specimens through SpecimenTrace. The impact was immediate and measurable:

| Metric | Before SpecimenTrace | After SpecimenTrace |
|---|---|---|
| Standard Specimen SLA | Before: 85% | After: >99% |
| STAT Specimen SLA | Before: 90% | After: 99% |
| STAT Requests Volume | — | 13% reduction |
| Lost Specimens | ~3% (~900/year) | 1 specimen (external courier issue) |
| Status Calls to Pathology | — | >80% reduction (estimate) |

**Over 36,000 normal and STAT specimens were delivered with 99% on time rate in 2025 across UAB with the SpecimenTrace system. Not one was lost.**

## LOOKING FORWARD

UAB Medicine is continuing to expand SpecimenTrace across additional units as the health system focuses on improving diagnostic turnaround times, strengthening specimen chain-of-custody, and enhancing patient safety. More departments are adopting the platform to improve visibility, reduce operational inefficiencies, and ensure consistent SLA performance while supporting compliance and audit readiness. The data from SpecimenTrace analytics allows UAB to establish benchmarks for specimen workflow efficiency, turnaround times, and operational performance, while enabling collaboration with other leading health systems to drive best practices in laboratory operations. UAB can now view these metrics centrally and manage specimen performance consistently across the enterprise.

## ABOUT MOBILE ASPECTS

Mobile Aspects builds advanced workflow, automation, RFID, and AI-enabled platforms that help hospitals improve patient safety, operational efficiency, and clinical reliability. With over 20 years serving leading academic medical centers, the Trace platform delivers complete visibility across critical workflows — from supplies, tissue, scopes, blood products, and now clinical specimens.