ChristianaCare

Department of Pathology & Laboratory Medicine

LabScope

September 1st, 2026

Laboratory Stewardship: Ordering the Right Test for the Right Patient at the Right Time

What Is Laboratory Stewardship?

Laboratory stewardship is the coordinated effort to ensure that the most appropriate laboratory test is ordered for the right patient, at the right time, and that the results are interpreted and acted upon appropriately. While laboratories have traditionally focused on producing accurate and timely results, laboratory stewardship expands the laboratory's role to include optimizing test selection and utilization throughout the patient care journey.

Effective laboratory stewardship helps clinicians answer critical questions:

- Is this the correct test for the clinical question?
- Is testing necessary at this time?
- Can a more specific or cost-effective test be used?
- Will the result change patient management?

The goal is not to reduce testing indiscriminately, but rather to improve the value of testing by ensuring that every laboratory result contributes meaningfully to patient care.

Why Laboratory Stewardship Matters?

Laboratory testing is estimated to influence up to 70% of medical decisions, including diagnosis, treatment selection, monitoring, and discharge planning, underscoring the laboratory's essential role in patient care. However, studies have shown that both overutilization and underutilization of laboratory tests remain common challenges in healthcare.

Overutilization can result in:

- Increased healthcare costs
- False-positive results
- Unnecessary follow-up testing
- Patient anxiety
- Delays in reaching the correct diagnosis

Underutilization can lead to:

- Missed or delayed diagnoses
- Inappropriate treatment
- Increased risk of adverse outcomes
- Longer hospital stays

Laboratory stewardship seeks to balance these risks by promoting evidence-based testing practices.

Laboratory Stewardship at ChristianaCare

As laboratory medicine continues to evolve through automation, molecular diagnostics, and an expanding test menu, laboratory stewardship is becoming increasingly important. Laboratories are no longer simply providers of test results; they are strategic partners in clinical decision-making. ChristianaCare officially launched its Laboratory Stewardship Program in October 2023. The program is guided by a multidisciplinary committee comprising physician service line leaders, pathologists, clinical effectiveness leaders, medical informatics professionals, and laboratory directors. The committee works collaboratively to promote evidence-based test utilization, optimize patient care, improve operational efficiency, and reduce unnecessary healthcare costs.

Key responsibilities of the Laboratory Stewardship Program include:

Education

Providing clinicians with guidance regarding:

- Appropriate test selection
- Interpretation of complex results
- New and emerging laboratory technologies
- Best practices for diagnostic testing

Data Analytics

Monitoring:

- Test utilization trends
- Duplicate ordering patterns
- Inappropriate test utilization
- Financial impact of stewardship interventions
- Opportunities for process improvement

Clinical Decision Support

Collaborating with informatics teams to develop:

- Best-practice advisories
- Reflex testing pathways
- Evidence-based order panels
- Duplicate order checks
- Decision support tools within the electronic health record

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Collaboration

Working closely with:

- Physicians
- Advanced practice providers
- Pharmacists
- Infection prevention teams
- Information technology teams
- Nursing leadership

Successful stewardship initiatives require strong interdisciplinary partnerships throughout the health system.

Examples of Laboratory Stewardship Initiatives at ChristianaCare

ChristianaCare has implemented several meaningful laboratory stewardship initiatives to support our commitment to delivering high-value, patient-centered care while helping clinicians navigate an increasingly complex Laboratory landscape.

- Implementation of Genetic Testing Stewardship program
- Implementation of high-sensitivity troponin test
- Procalcitonin order restriction in adults
- Revision of urinalysis to culture reflex criteria
- Implementation of HPTT test for unfractionated heparin monitoring
- Discontinuation of band neutrophil reporting, CK-MB, body fluid hematocrit and urine eosinophil tests
- Switch to anti-Xa based protocol for unfractionated heparin monitoring
- Implementation of urine buprenorphine, phosphatidyl ethanol, cord blood bilirubin and linezolid level, and Cystatin C tests
- Implementation of Heamobank in Helen F Graham Cancer Center
- Offering of p-tau217 and beta-amyloid 42/40 ratio (Aβ42/40) for the diagnosis of Alzheimer's disease

Looking Ahead

Jeff Kimble, Vice President of Pathology and Laboratory Services, believes laboratory stewardship will continue to play an essential role in advancing high-value, patient-centered care at ChristianaCare. "As diagnostic testing becomes increasingly sophisticated, stewardship efforts will remain critical to maximizing the clinical value of laboratory medicine while supporting the best possible outcomes for our patients," says Kimble.

Did You Know?

- A single unnecessary laboratory test can initiate a cascade of additional testing, specialist consultations, procedures, and healthcare expenditures. Laboratory stewardship helps prevent these unintended downstream consequences while ensuring that patients receive the right test at the right time for the right clinical indication.
- Following implementation of high-sensitivity troponin testing, the diagnosis of non-ST-segment elevation myocardial infarction (NSTEMI) increased by 18%, enhancing diagnostic sensitivity and enabling earlier recognition and treatment of patients with acute coronary syndromes.
- Revision of the urinalysis to culture reflex criteria resulted in a 26% increase in the proportion of positive urine cultures generated from reflex testing. This improvement reflects more targeted test utilization, increased diagnostic yield, and greater operational efficiency.

Monthly departmental Lab Stewardship meeting at ChristianaCare

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Q & A

In July 2026, the Department of Pathology and Laboratory Medicine welcomed a new pathologist: Dr. Thomas Holdbrook. Dr. Holdbrook comes to us from Philadelphia and will be the new Section Chief of Molecular Pathology. Recently, Dr. Holmes sat down with Dr. Holdbrook to ask him a few questions so we can all get to know him better.

Why did you choose to go into pathology?

"My exposure to pathology led me to choose pathology. I immediately discovered that it is a fascinating and challenging "hidden" world within our world."

Where did you train?

"I completed medical school at Jefferson Medical College in Philadelphia and stayed at Thomas Jefferson University Hospital for pathology residency training. Following residency, I completed a one-year oncologic surgical pathology fellowship at Fox Chase Cancer Center, also in Philadelphia."
Dr. Holmes would like to interject here and say that Dr. Holdbrook was her chief resident and taught her everything she knows

If you couldn't do pathology, what other job would you do, either in or outside of medicine?

"Possibly emergency medicine. Outside of medicine, I would be a scientist."

What is your favorite source of caffeine/favorite candy bar?

"I typically get my caffeine from energy drinks but also enjoy an occasional coffee with extra cream and sugar. My favorite candy bar would have to be the Crunchie bar. Those with a UK connection know what I'm talking about." [We do.]

What do you like to do outside of work?

"Besides spending time with my family, of course - I enjoy playing volleyball, going to the gym, fixing things around the house, and engineering solutions to problems around the house."

Where is your dream vacation?

"Maldives beach resort."

Silence while signing out cases or music/noise?

"Gentle to moderate music of different genres, but I can't handle noise. For example, one of my favorites is Yanni."

Do you believe in aliens? Ghosts?

"I believe there is a high likelihood that aliens exist but also that we will never know about them. I do not believe in ghosts, and, if they exist, I would not like to find out. However, I must say that I do believe in phenomena beyond our ability to comprehend."

Is there anything else you think everyone should know about you?

"I believe in magic."

If you have any laboratory questions or suggestions for future LabScope Q&A sections, you can submit it here:

Laboratory Q&A Submission Form