

CLINICAL PATHOLOGY – RESULTING

RESEARCH FINDINGS REPORT

USABILITY TESTING

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01 OVERVIEW

This report evaluates the results-review functionality of the CLS application, focusing on workflows such as navigating and filtering results, verifying flagged entries, and managing pending tasks.

While initially positioned as a usability test, the sessions evolved into exploratory feedback discussions because participants relied extensively on legacy systems and had very limited prior exposure to CLS. This context shaped how the sessions were run and how the findings below should be read: as directional feedback from experienced lab professionals encountering CLS for the first time, rather than as task-completion metrics against a finished design.

02 STUDY SNAPSHOT

Detail	Description
Project	CLS – Results Review
Evaluation Type	Usability test that evolved into exploratory feedback discussion
Research Method	Moderated sessions with open-ended discussion
Participants	3 lab professionals across 2 sessions, all prior/current Legacy system Lab users
Session Length	Session 1: ~75 minutes · Session 2: ~65+ minutes
Format	Moderated; one-on-one (Session 1) and small-group (Session 2)
Materials Evaluated	CLS backlog/results-review page, query builder, critical-result & call-log workflow, historical results view, visualization/reporting concepts
Primary Focus	Transitioning result-review workflows from legacy system (“roll and scroll”) to CLS’s backlog-based model

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STUDY DETAILS

Both participants came to the sessions with deep, long-standing experience in Legacy system Lab (in one case, 20+ years across two Legacy system versions) and little to no prior exposure to CLS. This meant a portion of each session was spent orienting participants to CLS concepts (e.g., the “backlog” in place of a Legacy system “worklist”) before their feedback could be captured, and both sessions shifted from structured task-based testing into open-ended comparison against Legacy system habits.

Research Method

- Method: Moderated sessions, originally scoped as usability testing, that shifted into semi-structured feedback discussions.
- Materials: CLS backlog/results-review page, query builder, critical-result and call-log workflow, historical results view, and visualization/reporting concepts discussed verbally.
- Session Length: Session 1 ran approximately 75 minutes; Session 2 ran at least 65 minutes.
- Participants: 3 total across 2 sessions.
- Format: Session 1 was one-on-one; Session 2 included two participants.
- Approach: Rossana walked participants through CLS concepts and workflows, prompting comparisons to their current Legacy system-based process and capturing open-ended reactions and requests.

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PARTICIPANTS

Three laboratory professionals participated in the evaluation.

One participant held a supervisory role across hematology and blood banking and brought extensive experience spanning laboratory operations, microbiology, and management. This participant also had substantial familiarity with the legacy laboratory system, providing insight into established workflows while still being able to evaluate the proposed experience critically.

The other two participants were current laboratory staff working with the legacy system in an organization that had used it for many years. One was comparatively newer to both the laboratory and the system, contributing a perspective less influenced by longstanding workflow habits.

All three were relevant end users who regularly worked with laboratory results and would directly use the CLS Results Review experience.

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RESEARCH OBJECTIVES

- Evaluate the usability of a redesigned application for users accustomed to a legacy system.
- Identify pain points and areas for improvement in transitioning users from the legacy system to CLS.
- Collect actionable feedback to enhance the application's functionality and user experience.

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TASKS EVALUATED

Sessions covered the following representative workflows:

- Result Review and Backlog Management: navigating and filtering results, verifying flagged entries, and managing pending tasks.
- Query Builder and Customization: creating and using custom filters and departmental views.
- Critical Results and Workflow Optimization: features to enhance workflow efficiency and ensure compliance with critical results.
- Visualization and Reporting: needs for printing, exporting, and graphical representation of data trends.

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KEY FINDINGS

KF-01

Team-Managed Queries Preferred Over Individual Queries

● MEDIUM

OBSERVATION

P1 indicated that shared, admin-managed queries would serve her multi-department team better than requiring each user to build and maintain individual queries.

EVIDENCE

- “Most of us are generalists working across departments, simple filters might be more practical than each member of the team building their own queries.”
- When told admins can create and share queries with the team, P1 responded: “That sounds great.”

IMPACT

Without shared queries, generalist staff covering multiple departments face inconsistent views and duplicated setup effort, which can slow adoption.

RECOMMENDATION

Default the query-builder experience to admin-created, team-shared queries, keeping individual query creation as a secondary, optional path.

KF-02

Departments Have Different Worklist Refresh Expectations

● MEDIUM

OBSERVATION

P1 preferred automatic refresh to avoid manually updating results, but also valued keeping verified results visible until manually cleared so she could double-check them.

EVIDENCE

- “It's good that it indicates new results, but an auto-refresh option might be more convenient.”
- P1, on department-configurable refresh: “That would be helpful.”

IMPACT

A single fixed refresh behavior risks frustrating departments with different review paces and increases the chance verified results are cleared before being double-checked.

RECOMMENDATION

Make refresh behavior – auto vs. manual, and how long verified results remain visible – a department-level configuration option.

KF-03

Worklists Need Better Visual Organization

● MEDIUM

OBSERVATION

P1 suggested separating new results from pending work and organizing results by status, including a dedicated section for smear reviews.

EVIDENCE

- “I think it would help if we could separate new results from pending tasks, maybe with tiles or indicators.”
- “It's also important to organize results by status. Maybe separate smear reviews into their own tile.”

IMPACT

An undifferentiated worklist forces users to scan the entire list to find what needs attention, adding cognitive load during time-sensitive review.

RECOMMENDATION

Introduce status-based grouping (e.g., new / in-progress / pending) with a dedicated smear-review section, using tiles or visual indicators.

KF-04

Unnecessary Verification Steps Reduce Efficiency

● HIGH

OBSERVATION

P1 described having to click through every auto-verified result in Legacy system and wants a workflow that skips unnecessary review steps.

EVIDENCE

- “Right now, Legacy system requires clicking through every auto-verified result. I'd love a system that skips those unnecessary steps.”
- After learning CLS can show only flagged results needing verification: “That's much better. It would save a lot of time.”

IMPACT

Redundant verification clicks are a named, direct source of inefficiency in the legacy system; carrying the same pattern into CLS would erase one of the clearest efficiency gains users expect from switching.

RECOMMENDATION

Default the review workflow to surface only flagged/exception results, with auto-verified results skipped unless a user explicitly opts to review them.

KF-05

Critical Result Workflows Require More Than Visual Indicators

● HIGH

OBSERVATION

P1 emphasized that critical results need clear identification plus a call-log system tied to individual results, supported by canned text for consistency.

EVIDENCE

- “It's essential to clearly indicate critical results and have a good call log system for compliance.”
- “Using canned text for call logs would help ensure consistency and reduce errors.”

IMPACT

Critical-result communication carries compliance implications; visual icons alone don't capture the documentation trail lab directors and regulators require.

RECOMMENDATION

Link call logs directly to the specific result they reference, and provide canned/standard text templates for common call-log entries.

KF-06

Historical Results Should Remain Available During Review

● MEDIUM

OBSERVATION

P1 valued having historical results available within the same workflow, supporting decision-making without switching between systems.

EVIDENCE

- “I like that CLS shows historical results. It makes decision-making easier without switching systems.”

IMPACT

This is a validated strength of the current design (see Section 08); losing it in future iterations would reintroduce the system-switching friction users currently experience in Legacy system.

RECOMMENDATION

Preserve inline historical results in the result-review view and treat it as a protected design decision in future redesigns.

KF-07

Worklists Should Be Tailorable to the Immediate Task

● MEDIUM

OBSERVATION

P2 wanted worklists configurable to show only relevant information (e.g., department- or instrument-specific results), and the ability to run ad hoc queries without saving while retaining the option to save frequently used views.

EVIDENCE

- “Can you configure lists to show only what's relevant? ... some departments might only want to see certain instruments.”
- Confirmed ad hoc queries can run without saving; P2: “Perfect, so I can just build and run it quickly as needed.”

IMPACT

Without both ad hoc flexibility and a quick save option, users may either over-invest in one-off queries or lose useful configurations they'd want to reuse.

RECOMMENDATION

Support frictionless ad hoc query execution alongside one-click “save as tile” for recurring views, scoped by department/instrument.

KF-08

Workflow Status Needs Additional Operational Context

● MEDIUM

OBSERVATION

P2 suggested additional workflow states and flags: an “in progress” status for reruns, manual process flags for issues like incomplete requisitions, and the ability to temporarily exclude delayed tests from operational dashboards.

EVIDENCE

- “If an analyzer initiates a rerun, can the system mark results as 'in progress' to prevent premature review?”
- “Could we add manual process flags for issues like incomplete requisitions or provider verification?”
- “If a test is held up, could it be excluded from dashboards temporarily to avoid skewing pending stats?”

IMPACT

Without these states, dashboards and worklists may misrepresent true pending workload – causing premature review of in-flight reruns or skewed operational metrics.

RECOMMENDATION

Add a rerun “in progress” state, configurable manual process flags, and a temporary dashboard-exclusion option for delayed or held tests.

KF-09

Result Review Needs More Meaningful Visual Context

● MEDIUM

OBSERVATION

P2 suggested graphical trend displays for scenarios such as oncology and therapeutic monitoring, and proposed grouping critical results across instruments for the same patient.

EVIDENCE

- “Could results be displayed as graphs for easier visualization of trends, especially for conditions like oncology or therapeutic monitoring?”
- “Can critical results across instruments for the same patient be grouped together for easier review?”

IMPACT

Reviewing related results in isolation across instruments or over time increases the chance of missing clinically significant trends.

RECOMMENDATION

Add trend graphing for relevant result types and group same-patient critical results across instruments in the review view. Rossana committed during the session to mocking up a visualization concept for follow-up feedback.

KF-10

Additional Specimen Information Should Be More Visible

● HIGH

OBSERVATION

P2 suggested making specimen conditions such as hemolyzed, lipemic, or line draws more visible so other departments can immediately recognize potential specimen interferences.

EVIDENCE

- “For specimen comments, could we flag details like 'hemolyzed,' 'line draw,' or 'lipemic,' so other departments are aware of potential interferences?”

IMPACT

Specimen interference that isn't visible across departments risks results being interpreted or acted on without appropriate caveats – a patient-safety-adjacent concern.

RECOMMENDATION

Surface specimen-condition flags prominently in the shared result view, visible to all departments accessing that result, not only the originating department.

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VALIDATED DESIGN DECISIONS

Although participants identified several opportunities for improvement, the sessions also validated important aspects of the CLS design.

- Flag-Based Verification Model

Once explained, participants responded positively that CLS surfaces only flagged results needing verification, removing the redundant clicking the legacy system requires for auto-verified results.

- Inline Historical Results

Having historical results available within the same review workflow was seen as a clear improvement over switching between systems.

- Flexible Query Execution

The ability to run ad hoc queries without saving, while still supporting saved “tile” views for frequent use, matched how generalist staff actually work.

- Export and Print Support

CLS's export and print capability was confirmed to meet the needs of paper-heavy departments still transitioning off the legacy system.

09

PRIORITIZED RECOMMENDATIONS

The original draft of this report did not include finalized recommendations. The table below proposes a first pass, mapped to the findings above, for the product team to validate and adjust before commitment.

Priority	Recommendation	Timeline	Owner
HIGH	Default result review to flagged/exception results only; skip auto-verified clicks (KF-04)	Near-term	Product / Eng.
HIGH	Link call logs directly to specific results and provide canned text templates (KF-05)	Near-term	Product / Compliance
HIGH	Surface specimen-condition flags across departments on shared results (KF-10)	Near-term	Product / Clinical SMEs
MEDIUM	Make refresh behavior (auto vs. manual) configurable by department (KF-02)	Mid-term	Product / Eng.
MEDIUM	Add status-based worklist grouping with a dedicated smear-review section (KF-03)	Mid-term	Design
MEDIUM	Default to admin-managed shared queries; keep individual queries optional (KF-01)	Mid-term	Product
MEDIUM	Support ad hoc query execution plus one-click “save as tile” (KF-07)	Mid-term	Product / Eng.
MEDIUM	Add rerun “in progress” state, manual process flags, temporary dashboard exclusion (KF-08)	Mid-term	Engineering
LOW	Add trend graphing and cross-instrument, same-patient critical result grouping (KF-09)	Longer-term	Design / Product
LOW	Preserve inline historical results as a protected design decision (KF-06)	Ongoing	Design

10 RESEARCH IMPACT

These sessions surfaced a small number of urgent, compliance-adjacent gaps alongside a longer list of configurability requests that will shape adoption as users transition off Legacy system.

Design Improvements Influenced by Research

- Flag-based (exception-only) verification identified as a priority default to reduce redundant clicks carried over from Legacy system.
- Call-log-to-result linkage and canned text scoped as near-term, compliance-relevant work.
- Specimen-condition visibility flagged as a cross-department, safety-adjacent consideration.
- Department-level configurability (refresh behavior, worklist scope, query management) identified as a recurring theme across both sessions.

Outstanding Considerations

- The original draft's recommendations section was a placeholder; the proposal in Section 09 should be validated with the product team before commitment.
- Both sessions shifted from structured usability testing into open-ended feedback discussions due to participants' unfamiliarity with CLS and deep reliance on Legacy system; a follow-up round with hands-on CLS prototypes is recommended.
- Session transcripts in the appendix are paraphrased, not verbatim – quotes should be treated as representative rather than exact.
- Dashboard and visualization concepts (trend graphs, patient-level grouping) were discussed conceptually, not shown as working prototypes; reactions are directional, not validated against an actual design.

11 RESEARCH OUTCOME

These two sessions confirmed that CLS's backlog-based review model and flag-driven verification are directionally right for users transitioning from the Legacy system's manual, click-heavy workflow, but adoption will depend on giving departments control over refresh behavior, worklist organization, and query management rather than enforcing one fixed configuration. Compliance-adjacent gaps – call-log linkage and specimen-condition visibility – surfaced as the most urgent items to close before rollout. Because both sessions evolved from usability testing into open-ended feedback discussions, these findings should be treated as directional; a follow-up round with hands-on CLS prototypes is recommended to validate the resulting design changes with the same or similar participants.