

CLINICAL PATHOLOGY – RESULTING

DESIGN DECISION REPORT

USING SPECIALIZED WIDGETS

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EXECUTIVE SUMMARY

Specialized workflow widgets were introduced into the Clinical Pathology Result Review design to give users access to relevant information and actions without requiring them to leave the result-review page.

The decision was informed by an earlier Clinisys web-interface application built for the legacy system. That application launched first with Anatomic Pathology, where pathologists responded positively to widgets designed around their specific reporting needs. The widgets allowed them to review supporting information, respond to alerts, and update related data while remaining within the report-writing experience. Performance issues with that application were significant enough that it was never expanded beyond Anatomic Pathology into other disciplines, but the widget pattern itself proved effective for the time pathologists used it.

Although Anatomic Pathology and Clinical Pathology have different workflows, both require users to evaluate complex patient and laboratory information before results can be released. The widget pattern was therefore carried forward as a flexible interaction model that could reduce navigation, preserve context, and surface important information at the point of decision-making, this time built directly into the new CLS Results Review experience rather than as a separate web-interface layer.

The goal was not to add more information to the screen, but to reduce the need to leave it.

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BACKGROUND

Result review often requires technicians to reference information stored across multiple parts of a laboratory information system. Depending on the specimen, test, and result, a technician may need to review patient information, previous results, specimen details, instrument messages, comments, quality information, or other supporting data. When this information is located on separate pages, technicians must repeatedly navigate away from the result they are reviewing. This creates additional interaction steps and increases the amount of information the technician must retain while moving between screens.

The Clinical Pathology Result Review design needed to support access to this information without disrupting the primary task: evaluating and releasing patient results.

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DESIGN RATIONALE

Previous Evidence from Anatomic Pathology

The widgets referenced in this decision originated in a web-interface application Clinisys built for the legacy system. That application launched first with Anatomic Pathology, and pathologists responded well to the specialized widgets built into their report-writing experience. Performance issues with the application were significant enough that it was never expanded into other disciplines, and development did not continue past Anatomic Pathology. The widget pattern itself, however, proved effective during the time pathologists used it, and that response is the evidence this decision draws on.

The widgets were designed around the pathologist's role and the information needed while preparing a report. Rather than requiring the pathologist to navigate through the application, the widgets surfaced relevant information and actions directly alongside the report.

The widgets could:

- Display supporting clinical and laboratory information.
- Surface alerts, warnings, flags, and status indicators.
- Provide access to information relevant to the current case.
- Allow users to update or modify related data.
- Support workflow-specific actions without requiring users to leave the report.

Client feedback showed that this model aligned well with the pathologist's workflow. The value was not simply that the widgets displayed more information. Their value came from being specialized to the user, the task, and the point in the workflow where the information was needed.

Design Opportunity

The Clinical Pathology Result Review workflow presented a similar interaction problem.

Technicians may need to evaluate several sources of information before determining whether a result can be accepted, modified, held, repeated, or released. Requiring technicians to open separate pages for each supporting data source would interrupt the review process and increase unnecessary navigation.

This created an opportunity to apply the widget model used in Anatomic Pathology to Clinical Pathology while adapting it to the needs of the CP workflow, this time built natively into CLS rather than as a separate web-interface layer with the performance limitations of the earlier application.

The design question was: how might we give technicians access to the information and actions needed during result review without requiring them to leave the result-review page?

Design Decision

Specialized widgets were incorporated into the Clinical Pathology Result Review experience as contextual workflow tools.

Each widget could provide access to a defined category of supporting information or related actions. The specific widgets displayed could vary based on the test, department, result status, user role, or laboratory configuration.

Potential widget content included:

- Patient and specimen information.
- Current and historical results.
- Delta-check information.
- Instrument messages and flags.
- Failed autoverification details.
- Comments and result notes.
- Quality-control information.
- Related documents or attachments.
- Critical-value or call-log information.
- Result status and workflow alerts.

Where appropriate, the widget could also allow the technician to update, correct, or add information without navigating to another part of the system. The widgets were therefore not treated as passive reference panels. They were designed as extensions of the result-review workflow.

Why This Approach

Preserving workflow context: Result review requires technicians to interpret information in relation to the result currently displayed. Navigating away from the result page can interrupt that thought process and require the technician to reorient when returning. Keeping supporting information within the same workspace allows the technician to maintain focus on the specimen and result being reviewed.

Reducing navigation: Without widgets, technicians may need to move between several screens to gather the information required to make a decision. Widgets reduce the number of pages technicians must open and the number of steps required to complete the review.

Supporting decision-making: Alerts, flags, historical data, and instrument information are most useful when they are visible at the point where the technician is evaluating the result. Presenting this information in context helps the technician understand why a result requires attention and what action may be needed.

Enabling in-context actions: Some supporting information may need to be corrected, updated, or supplemented during review. Allowing these actions within the widget reduces interruption and prevents the technician from having to leave the result, make the update elsewhere, and then return.

Supporting specialized workflows: The success of the Anatomic Pathology widgets was partly due to their specialization. They reflected the pathologist's responsibilities rather than offering the same generic information to every user. The Clinical Pathology widgets followed the same principle, tailored to the needs of specific departments, roles, tests, or result conditions.

Providing a flexible framework: Clinical Pathology workflows vary across laboratories and disciplines. A widget-based model provides a flexible structure that can support different configurations without redesigning the entire Result Review page. Widgets can be added, removed, or adapted as workflow requirements evolve.

Expected User Benefits

The widget approach was intended to:

- Reduce unnecessary navigation and interaction steps.
- Minimize context switching during result review.
- Make supporting information easier to locate.
- Surface alerts and exceptions where decisions are made.
- Allow related updates to be completed within the workflow.
- Support department-specific and role-specific needs.
- Improve the efficiency of reviewing complex or exception-based results.

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DESIGN CONSIDERATIONS

The use of widgets also introduced several design considerations.

Relevance: Widgets should display only information that is useful to the current review. Showing too many widgets or unrelated data could increase visual and cognitive load.

Prioritization: Critical alerts and information requiring action should be visually distinguishable from general reference information.

Progressive disclosure: Detailed information should be available when needed without overwhelming the primary result-review interface.

Edit permissions: The ability to modify data through a widget should reflect the technician's role, permissions, and the status of the result.

Consistency: Widgets should use consistent interaction patterns, terminology, and visual behavior even when their content differs.

Configuration: The framework should support laboratory-specific needs while maintaining a coherent default experience.

Performance: The earlier Anatomic Pathology application's performance issues were the primary reason it never expanded beyond that discipline. Widget loading and responsiveness needed to be validated for Clinical Pathology to avoid repeating that outcome.

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MEASURES OF SUCCESS

The design decision could be evaluated through usability testing and post-release workflow analysis.

Measures may include:

- Number of pages visited during result review.
- Number of navigation steps required to complete a review.
- Time required to locate supporting information.
- Time required to review an exception or failed autoverification.
- Frequency of technicians leaving and returning to the Result Review page.
- Ability to identify alerts, flags, and required actions.
- Technician confidence in having reviewed all relevant information.
- Technician feedback on workflow efficiency and clarity.
- Widget load time and responsiveness, given the performance issues that limited the earlier Anatomic Pathology application.

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CONCLUSION

The decision to use specialized widgets in the Clinical Pathology Result Review workflow was based on a previously successful interaction pattern from an earlier Clinisys application built for the legacy system, and on a shared workflow need: users must review multiple sources of information while remaining focused on a patient result. That earlier application began with Anatomic Pathology and was well received there, though performance issues kept it from expanding further. The widget pattern itself, however, held up as a proven interaction model worth carrying forward.

By placing supporting information and related actions within the Result Review experience, and building it natively into CLS rather than as a separate web layer, the design reduces unnecessary navigation, preserves context, and helps technicians respond to important information at the point of decision-making. The widgets are not intended to place every available data point on one screen. They provide a structured, configurable way to bring the right information and actions to the technician when they are needed.