Point-of-Care Testing

Is Faster Better?

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Does the faster turnaround time for point-of-care testing (POCT) lead to better outcomes? Do the benefits justify the usually higher reagent costs and the expense and complexity of regulatory compliance? The answer, after 20 years of investigation, is an unequivocal “It depends.” It depends on the analyte and the testing device, on the reasons for testing, and on the setting of the testing, among other variables.\(^1\)\(^-\)\(^3\)

POCT has proven most beneficial in situations where more rapid institution of appropriate management can limit ongoing damage and produce better medical outcomes. Improved operational efficiency is a potential outcome and can also lead to lower costs, especially if it results in decreased length of stay in high-expense facilities such as emergency departments, intensive care units, and operating rooms. These theoretical benefits have been achieved only sometimes in actual practice.\(^4\)\(^-\)\(^6\) Improvements in satisfaction, both for patients and for providers, have been less investigated.\(^1\)

Many of the most informative investigations of POCT were done some time ago and do not address the introduction of new tests and improved devices, nor do they reflect the implementation of better management protocols, better connectivity with the electronic health record, or the ongoing broad changes in our medical care system.

Because questions about the benefits of POCT are typically quite specific, the answers do not readily generalize. It can be hard to justify the effort and expense of randomized clinical trials. A relatively easy way to investigate POCT benefits is to conduct before-and-after comparisons at the time when POCT is first introduced into a particular clinical setting (although this usually happens only when there is already a belief that net benefits will result, with the attendant possibility of introducing bias).

Crocker and colleagues\(^7\) in this issue of the Journal have used such an approach to describe several effects of introducing POCT into the setting of an ambulatory clinic, a setting where highly time-critical management decisions should be infrequent. Using POCT for the comprehensive metabolic panel, the lipid panel, and hemoglobin A\(_{1c}\) led to substantial declines in the number of tests ordered, follow-up letters and phone calls, and patient revisits for abnormal results. Their financial analysis and discussion suggest that the strategy could be cost-effective for an ambulatory clinic under fee-for-service, global payment, or quality incentive models. In a companion study reported elsewhere, a high level of patient satisfaction was also documented.\(^8\)

The outcomes of introducing POCT can be strongly influenced by local factors. The same testing approach may produce benefits in one setting but not in another. Some information that was not reported could make the current study more informative.

Local details could be useful in extrapolating the findings to another setting: are patients truly tested at the point of care, that is, in the examining room? Or do they go to a single phlebotomy and testing site that serves the full clinic and then wait in the same examining room for their physician to return to discuss the results? Do patients sometimes have to wait for testing or for reassignment to an empty examining room?

While examining rooms are not nearly as expensive to maintain as operating rooms, intensive care units, or emergency departments, facility fees for examining rooms may nonetheless generate substantial income. The impact of the POCT strategy on examination room time required per patient could be an important financial variable, whether
the rooms are a revenue source (fee for service) or a cost center (global payment). Similarly, it would be important to estimate the cost of physician time spent explaining laboratory results compared with sending out automatically generated letters reporting laboratory results that will frequently all be normal.

The quantitative financial analysis includes a comparison of direct costs for POCT with hypothetical billing according to the Medicare fee schedule, although it is likely that the clinic in which the study took place is funded by some form of global payment. In a capitated setting, including a comparison of the POCT costs with the historical costs of central laboratory testing could be of greater relevance. The financial analysis would also be more meaningful if it included the cost of regulatory compliance, since this is ongoing and can be considerable if large numbers of staff are expected to perform testing. If further publications will follow, perhaps the suggested additional information could be included.

We encourage others who will be implementing POCT in new settings to undertake similar before-and-after comparisons and to report them in the literature. Recommendations have been made for optimizing such comparisons. In aggregate, such reports could go far toward defining the capabilities and limitations of POCT.

References