

## New Clinical Implementations: Late But Worth the Wait?

ADAM GALE

Providers looking to implement the latest commercially available core clinical products have a real interest in knowing the successes and challenges they can expect. Recent research suggests that while the implementations are often late, difficult and over budget, these applications do bring benefits, and software vendors are typically showing improvement in their ability to deliver.

Through a recently completed report monitoring clinical product delivery, KLAS interviewed executives at 150 hospitals implementing core clinical products. The provider-sponsored research followed the delivery of those clinical products that have proven most challenging to implement, including: clinical data repository (CDR), computerized physician order entry (CPOE), clinical charting and pharmacy.

### ON-TIME DELIVERY

The study showed that while there has been improvement since last year, less than half of all projects have actually been completed on time. If you include those sites that are in the midst of an implementation and expect to be live on time, the percentage of sites either on time or projected on time is over 50% (see Figure 1).

For example, while 34% of Nurse Charting projects are projected on schedule, only 20% actually went live on time and 46% are delayed. CPOE and Physician Notes projects rarely go live on time, with only 8% and 9% respectively already live and on time. Yet even CDR

Figure 1: Summary: On-time averages – all vendors (percent)

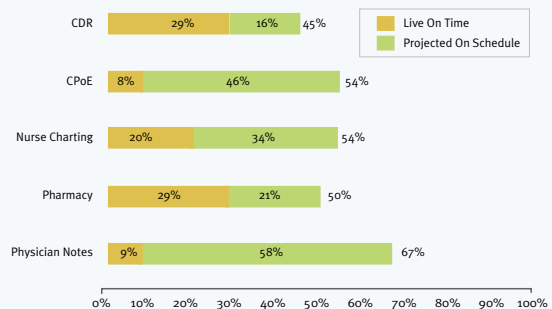
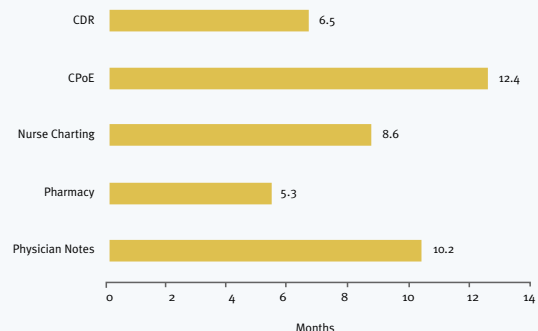


Figure 2: Summary: On-time averages – all vendors (months)



and pharmacy products, which most frequently go live on time, only hit the target 29% of the time. Those system implementations projected to be on time were often in early phases of the implementation, with many challenges to overcome before actually going live. Every application that was measured was late by an average of five months, with CPOE the most challenged, at an average of 12 months behind schedule (see Figure 2).

Implementations are delayed for various reasons. Overall, when a project runs late, survey participants identified that vendors are the cause of the delay 50% of the time, providers 13% and both 37% of the time.

Provider causes for delay differ. Many report that system build, testing and other technology issues are causes for delay. Others report that overall workflow and change-management issues top the list of reasons for delay, as organizations work to train physician champions, fine-tune workflow, create alignment with nurses, physicians and pharmacists, and train the staff. Persuading many of the physicians to do their notes electronically and building their confidence in the reliability of the system in general also leads to delays. Additionally, many providers find the process of standardizing order-sets and care-plans across hospitals is a cause of significant work and delay.

Providers surveyed also said that funding, political upheaval and aggressive timeframes lead to projects that are delayed significantly beyond the target date.

When asked about vendor delay, providers commented that vendors' software stability and cleanliness, updates and testing were the leading causes. Of the nine vendors surveyed, Meditech and Epic have the best on-time delivery averages overall and customers report that they are the "least late."

### DIFFICULTIES IN IMPLEMENTATION

Clinical implementations proved to be difficult, with many providers choosing a phased approach rather than a big-bang approach to limit risk. While the majority of providers (73%) used a phased-in approach, the 27% that implemented in one big bang, with CDR, CPOE, Nurse Charting, Pharmacy and Physician Notes all at once, recounted it as painful. The choice here appeared to depend on what system the organizations were migrating from: replacing a paper system or a best-of-breed solution supported a phased approach, while replacing a robust, sole-source solution like the early Technicon Data Systems product now owned by Eclipsys generally dictated big bang. Providers using both approaches reported challenges:

- "We went live with everything except for physician notes at the same time. It was really a hairy experience and I would not suggest it if it can be avoided. We had to go live with big bang because we were replacing existing systems."

- "We did this in a phased approach, and the fact that we found so many bugs only reinforced our reasons for doing it a piece at a time. Just like solving one problem and moving on to the next."

### BUDGET

Delayed delivery also brought financial repercussions, as projects that were delayed were typically over budget. Overall, 35% of projects were over budget because of delays, which is actually 5% less than last year, as vendors continue to refine their processes and providers adjust expectations. Staffing expectations for implementations were also impacted, although not always for the worse: 59% of the time staffing was as expected, while 36% of the time staffing was worse and 5% of the time staffing was actually better than expected. The following provider comments are representative of organizations that went over budget and/or had increased staffing needs due to delays:

- "Delays caused the exact additional unbudgeted cost; otherwise it would have been on time and on budget."
- "Obviously having the project go years longer than expected has played havoc with our budget and staffing."
- "Of course, budget has been an issue. We have people who are going to be concluding their extracurricular activities who are going to be on this project for three more months. That is a problem."

### BENEFITS

Despite the fact that clinical implementations struggle with being late, difficult and over budget, providers still report benefits. When providers with live products were asked performance questions relating to product performance, uptime, response time and benefits achieved, they had positive things to say:

- 88% reported that the product performed as expected;
- 94% reported uptime was as expected;
- 88% said response time was as expected; and
- 78% indicated that they had achieved expected benefits.

Providers are also achieving a variety of benefits impacting operations and finances, in addition to the expected patient care improvements. Others reported several unexpected benefits. Some of the reported positives are illustrated in the following provider experiences:

- "We realized an immediate decrease in length of stay... we also have been able to measure an improvement in our patient satisfaction scores. Scheduling patients is

now very easy. Now that we have also added PACS, the turnaround time has decreased from 24 hours to six hours for radiology reports.”

- “We always expect that we will have to hire more nurses, but because our nurses are now more efficient with their time due to the nursing documentation, they have more time for patient care and we do not have to add more staff.”
- “We have seen significant operations and financial improvements. Specifically, radiology and respiratory therapy have reported major improvements in productivity and patient care. Charges have increased significantly as an example.”
- “We have been much more efficient in many areas ... For example, with imaging, we can now send more images than our radiologists can even keep up with. With the efficiencies gained ... we have been able to open up 25–30 more imaging slots a day than we used to have. We also now have several hundred doctors reviewing their results and images on-line and remotely. This has been another big win.”
- “The patient safety and quality-of-care benefits have been identified by our quality officer. We have focused on measuring these factors for the clinical areas and have proven the application’s benefits in those areas. Overall, we feel we are a better delivery system ...”

### SHOWING IMPROVEMENT

In addition to benefits realized, clinical implementations are making positive progress as software vendors are showing improvement in their ability to deliver. Overall, more than half of all projects for CDR, CPOE, Nurse Charting, Pharmacy and Physician Notes were reported as being on time or at least projected on time. Overall, this represents improvement from results measured last year, where less than half of projects were reported as on time.

Additionally, the overall late contribution by vendors was 50%, down from 62% in 2004.

Providers looking to implement clinical products may have a rocky road with late, difficult or over-budget implementations. Yet despite struggles, providers report that these applications bring benefits and that software vendors are showing improvement in their ability to deliver. As provider organizations set appropriate expectations while preparing for clinical implementations, the process will be less painful and the benefits will be magnified.

### ABOUT KLAS

Who We Are: KLAS, founded in 1996, is the only research and consulting firm specializing in monitoring and reporting the performance of healthcare’s information technology (HIT) vendors and

products. Our senior management staff and advisory board average 25 years of healthcare information technology experience.

**How We Serve the Healthcare Industry:** KLAS, in concert with thousands of healthcare executives, CIOs, directors, managers and clinicians, has created a dynamic database of information about the performance of (HIT) vendors. The KLAS database represents the opinions of healthcare executives, managers and clinicians from over 4,500 hospitals and 2,500 clinics on more than 500 different products. The information is continually refreshed with new performance evaluations and interviews daily. The KLAS database is dynamically and effectively used by:

- Healthcare organizations, to align expectations with a vendor’s actual performance, to assist in strategic planning and contract negotiations, and to validate decision processes;
- Vendors, to monitor their performance in comparison with competitors;
- Consultants, for current performance information on a specific company or product;
- Healthcare investment firms, to evaluate publicly traded HIT company performance and trends or the competition for a new entrant.

### About the Author

**Adam Gale** is Vice President of Operations at KLAS Enterprises. For more on the 2005 On Time Delivery Study, visit [www.healthcomputing.com](http://www.healthcomputing.com).



**Frank D. Scarpino**  
I.S.P., Dipl. B.A.  
Managing Director  
[fscarpino@solutionalternatives.com](mailto:fscarpino@solutionalternatives.com)

*e-Health (Healthcare ICT/IM) Strategy and Consulting Services*  
10 George Street N., Suite 313, Brampton, ON Canada L6X 1R2  
Tel: (905) 459-9832 • Fax: (905) 459-9828 • Cell (905) 302-3394  
[www.solutionalternatives.com](http://www.solutionalternatives.com)

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