

# Put It on the Board, 9/14

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## Simple blood tests, colossal contrasts on price

California hospitals have a pricing range for common blood tests so wide that it brings to mind the vast span of that state's world wonder, the Golden Gate Bridge.

Among the 150 hospitals whose blood test charges were examined in a recent study, the price for a basic metabolic test ranged from \$35 to \$7,303, depending on the hospital, with a median charge of \$214. The biggest price difference was in charges for a lipid panel. While the median charge was \$220, overall charges ranged from \$10 to as much as \$10,169, said the study published online Aug. 14 (Hsia, RY, et al. *BMJ Open*. 2014;4:e005482. doi:10.1136/bmjopen-2014-005482).

Prices generally were lower at government and teaching hospitals, but factors such as location, labor costs, patient capacity, and the percentage of a hospital's patients who were uninsured generally did not account for the price differences. Altogether, these factors accounted for only 21 percent of the pricing differences. The charges of individual hospitals were not identified in the study.

"The point is not so much to finger point and blame an individual hospital, but rather to say that this is really a systemic issue where there's huge price variation," says Renee Y. Hsia, MD, lead author of the study and associate professor of emergency medicine at the University of California, San Francisco School of Medicine. "This is not one hospital's fault. It shows that the way that we charge for care is completely unpredictable, based on a system that's irrational, and not consumer friendly."

Dr. Hsia tells CAP TODAY that while the charge list rarely reflects what is actually paid for lab tests by private and public insurers, these prices remain relevant due to the rising prevalence of high-deductible health plans and narrow care networks, along with millions who will remain uninsured even after Obamacare is fully implemented.

She notes that pricing transparency—more of the kind that gave her access to the pricing information analyzed in the study—is a start but not a cure-all. Dr. Hsia says that one effect of transparency can be to encourage lower-cost health care organizations to raise their charges to catch up with higher-cost providers. That can have the perverse outcome of raising median prices.

Pathologists and other laboratory professionals may exert little control over how lab testing services are priced on a hospital's charge list, but they can play an important role in using information systems to give ordering clinicians an idea of the pricing associated with tests, Dr. Hsia says. But how to fix health care's screwy pricing schemes? Bundling of services for episodes of care is a good start.

"This is the million-dollar question," Dr. Hsia says. "No, it's the billion-dollar—I mean, the trillion-dollar question."

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## Respiratory panel improves outcomes, cuts costs

A children's hospital that adopted an expanded multiplex PCR test on BioFire Diagnostics' FilmArray rapid respiratory panel platform saw a dramatic drop in turnaround time, less use of antibiotics, and shorter lengths of

stay for patients with viral positive results. The new test also saved the hospital \$230 per patient, according to findings published as an early online release in the *Archives of Pathology & Laboratory Medicine*.

In July 2012, the Children's Healthcare of Atlanta laboratory implemented the new test, which can detect respiratory syncytial virus, influenza A and B, rhinovirus/enterovirus, parainfluenza 1-4, human metapneumovirus, adenovirus, and coronavirus NL62. Thanks to simpler processing, the test could be done 24 hours a day, seven days a week by laboratory staff. Under the previous testing method, results were available daily at 1 pm. The old test's basic panel included influenza A and B and RSV. Another 11 percent of patients had been tested for parainfluenza 1-3, and less than one percent also got tested for human metapneumovirus, the study said (Rogers BB, et al. Published online ahead of print Aug. 25, 2014. doi: 10.5858/arpa.2014-0257-OA).

Researchers retrospectively examined outcomes for more than 1,000 patients during the peak of respiratory virus season before adoption of the FilmArray panel and during that same period the following year, with the new test offered. The first and most obvious benefit of the new panel was a 65 percent reduction in turnaround time, from 18.65 hours to 6.38 hours. About half of patients got test results while still in the emergency department, compared with less than 14 percent under the old testing regime.

But that quicker turnaround time still was not fast enough to reduce how often clinicians prescribed antibiotics, with about 70 percent of patients getting antibiotics both before and after implementation of the FilmArray panel. The lack of impact on the initial decision to prescribe antibiotics was a disappointment, says the study's lead author, Beverly B. Rogers, MD. She is chief of pathology at Children's Healthcare of Atlanta and adjunct professor of pathology and pediatrics at Emory University School of Medicine.

"I had hoped to see that as well. You would expect it," Dr. Rogers tells CAP TODAY. "I think there are two things going on there. One is that clinical practice is really difficult to change. When you have a sick child, there's always going to be that desire, particularly if you're admitting them, to go ahead and give a dose of antibiotics. At what point that becomes modified really depends on real changes in clinical practice.

"The other thing is that this study analyzed a group of patients seen when we were in the process of implementing this technology," she adds. "Currently, we routinely turn around this test result in 2.5 hours and the capability for the system is really 1.5 hours. During the study, there was a range of the time to result, simply because we were not staffed on all shifts to bring it on. So this paper really doesn't test the hypothesis that physicians may hold prescribing antibiotics until a test result is available. What I have to believe—and I certainly hope—is that as we really ratchet down the turnaround time on this test, a clinician may hold a kid and say, 'Let's just wait a couple of hours before we give that first dose.'"

That having been said, the study did show a 13 percent drop in the duration of antibiotic use, from an average of 3.2 days to 2.8 days. As would be expected, a breakout among patients with viral positive results—there were 597 during the three-month post-FilmArray panel study period—found an even bigger (15 percent) reduction in how long antibiotics were used. Meanwhile, the viral positive patients were discharged about a quarter of a day earlier.

The shorter lengths of stay and reduced antibiotic use helped save the hospital \$248 per patient in true cost, while the new respiratory panel cost the organization an extra \$18 per test, the study said. Those figures do not account for the societal savings accrued by getting parents caring for sick children back to work faster, notes Dr. Rogers, who was a site principal investigator for the FilmArray Respiratory Panel during her time at Children's Medical Center of Dallas.

"This type of technology that really brings DNA analysis close to the patient and close to the time of the patient encounter is where we're going with molecular medicine," Dr. Rogers says.

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## Study: Many patients mystified by lab results

Starting in October, laboratories will have to comply with a new federal mandate to deliver completed test reports directly to the patients who request them. Meanwhile, the push to meet federal meaningful use criteria is leading many physician offices, hospitals, and health systems to adopt patient portals that give patients largely unmediated access to their lab results. But a recent study suggests that many patients may not be able to understand what those results mean.

More than 1,800 adults took an Internet-based survey in which they were shown test results for a complete blood count with differential, a basic metabolic panel, hemoglobin A1c, and other common lab tests. The participants were asked to assume the results were theirs and act accordingly. The display showed the standard reference range for each test. The participants also took common tests to determine their levels of literacy and numeracy.

Patients who tested with high health literacy and numeracy did pretty well at interpreting the results, with just 23 percent failing to identify the A1c results as being out of range. That failure rate rose to 62 percent among the respondents with low literacy and low numeracy skills, the study said (Zikmund-Fisher BJ, et al. *J Med Internet Res*. 2014;16[8]:e187. doi:10.2196/jmir.3241).

Patient misunderstandings of lab test results could lead to more calls to clinician offices, says Brian J. Zikmund-Fisher, PhD, lead author of the study and associate professor in the University of Michigan's Department of Health Behavior and Health Education. High-skill patients were almost twice as likely to say they would call their doctor for a highly elevated A1c value of 8.4 percent compared with a somewhat elevated 7.1 percent result—as would be expected. But the low-skill patients were actually more likely to call about the slightly elevated A1c result—69 percent said they would call about that value compared with just 66 percent who would query the doctor about the 8.4 percent A1c result.

Dr. Zikmund-Fisher has a grant from the Agency for Healthcare Research and Quality to study different ways to display test results information that will be easier for low-skill patients to understand.

"When a patient receives laboratory test results, they should know what they're supposed to do with them," he says. "We need to improve how we display results to make this better. The goal, I think, is clear."

—Kevin B. O'Reilly