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Healthcare AI, Radiology solutions

A Real View of...A backstop that reduces risk of delayed diagnosis

Nuance Communications

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Nuance Healthcare Diagnostics Vice President and General Manager Karen Holzberger and University of Rochester Medical Center's Dr. Ben Wandtke discuss his ongoing research into improving healthcare outcomes by coupling tools like mPower Clinical Analytics with practical use of existing technology and effective communications to ensure that vital follow-up recommendations don't "fall through the cracks."

There are two things that have long been true about incidental findings and follow-up recommendations in radiology reports. First, they are exceedingly common. Second, they are often not completed: 30% to 70% of follow-up recommendations are "lost" or never completed for reasons unrelated to physician skill, but from a mix of systemic and technology limitations. Fortunately, work is advancing to "close the loop" using clinical analytics and practical methods that significantly improve healthcare outcomes and radiologists' value. I spoke with Dr. Ben Wandtke to get a real view of the work they're doing at the University of Rochester to create those advances.

KH: You've been doing some important work at the University of Rochester Medical Center for the past few years to understand and address the problem of non-compliance with radiology follow-up recommendations. Can you give us an overview of the issue?

Dr. Wandtke: Thank you, Karen, and yes, it's an issue that's certainly captured my attention and that of radiologists and healthcare administrators in systems across the country. Like many radiology departments, we noticed a disconnect in follow-up for patients that come through the ED. They may have a CT for example, and the radiologist reports an incidental finding of a lung nodule or a lesion lower in the

abdomen. But the emergency physician was understandably focused on addressing the primary reason for the visit to the ED. That means that the patient's PCP often doesn't get notified and the patient might not learn about that finding until much later when the condition has become difficult to treat.

In our study, we found that only 43% of follow-up recommendations contained in radiology reports were completed while 57% were never performed. The negative impact in terms of patient outcomes, physician satisfaction, and healthcare costs is profound. On the other hand, the positive effects from the steps we've implemented to date have been transformative for patient experiences and in improving the costs and value of healthcare delivery.

We initially started with a home-grown database and a manual process at one of our community hospitals. We had a system of communication backstops and tracked outcomes data associated with our interventions to bring patients back. At a small scale, we were able to demonstrate the need and the efficacy for this type of program, but we quickly discovered that we were going to need additional automated functionality to make this viable on a larger scale.

KH: Let's get into some of the specifics of your program.

Dr. Wandtke: We initially looked through radiology reports for exams with follow-up recommendations and loaded them into our home-grown database. For exams with overdue follow-up imaging recommendations, we implemented a three-stage communication protocol for ensuring compliance. Stage 1 consists of resending the radiology report to the patient's PCP, requesting attention to overdue recommendations, or a letter to patients' without a PCP. Stage 2 involves a call from a dedicated staff follow-up person to the PCP's office. In Stage 3, the radiologist contacts the PCP directly. We realize that not every program may implement all these steps, but it worked well for our group.

The initial implementation of PowerScribe Follow-up Manager (initially part of the Primordial suite) helped automate many steps in this process. Through an integration with the radiologists' reading environment, radiologists could easily designate exams with a recommended follow-up. It automated the building of a worklist, the collection of data from the RIS/EMR, and it also automatically escalated the patients who were overdue at each stage of the process. When it was time to send a letter, it would merge the patient, exam and appropriate physician information into a pre-defined letter template for printing.

KH: How did you scale it up from that first facility?

Dr. Wandtke: A year and a half ago we scaled the system to six hospitals and five outpatient imaging centers. When we expanded the scope to a larger, less centralized group, we quickly realized that not every radiologist would remember to take the extra step to designate a finding, even though the capability was integrated into the reading environment. Nuance was given the opportunity to analyze the cohort of reports using mPower, their clinical analytics engine, to see if the radiologists failed to flag any follow-up recommendations. mPower simply scanned the free text of the report and extracted out relevant follow up recommendations that met the inclusion criteria. Integration of mPower allows for more efficient recommendation entry into a tracking system without additional manual effort by the radiologist to flag follow up recommendations and without modification to the radiologists existing dictation style. Simply dictating recommendations into the report is sufficient. mPower-automated recommendation capture nearly tripled the number of recommendations tracked and increase the cost-effectiveness of the program dramatically.

KH: The results have been impressive. I'm also struck by the importance of the program on multiple levels because it's much, much more than taking a measure of improvements in costs and healthcare benefits.

Dr. Wandtke: Overall, our program is now able to confirm satisfactory follow-up for 91% of our patients. The remaining 9% are primarily "lost" due to patient non-compliance. The tracking system resulted in an 80% increase in our ability to "close the loop." Beyond generating additional examinations, often with higher-reimbursing imaging modalities, the program improves patient care through earlier diagnoses and reduces medical legal risk. Preliminary analysis suggests a positive annual return on investment in addition to the quality gains demonstrated.

That said, it's more than just tracking follow-up compliance. Programs like these reinforce the use of evidence-based guidelines and consistent application of high-quality care. They address the fragmentation of healthcare delivery and prioritize the patient and clinical outcomes.

KH: Thank you, Dr. Wandtke. Those are excellent insights. In any profession, follow-up and follow-through are essential. That's especially true in medicine where it can have such far-reaching, literally life-saving, effects. Each of us has the capacity to create lasting good just by following up. It's the people who follow through who excel. As we've seen from the continuing work by Dr. Wandtke, mPower Clinical Analytics and PowerScribe Follow-Up Manager can greatly enhance our abilities to follow up – and make a difference in healthcare every day.

The Real View is a Q&A blog series with Karen Holzberger, Vice President and General Manager of Nuance Healthcare's Diagnostic Division. The Real View cuts through the hype and gets to what's real, here, and now. *The blog series features interviews and insights from health IT movers and shakers – and uncovers disruptive technologies that solve challenges, optimize workflow, and increase efficiencies to improve patient care.*

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