



## Main Street Radiology Realizes Benefits in Workflow Efficiency Utilizing Imorgon's Ultrasound Report Accelerator Solution

### New Report Accelerator Improves Reporting Accuracy; Saves Radiologists' Significant Time

#### The Setting

In today's changing era of healthcare reform, hospitals and private radiology practices are facing greater pressure to increase throughput and improve overall departmental efficiency, while continuing to provide high quality patient care and maintain diagnostic accuracy.

As such, the implementation of productivity enhancing processes is on the rise. The use of speech recognition technology in radiology reporting has increased steadily in the past decade to the point where it is widely used today. By eliminating the need for human transcriptionists to transcribe radiologists' dictation, this technology has reduced cost. By allowing radiologists to review their reports while they are dictating, and also sign and approve them at the end of the dictation, has significantly reduced the time between the completion of a radiology procedure and report delivery.

However, a technology gap still remains in ultrasound reporting. Ultrasound reports include three types of information: 1) sonographer observations – a certain anatomy was or was not seen for example; 2) numeric data collected on the ultrasound system – such as the measurement of a fetal head circumference made by the sonographer; and, 3) the radiologist's interpretation of the information, the images and clips collected by the sonographer. Radiologists generate reports by dictating all three types of information.

There are specific protocols sonographers follow to scan patients and perform ultrasound examinations. Scanning is done by moving the ultrasound transducer over the patient's body while viewing real-time images on the ultrasound system's screen. The real-time images are used to position the transducer and allow the sonographer to observe the patient for abnormalities. Sonographers will document the patient's ultrasound study by acquiring still and clip images to provide a permanent medical record of the scan, and to communicate their observations to the reporting radiologist. Because radiologists are not present in the room during the exam, and because clips, still images and measurements alone cannot completely convey the sonographer's observations made during the exam, sonographers' will communicate their observations both verbally and in writing to the radiologist. Verbal communication usually occurs at the end of acquisition when the sonographer talks to the radiologist and presents their findings.

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- Lawrence Carl, M.D.,  
Medical Director,  
Main Street Radiology

#### Results

- Eliminated manual data entry errors
- Significantly improved workflow and productivity
- Increased patient safety.
- Report Accelerator installation was seamless and required minimal setup/learning time.



Written communication takes the form of hand-written notes on a paper form that is completed by the sonographer. Written communication may be presented to the radiologist by handing the paper to the radiologist or scanning the paper, so that he or she may view it on a computer screen.

While performing an ultrasound exam and collecting still images, clips and making observations, the sonographer also makes measurements and performs calculations. Measurements are made on images by using tools that are a standard part of all modern ultrasound systems. For example, the protocol for fetal studies often includes the measurement of the fetal head circumference. This measurement may be used as input to calculate fetal weight and gestational age. Sonographers communicate measurements and calculations to radiologists by displaying them on the ultrasound system screen and capturing a picture of the screen. This can be viewed by the radiologist on the workstation screen or by including the numbers in the written communication.

The radiologist then dictates the sonographer's report numbers and observations by reading from the screen and the hand-written notes. By dictating numbers read from the screen and dictating sonographer observations from written and verbal input, the radiologist is performing a tedious and error-prone task. This takes time and attention away from their primary task of providing interpretation and diagnosis.

To address these inefficiencies, Imorgon, a developer of advanced integrated software solutions that enable the full potential of diagnostic ultrasound, introduced the Imorgon Report Accelerator to improve radiologist and sonographer communication efficiency and automatically populate the report with sonographer observations, ultrasound measurements and calculations. This reduces the time radiologists' takes to generate a report by eliminating the need to dictate numbers from the ultrasound system and sonographer observations.

Imorgon Report Accelerator interfaces with all ultrasound systems that support the DICOM structured reporting standard for the transfer of measurements and calculations. Almost all ultrasound systems sold today support this standard.

## Imorgon View and Report Accelerator

Main Street Radiology, a private outpatient radiology practice with three locations serving New York, had been looking for a solution to streamline workflow in ultrasound that would allow more time for the interpretation of images versus dictating numbers and sonographers' observations.

The practice is operated by Radiology Associates of Main Street, and is comprised of 25 radiologists. The diagnostic equipment used at Main Street Radiology is state-of-the-art and equivalent to those found in major teaching hospitals and renowned medical centers. Medical reports generated at each location use PowerScribe® 360 | Reporting. At two of its facilities, the practice offers ultrasound-imaging services, utilizing the iU22 xMATRIX ultrasound systems from Philips. In total, Main Street Radiology performs more than 260,000 diagnostic-imaging procedures annually, over 50,000 of which are ultrasound studies.

## The Challenges

Although the practice was pleased with the voice recognition dictation system, they were looking for a more streamlined solution to solve this problem. Specifically, they wanted a solution that would enable radiologists and sonographers to be more efficient, while providing more accurate care with greater diagnostic confidence.

Together, Lawrence Carl, M.D., Medical Director for Main Street Radiology and his colleagues, Steven Kozak, RDMS, Ultrasound Department Supervisor, and Ken Seedorf, CRA, Administrative Director, asked their associates at Philips to help them identify a source to meet their needs.

Philips has a strategic partnership with Imorgon, whereby the Imorgon IntegratedUltrasound solution provides seamless integration of ultrasound reporting for all procedures. Specifically, the Imorgon Report Accelerator auto populates ultrasound reports, including all measurements and data, into a voice recognition and dictation system, thereby eliminating the dictation of numbers.

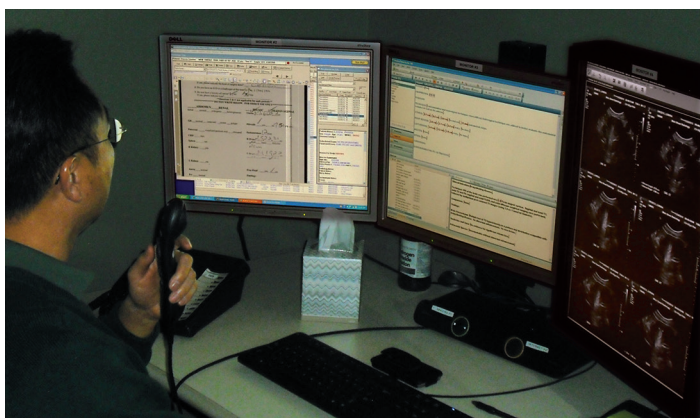
Main Street Radiology's existing manual processes for recording ultrasound measurements followed by dictation were laborious, and the scrutiny required to assure accuracy were both tedious and time consuming. All reports require close inspection and some corrections, which take precious time away from the more important task of reviewing the images for the final diagnosis. Like many other facilities, the ultrasound department used paper forms to convey information to the radiologist, whereby sonographers would hand write in data and measurements for all ultrasound exams. Depending on the specific ultrasound procedure, this process could take several minutes.

Radiologists dictate their reports from the digitally scanned forms, as well as add in information not captured by the ultrasound system. If a measurement was incorrectly written down, or the writing was hard to read, more time was needed for each report, making them quite burdensome to complete.

"We were looking for a way to make our workflow as smooth as possible and to put data in as quickly as possible," says Dr. Carl. "We found that data input from the ultrasound study ultimately lead to a lot of wear and tear on our eyes. This became a real problem in terms of data throughput and obtaining verifiable, consistent data. It was important to improve this workflow process in our ultrasound reporting."

It is policy for Main Street Radiology to turn reports around in less than 24 hours for every case they do.

"We are an extremely high-volume office," says Kozak. "Cases can take up to several minutes for the radiologists to dictate the numbers alone, depending on the ultrasound procedure and measurements required. It adds up over time."



## The Solution

In November 2012, Dr. Carl and his colleagues installed Imorgon's Report Accelerator at the Flushing and Bayside facilities. The software integrated seamlessly with Main Street Radiology's 11 Philips ultrasound systems. The initial results in improved productivity, the gain in efficiency and accuracy, and the savings in time, were realized instantaneously.

"We experienced immediate improvements in the accuracy of dictated reports for our ultrasound procedures because we removed the burden of dictating from our digitally scanned paper forms," says Dr. Carl. "This has contributed significantly to time savings and reporting accuracy. As a result, we now have more time to look at the images."



"Patient safety is improved and so is the quality of service to patients and referring physicians," continues Dr. Carl. "Because of increased throughput, doctors are receiving reports more quickly."

The installation of Report Accelerator includes a unique feature that eliminates paper forms, and pertinent data from the forms can auto-populate to Power Scribe 360 | Reporting templates.

"The Report Accelerator has had a huge impact on job satisfaction for the radiologists here," says Seedorf. "Obviously, it's a time saver for them. The reports are all completed more quickly with less stress involved. In fact, we are in the process of adjusting our radiologist' schedules due to the timesavings we have realized. In the near future we will begin using Report Accelerator for DEXA, another study with a very tedious reporting process. This will be another step in our quest for improvements to workflow efficiency and reporting accuracy."





## Results

Main Street Radiology's workflow and productivity are improved significantly, and overall efficiency throughout the facilities has improved, as has patient safety. Radiologists, sonographers, administration and patients can all appreciate the benefits of Report Accelerator as it contributes to better overall medical care.

The installation of Imorgon's solution is seamless and requires minimal time. Main Street Radiology simply installed the server and established secure remote access for Imorgon. The configuration and setup was done remotely by Imorgon, and access to the Report Accelerator from the workstations was accomplished through a standard web browser.

"After the installation of the Imorgon Report Accelerator, we set up macros in Power Scribe 360 | Reporting so that all our radiologists needed to do was to import the macros," explains Dr. Carl. "Basically, we went from one day of not having auto-populated data to the next day of having it. It was like magic because it worked for everyone. It has revolutionized the way we work."

"Conservatively, let's say on average a case takes up to one minute to dictate the measurements reported. Multiply this with an average of 200 total ultrasound cases performed a day and you realize a potential savings of 200 minutes a day because he or she is using the Imorgon Report Accelerator."

- Steven Kozak, RDMS,  
Ultrasound Department Supervisor,  
Main Street Radiology

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