



As Featured In:



The Heart of the Emergency Department

A look at Wellsoft, an award winning, innovative developer of Emergency Department Information Systems.

DR. ROBERT H. LEVITON, Chairman of the Department of Emergency Medicine, Our Lady of Mercy Medical Center, Bronx, N.Y., discusses the improvements made through organizational software that improves overall patient care and efficiency.



How can EDIS and tracking systems improve the overall operations of an emergency department in real-time?

EDIS and tracking systems enable many capabilities. One very important function is that they allow the rapid identification for all patients who enter the department. To begin, our patients have their name, date of birth and chief complaint entered into the Wellsoft system. As a result, we know of every patient who enters our emergency room (ER) and can accurately make note of their arrival time to triage and registration. Wellsoft also notes when our primary nurses intervene on their behalf and when they are interviewed by our attending physician. Furthermore, we can also see the time that lab and radiology studies are ordered and can quickly note the elapsed time for the lab to acknowledge receiving the specimen or for radiology receiving the patient. From there, we can immediately identify when those results are available for us to review.

The radiology preliminary reads are also greatly simplified. Our emergency department (ED) physician can now sit at the X-ray station and enter the results quickly into Wellsoft using standardized macros. Rather than having to write out a long statement, with one click the whole sentence appears. At the point of discharge, the entire ED physician interpretation along with the patient's history of presenting illness is printed at the radiologist's suite. The typed report clearly shows what happened with the patient. The radiologist then knows how to determine whether there is a variance in the interpretation of the X-rays.

All of our patients receive very easy-to-follow printed instructions. Their work notes are typed and their prescriptions are laser printed on special paper that cannot be forged. We can autofax critical information to our follow-up providers who receive a summary of the care rendered by the ED physician during the patient's encounter. This information includes the patient's demographic and insurance information, diagnoses, medication prescribed, and suggested follow-up dates. This is all helpful because now the referral agents know what happened in the ER and what the emergency physicians are expecting for their patients.

The entire admissions process is extremely streamlined. As our physicians click through and build the chart, the information is automatically transferred to the hospital's bed board so the bed board manager can begin looking for the bed. Once the bed has been found and assigned, Wellsoft's screen automatically turns a bright royal blue with a bed number and room assignment. Nurses really enjoy the simplicity of generating a nurse transfer summary for a patient with the single click of the mouse, which is immediately generated by the system with all the key elements of care provided to the patient including their vital signs, responses to treatment and lab results. At that same instant the report is automatically faxed to the floor. When the fax arrives at the floor, it is time-stamped, notifying the ER that they can send the patient upstairs. This has shaved about five hours off the turnaround time to get patients admitted to the hospital.

We see multiple evidences of improvement of care in the amount of information that we are capturing and the amount of information we are able to review, and our voluntary attending staff love the fact that they are being notified when

their patients are in the ER. In the past, many of our doctors never knew that their patients were going to the ER; now they are getting a full typed report.

Can you tell us about Wellsoft's EDIS?

I've spent years looking at various different EDIS and I've found the Wellsoft system to be the most dynamic and powerful of all that I reviewed. Our department treats over 50,000 visits per year. What I've enjoyed most from the Wellsoft team is the close relationship we have developed together. No two hospital ERs are alike. Wellsoft provides this tremendously powerful platform that is adaptable to every different type of ED system. Whether it is a small rural hospital, urban teaching center or a suburban community hospital, every element in the system can be tailored to meet the unique needs of each ED.

Wellsoft's customer service is well beyond anything I could have expected. I can call them at 3 a.m. and speak with Wellsoft technical support to add macros to a progress note, build a new function into the system, or take care of whatever my CEO may need.

The moment we recognized that we were going to computerize the ER to over 180 personnel, there was a tremendous level of scepticism and fear by the staff who did not know how to use a computer. Wellsoft's approach to training these individuals was quite unique. It is amazing to me today to see our staff typing on their keyboards and creating the best ED records that I have ever seen. We are capturing more information about patient's care than we have ever captured with the template charts that use circles and slashes. It is very pleasing to see the most computer-naive staff become the most proficient users of the system so that with simple key clicks, entire elements of care are noted and automatically entered.

What is unique about the Wellsoft EDIS system? What technologies have been adopted for the system to give its uniqueness?

This system is incredibly adaptable. For instance, the director of our clinic system wanted the ED physician to schedule patients for clinic follow-ups. The concern was that an ED physician might refer a patient to the clinic on days that they were not open or a particular specialist was not available. The built-in clinic referral form allows for the clinic to get an autofax with the demographic and insurance information at the point of patient discharge. This information includes patient discharge instructions, medications, and the date the ED physician would like the clinic staff to see the patient. The clinic staff are then able to make appointments and assure that the continuum of care is provided to the patients.

There is a concept that we use called "pushing the colors" for lab and radiology studies. We have staged each moment in processing, movement of specimen, acceptance and results. The Wellsoft tracking screen changes colors based on what stage the specimen is in. When a specimen remains in one stage (one color) for more than 10 minutes, a telephone call is placed. Because we track those moments, we are able to create a report displayable in Excel that shows the turnaround times for every laboratory order placed in the department. It is incredible to see the flow from taking care of a patient to

creating a graphically reproducible report that gets response from our performance improvement committee to reduce time spent in the ER.

What are the financial implications of implementing an EDIS?

We had to build an entirely new infrastructure to support the Wellsoft system. This had nothing to do with Wellsoft; in fact, their needs were extremely modest if our hospital had kept up with the growing trends of technology in healthcare. We bought a dedicated server and ran numerous lines to hardwire over 30 PC stations. We put in three high-speed industrial strength printers and one large 42-inch flat panel monitor to display the patient tracking board. The monitor is not essential to the tracking system since every PC has the tracking board on it, but the attending physicians come in and congregate around the flat panel to quickly locate their patients in the ER when there are over 50 possible locations. Because our staff had little computer experience, we received a grant to test our staff's capabilities to judge who needed what degree of computer training. We then created teams to train one another, which turned out to be very fun and exciting.

We were initially afraid that learning the system would slow down our staff and create delays, but we were actually surprised that our staff became proficient very rapidly. Many of them described that the system was actually intuitive to them. From time to time, our printers go down and need maintenance and our PCs may need repair, but these systems are online 24/7/365, and these charges can be expected. Wellsoft charges a nominal fee for their continual support – which is very reasonable. We find that with the Wellsoft EDIS, there are no longer missing charts. Our ward clerks are constantly reviewing our nursing and physician staff records contemporaneously during the shift. This assures that all of the critically defined data elements are being completed – notes are completed, diagnoses are being identified and the charts are being electronically signed before the end of a practitioners shift. Our finance department loves this feature because we are also producing the ED invoice completely coded with all facility charges, ICD- 9 and CPT codes at the moment of the patient's discharge from the ED.

How can you determine the prospective ROI on EDIS? How can the success of such a system be measured?

There are so many measurable moments that can demonstrate the enhancement of care, which we provide our patients with, as well as the costs we are saving and revenue we are generating. We have already shaved five hours off our

admission process; that in itself has tremendous value because customer satisfaction has gone way up since people no longer have to wait in the ER to go to their floor. We are now capturing physician and physician assistant productivity. We produce a weekly graph demonstrating each physician's patient turnaround time. We have also developed an incentive program for the staff using these characteristics and have set benchmark targets for the physicians and their assistants to meet in order to obtain their incentive payments. We have developed a tracking tool that allows us to immediately visually identify patients that are expected to have pneumonia. This allows us to rapidly assess the patient's needs, review the X-rays and administer the antibiotics when indicated within the four-hour timeframe described by the Center of Medicare and Medicaid Services. We are able to capture a tremendous amount of data into the system. With each piece of data we can also create a report that goes along with it.

Wellsoft EDIS was developed as a clinical tool, but we realized that moments of care could be measured and we were able to assign points and weigh the moments of care. The system counts every moment, and at the point of discharge, they are added together to create a score; that score creates a level of service code and charge. Now that we are able to capture every charge, the patient's invoice is reproducible and is printed at the point of discharge – reducing our reliance on the other elements of the finance office. Now we can key in financial information on the same day of service, and the hospital invoice is done, saving us a great deal of money.

How flexible is the Wellsoft EDIS' scope and breadth to healthcare facilities in terms of the departmental and hospital-wide ED process and workflow?

One feature that we have not yet touched upon is the tracking of previous patients. Every record created in Wellsoft is immediately available to our practitioners. We created a color code system to identify patients that are high risk, patients with prior visits and those who are new. This retrieval function has helped our ED staff incredibly because we no longer have to rely on calling for someone to go down to medical records at 4 a.m. since it is right there at our fingertips. Our risk management staff can instantly pull up the records when an insurance company calls. Our performance improvement department can instantly run reports and any number of quality improvement measures. If it starts getting busy in the ER, we can see that the staff needs help and we can assist them. This has all been made possible through the Wellsoft EDIS.



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