



Danbury Hospital: A Commitment To Excellence

Danbury Hospital, one of several affiliates within Danbury Health Systems, is a 371-bed not-for-profit regional medical center and teaching hospital linked to its community and serving approximately 360,000 residents of western Connecticut and southeastern New York. Featuring a wide range of specialized services, including a Level II Trauma Center and the J. Benton Egee, MD, Emergency Department, Danbury Hospital is home to 10 clinical departments and a medical and dental staff of more than 500 physicians. Danbury Hospital is the area's largest employer with close to 3,000 employees and 67 resident physicians. The Hospital has a long history as a teaching institution and is committed to the health and well-being of people. The hospital has chosen to invest in improvements to its information technology infrastructure as one element of delivering high quality medical care, while reducing the chance of human error in the delivery of medical services.

The Problem

As part of its ongoing efforts to implement new and innovative technologies, Danbury Hospital replaced its existing pharmacy system with a new pharmacy system from Siemens. However, the new system did not have the capability to produce the type of bar-coded pharmacy labels that the Pharmacy Department needed to accurately track pharmaceuticals through the distribution channel and to ensure appropriate cost accounting. As Hospital staff investigated solutions with bar coding to meet these objectives, it became clear that technology existed which would meet these needs and which could also be applied to a number of other areas in the hospital. This conclusion led Danbury Hospital to seek a vendor-independent solution that would leverage its investment across a larger number of applications.

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The Solution

With this in mind, Danbury Hospital staff engaged NEPS (then the Enabled Print Solutions division of Moore Wallace, Inc.) to

enhance the designing, routing and printing of its laser-formatted documents including, in addition to pharmacy labels:

- Inpatient Services
- Outpatient Services
- Emergency Services

Peter Courtway, the Hospital's Chief Information Officer, said, “It was clear from the start that the independent route was a good approach for us. We could maximize our investment in the software and train staff to program and operate the solution.” Courtway indicated that the Institute of Medicine's report, *Crossing the Quality Chasm*, put the spotlight on the prevalence of deaths from medical errors. Danbury Hospital was determined to be on the leading edge of preventing these types of errors from occurring. Courtway said, “Bar coding is a key element of this quality initiative for the health care industry. Bar codes eliminate transcription errors, increase data quality — and ultimately increase patient safety.” NEPS Health e-Connect™ provided Danbury Hospital with an effective platform from which to launch several new initiatives focused on delivering even greater patient safety.

The Results

NEPS proposed a solution that would meet the Hospital's pharmacy labeling needs as well as eliminate the need for pre-printed Inpatient, Emergency, and Outpatient documents, including:

1. A direct interface into the pharmacy system implemented at Danbury Hospital that could route and print Inpatient, Outpatient and Emergency documents at the appropriate registration points.
2. A bar-coded patient armband for positive identification.
3. Merging the admitting documents with patient information from the hospital's pharmacy system.
4. A form design tool that allows end-users to add content or make changes to electronic design templates.
5. A direct interface with the hospital's pharmacy application for creating pharmacy-related labels.
6. Scalability to allow the hospital to fully implement the solution as it added clinics and other facilities.

Danbury Hospital began a careful process of piloting these solutions over several months. According to Courtway, "While I can't quantify it, we have definitely seen a decrease in errors, particularly associated with the transcription of our 11-digit patient identification number from patient wristbands during the delivery of medical care. By scanning the barcode, our patient caregivers can be assured of 100% accuracy at the point the data is entered into the system."

In addition, the Hospital has taken

advantage of the capabilities offered by NEPS Health e-Connect™ to reformat a wide variety of reports, including the Medical Administration Record, to make it easier for health care professionals to quickly locate critical patient information. Courtway said, "One of strengths of Health e-Connect™ is its ability to reformat data so that it is more visually appealing and more clearly presented."



Scanning a patient's armband

Looking To The Future

Courtway reported that the Hospital is pleased with the results of Health e-Connect™, and he is looking forward to continuing to expand applications. He says, "Because of the progress we have made in implementing bar coded patient ID bands, even for our smallest patients, we will soon implement scanning at the bedside for pharmaceutical bags that have barcode labels. This will help ensure even more accurate delivery of the five pharmaceutical 'rights': the right patient, the right drug, the right dose, at the right time, with the right route of administration."

The Hospital also has completed some point-of-care testing with glucometers, where caregivers scan their badge, scan the patient's wrist band that has

been generated by the NEPS application, do point of care blood/glucose testing, and automatically upload the data into the patient's lifetime clinical record without a need for rekeying.

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Courtway added, "One application I am extremely proud of is our implementation of real-time notification to primary care physicians when one of their patients visits our Emergency Department. At the time of registration when the form prints in the Emergency Department, Health e-Connect™ reformats the data and automatically faxes it to the primary care physician. This has been a clear winner for us in terms of physician satisfaction." Courtway believes that Danbury Hospital is unique in being able to deliver this type of real-time service. He is looking for opportunities to leverage NEPS Health e-Connect™ to deliver other equally unique applications and services in the future.



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