

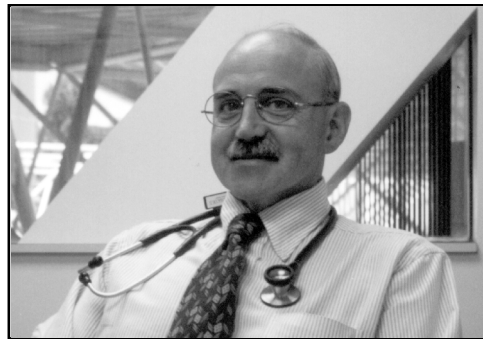
# InforMed Edition

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Summer 1997

## Clinical Close-Up: Non-Invasive Cardiology

It's a common problem that physicians deal with: the desire to see a greater volume of patients, but the lack of available time to schedule more in. What most often gets in the way, and eats up time, is the process. In the instances where clinical departments use InforMed, the system helps to shave time off of the process so that providers can spend more time with patients. Performing clinical procedures is the area where healthcare workers are efficient and adept. Processing all of the raw data generated during a patient encounter, however, is often what gobbles up the free minutes. Data collected by LAC+USC Medical Center's Non-Invasive Cardiology can be voluminous. The



Dr. Julio Tubau, Director of the Stress, Exercise, and Non-Invasive Cardiology Labs

amount of raw data collected during each encounter, then, naturally impedes a quick turnaround. Before Non-Invasive Cardiol-

ogy adopted a computing solution, recording data was a substantial portion of their workload.

"We have made significant progress from our earlier methods to a system that works quickly on a daily basis," said Dr. Julio Tubau, Director of the Stress, Exercise, and Non-Invasive Cardiology Labs. "Our initial goal for the implementation was to have a computerized database for clinical information and accountability," said Dr. Tubau, "Those seemed like tough goals, but now we can do these things and it only takes us five minutes to perform much of our data entry."

For Non-Invasive Cardiology, clinical applications are employed that allow for a

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## InforMed To Debut Latest Release At NMHCC - NMH/IT Fall '97

USC HealthCare Information Systems (USCHCIS) announced that it plans to debut the InforMed clinical information system's latest release at this year's National Managed Health Care Congress (NMHCC) Fall convention. The NMHCC, to be held November 3-6 at the Los Angeles Convention Center, will provide attendees in-depth, strategic information that will help solve the most critical problems facing managed care and information technologies.

The NMHCC will be the site of the first public exhibition of the InforMed clinical information system, and USC HCIS plans to make the event special for

attendees visiting their booth. The latest release of InforMed, a completely Windows-like, graphic user interface revision of the comprehensive software, will be unveiled at the show. Demonstrations of the radical new approach will be given for attendees periodically, followed each time by a Q&A session that will allow attendees to interact with InforMed developers. For the latest information about planned USCHCIS and InforMed events, check for updates on the InforMed World Wide Web Site's News page (see 'InforMed Launches Informative Web Site' in this issue for more information - Ed.). Outside of the special events planned

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# InforMed Launches Informative Web Site

Looking for the latest news about the InforMed clinical information system? Would like to know more about InforMed's modular approach to comprehensive healthcare information systems? You can find all of this information and more at the new InforMed World Wide Web Site, <http://www.usc.edu/dept/uscss/informed.html>

The new site opened this summer immediately offering copious amounts of information about the InforMed system. Special features include the latest InforMed Edition, a complete tour of the system, and a special feedback page for visitors to the site who would like additional information.

To create a more exciting experience for visitors, the InforMed site takes advantage of the latest Web technologies to add an extra little something special. The theme for the site, 'Solving the healthcare puzzle...', is presented via cutting-edge multimedia java applications that allow visitors to 'solve' a jigsaw puzzle in order to navigate through the site's module descriptions. Frames and interfaces, specially designed for ease-of-use, make the journey through the site's many informative pages an entertaining ride on the information super highway. Online releases of InforMed Edition even have a hi-tech



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<http://www.usc.edu/dept/uscss/informed.html>

element to them: they're downloadable files so that anyone can print their own copies of the newsletter. Check out the new InforMed site for yourself today, <http://www.usc.edu/dept/uscss/informed.html> and be sure to drop us a line so that we know you stopped in to visit! ❁

## Clinical Close-up ➤ (Cont. from Page 1)

greater level of detail to be collected during encounters with patients. To facilitate a greater level of detail with an increase in the efficiency of data collection and storage, InforMed developers collaborated with the Non-Invasive Cardiology department. Through the collaboration, both groups realized that the way to conquer the time consuming data process was to work with it. The InforMed Non-Invasive Cardiology applications help the department structure the data they wish to collect into a format that matches with the procedure.

InforMed doesn't just improve the data flow, however. InforMed developers also brought to Non-Invasive Cardiology an arsenal of tools designed to enhance the information generated through encounters, maximizing the efficiency of care, as well. CPT codes are a standardized method for describing common procedures that InforMed has also adopted to improve the efficiency of record keeping. Departments using CPT codes, like Non-Invasive Car-

diology, can quickly record exactly what procedures were performed for a patient with a few simple keystrokes. CPT codes, because they are standardized, also help to keep the data cleaner and error free.

Another InforMed tool that Non-Invasive Cardiology has taken advantage of are the online reports the system provides. All data collected into InforMed is online and instantaneously available. Non-Invasive Cardiology providers can quickly look at a patient's record for pertinent information and even generate an analysis of a cross section of patients based on unique criteria for research to determine similar conditions. With InforMed, not only has data collection efficiency been improved, but data access has been sped up as well. These powerful computerized tools are essential to the efficiency of Non-Invasive Cardiology's daily routine. "In terms of physical productivity, InforMed's really brought us online," said Susan Curry, Supervisor of Non-Invasive Cardiology. "We're able to make informa-

tion available immediately, even physician comments and impressions," Ms. Curry said, "It's even facilitated for us the key issue of getting reports out on time."

InforMed may not be at the heart of what Non-Invasive Cardiology does, but it helps this LAC+USC Medical Center department keep its rhythm. ❁

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# Window Into InforMed's Future

In the last issue of the InforMed Edition we profiled the exciting new 'touch screen' implementation of the InforMed clinical information system. The touch screen allows users to interact with InforMed through an easy-to-use computer screen interface that does away with the repetitive stress of mouse clicks and tab or return keys. Instead, users can simply touch the on-screen information that they wish to see detail for and InforMed will respond by drilling down into the data. Clinical information is literally at your fingertips! In this issue we're going to step beyond this convenient hardware innovation and take a look at the software USC HCIS developed to take advantage of it.

The first aspect of the software built to maximize the touch screen technology that a user will notice, besides a more 'windows-like' look and feel, is the login prompt. The login prompt features a crucial element of this new software that allows the touch screen to be used without a mouse or

keyboard: an online keyboard. Users can already 'touch-and-click' buttons and fields, eliminating any need for a mouse, but the online keyboard allows users to enter data directly through the screen without a keyboard, eliminating the footprint for this device entirely if it is mounted on a wall.

• • • **InforMed developers have revved up the system to access a patient's entire medical record in about the time it takes to access a single encounter.** • • •

The online keyboard pops up as an option whenever users are prompted to add text or key numbers in.

After logging into the system, the user will be prompted for a patient record by the Patient Locator. For its touch screen revision, the PL has been modified to be text

sensitive. This sensitivity automatically recognizes how a user wants to search for a patient: by name, MRUN number, or Social Security Number. Users have the ability to choose which option they want to search with.

As the patient information is returned for viewing, the big differences between the current implementation of InforMed and the touch screen module can be seen. Appearances can be deceiving, however, and, in this case, can divert attention from one of the most important new advances in the InforMed product: speed. Aside from a radical new look and feel that will brighten the eyes of every user, the touch screen implementation operates five times faster than the current system. Employing new computing strategies behind the scene, InforMed developers have revved up the system to access a patient's entire medical record in about the time it takes to access a single encounter now. It's a good thing that the touch screen software can access

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**NMHCC - Fall '97** ➤ (Cont. from Page 1)

by USC HCIS for the debut of the new release of InforMed, the NMHCC offers a great deal of information for the healthcare professional's edification. The NMHCC will host several forums that target attendees' special interests: an industry forum will speak directly to executives and managers of physicians, managed care, pharmacists, information systems executives and more; a topic forum will address subjects such as disease management, partnering and integrating in managed care, moving from data collection to data management, and more; and interactive roundtable discussions will look at HIV/AIDS Disease Management, the Pharmacist's role in Alternative medicine, strategies to move your hospital/health system into the 21st century and healthcare technologies geared toward non-technical users. Keynote speakers at this year's NMHCC Fall are of an extraordinary caliber as well: Former U.S. Senator and 1996 Republican Presi-

dential Candidate Bob Dole has recently confirmed that he'll address attendees, as will Ian Morrison, PhD., a Senior Fellow of the Institute for the Future, and Uwe Reinhardt, PhD., a James Madison Professor for Princeton University, Regina Herzlinger, Professor of Business Administration at Harvard University, and Russell Ricci, M.D., the General Manager of IBM's Global Healthcare Industry.

USC HCIS will be demonstrating the latest release of InforMed at booth 533 in the National Managed Health Care Information Technologies section of the convention. The booth is located conveniently close to the concession areas and the Microsoft Pavilion.

For more information about attending the National Managed Health Care Congress Fall at the Los Angeles Convention Center, November 3-6, call (888) 446-6422. Register today to see the debut of the latest release of the InforMed clinical information system! ❁

## Record Counts

InforMed keeps growing and growing... and growing... Since it was originally installed at LAC+USC as the HelpNet clinical data system and collected its first set of data, InforMed has become home for millions of patient records. This tremendous volume of records is kept online 24 hours a day to comprehensively support LAC+USC's experienced and dedicated staff.

As of May 29, 1997, LAC + USC had 262,585 Inpatient submissions, 915,263 ER visits, 1,156,341 Outpatient visits, 673,273 Unique patient records in InforMed and 3,533,680 encounters. ❁

## Next Issue

- NMHCC Update
- InforMed Joins HL7
- Clinical Close-Up
- InforMed: The Next Generation
- Record Counts ...and much more!

# Window Into InforMed's Future (cont.)

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an entire medical record that fast, too, because that's exactly what it does.

Once a user has instructed the system to pull up a patient's record, what comes back to the user is a totally online patient chart, complete with a comprehensive medical history. The new application reads information about patient demographics, a patient's entire history of admits and discharges, stays in outpatient clinics, emergency room visits, every encounter ever performed on a patient, a special pharmacy view with information about every drug ever prescribed to a patient, and a problem list that is essentially the patient's 'history-at-a-glance.' Each of these areas of information forms a tab on the top of the application window that users simply click on to access. Within each tabbed folder are details that include diagnosis, provider who saw the patient, exactly what drugs were prescribed to a

patient and for how long, what procedures were performed on a patient and at which site, and even provider narratives collected from a transcription service and made available online to InforMed users. With the touch screen software, providers now have the ability to access more information about the patient they're seeing, on the fly, than they ever have before. This, however, is only where InforMed begins. Users can click on any of the fields presented on screen and 'drill down' for even more detailed information about encounters, prescriptions, lengths of visits, and more.

InforMed's developers have also resolved other issues facing the system with this latest version. Due to the high volume healthcare networks must handle, InforMed has now been given a new client/server strategy that nearly eliminates the risk of data drops. The touch screen implementation also takes a great deal of pressure off of already over-taxed healthcare servers by placing a lot of

the responsibility for computing power with the touch screen computer. Both of these features have been designed to lessen the strain placed on healthcare networks and ease the flow of data to those that need it. The software developed for the touch screen is currently only being used by the special device, but that doesn't mean users need to have one to take advantage of the new InforMed. Users with desktop PCs can easily take advantage of the software without any modifications. The only big difference is that instead of 'touch-and-click' users will have to go back to the familiar keyboard and mouse standard.

The touch screen implementation of InforMed is part of a development drive within USC HCIS code named 'Medzilla.' The Medzilla project's goal is to drive the InforMed system forward into the advanced computer technologies that clinical medicine incorporates daily and will use more commonly in the future. ❁



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