

# NIH Clinical Center CIO Newsletter

August 2009

44<sup>th</sup> Edition

This is the forty-fourth edition of a monthly broadcast email to the CRIS user community about CRIS capabilities and issues. In addition to the text version in this email, I've attached a PDF version that can be printed. I look forward to receiving your comments or suggestions at [CIOnewsletter@cc.nih.gov](mailto:CIOnewsletter@cc.nih.gov). In addition, valuable information can be accessed at the CRIS and DCRI websites: <http://cris.cc.nih.gov>, <http://www.cc.nih.gov/dcri>.

## Topics of the Month

- CIO Remarks
- Chief Medical Information Officer
- Prescriber Note Changes
- Perioperative Information System Update
- Pathology Order Enhancement
- Privacy & Security
- CRIS Training & User Support

## CIO Remarks

With the new data center we are asked regularly what is the importance of a data center and why do we need redundancies for power, network, air handling and protection against environmental hazards such as physical entry, water and fire. Our answer always is that we need a robust and redundant data center to ensure patient care and patient safety. The answer to this is vague to some and many more questions arise.

It reminds me when my sons and I were getting ready for a back packing trip with the Boy Scouts. The Senior Patrol Leader (SPL) of the troop, Danny, was explaining to the other scouts how to prepare for the trip and giving tips. Danny would say you need to keep all smellables outside your pack and hang them in the tree at night. The younger scouts would ask what would happen if they did not do so. The answer was a Bear will eat you. Then Danny would say you need two water bottles. The one to keep with you can never have a flavored drink in it and the other must hang in the tree at night. The younger scouts would ask what would happen if they did not do so. The answer again was a Bear will eat you. This continued for a half an hour or so with each answer being a Bear will eat you.

Well a Bear did not eat us on our trip but that answer was as informative as the answer that importance of the new data center is based on patient safety. This article will provide a little more detail of the importance of the new data center.

The data center houses much of our Clinical Research Information System including CRIS/Sunrise Acute Care (the hospital information system), multiple ancillary systems, and

research systems. Ancillary systems include the Laboratory Information System, Radiology System, Scheduling System, Patient Registration System, CBORD (Nutrition), PACS, and EKG which process orders from Sunrise Acute Care and return results to Sunrise Acute Care supporting the workflow processes in each individual department. The research systems include BTRIS, the original Laboratory Clinical Data Repository and the CRIS Data Mart that store historical data used to provide reports for the Medical Record and more importantly to support the analysis of clinical data for all patients and protocols seen at the NIH Clinical Center.

When there is a down in the data center or if the data center is down, information necessary to the care of the patient is not available. Orders are not verified to ensure that the patient will not be harmed. There is no assurance that the integrity of the protocol is maintained without availability of protocol ordersets to provide a consistent regimen applied to all patients on the same protocol arm. The workflow to perform the lab test or administer the medication is affected. And all data collected while the system is down must be re-entered once the systems are back up so there is no loss of information related to the patient. In other words, the Bear will eat us.

To highlight the affects, here are two concrete examples. First, as Prescriber Smith enters a medication order in CRIS/Sunrise Acute Care using a protocol screen to ensure the proper regimen, the system alerts if there is any allergy or possible reactions of the new medication with other medications. When Prescriber Smith selects "Submit", the order is electronically transferred to the Pharmacy module where a Pharmacist verifies the order. From the Pharmacy module, the order travels electronically to the Omnicell system to allow Nurse Ratchet to withdraw the medication from the Omnicell Medication Cabinet on the unit where the patient is located. After administering the medication, Nurse Ratchet documents the medication was given within CRIS/Sunrise Acute Care. When the data center or a system in the data center is down, the protocol screen to ensure the order follows the regimen identified by the Protocol may be unavailable and the checks against the patient's allergies and against other medications the patient is taking is a completely manual process. The down also affects the timeliness that the medication is dispensed and the availability of documentation that the medication was administered. As a result until the systems are restored, Prescriber Smith will need to review the physical medical record and all paper entries to have an accurate understanding of what medications have been given to the patient. Also when the system is returned to stable state, all of the orders and documentation for processing the orders must be entered into CRIS/Sunrise Acute Care.

Second, Prescriber Jones enters an order for a lab test. The system then identifies to Nurse Ratchet that a specimen must be drawn and prints the appropriate labels. The specimen is drawn in the proper tube; the label adhered to the tube, and sent to the lab. The lab signs the specimen in. The specimen is analyzed by an instrument and the result verified by a lab technician and then electronically transmitted to CRIS/Sunrise Acute Care. During a down these tasks are done but in a less efficient and more manual manner. Prescriber Jones hand writes an order. Nurse Ratchet writes a label for the tube, collects the specimen, and sends it to the lab. The technician will need to document the specimen on paper and call the unit with the results of the test. Then when all systems are restored, the technician enters the order into CRIS/Sunrise Acute Care, matches the order with the result in the laboratory information system and resends the result to CRIS/Sunrise Acute Care.

To ensure that CRIS/Sunrise Acute Care and all the ancillary systems are up at a 99.8% rate all starts with a robust and fully redundant Data Center. As a result the architects, designers, developers, John Kocher (the DCRI Data Center Manager) and Ray Bowen (CC/OFM lead) have worked to ensure a Data Center that has multiple levels of redundancy for power, network, and air handling; multiple features to protect against water and fire hazards; and redundant notification and monitoring systems to notify the appropriate staff if any event has the potential to affect the data center or any system within the data center. I would like to thank everyone involved in the creation of the new data center.

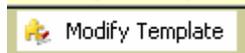
The new data center is scheduled to open September 21, 2009 and systems from the current data center will be migrated to this new data center over the following 4-6 months.

## Chief Medical Information Officer

The Chief Medical Information Officer (CMIO) is recruiting CRIS prescribers (physicians, nurse practitioners, physician assistants, etc.) to provide input on CRIS usability issues and new projects and to provide advice and/or help with informing the prescriber community about changes and new features in the system. The goal is to broadly inform both the CRIS development team and the CRIS prescribers. The time commitment will be flexible and the meetings tailored, including individually, to suit the availability of any prescriber who wants to participate. If you are interested, please contact the CMIO, David Herion, MD, at [dherion@mail.nih.gov](mailto:dherion@mail.nih.gov) or 301-496-7734.

## Prescriber Note Changes

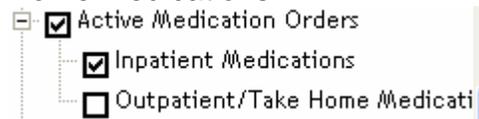
**Modify Template** – The top of every document displays a Modify Template button



In order to allow users to customize document templates for their own practice or for a particular patient's needs, sometimes additional or optional document sections are available. The Progress Note – Standard SOAP is one such document. If you would like to create a list of patient problems or plans rather than using the single free text box, you can now add one or two lists of ten problems and/or ten plans.



If your patient population is primarily outpatients, you can choose to pull in a list of Take Home medications.



Any topic on the Modify Template list that is not checked, does not currently display in the document. Similarly, if there are parts of the document template that you never use, you can use Modify Template to uncheck those sections. Once you have made changes to the template, you have three options to save those changes. First, if you simply modify the checkboxes, you will be making those changes for this particular document entry only. Second you can check the box labeled "Save template for me" and every time you open the

document you will receive your custom template. Third, you can check the box labeled "Save template for patient" and anyone who opens this document for this particular patient will see this modified template. This is especially important for documents where you might add additional problems or plans for a specific patient.



**History & Physical Examination** – In preparation for the Medical Record Department to begin accepting the H&P entered in CRIS as the equivalent of the dictated H&P, there will be a few slight changes and several required observations will be designated as mandatory during the week of September 15<sup>th</sup>.

**Outpatient First Registration Progress Notes** – Since Medical Records policy requires these notes to be signed by a prescriber, during the week of September 15<sup>th</sup>, security on this document will be modified. Anyone other than a prescriber will be required to enter this document as Authored By a specific prescriber. The document will then appear on that prescriber's Signature Manager list for his/her signature.

## Perioperative Information System Update

The POIS project leadership has decided to postpone the activation of nursing and anesthesia documentation for several weeks. This decision was made in order to ensure the proper testing of the solutions for problems encountered with the interface between CRIS/Sunrise Acute Care and POIS, as well as other technical issues. The project team has worked very hard on this project and is committed to its success. The priorities are to ensure patient safety and to meet all the necessary regulatory requirements. DCRI Staff are in the process of re-planning the remaining work to provide enough time for proper testing. Further details will be shared in the next CIO newsletter.

## Pathology Order Enhancement

An enhancement was put into the system on August 24<sup>th</sup> so that Pathology Orders in CRIS can be located by the date the specimen was collected and sent to Pathology. This corrected an issue where the order date was being updated to the date that results were sent to CRIS from the Pathology system.

In the example below, the order was originally entered on July 6<sup>th</sup>, and was collected (Specimen Received) on August 3<sup>rd</sup>. The results were sent to CRIS on August 24<sup>th</sup>.

ID	Function	Signed	When	Who Entered	Who Requested	Source	New Status	Reason
101	New	Yes	07/06/2009 12:13	(RN)	(MD)	Verbal	Active	<Session:>Today Output/Current Inpt:*Auto Activate.
102	Signed		07/06/2009 16:31	Z (MD)			Active	Order signed ID 101
103	Specimen Received		08/03/2009 15:14	Interfaces, HL7 (IT)			Specimen Received by Dept	Filler Order ID: <158_0806180 80409> Filler Facility ID: <SCC>
104	Resulted		08/24/2009 15:22	Interfaces, HL7 (IT)			Final Results	Filler Order ID: <158_0806180 80409> Filler Facility ID: <SCC>

### Orders Tab

On the Orders tab and on the Results tab, the Cytogenetics Order date shows August 3<sup>rd</sup>, the date the specimen was collected.

Anatomical Pathology	Date	Status
<i>Cytogenetics - NCI - Cyto Test: 06 - Bone Marrow-Hematologic Disorder/Cancer Karyotype</i>	<i>08/03/2009 09:45</i>	<i>Final Results</i>

### Results Tab

08/03/2009 09:45	Cytogenetics - NCI			
Cytogenetics - NCI		+	CASE NUMBER: DIAGNOSIS:	Final

## Privacy & Security

With the explosion of affordable laptops and computers many people find that they can purchase a computer that is faster and better than the one that is supplied by the government. Many people are purchasing laptops so that they can bring them to work and connect to the NIH network to help them perform their government work along with some personal use.

It has always been the government policy that personally-owned computers must not store any sensitive information and that no personally-owned software is installed on government owned computers. While we understand that many users have personally owned computers to perform authorized remote access, it is not the government or NIH policy to allow personally owned computers to directly connect to the NIH domain or the NIH network while physically at work.

Please refrain from connecting your personal laptop to the NIH network while at work. If you feel that you have a compelling reason why you must use your personally owned computer while at work, please contact the CC ISSO – John Franco ([jfranco@nih.gov](mailto:jfranco@nih.gov)) or the CC CIO Dr. Jon McKeeby ([JMckeeby@cc.nih.gov](mailto:JMckeeby@cc.nih.gov)) to discuss the matter.

# Training Update

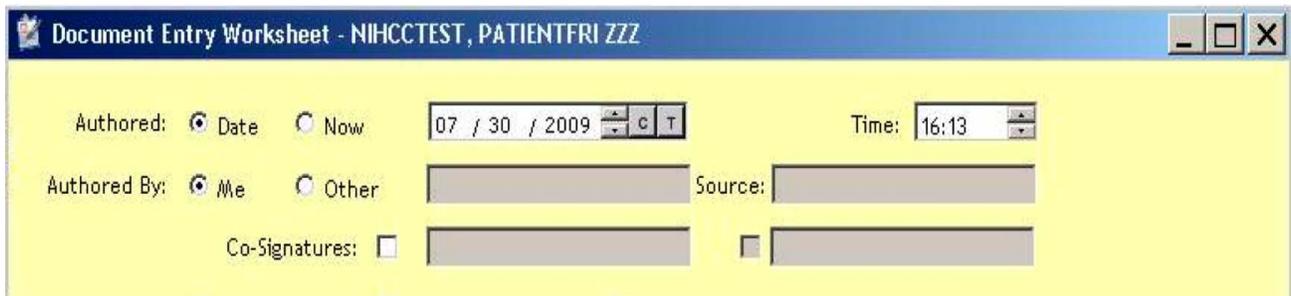
## Secure Electronic Communication between Provider / Patient

Provider/Patient Secure Electronic Communication is set to go live September 8<sup>th</sup>, 2009. Refer to the CRIS website for details on the policy and process. A tutorial is also available about how to use this service.

Two CRIS functions recently returned:

### **1. Use of Military time**

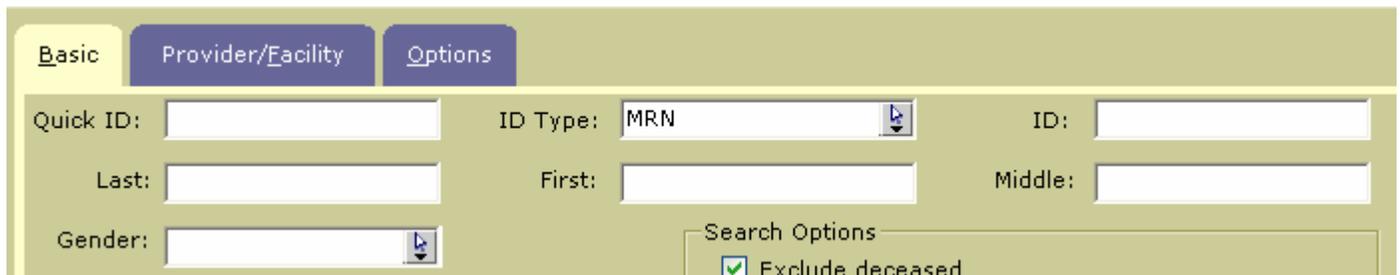
Upon Document Entry within a Structured Note, you now need to enter the time using Military time (e.g.16:13) . The AM or PM no longer displays in the time field (e.g. 04:15 pm).



The screenshot shows a window titled "Document Entry Worksheet - NIHCCTEST, PATIENTFRI ZZZ". The interface includes several input fields and radio buttons. The "Authored:" section has radio buttons for "Date" (selected) and "Now", with a date field showing "07 / 30 / 2009" and a time field showing "16:13". The "Authored By:" section has radio buttons for "Me" (selected) and "Other", with a text field. The "Source:" field is also present. There are checkboxes for "Co-Signatures:".

### **2. MRN entered with Dashes**

You now can search for patients with or without dashes in the Medical Record Number (MRN) in the ID field.



The screenshot shows a search interface with three tabs: "Basic", "Provider/Facility", and "Options". The "Basic" tab is active. It contains several input fields: "Quick ID:", "Last:", "Gender:", "ID Type:" (set to "MRN"), "ID:", "First:", "Middle:", and "Search Options". The "Search Options" section has a checked checkbox for "Exclude deceased".