NIH Clinical Center CIO Newsletter

August 2008

32nd Edition

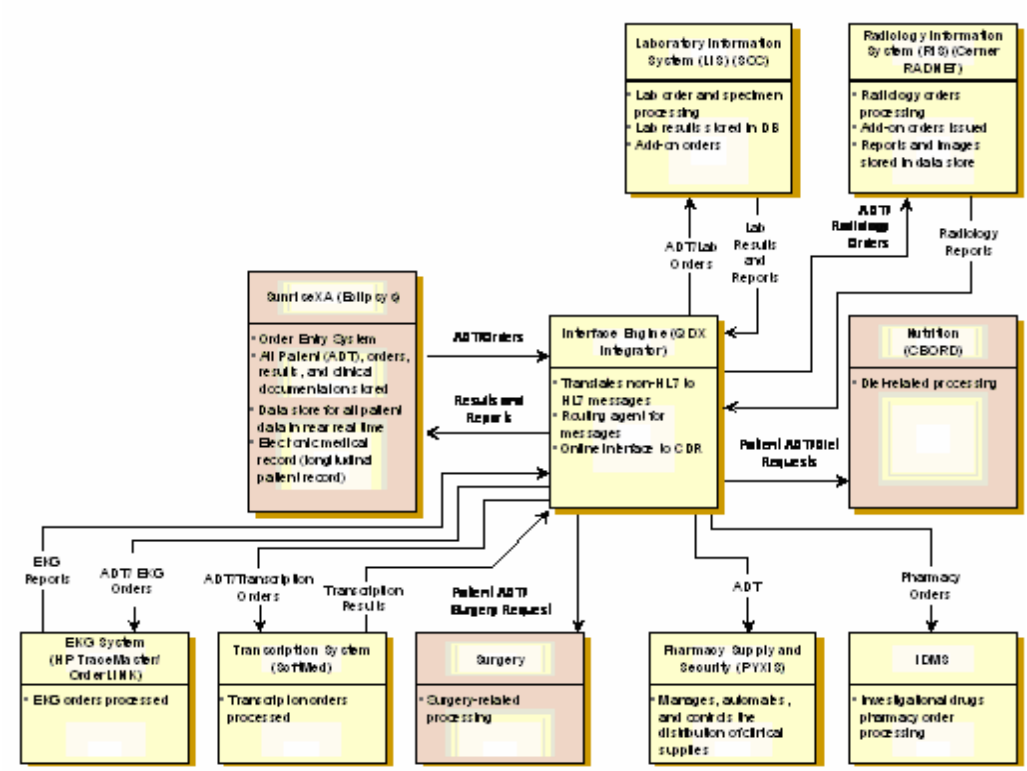
This is the thirty-second edition of a monthly broadcast email to the CRIS user community about CRIS capabilities and issues. In addition to the text version in this email, I've attached a PDF version that can be printed. I look forward to receiving your comments or suggestions at CIOnewsletter@cc.nih.gov. 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
- Point of Care Testing
- Toward More Reliable Systems
- CRIS Upgrade
- Restraint & Seclusion Documentation in CRIS
- Document Topic
- User Training

CIO Remarks

In August of 2004 we replaced our legacy Hospital Information System with a new Clinical Research Information System (CRIS). CRIS's fundamental goal is to facilitate user access to patient care data within a single system. Appropriate members of the clinical staff enter orders, review and maintain patient demographics, review results, enter clinical documentation and review transcribed reports, all in CRIS. The use of powerful interfaces to channel disparate data from other clinical systems into CRIS is the key component which allows users central access to data from multiple sources. The NIH Clinical Center hosts numerous information systems which support individual departments and functions. These include, but are not limited to, the Laboratory Information System (LIS), Surgery Information System, Pharmacy System, Nutrition System, Transfusion Medicine System, and a Radiology Information System (RIS). Making all these systems "talk" to each other is complex and requires sophisticated, standard computer language to ensure accurate data flow between systems. The diagram below depicts some of this complexity as data travels via interface from one system to another.

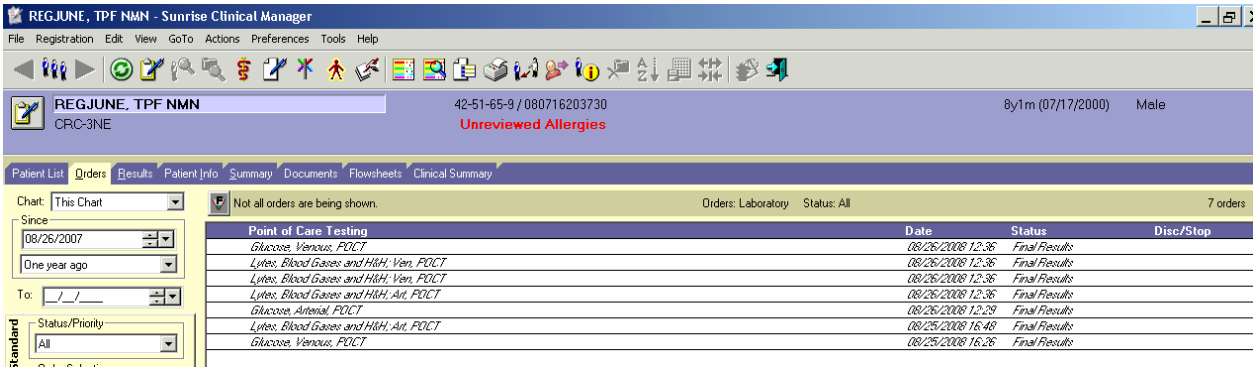


To continue to make CRIS a one-stop shop for reviewing patient clinical data, we are working on several new interface projects, each with the goal of improving data access and usability of CRIS. Below is a list of the interface projects which DCRI is currently working on. If you have questions regarding any of these, please do not hesitate to ask.

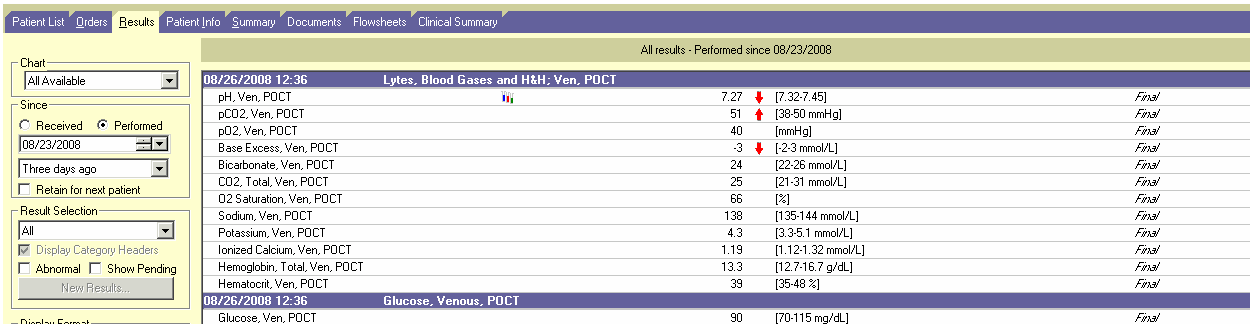
Project Name	Description
Point of Care Testing	This is a pilot project to create a new data flow for downloading device data into CRIS.
StemLab Interface	This project is to create an ADT, Order and Result interface between CRIS and the StemLab System which supports the collection, processing, storage and distribution or administration of cellular therapy products .
Epidemiology Information System	This system will be used by the Epidemiology Department to analyze infections and antibiotic usage. Order, Result and ADT data from RIS, LIS, and CRIS will be interfaced to the Epidemiology system.
QDX Upgrade	This project is to upgrade the QDX Interface Engine and improve the server structure to make it less likely to be down. The QDX Interface Engine is the system which moves data between two systems.
LIS Interface Upgrade	Implement a new outbound LIS interface for orders and results. This improved interface will allow for cancels of unresulted lab orders as well as Pathology accessioning messages to be sent to CRIS (making those orders not susceptible to auto-discontinuation).
POIS Phase II	Implement the Peri-Operative Documentation component of POIS and integrate it with CRIS.
CRIS: ICU Devices	Collect and send ICU instrument data via interfaces into CRIS. Create workflow processes for ICU to view and utilize this data in CRIS for patient care.
OPUS Interface	This project involves the creation of an order, ADT, and allergy interface from CRIS to OPUS, a Respiratory Information System, and a result interface back to CRIS.

Point of Care Testing

The Point of Care Testing project is designed to transfer results which originate in a Point of Care device to the laboratory information system (e.g. LIS) and the hospital information system (e.g. CRIS). The pilot project, i-Stat results for the Department of Anesthesiology and Surgical Services, went live on August 28, 2008. From the Point of Care Testing Policy: "Generally, orders for tests to be performed with POCT devices are either medical orders entered in CRIS or verbal orders by an anesthesiologist as needed during intraoperative care of patients. To facilitate the transfer of results from LIS to CRIS the creation of an accession number and a test order for each specimen is done by LIS." A new order category of "Point of Care" will be added under DLM in the order browse.



Appropriate result components in the Result browse will have the designation of "POCT", indicating that they originated from Point of Care devices.



This result data will also be included in the CDW, and be available on the Cumulative Summary Reports.

Nursing will continue to document all other Point of Care Test results on the Point of Care Testing or Blood Glucose Management flowsheets or the Endoscopy Gastric Analysis Note. Once this project has gone Live and some of the support mechanisms have been developed and tested, we will investigate how to incorporate more Point of Care device results into the results sections of CRIS.

Toward More Reliable Systems

As the criticality of accessing our clinical data systems grows, so does the importance of building an IT infrastructure to support this need. To address this call for reliable systems and minimal downtime the Clinical Center Information Technology (CC IT) staff is addressing the issue in multiple ways - the number one goal is to ensure that access to all applications and data is as reliable as possible.

Currently, the IT staff uses a variety of methods to provide system reliability and high availability. There are two areas that we focus on – the first contains the physical requirements needed to keep the computer systems running which consists of power, cooling and network connectivity. The second area encompasses the computer systems themselves – the servers and applications/data accessed through them. The key to both these areas is to have backup systems that can take over a function in the event a problem – this is also referred to as redundancy. Some examples of redundant systems currently in use include: multiple Uninterruptable Power Supplies to supply power to all the servers, emergency generator in the event we lose main power from PEPCO, multiple computer room cooling units (which working together keep the datacenter from overheating) and a redundant network structure which in reality means two independent networks for the servers to communicate over. IT staff also utilize server virtualization technology (currently we are running over 70 ‘virtual’ servers on a system of 8 physical servers, each of which can take the load of another), server clustering (machines configured to ‘mirror’ each other and take over functions if problems occur) and the use of Storage Area Networks which store our massive amounts of data.

Some critical systems, such as CRIS, POIS and other key systems are configured in such a way that not only is the hardware redundant, but the two ‘halves’ or ‘nodes’ are located in different buildings (in this case building 10 and building 12), so a physical disaster in one will have minimal impact on the availability of the system itself.

- A few facts about the Clinical Center Data Center:
- The Data Center is over 20 years old
- There are approximately 120 staff dedicated to keeping the datacenter and all its applications running
- There are over 300 high end machines used to store the data and run the applications used by the CC
- Currently the CC Data Center houses over 10 TeraBytes (TB) of data which is the equivalent of the complete printed collection of the U. S. Library of Congress or about 500,000 trees made into paper and printed

With the advance of technology the CC IT staff is constantly investigating, testing and upgrading your data systems, always with our focus on making the systems, data and applications as reliable as possible for all users.

CRIS Upgrade

DCRI is planning to upgrade CRIS from version 4.5 to 5.0 by the end of the year. Ongoing upgrades are an important part of system maintenance and performance improvement. With the initial activation, new features that affect CRIS users will be minimal. Additional functionality will be added after the upgrade through CRIS releases that occur every two weeks. The changes introduced with the upgrade will not require classroom training. We will, however, distribute more information through Quick Updates and flyers sent directly to CRIS users. In addition, we will continue to provide more details in future CIO newsletters about what you can expect with this upgrade.

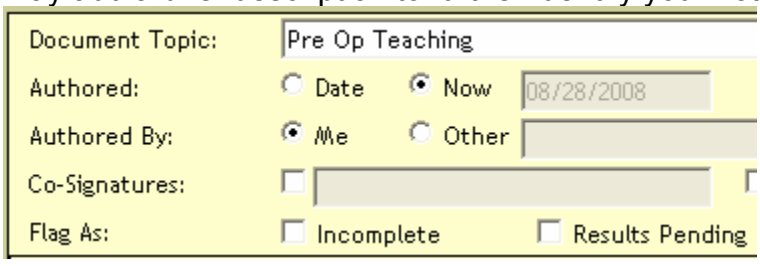
Restraint/Seclusion Documentation in CRIS

Two new progress notes have been added to the Document Entry Worksheet under Prescribers. The first is under the Generic section and is Progress Note – Restraint or Seclusion. This is an electronic version of NIH-509 (8-00) Restraint or Seclusion Licensed Independent Practitioner (LIP) Progress Note. The second is found in the Behavioral Health section and is Cont'd Restraint-Seclusion Authorization. This is an electronic version of NIH-509 (8-00) Continued Restraint or Seclusion Authorization by Clinical Director or his/her designee For Behavioral Health Patients Only.

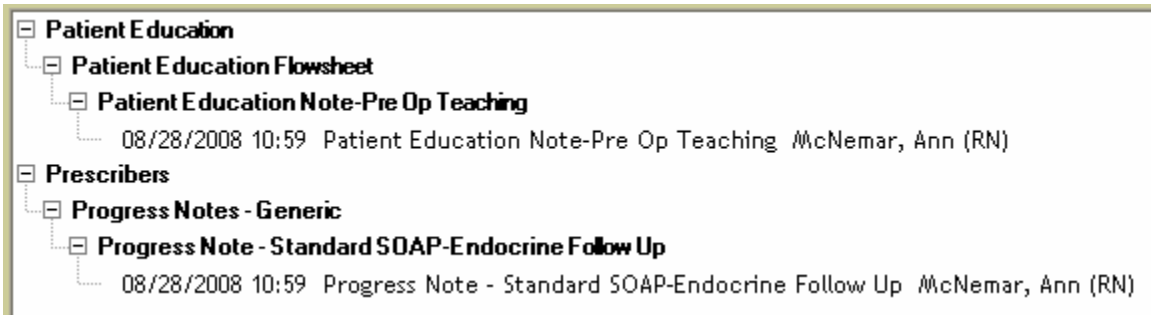
Also under Nursing → Physical Safety, there are two notes pertaining to restraints/seclusion – Pre-Restraint/Seclusion Assessment and Post Seclusion and Restraint Note. These are in addition to the Restraint Risk Assessment under Nursing → Admit & Initial Assessment and two flowsheets – Restraint Log – Medical/Surgical & ICU and Restraint/Seclusion Log – Behavioral Health.

Document Topic

Beginning on September 2nd, a Document Topic will be added to the Patient Education Note and Progress Note – Standard SOAP. On this free text line at the top of the document, you may add a brief description to further identify your note.



The Document Topic will appear on the Documents tab after the name of the document being entered.



As additional appropriate documents are identified, more Document Topics will be added.

User Training

Prescriber Online CRIS Training

DCRI presented the results from the Evaluation of 100% Online CRIS Prescriber Training at the Summer Intern Poster Day. As noted in last month's newsletter, DCRI gathered quantitative and qualitative data to evaluate training quality 60 days pre and post go live. Quantitative results 60 days post go live have shown users to prefer the in class training method versus online. However, qualitative phone interviews indicated a positive perception and appreciation for training convenience and accessibility.

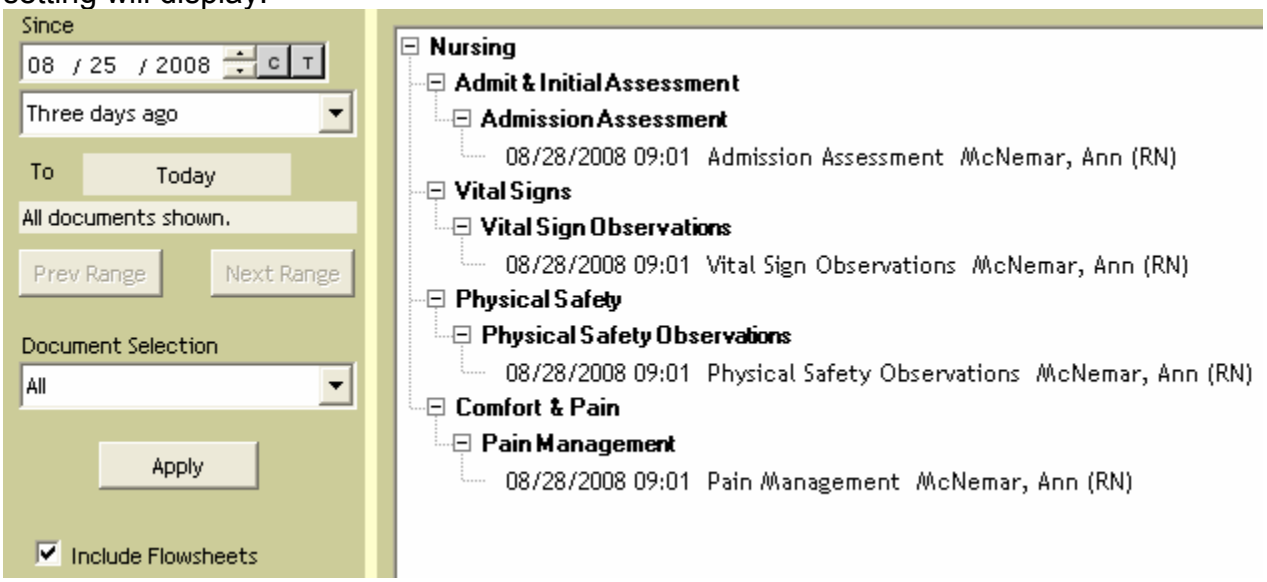
If you would like more information about the results please email the training team at CC CRIS SCM Training Team.

DCRI continues to interview Prescribers who have finished this Online training format in order to help us better plan for future training improvements. If you have not heard from us already and would like to share your firsthand experience with online training, please contact CRIS Support at (301) 496-8400.

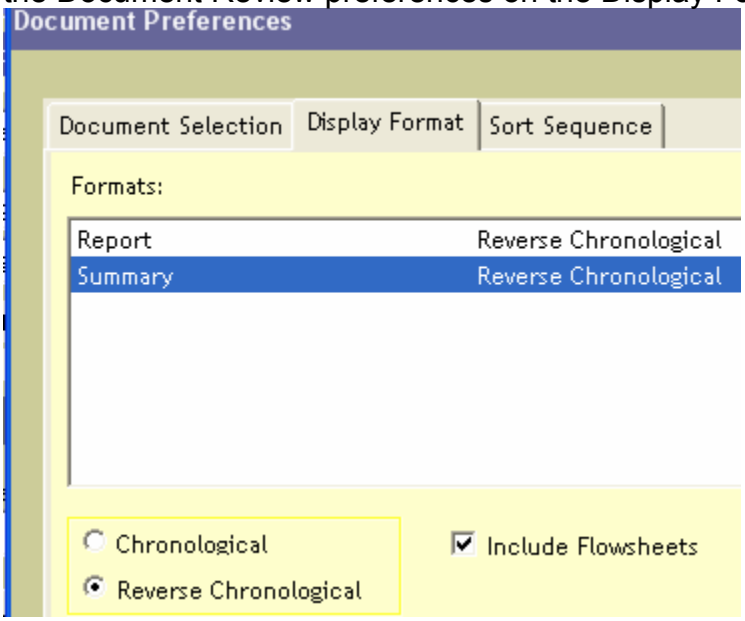
For additional information about Online instruction, please see:
http://cris.cc.nih.gov/prescribers/CRIS_Training_Instructions_Prescriber_Online_3_31_08_Final.pdf

Viewing Flowsheets from the Documents Tab

Currently, both Flowsheet column documents and Structured Note documents are available to be retrieved from the Documents tab. When upgrades are applied to CRIS in mid-September, flowsheet column documents will no longer automatically display. If you want to retrieve Flowsheets from the Documents tab, check the checkbox and any Flowsheets within your filter setting will display.



If you want to continue to display flowsheets on a regular basis, you can set that Preference in the Document Review preferences on the Display Format tab.



CRIS Support

The CRIS Booth will be outside the second floor cafeteria on September 3, 2008 from 8:00 am to 9:30 am and again from 11:30 am to 1:00 pm. Please stop by as we look forward to meeting you and addressing your concerns and questions about CRIS. If you cannot make it and have CRIS questions, feel free to call CRIS Support at (301) 496-8400 for help.