NIH Clinical Center CIO Newsletter

July 2007

19th Edition

This is the nineteenth 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

Topics of the Month

- CIO Remarks: Building an Electronic Medical Record
- Protocol Attribution Coming Soon to CRIS Orders
- Linking Drug Level Results with Clinical Documentation
- Pain & Palliative Care Interface
- Lab Update: Estimated Glomerular Filtration Rate (eGFR)
- Radiology Update: MRI Order
- Security Update
- User Support Changes
- User Training
- CIO Remarks: Current and Future Projects

CIO Remarks

Building an Electronic Medical Record

An electronic medical record (EMR) is a computerized version of the patient's paper chart that provides better data organization and improves data availability. Other advantages of an EMR over a paper-based record include:

- Facilitates easy look up of patient information both past and present
- Allows computerized provider order entry (CPOE)
- Automates checks for drug and allergy interactions
- Stores clinical documentation including progress notes
- Provides for an electronic medication administration record
- Allows for appointment and service scheduling
- Facilitates retrieval and viewing of labs and other results
- Supports collection of data for quality management, outcomes reporting as well as other organizational information requirements

At this time, data within the Clinical Center's patient medical record includes handwritten notes, computer generated data from non-CRIS systems, and CRIS reports such as the Lab Cumulative Summary, Clinical Documentation Notes, and Order Summary reports.

The goal of DCRI is to incorporate all of the existing handwritten notes and computer generated data from non-CRIS systems into CRIS within the next 2 years. Over the last six months, DCRI, in close collaboration with other departments and vendors, has completed the following projects to enhance our version of the EMR:

- ***Medical Record Forms Conversion****:* To date 45 manual forms have been reviewed and evaluated for potential automation. Of these forms, 22 have been implemented in CRIS and six more will be released over the next month. Ten of these forms were extensively reviewed along with the development of prototypes that became part of a new project called ***Physician/Prescriber Progress Notes*** (see current projects below). The remaining forms will be released pending the implementation of the ICU device interfaces and OPUS. More information about individual forms in CRIS and the project can be found on the CRIS website at http://cris.cc.nih.gov
- ***ProSolv Interface****:* In *January 2007*, an interface between ProSolv Cardiovascular (NHLBI: Cardiology Branch) and CRIS was activated. The interface allows results for the Supine Bike Stress Test and Treadmill Stress Test, performed by NHLBI to display in CRIS.
- ***Viasys Interface****:* In *May 2007*, a new interface between Viasys Vmax and CRIS was activated. This interface allows the Pulmonary Function test results to be viewed in CRIS.
- ***eSphere Interface*****:** In *July 2007*, an interface between Esprit eSphere and CRIS was activated. This interface allows Pain and Palliative Care Consult documentation to be reviewed in CRIS.
- ***Acronym Expansion****:* New functionality in CRIS was added that automatically converts unapproved abbreviations that are typed into structured notes and flow sheets, to their approved format. For example, if qd is typed, it will automatically convert it to daily; qhs will be converted to at bedtime, etc. If you have questions regarding acronym expansion, please contact **the CRIS Support Center at 301-496-6576** or check out this link from the CRIS website: http://cris.cc.nih.gov/cristraining/documents/5.0_Modify_Acronym.pdf

See the end of the newsletter for **CIO Remarks on Current and Future Projects**.

Protocol Attribution

Protocol attribution is the process that aligns medical orders and Clinical Center services to a research protocol. All patients must be admitted to the Clinical Center under a protocol that specifies the patient's program of care for the research in which they're enrolled. In addition, accurate assignment of patients to protocols also helps Clinical Center Administration to plan resources to meet the requirements from the Institutes. As new protocols are approved by the Institute Review Boards, a new series of services are being introduced for each patient. Likewise, as protocols are terminated a series of services are no longer required.

How does the Clinical Center track service to our patients by protocol?

Since CRIS was implemented, orders have been attributed to the visit reason or the protocol of the order set. This process has been "behind the scenes" and has not always captured the correct protocol for a given service when the patient is on multiple protocols. Several months ago, senior Clinical Center Leadership approached DCRI with a challenge to improve the attribution of orders to protocol. The requirement was to have every order correctly attributed to a protocol, while minimizing the impact on the order entry process.

To help meet this challenge, a new process to enhance the correct attribution of protocols, reviewed and approved by the Medical Executive Committee (MEC), will be introduced in CRIS in mid August. As part of this process, there will be a new required protocol attribution field located at the top of almost every order form in CRIS. To save time and effort, while still maintaining order accuracy, logic has been incorporated within the order forms to pre-fill this field for you whenever practical. For example, the protocol attributions field will be pre-filled if the patient is on only one active protocol, or if the protocol of the order set matches one of a patient's multiple active protocols.

In CRIS, protocols in which the patient is participating are listed as Health Issues under the Patient Info tab. The protocol for which the patient was admitted or is being seen in clinic is listed as the Visit Reason.

Steps to prepare for protocol attribution:

1. Verify from the Patient Info Tab that a patient's Health Issues list includes the protocol(s) for which you are seeing the patient.
2. Confirm that the Visit Reason (aka, primary protocol) is correct for the patient's current visit.
3. Submit a Change Protocol Assignment order in CRIS to update a patient's protocol(s) and Visit Reason, if needed
4. Forward all completed protocol consent forms to Medical Records
5. Review the protocol attribution material on the CRIS site (http://cris.cc.nih.gov) under Training Materials -> Order Entry.
6. Be on the alert for additional news and instructions as this new attribution process is implemented
7. Visit the **CRIS Information Booth on Aug 7, 2007** outside the Second Floor Cafeteria from 8:00 am- 9:30 am and 11:00 am – 1:-00pm to ask questions

Linking Drug Level Results with Clinical Documentation

The new CRIS process for Serum Drug Level Sampling will Go-LIVE on the morning of **Wednesday, August 1, 2007**. This is an important interdisciplinary initiative that will facilitate the documentation of essential clinical information when a serum drug level specimen is collected from a patient. Documenting serum drug level collections in CRIS (in Real-Time) is a new expectation for nurses that will ultimately enhance the **Licensed Independent Practitioners (LIP)** ability to make accurate and timely dosing decisions. If there is a possibility that you are caring for a patient who requires monitoring of serum drug levels, it is essential that you are trained in the new process.

Here's how it will work:

- **When the LIP enters an order** for serum drug level sampling (e.g., pre-, post-, or random), the order will post as a "task" in the Work List Manager. ***This is NEW!***
- **When the RN collects the serum drug level sample**, the completion of the task must be documented in the Work List Manager. It works just as if you were documenting drug administration.
- **When the RN documents the collection in the Work List Manager**, they will be prompted to document required clinical information

- Date/time of specimen collection
- Drug dose
- Route of administration
- Date/time drug last administered

- **When the documentation is completed**, it immediately crosses over to the Results tab.
- **When the final result posts in CRIS' Results Tab**, it will post with drug information recorded at the time of the specimen collection.

When the LIP and/or Clinical Pharmacist reviews the drug level result, they will have all required information together for an accurate and timely interpretation of the serum drug concentration.

Pain & Palliative Care Interface

A new interface for Pain and Palliative Consult Results was activated on **Monday, July 9, 2007**. This enhancement provides Pain and Palliative Care Department Staff with enhanced functionality for their ancillary application, and returns detailed documentation about patients' pain consults to CRIS. The final document can be viewed under both the Results and Documents tabs in CRIS, one hour after consults are finalized. If you experience any issues or have questions related to the interface or pain consult results, please contact the **CRIS Support Desk at 301-496-8400.**

Lab Update: Estimated Glomerular Filtration Rate (eGFR)

DLM is now providing an estimated glomerular filtration rate whenever a serum creatinine is ordered and resulted. eGFR is a calculated value, not individually orderable or reported for individuals under the age of 18. The eGFR value is calculated and reported with the following tests: Acute Care Panel, Chem 20, and Creatinine, Serum. The eGFR is based on the Modification of Diet in Renal Disease (MDRD) Study equation, and an eGFR <60 suggests moderate kidney dysfunction. Additional information on this calculation can be found at: www.nkdep.nih.gov/professionals/gfr_calculators/orig_con.htm. Please contact the **DLM Chemistry Lab at 301-496-3386** for any questions.

Radiology Update: MRI Order

The Radiology Department will no longer administer gadolinium contrast in MRI studies when a patient's estimated GFR is less than 30 mL/min/1.73 sq m in the week prior to the study being performed. The estimated GFR is now reported in CRIS whenever a serum creatinine is resulted by DLM, and this information is available both on the Results tab, as well as in the Relevant Lab Results section of radiology orders that may include contrast agents. Please contact DRD for specific questions about this new policy at (301) 496-7700.

Security Update

PASSWORD CHANGES

NIH will be changing its Password Policy to improve computer security, including:

- Passwords must be changed every 90 days instead of 180
- Password length will increase from 7 to 8 characters
- Password lockout will occur after 6 unsuccessful attempts, instead of 6
- Password lockout duration will increase from 15 minutes to 1 hour
- Password history changes will decrease from 9 to 1 per day

CIT will start decrementing the current password age by 10 days beginning on **July 2 and ending August 3,** at which time the new 90-day password age will be reached and, if your password will expire between July 2 and August 31, your new password will have to meet all requirements of the new policy.

User Support Changes

DCRI is streamlining CRIS support during **Off Hours** (evenings/weekends/holidays). Beginning **Wednesday, August 1st at 6PM**, call DCRI Systems Monitoring Team (previously Operations) at (301) 496-7525 for CRIS support assistance, instead of the page operator. Systems Monitoring Staff will provide assistance for all issues related to hardware (toner, paper) printing (paper jams, reports, labels) or system issues (applications running slow or not working). Systems Monitoring Staff shall refer all clinical issues to the CRIS Support Analyst on call.

User Training

It has been a busy month in the CRIS training room! New Summer Fellow CRIS Training officially began on June 25th. Congratulations to the 141 new staff members (62 non-prescribers and 79 prescribers) who completed training during June and July. The CRIS team welcomes our new clinical fellows and staff who are receiving their first edition of the CIO Newsletter. Please let us know how the CRIS system is working for you.

Clinical Documentation Training for Prescribers

A pilot study has been underway since early June involving a group of approximately 20 prescribers who have been entering Progress Notes directly into CRIS. Presently, only members of this pilot group can enter the notes, however all users may view the entered notes in CRIS. These progress notes are printed by the pilot group members and added to the appropriate patient medical record.

In anticipation of this new clinical documentation feature being available house wide in the near future, all CRIS Prescriber classes conducted since June 25th include content and exercises in Progress Note entry.

Protocol Attribution Training

Training on Protocol Attribution for new prescribers began June 25th and presently continues. House wide implementation of Protocol Attribution is expected in mid-August.

CIO Remarks: Current and Future Projects

Projects that are currently underway include:

- ***Physician/Prescriber Progress Notes:*** Last month, a pilot study was initiated to phase-in electronic documentation of physician/prescriber progress notes. Two types of progress notes were piloted: 1) a standard SOAP note, and 2) a free text note. Eighteen prescribers used these new notes and provided feedback to the pilot coordinators. Changes are being made based on the input received. Beginning next month, these notes will be rolled out to a larger population of prescribers. More communication to come about this project in future communications. If you have questions, please contact Patty Sengstack at 301-496-6576 or Tricia Coffey at 301-496-2292.
- ***Holter Monitor Results****:* These results will be added to the SoftMed system and included in the interface to CRIS during the change management release scheduled for July 31, 2007.

Future projects to be performed over the next 18 months include:

- Point of Care Testing for OR with the I-STAT device to put results into CRIS and the Patient Cumulative Summary. Potential rollout to other groups beyond the OR once this initial project is complete.
- Patient care devices such as the Phillips non-invasive monitors within the ICU
- Gastroenterology procedure notes from the ProVation system shall be interfaced into CRIS.
- The Peri-Operative Documentation component of SIS will be built, and CRIS and SIS will be integrated.
- Progress Notes from the NIAID CRIMSON system will be viewable in CRIS.
- Progress Notes from the NHLBI CDS system will be viewable in CRIS.
- Consult Reports from the NEI NexGen system will be viewable in CRIS.
- Respiratory Care Documentation from the OPUS Respiratory Therapy system will be viewable in CRIS.
- Additional results from Viasys will be interfaced into CRIS.