

Capital Region Medical Center, Goldschmidt Cancer Center

by Robert Fluegge, BSc, RT, MEd; Cathy Otten, BSN, RN; and Nancy Bateman, BSc, RN, OCN

Opened in 2008, the Goldschmidt Cancer Center is located two miles from the main hospital campus of Capital Region Medical Center in Jefferson City, Missouri, a community of nearly 40,000 people. Goldschmidt Cancer Center provides medical oncology, radiation oncology, and chemotherapy treatment. As the only provider of radiation oncology therapy in the region, Goldschmidt Cancer Center draws patients referred from more than 20 private physician practices located within a 20 mile radius of the facility.

Currently, the Goldschmidt Cancer Center is staffed by three medical oncologists, one radiation oncologist, one full-time diagnostic radiologist, a nurse practitioner, triage RNs, three exam room RNs, and three infusion RNs, as well as a clinical trials program nurse. The onsite pharmacy is staffed by hospital pharmacists who rotate through the service. Laboratory services are also offered on site.

In 2009 the Goldschmidt Cancer Center saw 266 new radiation oncology patients and had 5,500 medical oncology patient visits.

Choosing an EHR

Capital Region Medical Center went live with its hospital-wide comprehensive electronic health record (EHR) and physician order entry system in December 2007, using MEDITECH. In choosing an EHR for the Goldschmidt Cancer Center, however, leadership decided to select a system that already included oncology components rather than attempting to adapt the MEDITECH system to those functionalities. The goal was to have a cost-effective comprehensive system that would work across the entire cancer service line, including both medical oncology and radiation oncology, and be compatible with existing cancer center equipment and allow integration with the hospital EHR.

The Goldschmidt Cancer Center selected the ARIA EHR (Varian Medical Systems), which has been in place since the center opened in 2008. ARIA is a comprehensive EHR system that includes oncology-specific components. The Goldschmidt Cancer Center has been paperless since opening its doors.

ARIA can aggregate a number of reports that support oncology safety and quality, such as drug toxicity reports, medication reconciliation, and drug interac-

Right: Goldschmidt Cancer Center provides medical and radiation oncology services and imaging at one location.

tions, including dose reductions for chemotherapy agents. Goldschmidt Cancer Center uses the electronic prescribing component almost exclusively, which enhances patient safety by eliminating handwriting errors.

Integrating Two EHR Systems

The outpatient cancer center EHR and inpatient hospital EHR systems are not interoperable, although hospital laboratory, imaging, and radiology interfaces allow data to flow from the inpatient system to populate the outpatient record in ARIA. As a patient moves from the inpatient to the outpatient setting, Goldschmidt Cancer Center staff can view inpatient electronic records, such as discharge notes. During inpatient treatment periods, physician notes and other data from the outpatient record flow back into the inpatient EHR. For example, if a Goldschmidt Cancer Center patient is admitted back to the hospital, the hospital emergency room physicians can view provider notes from the Goldschmidt Cancer Center record that flow to the hospital EHR and obtain up-to-date treatment data immediately.

Communicating patient records to community specialty and primary care practices is another work in progress. Physician and nurse practitioner notes with medication reconciliation are digitally faxed from the Goldschmidt Cancer Center to physician offices automatically when patients are leaving the outpatient center. But other information must still be communicated to referring community physicians via fax or paper record, since other practices in the community do not use the same EHR system.



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Top: Goldschmidt Cancer Center medical and radiation oncology team, Raonak Ekram, MD; Shelby Rifkin, MD; Terri Stone, APRN-BC, AOCNP; Jay Allen, MD; and Eston Schwartz, MD.

Middle: Oncologist and nurses collaborate over daily clinic patient schedule.

Bottom: Assessment by Oncology Certified RN prior to treatment in the infusion area.

Critical Steps in Transition

1. Inpatient nursing staff calls the outpatient Goldschmidt Cancer Center during the discharge process to inform them of the patient referral, and to make the first appointment before the patient is discharged.
2. The cancer center registration staff calls the patient at home prior to the first visit to confirm the appointment.
3. Cancer center nursing staff checks the inpatient EHR prior to the first appointment to gather patient history.
4. The patient's first visit to the Goldschmidt Cancer Center includes a 40-minute review with a registered nurse to ensure adequacy of the medical record, including demographic and financial information; social, family, and medical history; and medication reconciliation.
5. The medication reconciliation is updated by the intake coordinator, an RN, and clinical staff each time a patient has an appointment with a physician.

Goldschmidt Cancer Center is in the process of evaluating a system that would allow inpatient and primary care physicians access to treatment plans for cancer survivors via a new web interface. Recently, the cancer center converted to virtualized servers so that cancer center physicians with iPhones or computers at home or in their practices can go through the network and access patient information remotely.

Key Team Members

Since the EHR is central to all cancer center operations, staff training is key. Training on the new EHR began months before the Goldschmidt Cancer Center opened. An onsite Varian trainer did in-depth training with "super users," a select group that would continue to train other employees over time. The super users included nurses from each treatment area (radiation oncology, medical oncology, and chemotherapy), a registration staff member, and the manager of medical oncology outpatient services.

Although most of the physician staff had little EHR exposure initially, they were required to do all their documentation on the EHR and are doing well. Super users are empowered to teach EHR technical skills staff-wide—from oncologists to clerks as a paperless system demands every staff member have some familiarity with the system.

The EHR has improved internal communication. Medication lists are more comprehensive and include drug dosage, and the medication history. With EHR adoption the adequacy of the medical record has improved as well. The inpatient record includes the outpatient physician documentation, which improves patient safety. The inpatient physician can see what treatments the patient is currently receiving—from chemotherapy to radiation therapy. 📄

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