

implementation of the PDCA cycle in their practice. The evaluation revealed that many improvements were realized by stimulus of a next upcoming audit. The committee and management valued the audit with a 7.7 and 8.2 (scale 0–10). The continuous process evaluation decreased audit reporting time from 43 (17–136) to 22 weeks (17–26).

Conclusions: During three rounds of auditing in nearly 15 years major improvement was demonstrated in quality of cancer care and the usefulness of auditing. The results show that oncology audit systems should be included in national cancer programs to improve structure and process of cancer care.

3623

POSTER

The Cost of Herpes Zoster Among Autologous Hematopoietic Stem Cell Transplant Recipients With Medicaid Coverage

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Background: Medicaid comprises USA federally funded State programs, for persons regardless of age whose income and resources are insufficient to pay for healthcare.

Autologous hematopoietic stem cell transplant (AHCT) recipients have a high incidence of herpes zoster (HZ) following transplant procedure. We previously estimated the acute HZ incremental medical cost in privately insured AHCT US patients, at \$6,852 (95% CI \$2,554–\$11,553). The primary objective of this study was to estimate the incremental medical costs in similar individuals with Medicaid insurance.

Materials and Methods: Administrative claims from the MarketScan® Multi-State Medicaid Research Databases (1999–2007) were assessed to determine the incremental medical resource utilization (RU) and cost due to HZ. Cases were selected based on an ICD-9-CM diagnosis code for HZ following an AHCT procedure. Cases were propensity score matched (PSM) using demographic and clinical variables to AHCT controls without HZ. Analysis of potentially HZ related RU and costs was limited to claims in the 90 days following HZ diagnosis. Medical RU includes categories such as inpatient admissions, average length of stay, emergency room visits, number of outpatient visits, other outpatient services, outpatient prescriptions, etc. Differences were considered attributable to HZ. A two-part model (logistic regression/negative binomial generalized linear model) was used to quantify total incremental costs and adjust for remaining differences after PSM.

Results: Thirty-five HZ cases were included in the analysis (83% occurred within 1 year of AHCT). During the analysis period, there were 10 HZ hospitalizations, 2 cases of ophthalmic HZ and 6 cases of HZ neurological impairment. AHCT recipients with HZ had significantly more medical RU compared to controls ($p < 0.05$). AHCT patients with HZ had significant incremental medical costs due to HZ (Table 1).

Table 1. Potentially HZ related medical costs for AHCT recipients

	N	Observed	Adjusted*
AHCT with HZ	35	\$10,185	\$7,913
AHCT without HZ	35	\$1,034	\$874
Incremental cost (95% CI)	–	\$9,151	\$7,039 (\$1,704–\$10,999)

* $p < 0.0001$.

Conclusions: Resource utilization data from this sample of 35 cases and controls covered by Medicaid suggests that HZ has a significant impact on the health, medical service use, and medical costs of AHCT patients. The HZ incremental cost, after adjusting for confounders, was \$7,039, similar to the one reported for privately insured patients (\$6,852). Future advances for the treatment or prevention of HZ in AHCT recipients should be given strong consideration to help alleviate this medical burden.

3624

POSTER

Equity of Access to Radiotherapy

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Background: Radiotherapeutic treatments (RT) offered to patients in the three provinces of Romagna (AVR) suffer from a lack of homogeneity in

terms of access modality, timing of start of RT and type of RT administered. Delays in RT can lead to poorer cancer control rates, patient suffering and a strained doctor-patient relationship. Current regional criteria used for assigning treatment priority also have a wide margin of interpretation and are clearly out-of-date. Our aim is to propose an organizational model for AVR in order to create a single waiting list for access to RT and to establish a specific date for starting treatment based on common, updated priority criteria.

Patients and Methods: Patients eligible for RT throughout the AVR will be enrolled onto this study, which will comprise 3 different steps:

- Definition of common criteria outlining RT priorities.
- Pilot study to evaluate the new criteria after implementation in an AVR Radiotherapy Unit.
- Creation of a single waiting list including all AVR Radiotherapy Units

Results: The project was activated in March 2010 and a panel of experts was set up comprising radiotherapists, health physics specialists, oncologists, statisticians, palliative care physicians and healthcare management specialists. Due to the paucity of literature on waiting list and priority criteria for access to RT, the panel identified five categories of clinical conditions with details on timing from the request for consultation to the consultation itself (T0) and from consultation to start of treatment (T1) (Table).

Category	T0 (days)	T1 (days)	Example of clinical condition
Urgent	2.5	3	Oncologic emergencies
Priority level 1	7	21	Locally advanced unresectable head & neck tumours
Priority level 2	7	35	High-risk prostate cancer with indication for only RT
Deferable	14	46	Low-risk breast cancer after conservative surgery
Plannable	Not applicable	Not applicable	Chemo/radiotherapy- associated treatments

The second step of the project is ongoing and will terminate at the end of April 2011.

Conclusions: The definition of more appropriate and detailed common priority criteria to facilitate access to RT and the clarification of timing of the start of RT are the first steps needed to improve radiotherapy healthcare services offered to the AVR population.

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3625

POSTER

Time and Motion Study of Breast Cancer Chemotherapy Administration in Community Based Oncology Practices

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Background: Little information is available on the resource utilization and patient time associated with the administration of IV chemotherapy in the treatment of metastatic breast cancer.

Materials and Methods: An observational time and motion study was conducted at 3 large U.S. private practice oncology centers. Time associated with drug preparation, premedication preparation and administration, and drug infusion was recorded by trained observers for 4 chemotherapy agents: docetaxel (n=17), nab-paclitaxel (n=15), gemcitabine (n=15), and ixabepilone (n=17). Labor time was defined as the time that a center staff member is actively engaged in the process of completing a task directly related to the infusion of the study drugs. Total process time was defined as the time required for the subject to receive a dose of study drug, inclusive of the time for accessing the IV line and premedication administration to completion of the study drug infusion.

Results: Drug preparation for docetaxel, nab-paclitaxel, gemcitabine, and ixabepilone was 7.7, 29.4, 6.3 and 5.8 minutes, respectively. The mean number of premedications used was 2.1, 1.5, 1.5 and 3.9, respectively. Premedication preparation and administration time was 29.0, 9.8, 23.1, and 67.2 mins, respectively. Study drug infusion times were 29.7 mins for nab-paclitaxel, 32.3 mins for gemcitabine, 68.4 mins for docetaxel and 189.5 mins for ixabepilone. Total labor time was greatest for ixabepilone (262.5 mins), followed by docetaxel (105.2 mins), nab-p (68.9 mins), and gemcitabine (61.6 mins). Total process time for patients was 332.3 mins for ixabepilone, 145.4 mins for docetaxel, 113.5 mins for gemcitabine and 105.1 mins for nab-paclitaxel.

Conclusions: Drug preparation did not contribute significantly to total process time except for nab-paclitaxel (27% of total process time), although nab-paclitaxel still had the shortest total process time (105.1 mins). Premedication administration adds approximately 20% to the total time except for nab-paclitaxel (9%). In this study, single agent treatment for metastatic breast cancer requires from 105 minutes to 332 minutes per infusion visit. Development of effective agents with shorter infusion times and less premedication may help office practices become more efficient.