The Aurora Caregiver Wellness Program: Weight Loss and Health Insurance Claims Cost Reductions Among the Obese Population

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Initiation of a Hyperthermic Intraperitoneal Chemotherapy Program at Aurora Health Care

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Background: The use of hyperthermic intraperitoneal chemotherapy (HIPEC) along with radical debulking has been the standard treatment for peritoneal-based malignancies, including appendiceal cancer (APPX), primary peritoneal cancer (PPC), peritoneal mesothelioma, and peritoneal spread from colorectal (CRC), gastric (GA), and gynecologic malignancies. At Aurora Health Care, a HIPEC program was initiated by our multidisciplinary gastrointestinal cancer group.

Purpose: To review the initiation and implementation of a HIPEC program at Aurora.

Methods: Our protocol involves preoperative computed tomography scan, colonoscopy, upper endoscopy, and presentation at a multidisciplinary meeting. All patients received preoperative chemotherapy. All patients had diagnostic laparoscopy to determine resectability prior to debulking (same day). Laparotomy with complete debulking and resection of visually involved tissue was then performed. After temporary abdominal wall closure, HIPEC was performed for 90 minutes, chemotherapy was flushed and drained, and anastomoses were created. Patients were kept on chemotherapy precautions in the intensive care unit for a minimum of 48 hours.

Results: From October 2016 to June 2017, a total of 12 patients 28–76 years of age who have a T1 or T2 estrogen receptor-positive tumor, 2 to 4 nodes per patient. A complete ALND can be safely omitted if the sentinel lymph node is insufficient for complete evaluation, and more than 4 nodes does not improve staging. Goal is to remove all sentinel lymph nodes that are hot, blue, or palpable, with a goal of 95 mastectomies (MAST) performed.

Conclusion: The following recommendations were made within the hospital system: Dual tracer imaging should be used. One sentinel lymph node is insufficient for complete evaluation, and more than 4 nodes does not improve staging. Goal is to remove all sentinel lymph nodes that are hot, blue, or palpable, with a goal of 2 to 4 nodes per patient. A complete ALND can be safely omitted in stage I–III patients having LUMP with radiation when there are only 1 to 2 sentinel lymph nodes involved. In patients >70 years of age who have a T1 or T2 estrogen receptor-positive tumor, SLNB can be safely omitted. SLNB after neoadjuvant therapy can be done even with an initially positive lymph node.

Variability in Sentinel Lymph Node Biopsy Retrieval for Breast Cancer at Aurora Health Care

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Background: Axillary lymph node involvement has always been one of the most important factors in determining treatment and prognosis for breast cancer. Routine axillary lymph node dissection (ALND) was the standard treatment for breast cancer until the mid-1990s, when sentinel lymph node biopsy (SLNB) became the standard.

Purpose: We undertook an evaluation of the SLNB procedure, comparing dedicated breast surgeons (4) with general surgeons who also perform breast procedures (25) to see if there were any differences and to standardize the approach throughout Aurora Health Care.

Methods: We performed a retrospective chart review at Aurora to evaluate patients undergoing surgical treatment for breast cancer. The audit revealed that over a 6-month period from January 1, 2016, to June 30, 2016, 25 general surgeons and 4 dedicated breast surgeons performed 275 surgeries for primary operable breast cancer (stages I–III). There were 180 lumpectomies (LUMP) and 95 mastectomies (MAST) performed.

Results: In the 275 breast cancer operations, 253 (92%) SLNB procedures were attempted (163 LUMP, 90 MAST). For various reasons, 13 patients in the LUMP group and 10 patients in the MAST group did not undergo SLNB and were excluded from this analysis. Nonmigration of contrast was noted in 6 patients (3 in LUMP group, 3 in MAST group); 4 of these subsequently had an ALND and 2 had no further axillary treatment. A mean of 2.26 and a median of 2.0 sentinel lymph nodes per patient were removed, respectively.

Conclusion: Cytoreduction and HIPEC are feasible in a large community-based health system. Our results were favorable and, after our initial evaluation, we plan to continue our program and move forward with an institutional review board-approved study looking at tissue and blood levels of mitomycin C prior to, during, and after HIPEC.

The Aurora Caregiver Wellness Program: Weight Loss and Health Insurance Claims Cost Reductions Among the Obese Population

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Background: Aurora Health Care’s caregiver wellness program provides incentives and resources to encourage weight loss for obese caregivers and spouses. Quantifying the benefits of these programs to the participants and to the organization was examined, including overall shift in body mass index (BMI) and change in health care claims costs for those who participated in the program.

Purpose: To understand the impact of an incentivized weight loss wellness program and the relationship between weight loss and caregiver health insurance claims costs.
Methods: Annual BMI screening data and health insurance claims costs were analyzed using a multiple regression model to examine overall weight loss, BMI shift, and health insurance claims costs pre- and post-weight loss program participation.

Results: Over 60 tons of excess weight loss in first 5 years (2013–2017). A multiple regression model shows claims costs go down $20 for every 1 pound decrease in weight. Mean medical claims costs dropped by $3535 for the year after participation in one specific weight loss program when compared to prior-year costs. Pharmacy claims did not show a reduction from pre- to postprogram periods.

Conclusion: This research shows some support for the interventions targeting obesity in a workplace setting and the idea that weight loss results in lower health care costs.

Monitoring Lead Screening Within a Milwaukee Family Medicine Residency Clinic

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Background: Lead screenings, as part of a child’s preventive examinations, are offered by many Women, Infants, and Children (WIC) clinics in the Milwaukee area. Previously, the Family Care Center (FCC) at Aurora Sinai Medical Center (Milwaukee, WI) did not have access to lead screenings performed by WIC clinics and later recorded in the Wisconsin Blood Lead Registry (WBLR). Therefore, unnecessary duplicate screenings may have occurred on children seen at FCC for their preventive exams.

Purpose: To determine if children were undergoing unnecessary duplicate lead screenings at FCC.

Methods: We conducted a retrospective review of lead screenings performed at well-child exams in children 1–5 years of age at FCC from March 2017 to August 2017. We reviewed FCC patients in the WBLR, gathering additional lead screening information, noting that lead levels were often reported to nearest whole number. Screenings performed less than 6 months apart in children age 12–24 months and less than 12 months apart in children age 2–5 years were considered duplicate lead screens. Basic descriptive statistics were calculated. Categorical data were analyzed using chi-squared tests and continuous variables with 2-sample t-tests or nonparametric alternative tests. Stepwise regression and binary logistic regression was used for multivariable analysis as appropriate.

Results: After excluding 10 children with elevated blood lead levels and required repeat testing, 161 were included in our analysis. Children of mean age 1.8 years were more likely to be female (54.0%) and African American (70.2%). Of children with at least 1 ordered lead test, 39% were not completed; mean first lead level result was 2.4. Only 20 (12.4%) had duplicate lead screenings ordered, of which 12 (60.0%) were ordered inappropriately (ie, ordered as a duplicate), with 9 (75.0%) being ordered by FCC. Interestingly, on univariable analysis, higher lead levels were significantly associated with male gender (3.2 vs 1.8; \(P=0.022\)) and Asian race (4.6 vs 2.1 for all other races; \(P=0.046\)). On multivariable analysis, when including age, only Asian race remained significantly associated with higher lead levels (\(P=0.002\)).

Conclusion: Inappropriate lead tests were more commonly ordered at FCC. With access to the WBLR, we can determine if patients have had lead levels drawn at outside facilities and eliminate unnecessary duplicate tests. To further aid in decreasing the number of inappropriately ordered tests, we developed a workflow for clinic medical assistants to check blood lead screening and will conduct a 6-month postintervention analysis.

Utilization of Acupuncture Services in the Emergency Department Setting: A Quality Improvement Study

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Methods: Acupuncture services for clinic patients are offered at 3 hospitals: Aurora Sinai Medical Center (Milwaukee, WI), Aurora Baycare Medical Center (Green Bay, WI), and Aurora St. Luke’s Medical Center (Milwaukee, WI). The emergency department (ED) at Aurora Sinai Medical Center was designed to be a primary care model, with 2 physicians and 6 telehealth nurses. The emergency department has an acute care criteria program (ACCP) which establishes priority for telehealth visits and ED visits. Data were collected from January 1, 2017, to December 31, 2017. Acupuncture services for clinic patients are offered at 3 hospitals: Aurora Sinai Medical Center (Milwaukee, WI), Aurora Baycare Medical Center (Green Bay, WI), and Aurora St. Luke’s Medical Center (Milwaukee, WI). The emergency department (ED) at Aurora Sinai Medical Center was designed to be a primary care model, with 2 physicians and 6 telehealth nurses. The emergency department has an acute care criteria program (ACCP) which establishes priority for telehealth visits and ED visits. Data were collected from January 1, 2017, to December 31, 2017. Acupuncture services for clinic patients are offered at 3 hospitals: Aurora Sinai Medical Center (Milwaukee, WI), Aurora Baycare Medical Center (Green Bay, WI), and Aurora St. Luke’s Medical Center (Milwaukee, WI). The emergency department (ED) at Aurora Sinai Medical Center was designed to be a primary care model, with 2 physicians and 6 telehealth nurses. The emergency department has an acute care criteria program (ACCP) which establishes priority for telehealth visits and ED visits. Data were collected from January 1, 2017, to December 31, 2017.