



Quality Oncology Practice Initiative Can Guide and Improve Oncology Providers' Training in Brazil

abstract

Purpose It has become crucial to translate scientific findings and to find ways by which to mobilize local resources to improve the quality and accessibility of cancer care in developing countries. This study seeks to provide insight into challenge through examining differences in clinician documentation of patients with cancer treated at a Brazilian Public University Hospital.

Methods ASCO Quality Oncology Practice Initiative (QOPI) measures were used to examine the care provided in the departments of breast, colorectal, lymphoma, gynecology, and lung cancers. For this study, data from a representative sample of patients receiving chemotherapy in the previous month were extracted and quality of cancer care indicators examined.

Results Certain elements of medical care were consistently and appropriately documented, including cancer diagnosis and stage, chemotherapy planning, administration, and summary. In general, considering the specific cancer management measures, patients received recommended care in accordance with recognized guidelines. Despite this, a number of important gaps in care were identified, including the assessment and treatment of pain, documentation of chemotherapy intention, symptom and toxicity management, patients' psychosocial status, and provision of a treatment summary at care completion.

Conclusion These findings are encouraging in terms of adherence to core treatment guidelines in cancer care in Brazil. However, results suggest important opportunities for improving care across a number of domains, many of which represent a challenge throughout both developing and developed countries. This study may also provide preliminary guidance for enhancing educational and training programs for professionals and students alike, to implement high-quality, comprehensive cancer care.

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In 1988, Brazil became one of the first countries in Latin America to make access to health care a constitutional right.¹ Presently, this public health system serves 75.1% of the population. Numerous benefits of this policy have been recognized, including increases in life expectancy and decreases in infant mortality, as well as increased efforts in addressing the burden of HIV/AIDS and tuberculosis.² Despite these advances, the overall quality of service in the public system remains inferior to that of the private system on a number of metrics and represents a significant barrier to providing high-quality universal health care to all individuals.²

Prompted by evidence of possible disparities, an international initiative was formed to assess the quality of cancer care, the ASCO Quality Oncology Practice Initiative (QOPI).^{3,4} This program was developed amid the growing consensus that ongoing

assessment and monitoring of indicators of quality of cancer care, using retrospective medical record abstraction methodology, was critical to identifying and addressing aspects of care that fall below established standards or goals.⁴ Since its inception in 2006, this program has been recognized for its potential to engage oncology practices in ongoing performance assessment and improvement of quality of care.⁵

The utility of the QOPI and quality indicators to help guide improvements in care, along with pressure on the Brazilian health care system to provide equitable high-quality health services,⁶ provided a foundation for this important study. This investigation explores differences in clinician documentation of patients with cancer treated at a Brazilian Public University Hospital to identify indicators of care that meet current care guidelines or require improvement in the

training of both current health care providers and future providers through oncology training programs.

METHODS

A retrospective review of electronic health records of individuals treated for cancer was conducted. Patients were treated as part of the Oncology Service at a Public University Hospital, located in Sao Paulo, Brazil. This Oncology Service is designated as Assistance of High Complexity in Oncology (CACON) and exists at a tertiary level of care with technology, physical facilities, equipment, and human resources to provide expert care in the diagnosis and treatment of cancers.⁶

For the purpose of this study, we obtained an authorization from ASCO/QOPI to use the QOPI measure, without accreditation intention. This study was conducted in compliance with the regulations of the ethical standards of the Helsinki's declaration and of the Brazilian National Health Council Resolution No. 466/2012. The study was also approved by the Research Ethics Committee of the Federal University of Sao Paulo.

Estimation of Sample Size

To evaluate a representative sample of the service, we calculated a preliminary target sample size, on the basis of the average number of patients in chemotherapy treatment, in the previous 3 months, for disease-specific sets of QOPI measures. For this preliminary analysis, the domain-specific set related to end-of-life care was not included.

Data Collection

Medical records were reviewed in a sequential sampling within each disease-specific oncology clinic until the target sample size was met, regardless of time elapsed since patients' initial diagnosis. Eligible cases must have been diagnosed with one of the cancer types identified on the QOPI measure, 18 years of age or older, and being treated with outpatient chemotherapy treatment. Records were abstracted for indicators of the quality of cancer care.⁷ This report focuses on core measures (care documentation, chemotherapy administration, pain management, smoking cessation, and psychological support), disease-specific modules (breast cancer, colorectal cancer, non-Hodgkin lymphoma, non-small-cell lung cancer [NSCLC], and ovarian, fallopian tube, and primary peritoneal) and domain-specific modules (symptom/toxicity management).⁷ Records were evaluated for evidence of each applicable item described in the Spring 2015 Measures Summary and designated as present or absent.⁸

Data Analysis

Descriptive information about the sample size and QOPI measures variables were conducted using the software SPSS 22.0 (SPSS, Chicago, IL). The component of scoring related to the QOPI Accreditation Program was not implemented, given the purpose of this study.

RESULTS

Patient Characteristics

A total of 69 patients were included in this analysis; of those, 29 were patients with breast cancer, 12 with colorectal cancer, eight with non-Hodgkin lymphoma, 14 with NSCLC, and six with gynecologic cancer. The total sample was an average of 60.3 years of age (range, 31 to 91 years; standard deviation, 14.3), 69.6% were women, 42% were married, and 58% had completed at least 8 years of formal education. Patients were diagnosed between 2010 and 2015, 65.2% with advanced disease stage (III or IV). In relation to treatment modality, all patients received chemotherapy treatment, 53.6% underwent surgery, and 49.3% received radiotherapy.

Core Module

Pathology reports confirmed malignancy in all cases examined (100%). Similar rates of documentation were observed for staging (97.1%), chemotherapy treatment planning (87%), number of chemotherapy cycles (89.9%), oral chemotherapy treatment (100%), chemotherapy treatment summary (97.1%), smoking status/tobacco use (79.7%), and body mass index (84.1%).

Pain was assessed by the second office visit in 55.1% of the medical records extracted, with pain intensity and care planning present in only 18.8% of this subsample of patients. Of the two most recent office visits, pain was documented in 63.8% of patient records, pain intensity and plan for care in 30.4%, and constipation in 27.5%. Chemotherapy intent and chemotherapy intent discussions were documented in 17.4% and 10.1% of cases, respectively; performance status was documented before initiating non-curative chemotherapy regimen in 53.6% and oral chemotherapy education in 2.9%. In none of the records was signed patient consent, chemotherapy summary provided to patient, or patient emotional well-being assessed by the second visit documented.

Symptom Module

There was a low rate of documentation for antiemetics prescribed appropriately with moderate to

high emetic risk (62.3%). Discussion concerning infertility risks associated with treatment was not documented in any patient visits examined. It is important to note, however, that such discussion was applicable for only 7.2% of the cases reviewed.

Breast Cancer Module

For applicable cases, chemotherapy was recommended within 4 months of diagnosis (79.3%), and most patients received treatment within this period (89.6%). The majority of charts had complete staging for women with invasive breast cancer (86.2%) and testing for human epidermal growth factor receptor 2/neu overexpression or gene amplification (93.1%). Trastuzumab and tamoxifen were correctly recommended and received by patients with breast cancer (100%). Intravenous bisphosphonates were administered for breast cancer bone metastases (100%), and in these cases renal function was assessed before the administration (100%). Granulocyte colony-stimulating factor (GCSF) was not administered to patients who received chemotherapy for metastatic breast cancer (96.6%). Complete family history was not well documented (48.3%), nor was presence or absence of cancer in first- and second-degree family members (48.3% and 44.8%, respectively), age at diagnosis (20.7%), and genetic testing and counseling (31% were referred).

Colorectal Cancer Module

Carcinoembryonic antigen was analyzed for all applicable cases within 4 months of curative resection for colorectal cancer (100%). Adjuvant chemotherapy was also recommended, and patients received treatment within 4 months of diagnosis for those with stage III colon cancer (100%). Number of lymph nodes was well documented for resected colon cancer (100%). Adjuvant chemotherapy was recommended and received within 9 months of diagnosis for patients with stage II or III rectal cancer (100%). *KRAS* testing was completed for the majority of patients with metastatic colorectal cancer (83.3%), and GCSF was not administered when patients received chemotherapy for metastatic colon cancer (100%).

Complete family history was not well documented (50%), primarily for the presence or absence of cancer in second-degree blood relatives (50%) and age at diagnosis (8.3%). There was no documentation concerning genetic counseling, referral for counseling, or genetic testing for patients with invasive colorectal cancer with increased hereditary risk of colorectal cancer (0%).

Non-Hodgkin Lymphoma Module

Rituximab was not administered when CD antigen expression was negative (100%). Hepatitis B virus infection test was included before initiation of rituximab (100%).

NSCLC Module

Across all medical records analyzed, patients were diagnosed solely with NSCLC at stage IV; thus, the measures 79 to 83 (adjuvant chemotherapy recommended/received by patients with stage II or IIIA and adjuvant radiation therapy for patients with stage Ib or II) were not considered for the analysis. Performance status was documented for 57.1% of patients. Platinum doublet first-line chemotherapy was received by 92.9% of patients with stage IV NSCLC. Bevacizumab was not received by patients with stage IV NSCLC (100%), and GCSF was administered to 21.4% of patients who received chemotherapy for metastatic NSCLC.

Gynecology Cancer Module

Information was not found related to intraperitoneal chemotherapy (0%) and antibiotic or venous thromboembolism prophylaxis after cytoreduction (0%). Operative report with documentation of residual disease was found for all cases (100%), as well as complete staging for women with invasive I to IIIb ovarian, fallopian tube, or peritoneal cancer who had undergone cytoreduction (100%). Platinum or taxane was administered for 83.3% within 42 days after cytoreduction to women with invasive ovarian, fallopian tube, or peritoneal cancer.

DISCUSSION

The existing QOPI measures were developed by oncologists and professional groups to enhance self-assessment and promote continuous care improvement. Although it is not specifically designed as an educational tool, the QOPI assessment process enables organizations to identify specific gaps in care and thus implement targeted training or clinical practice solutions. Data obtained in this Brazilian-based study identified a number of strengths that exist within the select clinics of an oncology resident training program. However, a number of domains were identified that require improvement and should guide the development of targeted training programs, as well as enhancing awareness among all providers throughout the clinical care setting.

There were consistently high rates of documentations for pathology, disease staging, chemotherapy

treatment, smoking/tobacco use, body mass index, specific cancer management (essential testing and information for definition of the prognosis and treatment), and treatment recommended and received. Given that we extracted charts from clinics that train resident oncologists, these encouraging results may reflect training priorities and the clinical care attributes of supervising physicians.

We also identified a number of important domains that may require structural changes in the training curricula, as well as more broadly within the clinical culture, including lack of consistent documentation in some areas and few discussions concerning prognosis and advanced care planning. Many of the domains identified represent clinical challenges in both developing and developed countries. For example, the appropriate documentation and treatment of pain represents an ongoing challenge,^{7,9-12} whereas additional domains concerning informed consent,⁹ emotional well-being,¹⁰ treatment-induced infertility,^{10,13} genetic evaluation,¹⁰ symptom/toxicity process measures,¹² and documentation of discussion with patient about treatment intent¹⁴ remain important but challenging aspects of care in a busy clinical practice.

The data obtained in this study were also presented to physicians responsible for the oncology training program. This presentation enlisted a multidisciplinary team of health professionals to enable areas identified as requiring improvement to be fully addressed. A number of important steps were taken to improve the documentation process within electronic health records and also to enable

access to other professionals (eg, nurse, psychologist, nutritionist) to document their evaluation and treatments. Such strategies as automatic prompts and protocols through electronic prescribing modules and the health record system were also considered to further promote appropriate documentation of care domains.

This study provides unique data and an important step in promoting cancer care in Brazil; however, results should be considered in light of study limitations. First, there was a small sample of medical records analyzed, so our results may not be generalizable to other practice. Second, we did not implement the component of scoring related to the Accreditation Program for QOPI, so our findings do not reflect the QOPI achievement on Brazilian oncology practices. Further studies should be conducted in a Brazilian sample.

In summary, this study provides unique insight into strengths and weakness of a Brazilian oncology clinic using established QOPI indicators. This process can provide not only a quality monitoring system for cancer care but also a tool that enables trainees and professionals alike to enhance care and self-awareness and provides important guidance concerning domains of care that require improvement. Through the routine use of QOPI indicators, the quality of Brazilian cancer care can be improved and ultimately brought in line with the goal to provide comprehensive clinical care to all patients.

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