

tients cannot afford this expense. Furthermore, Medicaid payments in many states have been curtailed, which has similarly forced patients into hospital outpatient infusion centers. Therefore, the trajectory of total drug spending for oncology care is predictably higher than the National Oncology Practice Benchmark data illustrate.

The data from the National Oncology Practice Benchmark have been and continues to be invaluable in analyzing the financial metrics and trends for the operation of oncology clinics. For years, many stakeholders in oncology have been anticipating the tipping point at which private clinics become financially nonviable. As the practice impact report demonstrates, the future is now. Any additional reimbursement reductions for oncology are certain to drive more practices under. Therefore, the question now is not, “Where is the tipping point?” but rather, “Is this current failure of private clinics undesirable?”

Many private payers appear to realize that their total spending on oncology care is increasing with the gradual disappearance of private oncology offices. The false narrative has been that private practice oncology offices represented cost centers practicing on the basis of perverse incentives that led to overutilization. Payers are now starting to recognize private offices as the most efficient oncology care delivery model.

If payers do not want to return to the past of financing oncology clinics through drug margin, then their only choice is

to truly recognize the practice expense for operations and reimburse it in a more viable format. The “experiment” of replacing something with nothing has been proven to be unsustainable for private oncology practices.

Accepted for publication on July 13, 2011.

Author's Disclosures of Potential Conflicts of Interest

Although all authors completed the disclosure declaration, the following author(s) indicated a financial or other interest that is relevant to the subject matter under consideration in this article. Certain relationships marked with a “U” are those for which no compensation was received; those relationships marked with a “C” were compensated. For a detailed description of the disclosure categories, or for more information about ASCO's conflict of interest policy, please refer to the Author Disclosure Declaration and the Disclosures of Potential Conflicts of Interest section in Information for Contributors.

Employment or Leadership Position: David Eagle, Community Oncology Alliance (U) **Consultant or Advisory Role:** None **Stock Ownership:** None **Honoraria:** None **Research Funding:** None **Expert Testimony:** None **Other Remuneration:** None

David Eagle, MD, is with Lake Norman Oncology, Mooresville, NC. He is the Carrier Advisory Committee representative for Oncology in North Carolina, chairman of the Oncology Task Force for the North Carolina Physician Advisory Group, and president of the Community Oncology Alliance.

DOI: 10.1200/JOP.2011.000411

References

1. Avalere: Providing High Quality Care in Community Oncology Practices: An Assessment of Infusion Services and Their Associated Costs. <http://www.communityoncology.org/docs/Avalere-COA-Components-of-Care-Study-Final-Report.pdf>
2. Community Oncology Alliance: Community Oncology Cancer Care Practice Impact Report: Documented Impact on Community Oncology Practices. <http://www.communityoncology.org/UserFiles/files/87f3205e-ee73-4b03-85fb-094870cc430d/>

COA%20Community%20Oncology%20Practice%20Impact%20Report%203-31-11(1).pdf

3. Barr TR, Towle EL: National oncology practice benchmark: 2011 report on 2010 data. *J Oncol Pract* doi: 10.1200/JOP.2011.000402
4. Barr TR, Towle EL: National oncology practice benchmark: An annual assessment of financial and operational parameters—2010 report on 2009 data. *J Oncol Pract* 7:2S-15S, 2011 (suppl)

Economic Assessment of the Association of Northern California Oncologists Member Practices

By Roberta Buell, MBA, Patricia Falconer, MBA, and José Luis González, BA

OnPoint Oncology, Sausalito; Health Options, Los Altos; Association of Northern California Oncologists, San Rafael, CA

Abstract

In late 2009 and early 2010, the Association of Northern California Oncologists conducted an economic assessment on a volunteer sample (n = 14) of northern California state oncology society member practices to measure key economic factors, diagnose economic viability, and prescribe changes to practice management to enhance practice eco-

nomically. Recommendations for individual member practices as well as for the state oncology society were made as a result of the findings of this study. Results from follow-up interviews conducted with study practices approximately 1 year after the original assessments reveal that most recommendations were implemented and seem to have generally strengthened the economic performance of the practices.

Introduction

The Association of Northern California Oncologists (ANCO) is the state/regional affiliate of the American Society of Clinical Oncology (ASCO) for northern California. In May 2010, ANCO had 404 physician members, including nine retired physicians, three physicians at Travis Air Force Base, 83 physicians with the Permanente Medical Group, 141 physicians at academic cancer centers, 61 physicians affiliated with five large community-based oncology practices, and 107 physicians at 70 small community-based practices.

ANCO was aware of the significant economic challenges that member practices faced as well as those presented by Medicare payment reform and its adoption by private, third-party payers in early 2009. However, only a minor contraction of community-based medical oncology services in northern California took place. Some member practices moved from full-time medical oncology services to half-time oncology and half-time internal medicine. Some practices reduced physician staffing but remained full-time oncology practices. One practice transitioned from full-time oncology to full-time internal medicine. In early 2009, however, a prominent, well-informed, and well-managed medical oncology ANCO member community-based practice failed economically and closed. Was this a “canary in the coal mine” or were unknown internal management issues at fault for the practice closing?

Economic Assessments

In response, ANCO designed a consultation service to assess the economic health of member practices, to report results to the participating practices individually as well as to the association confidentially in the aggregate, and to prescribe measures to improve member practices’ economic health. Two nationally recognized experts in oncology practice management (R.B. and P.F.) were selected to conduct these economic health assessments. They had worked together in the past and jointly developed the economic parameters and methodology used in the economic assessment. The service was offered to all community-based member practices on a voluntary basis. If a practice decided to participate, then the consultants visited the practice to collect and analyze data. An individualized report was provided to each practice that was assessed.

Economic Parameters

The consultants developed a list of economic parameters that were applicable regardless of practice size and that, if not performed correctly, were the most common cause of poor financial performance. The list of economic parameters for which data was collected, analyzed, and reported includes:

- **Gatekeeping:** the process of verifying insurance coverage, reviewing ordered regimens against payer medical policies and compendia, determining patient financial responsibility, and performing financial counseling with the patient in advance of treatment.
- **Evaluation and management (E/M) coding:** E/M coding/billing accuracy compared with 2007 Centers for Medicare and Medicaid Services profiles for hematology oncology.

- **Drug purchasing:** the average and comparative practice acquisition cost for the top 25 drugs.
- **Drug administration procedures:** a comparison of direct nursing and supply costs with the net revenue per working hour from drug administration procedure codes.
- **Exposure to risk/audit:** coding and procedural predictors of audit or fraud risk.
- **Cash flow management:** days from service outstanding (DSO) and cash flow.
- **Pay for performance:** practice participation in Medicare pay-for-performance/quality initiatives.

Participation

The assessment was offered to all community-based ANCO member practices via e-mail and fax in late September 2009. Enrollment took place during the fourth quarter of 2009. Consultation visits, data collection, analysis, and the preparation and delivery of individual practice reports took place through January 2010.

Fourteen practices (19%) with 38 physicians of 168 eligible (23%) volunteered for the consultation services. Two practices had more than three physicians (ie, large practices), and 12 practices had three or few physicians (ie, small practices). The largest practice had nine physicians, and the smallest practices had only one physician.

Results

Gatekeeping. Financial counseling is an important aspect of cash flow management given that it manages patient expectations, makes arrangements for patient payments, and reduces practice reimbursement risk. Almost all of the practices assessed have some sort of financial counseling position that performs at various levels of effectiveness. In small practices, staff members usually do an inadequate job of patient screening and pre-collection activity. Collection is rarely performed at the time of service. However, the level of collection sophistication was not uniformly correlated with practice size. One small practice had the best gatekeeping of all the practices assessed.

It is important for a practice to use all coverage guidelines and policies relative to drugs to prevent denials, appeals, and write-offs. Almost all practices were vague about payer coverage policies. Major third-party payers (eg, Anthem Blue Cross, Blue Shield of California, UnitedHealthcare) all have published coverage policies; none of the practices used these as a reference. The smallest practices often did not enforce Medicare’s local coverage determinations. With respect to erythropoietin-stimulating agent (ESA) coverage, even one of the larger practices did not have adequate screening for the appropriate use of ESAs in chemotherapy-induced anemia.

Cash flow management. This is the most significant financial issue for practices as a result of the necessity to pay specialty drug distributors within their defined payment terms. The average number of days from service outstanding until claim payment (or DSO) was 44 days and ranged from a minimum of 23 days to a maximum of 87 days. This compares unfavorably with

an average DSO of 40 days nationally for 2009 as reported by RemitData's database of more than 1,500 physicians in the third quarter of 2009. It was expected that ANCO member practices would have a DSO of 30 to 35 days given that the participating practices have a patient population that is 51.5% insured by Medicare, which pays at 14 days for clean claims. A higher-than-expected DSO for ANCO practices is attributable to poor gatekeeping procedures, uncollected patient balances, poor coding, and not submitting claims daily. In addition, a higher DSO for ANCO practices partially resulted from third-party payer issues. Only four of 14 participating practices used a remittance analyzer program to manage denials and payments. Use of remittance analyzers can help practices determine third-party payer issues and address them in a timely fashion.

Accounts receivable (A/R) that are older than 90 days are more difficult to collect and can lead to bad debt for practices. On average, 20% of the A/R for the surveyed practices was older than 90 days. A/R aging did not vary significantly by practice size. A minimum of 39% and a maximum of 84% of the A/R older than 90 days was the patients' responsibility. Again, poor financial counseling (resulting in an inability to collect patient deductibles, copayments, and coinsurance at the time of service) and a lack of adherence to medical coverage policies causing claims denials are key contributors to an A/R aging and resulting in bad debt.

In summary, the primary impediments to cash flow in order of problem magnitude were

- arrears to drug distributors causing interest or balloon payments (four practices closed their infusion centers for a period of time as a result of an inability to pay drug distributor debt),
- debt service payments resulting from service expansion and/or building and facility improvements,
- infrequent and/or delayed claims submissions by internal or external billing personnel,
- lack of adherence to third-party payer coverage policies (especially ESA coverage policies),
- poor collection of patient balances,
- third-party payer delays, and
- coding inaccuracy.

Drug purchasing. Variance in drug acquisition costs between practices for the top 25 drugs used in a typical medical oncology practice are listed in Table 1. Each practice's acquisition cost in dollars per drug was compared. The variance was calculated for each drug. Variance is used as measure of how far numbers in a set are spread out from each other. In our sample, the acquisition costs for azacitadine were almost identical whereas the acquisition costs for pegfilgrastim were different among the participating practices. Therefore, drugs with the larger variance represent opportunities for practices with higher acquisition costs to negotiate and obtain lower pricing.

On average, small practices paid 106% more than larger practices for drugs. The variance was highest for docetaxel, filgrastim, leuprolide, and topotecan and lowest for azacitadine, bevacizumab, odansetron, and paclitaxel. Irinotecan and peg-

Table 1. Variance in Drug Acquisition Costs for the Top 25 Drugs

Drug	J-Code	Variance in Drug Cost
Darbopoetin (Aranesp)	J0881	0.373
Rituximab (Rituxan)	J9310	79.1046
Bevacizumab (Avastin)	J9035	0.082
Pegfilgrastim (Neulasta)	J2505	21,038.418
Epo (Procrit)	J0885	0.358
Oxalipatin	J9263	1.548
Docetaxel (Taxotere)	J9170	19,061.623
Zoledronic acid (Zometa)	J3487	6.385
Gemcitabine (Gemzar)	J9201	2.169
Trastuzumab (Herceptin)	J9355	0.487
Cetuximab (Erbix)	J9055	0.256
Pemetrexed (Alimta)	J9305	0.223
Irinotecan (Camptosar)	J9206	13.717
Palonosetron (Aloxi)	J2469	25.972
Bortezomib (Velcade)	J9041	0.221
Filgrastim	J1441	1,299.256
Paclitaxel protein (Abraxane)	J9264	0.009
Azacitadine (Vidaza)	J9025	0.005
Doxorubicin (Doxil)	J9001	77.989
Leuprolide depot (Lupron)	J9217	2,715.85
Topotecan	J9350	802.377
Fulvestrant (Faslodex)	J9395	1.821
Decitabine (Dacogen)	J0894	25.373
Odansetron (Zofran)	J2405	0.058

filgrastim were most consistently underwater (ie, drug acquisition cost was greater than Medicare fourth quarter 2009 ASP). The average number of underwater drugs per practice was three. Four of 14 surveyed practices were in arrears to their drug distributor, and 11 do not regularly monitor cost versus reimbursement (eg, quarterly ASP plus 6%). Most practices use only one distributor and do not engage in competitive drug purchasing strategies. Payment terms defined as direct debit is used by half of the surveyed practices to achieve advantageous drug pricing. This payment term requires the practice to pay drug invoices when the drug is shipped. Because the average practice DSO was 44 days, practices had to finance drug costs for more than a month and one half before they received payment. Direct debit payment terms impeded cash flow and contributed to practice debt.

Drug administration procedures. A summary of the drug administration profitability analysis by practice and the average results for 11 small and two large practices are listed in Table 2. The analysis of drug administration profitability only included direct costs (salary and benefits). Overhead costs (such as rent, billing, administration) were not included. Almost every surveyed practice had coding issues that created inflated drug administration revenue. Practice revenues from drug administration are skewed by coding practices—either upward or downward. In most practices in this small sample, revenues

Table 2. Drug Administration Profitability Analysis

Practice	Annual Working Hours	Administration Nursing Cost (\$)	Supply Cost (\$)	Total Cost (\$)	Total Cost Per Hour (\$)	Drug Administration Net Revenue (\$)	Drug Administration Revenue Per Hour (\$)	Profit/Loss Per Hour (\$)
P1	1,664	168,729.60	57,277.00	226,006.60	135.82	844,404.60	507.45	371.63
P6	2,080	169,556.25	9,742.00	179,298.25	86.20	513,138.00	246.70	160.50
P7	2,080	328,416.00	156,557.00	484,973.00	233.16	569,348.00	273.73	40.56
P10	1,248	84,847.36	20,000.00	104,847.36	84.01	158,331.26	126.87	42.86
P8	2,080	259,820.00	53,929.00	313,749.00	150.84	615,610.93	295.97	145.13
P9	1,404	115,904.26	9,872.96	125,777.22	89.58	264,732.38	188.56	98.97
P2	2,080	171,600.00	21,500.00	193,100.00	92.84	485,241.86	233.29	140.45
P3	2,080	126,463.35	59,982.64	186,445.99	89.64	129,017.53	62.03	-27.61
P5	2,080	504,052.64	268,030.69	772,083.33	371.19	1,129,866.55	543.21	172.01
P4	1,846	432,845.40	106,482.89	539,328.29	292.16	1,899,481.88	1,028.97	736.81
P14	2,080	621,076.00	233,768.00	854,844.00	410.98	1,871,912.00	899.96	488.98
P12	1,224	32,500.41	9,742.00	42,242.41	34.51	151,893.00	124.10	89.58
Average small practice	1,829	251,317.61	83,907.02	335,224.62	172.58	719,414.83	377.57	204.99
P11	2,080	1,158,151.59	304,049.48	1,462,201.07	702.98	2,355,820.12	1,132.61	429.62
P13	2,080	1,235,091.00	53,048.00	1,288,139.00	619.30	1,419,789.32	682.59	63.29
Average large practice	2,080	1,196,621.30	178,548.74	1,375,170.04	661.14	1,887,804.72	907.60	246.46

were adjusted upward. In summary, the practices' labor costs were fixed so patient volume was the largest determinant of drug administration profitability. If a single administration code is billed in an hour or there is poor chair turn, then profitability from drug administration decreases.

In the small practices surveyed, only one practice's drug administration services were unprofitable. The average drug administration costs divided by average revenue for the small practices was 46% (ie, \$172.58 average cost per hour divided by \$377.57 average drug administration revenue per hour). However, the average annual working hours for the small-practice infusion centers was 1,829 hours per year, which is less than full-time (2,080 hours per year). Almost half of the small practices had infusion centers open less than full-time.

In the large practices surveyed, the average drug administration costs divided by average revenue for the large practices was 73% (ie, \$661.74 average costs per hour divided by \$907.60 average drug administration revenues per hour). All of the large practices infusion centers were open full-time.

E/M coding. On average, the ANCO practices see 242 new patients per physician per year (compared with 300 nationally¹). The number of office visits per physician per year was 3,186 (compared with 3,481 nationally). These statistics did not vary by size of practice. The coding profiles for established patient office visits (99211-99215), hospital admissions (99221-99223), consultations (99241-99245), and hospital follow-up visits (99231-99233) for the ANCO physicians surveyed were compared with the national Medicare profiles and found to be high profile in comparison with the national Medicare database for nursing visits (99211), consults (99243 and 99245), and hospital admissions (99223). Profiles that are higher than normal often lead to audits by Medicare and third-

party payers. Only one of 14 surveyed practices had educated their physicians about the elimination of consultation codes (for 2010) by Medicare.

Exposure to risk/audit. In addition to the profiles already mentioned, several other areas of audit risk were identified, including:

- use of 96368 for more than one drug in a saline bag,
- use of sequential infusion codes instead of additional hours of infusion,
- use of more than one initial code per day,
- billing of fluids to transport drugs,
- billing of 36000 with drug administration,
- billing of 96523 with other services, and
- billing 36591 to 36592 with other services.

Many of the surveyed practices used out-of-date or poorly designed superbills that only included higher-level E/M codes, separated bone marrow biopsy/aspiration codes, poorly identified codes, and/or listed old codes.

Pay for performance. Only two of 14 surveyed practices participate in Medicare's ePrescribing initiative (eRx) or Physician Quality Reporting Initiative (PQRI). One participates in both. As a result of not participating, there is an estimated average loss of \$39,500 per practice or \$14,600 per physician. Those practices not participating in eRx or PQRI cite as reasons a lack of information, confusion, physicians not wanting to implement eRx, or electronic health records that do not have an eRx module. Participating in eRx and/or PQRI would more than make up for losses from Medicare physician fee schedule reductions in 2010.

The biggest short-term challenge facing ANCO member practices is cash flow. Their inability to collect from patients at

the time of service, short payment terms with drug distributors, slow billing from date of service to claim submission, poor adherence to and implementation of coverage guidelines, and lack of systems to evaluate and address reasons for insurance payment delays causes short-term unmet cash requirements that are funded by borrowing, which results in additional, burdensome debt. The biggest long-term economic challenges facing ANCO member practices are high practice debt caused by short-term cash flow issues, service expansion into diversified areas (eg, imaging, radiation), audit risks resulting from inaccurate coding and/or overcoding, lack of participation in Medicare incentive programs (which will lead to future disincentives and discounted fee schedule payments), and higher drug costs. Nonetheless, drug administration services offered on a full-time schedule with high enough volumes of patients continues to be profitable.

Recommendations

As a result of this study, the following recommendations were made for practices and ANCO:

- Practices must increase the effectiveness of their financial gatekeeping procedures. ANCO should offer member practices a financial counseling workshop that would include information on patient financial counseling, how to access and follow coverage policies, remittance analysis, and how to collect payer and patient balances.
- Small practices need to gain economies of scale and discounted drug pricing to be more profitable. ANCO should offer member practices access to group purchasing organization(s).
- Practices must use E/M and other Current Procedural Terminology (CPT) codes for drug administration accurately. ANCO should offer physicians and practice staff continuing coding education and access to coding assistance.
- Practices must continually evaluate their costs of doing business, especially drug administration, and reduce costs when possible. ANCO should offer education and tools to enable member practices to analyze their costs.
- Practices must participate in pay-for-performance programs, starting with eRx and PQRI. ANCO should offer education and tools to make it easier for member practices to participate in these (and other) pay-for-performance programs.

1-Year Follow-Up

The consultants conducted follow-up interviews with the participating practices in early 2011, approximately 1 year after the original assessments. The objectives of the follow-up interviews were to assess both participant satisfaction with the economic assessments and the impact of the economic assessments on the participating practices.

Participation

ANCO and the consultants contacted each of the member practices participating in the original economic assessment to

arrange for a 60-minute follow-up interview about the practices' experiences with the economic assessment and their implementation of the specific recommendations made to their practices. Twelve (86%) of 14 original participating practices and 27 (71%) of the original 38 physicians were interviewed. Of the two practices that did not participate in the 1-year follow-up, one physician had retired and the other had transitioned to a hospital-based practice. Two practices had more than three physicians (ie, large practices); 10 practices had three or fewer physicians (ie, small practices). The largest practice had eight physicians; the smallest practices had one physician.

Interview Instrument

The follow-up interview had two parts: a satisfaction section and an implementation section. The satisfaction section was the same for all of the interviews. The implementation section was tailored to the original recommendations made to the practice at the conclusion of the economic assessment.

Participant Satisfaction

All 12 of the interviewed practices found the economic assessment to be beneficial. Responses ranged from "tangentially beneficial" to "it changed our practice completely." The practices found it useful to have an objective analysis of their business practices to identify strengths and weaknesses, and they appreciated the specific action items recommended at the conclusion of the assessment (whether or not they were able to complete them all). In some cases, the assessment reinforced what practice staff members were already recommending to physician leadership.

Four of 12 practices recommended no changes to the economic assessment activity if it were to be conducted again. Some of the changes to the economic assessment recommended by the other interviewees included:

- more face time with the consultants;
- E/M and CPT coding audits;
- analysis of the business office structure, practice staffing, and business and clinical processes;
- more thorough explanations of the recommendations; and
- more information about ANCO's motives in conducting the assessment.

ANCO subsidized participation in the original economic assessment. Small practices paid nothing for the economic assessment; larger practices shared the cost of the consultants with ANCO. The follow-up interview asked the practices if they would participate again if they had to pay the full cost of the consultation. Nine of 12 practices would pay for the consultation in the future; two practices would pay something (citing cash flow as a reason not to bear the entire cost); and one would not pay for the consultation and assessment in the future.

Finally, the interview asked what the overall tangible benefits were to the practice from participating in the economic assessment. The findings included:

- a heightened awareness of the economic condition of the practice,

- reorganized business and clinical processes,
- renegotiated contracts for services and drugs,
- new and/or additional systems in place to more effectively manage the practice,
- new and/or additional skilled coding/billing staff,
- more accurate coding/billing and more compliant documentation, and
- reduced A/Rs.

In summary, the participating practices that were interviewed approximately 1 year after the original economic assessments were satisfied with the service provided, would not make any major changes to the consultation provided (other than to broaden its scope and provide more time with the consultants), would pay for the assessment in the future, and found it to be a productive activity.

Implementation of Recommendations

The other questions in the interview focused on the specific recommendations made by the consultants at the conclusion of each economic assessment and which, if any, were implemented. If a recommendation was not implemented, then the consultants asked why it was not. These results are organized by recommendation.

Financial gatekeeping. In general, the participating practices were urged to increase the effectiveness of their financial gatekeeping procedures by providing patient financial counseling, accessing and following coverage policies, conducting remittance analyses, and collecting payer and patient balances. The interviewed practices prioritized this recommendation. They now:

- conduct preservice reviews and obtain prior authorizations before actual treatment and use and monitor payer coverage guidelines,
- counsel patients about the cost of treatment and do not treat patients without insurance coverage,
- collect copayments at the time of the visit,
- access copay assistance programs,
- use internal systems to identify patients with payment difficulties, and
- regularly meet to discuss claims denials and appeals.

Drug pricing. The original economic assessment urged practices to gain economies of scale and obtain discounted drug pricing to be more profitable. The interviewed practices now analyze drug costs versus drug reimbursement. Many practices, recognizing that their drug reimbursement was poor, not only renegotiated their drug purchasing contracts but changed distributors altogether.

Correct coding. All of the practices received recommendations to use E/M and other CPT codes more accurately. Many of the practices have educated their physicians about correct E/M coding. Specifically, some provide cheat sheets to their physicians, provide coding educating to physicians and billers, and most importantly, conduct regularly scheduled periodic in-house

chart audits. Some of those practices that did not have certified coders on staff have hired certified coders.

Medicare incentive programs. The original economic assessment report outlined that disappointingly few practices were participating in Medicare's eRx and PQRS incentive programs. Practices should participate in pay-for-performance programs starting with eRx and PQRI. The follow-up interviews found that:

- coders/billers are returning patient encounter forms if no eRx or PQRS codes are included,
- some practices are investigating EHRs, and
- some practices are implementing more of the features in their existing practice management systems or new EHRs to participate in these programs.

However, although practices see the need to be in Medicare incentive programs because of their participation in the economic assessment, some of them cannot see past their staffing constraints to begin participation.

In general, many (if not most) of the specific recommendations made by the consultants to the participating practices have been or are being implemented. The easiest and least costly of the recommendations (cash flow management, correct coding) were implemented most often. None of the practices rejected any of the specific recommendations, although they postponed some to a later date or for when funds are available (eg, installation of EHRs, or participating in eRx or PQRI). Some recommendations were not implemented as a result of staffing and/or space constraints. Although no specific economic data were collected during the follow-up interviews, it would appear that some (if not all) short-term debt was retired and cash flow has improved among the participating practices.

Summary

ANCO's economic assessment of member practices was well-received, would be well-received if repeated in the future, and had a salutary impact on those practices that volunteered to participate. For the most part, recommended actions were implemented. Although we cannot state that participation helped a practice avert economic collapse, participation does seem to have generally strengthened the economic condition of the participating practices in the aggregate. All practices, small and large alike, should engage in this type of internal analysis to identify and address weaknesses and adapt to constantly changing macroeconomic conditions in the medical oncology marketplace.

Accepted for publication on July 17, 2011.

Acknowledgment

This study was funded by the Association of Northern California Oncologists.

Authors' Disclosures of Potential Conflicts of Interest

Although all authors completed the disclosure declaration, the following author(s) indicated a financial or other interest that is relevant to the

subject matter under consideration in this article. Certain relationships marked with a "U" are those for which no compensation was received; those relationships marked with a "C" were compensated. For a detailed description of the disclosure categories, or for more information about ASCO's conflict of interest policy, please refer to the Author Disclosure Declaration and the Disclosures of Potential Conflicts of Interest section in Information for Contributors.

Employment or Leadership Position: José Luis González, Association of Northern California Oncologists (C) **Consultant or Advisory Role:** Roberta Buell, Genentech (C), Celgene/Abraxane (C); Patricia Falconer, Association of Northern California Oncologists (C) **Stock Ownership:** None **Honoraria:** None **Research Funding:** None **Expert Testimony:** None **Other Remuneration:** None

Author Contributions

Conception and design: Roberta Buell, Patricia Falconer, José Luis González

Reference

1. Stewart FM, Wasserman RL, Bloomfield CD, et al: Benchmarks in clinical productivity: A National Comprehensive Cancer Network survey. *J Oncol Pract* 3:9-12, 2007

Administrative support: Roberta Buell, Patricia Falconer, José Luis González

Provision of study materials or patients: Roberta Buell, Patricia Falconer

Collection and assembly of data: Roberta Buell, Patricia Falconer

Data analysis and interpretation: Roberta Buell, Patricia Falconer

Manuscript writing: Roberta Buell, Patricia Falconer, José Luis González

Final approval of manuscript: Roberta Buell, Patricia Falconer, José Luis González

Corresponding author: José Luis González, Executive Director, Association of Northern California Oncologists, PO Box 151109, San Rafael, CA 94915-1109; e-mail: ExecDir@anco-online.org.

DOI: 10.1200/JOP.2011.000381

Benchmarks for Value in Cancer Care: An Analysis of a Large Commercial Population

By Michael Kolodziej, MD, J. Russell Hoverman, MD, PhD, Jody S. Garey, PharmD, Janet Espirito, PharmD, Sheetal Sheth, PharmD, Aimee Ginsburg, PharmD, Marcus A. Neubauer, MD, Debra Patt, MD, MPH, Barry Brooks, MD, Charles White, MD, Mark Sitarik, MD, Roger Anderson, DrPH, and Roy Beveridge, MD

US Oncology Research, The Woodlands, TX

Abstract

Purpose: Cancer costs are increasing at an unprecedented rate. Key cost drivers include chemotherapy, hospital admissions/emergency room visits, and aggressive end-of-life care. We sought to evaluate these costs in a commercial payer population in collaboration with consultants from Milliman.

Patients and Methods: We used a retrospective analysis of Medstat 2007 to evaluate chemotherapy costs and use. Included patients had a cancer diagnosis; received chemotherapy during the evaluation period; had at least 1 day of coverage between January 1 and December 31, 2007 (medical and prescription coverage); was younger than age 70, and had active employment or was the spouse of an active employee. Costs are allowed amounts and are trended until 2009. Admission rates and emergency room visits are reported. Hospice use and

chemotherapy during the last 14 and 30 days of life were also evaluated.

Results: In this commercial population of 14 million patients, 0.68% had claims for a cancer diagnosis; approximately 22% of those received chemotherapy during the study time period. Patients with cancer receiving chemotherapy averaged \$111,000 per year in total medical and pharmacy costs. The average hospitalization rate for any reason was 1 admission/yr. Approximately 40% (or 0.4 admits/year) were identified as being chemotherapy related. Of the 3.5% of patients who died in the hospital, 51% received chemotherapy within 30 days of death.

Conclusion: Understanding the costs of cancer care offers opportunities to formulate a strategic plan to control cancer costs and maintain quality care. Comprehensive cancer solutions to address the full spectrum of care will facilitate improved quality and patient outcomes.

Introduction

Cancer care is a serious medical and financial burden for individuals, employers, and society. As a result of increasing costs of drug therapies, payers have begun shifting financial responsibility to patients in the form of copayments, coinsurance, and higher deductibles.¹ According to the Milliman Medical Index,

² employee-paid health care costs for a family of four doubled from \$3,634 in 2002 to \$8,008 in 2011. In 1965, 5% of the United States gross domestic product (GDP) was spent on health care, whereas 16% of GDP was spent in 2004, and it is projected that nearly 20% of GDP will be spent on health care in 2014.³