Letters

RESEARCH LETTER

Trends in Cancer-Center Spending on Advertising in the United States, 2005 to 2014

In the United States, cancer centers commonly advertise clinical services directly to the public. Potential benefits of such advertising include informing patients about available treatments and reducing the stigma of cancer.^{1,2} Potential risks in-

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clude misleading vulnerable patients and creating false hopes, increasing demand for

unnecessary tests and treatments, adversely affecting existing physician-patient relationships, and increasing health care costs.^{3,4} Understanding the trends in the advertising spending of cancer centers and the characteristics of the centers that spend the most can inform the debate about the effect of their advertisements. We hypothesized that advertising spending by cancer centers has increased and is concentrated among forprofit cancer centers.

Methods | A descriptive analysis of cancer-center advertising expenditures was conducted from January 1, 2005 to December 31, 2014. We obtained data from Kantar Media, an agency that tracks the content and number of advertisements across major media channels and calculates expenditures according to the type and reach of the media for which they are made. An advertiser was classified as a cancer center if its name contained the words "cancer," "oncology," "radiation," or another cancer therapy (eg, proton therapy; CyberKnife Robotic

Figure. Trends in Cancer Center Advertising Spending by Media Channel



Data are from Kantar Media (http://www.kantarmedia.com/us). All data were adjusted to 2014 US dollars using the Consumer Price Index of the US Bureau of Labor Statistics.

^a Print media includes magazines and newspapers.

^b Kantar Media did not report Internet search advertising data until 2010.

Radiosurgery System, Accuray; TomoTherapy, Accuray). Medical centers advertising cancer services were not included unless their advertisements mentioned a cancer clinic, center, or institute.

Advertising expenditure data were obtained across 6 media outlets: television, magazines, radio, newspapers, billboards, and the Internet. Internet advertisements were divided into display (presented along the bottom or side of websites) and search (listed as search query results, in which an advertisement for a cancer-center service, such as breastcancer treatment, for example, appears in response to a query by a patient or other seeker that is entered into an Internet search engine) formats. Cancer-center websites were not included as Internet advertisements. Data on spending for Internet search query results were not available until 2010.

Advertising expenditure data were adjusted to 2014 US dollars using the Consumer Price Index of the US Bureau of Labor Statistics. The highest-spending centers in 2014 were identified by summing data from centers with unique names, even if such centers had numerous locations. These centers were categorized using publicly available data consisting of the (1) National Cancer Institute (NCI) designation status; (2) Commission on Cancer accreditation status; (3) taxexemption status; (4) metropolitan location(s); and (5) number of locations. We also compared patterns of spending among NCI-designated centers.

Results | From 2005 to 2014, 890 cancer centers in the United States advertised to the public. Their total advertising spending in 2014 was \$173 million. In general, inflation-adjusted spending increased for all of the types of advertising we considered (**Figure**). The greatest relative growth in spending was for Internet display advertisements, which increased from less than 1% of total advertising spending (\$302 030 of \$54 229 849) in 2005 to 5% (\$8 633 000 of \$173 510 900) in 2014.

In 2014, 20 cancer centers accounted for 86% of the total advertising spending by cancer centers in the United States (Table). Cancer Treatment Centers of America, a for-profit company with a national network of 5 hospitals, had the largest advertising expenditures, accounting for 59% of total advertising spending by cancer centers. Cancer Treatment Centers of America spent \$101.7 million, consisting of \$58.7 million for national advertising, \$24.2 million for local advertising, and \$18.7 million for Internet advertising. Only 2 other cancer centers spent more than \$9 million: MD Anderson Cancer Center spent \$13.9 million and Memorial Sloan Kettering Cancer Center spent \$9.1 million. Among the 20 cancer centers that accounted for 86% of total advertising spending, 5 (25%) were for-profit, 17 (85%) were Commission on Cancer-accredited, and 9 (45%) were NCI-designated. Seven cities had more than 1 of the centers: Chicago, Houston, New York City, Philadelphia, Phoenix, Seattle, and Tampa.

Table. Cancer Centers in the United States With the Highest Advertising Spending in 2014 ^a									
			National Cancer Institute	Commission on Cancer		Total 2014 Advertising Spending (Millions of	Advertising Expenditure as % of Total Spending		
Rank	Cancer Center	US Locations ^b	Designated	Accredited	Nonprofit	Dollars)	National	Local	Internet
1	Cancer Treatment Centers of America	Atlanta, GA Chicago, IL Philadelphia, PA Phoenix, AZ Tulsa, OK	No	Yes	No	101.7	57.8	23.8	18.4
2	MD Anderson Cancer Center	Houston, TX Albuquerque, NM Camden, NJ Gilbert, AZ	Yes	Yes	Yes	13.9	47.4	27.5	25.1
3	Memorial Sloan Kettering Cancer Center	New York, NY	Yes	Yes	Yes	9.1	32.7	44.2	23.0
4	Fox Chase Cancer Center	Philadelphia, PA	Yes	Yes	Yes	3.5	0	66.0	34.0
5	Texas Oncology ^c	Austin, TX Dallas, TX Fort Worth, TX Houston, TX	No	No	No	3.4	28.7	59.3	12.1
6	Huntsman Cancer Institute	Salt Lake City, UT	Yes	Yes	Yes	2.2	10.3	83.2	6.4
7	Sutter Cancer Center	Sacramento, CA Roseville, CA	No	Yes	Yes	2.1	0	100	0
8	Dana-Farber Cancer Institute	Boston, MA	Yes	Yes	Yes	1.8	46.3	50.1	3.6
9	CCS Oncology	Buffalo, NY	No	No	No	1.5	0	100	0
10	Winthrop NYCyberKnife Center	New York, NY	No	Yes	Yes	1.3	100	0	0
11	CDH Proton Center	Chicago, IL	No	Yes	No	1.3	0	21.5	78.5
12	Seattle Cancer Care Alliance Clinic	Seattle, WA	Yes	Yes	Yes	1.0	0	74.2	25.8
13	H. Lee Moffitt Cancer Center	Tampa, FL	Yes	Yes	Yes	0.9	26.0	59.9	14.1
14	Edward Cancer Center	Chicago, IL	No	Yes	Yes	0.9	0	0	100
15	Florida Cancer Specialists & Research Institute ^d	Gainesville, FL Orlando, FL Tallahassee, FL Tampa, FL	No	No	No	0.9	0	92.1	7.9
16	Fred Hutchinson Cancer Research Center	Seattle, WA	Yes	Yes	Yes	0.8	5.1	43.3	51.6
17	University Of Florida Proton Therapy Institute	Jacksonville, FL	No	Yes	Yes	0.8	0	70.3	29.7
18	Kennedy Cancer Center	Philadelphia, PA	No	Yes	Yes	0.8	0	0	100
19	Swedish Cancer Institute	Seattle, WA	No	Yes	Yes	0.7	0	100	0
20	James Cancer Hospital	Columbus, OH	Yes	Yes	Yes	0.6	0	100	0

^a Data on advertising spending and frequency are from Kantar Media (http: //www.kantarmedia.com/us). $\mathsf{Oklahoma}.$ This table lists metropolitan locations only. Data for advertising spending are for all locations.

^b Five of 20 cancer centers have locations in more than 1 metropolitan area. Spending and frequency data for centers with multiple locations or multiple centers in the same location was summed. ^d Florida Cancer Specialists & Research Institute has more than 50 locations across Florida. This table lists metropolitan locations only. Data for advertising spending are for all locations.

 $^{\rm c}$ Texas Oncology has more than 150 locations across Texas and southeastern

Of 60 NCI-designated cancer centers, 35 (58%) advertised in 2014, with total spending ranging from \$900 to \$13.9 million. Half of the NCI-designated centers that advertised spent less than \$4000; one-fourth spent more than \$100 000, and 5 (8%) spent more than \$1 million. **Discussion** | Between 2005 and 2014, cancer centers in the United States substantially increased their advertising spending directed at consumers. Our findings probably underestimate these centers' total spending for advertising to consumers because available data did not include advertising in cancer-specific

magazines, medical center advertising for cancer services unless a specific cancer center was mentioned, or charitable promotions placed by affiliated organizations. For example, City of Hope, a leading cancer center in Duarte, California, was recently highlighted in The New York Times for millions of dollars in annual health care advertising.⁵ According to Kantar Media, that advertising was to promote donations to City of Hope and was not placed by the cancer center. Our search strategy did not capture such promotional spending. For some patients and families, cancer-center advertising may constitute a major source of information, raising concerns in view of evidence that the content of some advertising lacks balance.⁴ Spending on advertising is not a measure of quality of care,⁶ and physicians and cancer-care organizations should help patients make informed cancer treatment decisions. The effect of cancercenter advertising on the quality and costs of cancer care should be better understood.

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LESS IS MORE

Pattern of Inpatient Laxative Use: Waste Not, Want Not

Constipation is common: present in up to 15% of healthy adults,¹ 39% of medical inpatients on admission, and develops over the course of hospitalization in 43%² Given the frequency of bowel symptoms and provider diligence in treat-

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ing constipation, laxative use in the hospital is common. While relatively inexpensive

themselves, the indirect costs of laxatives include: pharmacy inventory management and distribution; nursing administration time; a contribution to polypharmacy; and downstream investigations (eg, *Clostridium difficile* testing) in the case of laxative-induced diarrhea. Evidence supporting the efficacy of certain laxatives is lacking, particularly docusate sodium/ calcium,³ and so we quantified local patterns of laxative use, and estimated some of the associated costs.

Methods | We used pharmacy distribution data for fiscal year 2015 from the McGill University Health Centre (832 beds, Montreal, Canada). Based on the first 11 complete months, we extrapolated annual oral laxative use in terms of doses and drug costs (Canadian dollars) for medical and surgical units. Nursing time was estimated at 45 seconds⁴ for each administration and we used the Quebec base salary for university-trained nurses. We used data from the ongoing Right Rx clinical trial⁵ of electronic medication reconciliation to determine the proportion of patients discharged on oral laxatives during that time. The McGill University Health Centre Research Ethics Board approved this study.

Results | The number of doses and associated pharmacy and nursing costs for fiscal year 2015 are summarized in the **Table**. Docusate products were most common, with over 165 000 doses, requiring an estimated 2065 nursing hours for administration. Overall, more than 258 000 doses of laxatives were dispensed requiring an estimated 3233 nursing hours. Among 1480 discharged patients, 738(49.9%) received exit prescriptions for docusate products, 163 (11%) for sennosides, and 142 (9.6%) for lactulose.

Discussion | In our institution more than 250 000 doses of laxatives are administered annually, requiring the equivalent of almost 2 full-time nursing positions to dispense. Sixty-four percent of use involved docusate-based softeners, for which there is little quality evidence supporting efficacy in constipation prevention or treatment.³ These medications contribute to inpatient pill burden, which is particularly troublesome in cases of polypharmacy or in patients who have difficulty swallow-

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