

focused on the funding of cancer PAOs. These groups have influence on the regulation of cancer drugs, speaking on behalf of patients with cancer. The PAOs have supported recent legislation, including the 21st Century Cures bill and so-called Right to Try laws. For this reason, we sought to characterize declared sources of funding for cancer PAOs.

METHODS

On December 19, 2015, the National Comprehensive Cancer Network's (NCCN's) patient advocacy webpage (<http://www.nccn.org/patients/advocacy/default.aspx>) was visited. We selected the NCCN-recommended PAOs because the NCCN is an influential cancer organization, and the website is advertised as a starting place for patients with cancer to find a supporting organization. We extracted all PAOs for a specific tumor type. Organizations listed in multiple tumor types were recorded once.

One of the authors (M.V.A.) identified each organization's website. All reported pharmaceutical company sponsors were recorded. If available, any statement addressing the organization's policy regarding pharmaceutical sponsorship was also noted (eg, an organization explicitly saying that it does not accept money from pharmaceutical companies). For organizations that received funds from pharmaceutical companies, the number of companies that provided funds was recorded. Descriptive statistics are provided. This study was conducted from December 19, 2015, through July 19, 2016.

RESULTS

We identified 68 unique PAOs for specific cancer subtypes recommended by the NCCN (Table). Fifty-one of the 68 PAOs (75.0%) disclosed a median of 7 biopharmaceutical sponsors. Sixteen PAOs (23.5%) did not report whether they had biopharmaceutical sponsorship. One PAO

(1.5%) specifically reported that it does not accept money from the biopharmaceutical industry.

The number of disclosed biopharmaceutical sponsors ranged from 1 to 19 for the 51 organizations that accepted biopharmaceutical money. If a donation was noted as occurring during a specific year, we recorded that year in the Table.

CONCLUSION

The present study found that most cancer PAOs listed by the NCCN receive funding from the biopharmaceutical industry. Other researchers have been critical of such arrangements because they may jeopardize the independence of these groups.⁴

This study is limited in that although the search is a systematic sample of PAOs, it is not a comprehensive analysis of all cancer PAOs. We encourage other investigators to study this issue in other data sets. Moreover, this study may underestimate sponsorship because 23.5% of the PAOs (n=16) neither acknowledged funding nor a policy precluding it.

Whether the rate of biopharmaceutical industry sponsorship we noted is appropriate is outside the scope of this article. The Pharmaceutical Research and Manufacturers of America have argued that "[d]rug-makers have a natural alliance with patient groups."⁵ The present investigation merely shows that the rate of this alliance is sizable.

Matthew V. Abola, BA

Case Western Reserve University
Cleveland, OH

Vinay Prasad, MD, MPH

Oregon Health and Science University
Portland

1. Leonard K. Seeking the right to try. US News & World Report website. <http://www.usnews.com/news/articles/2014/11/18/right-to-try-laws-allowing-patients-to-try-experimental-drugs-bypass-fda>.

Published November 18, 2014. Accessed September 27, 2016.

2. Ball DE, Tisocki K, Herxheimer A. Advertising and disclosure of funding on patient organisation websites: a cross-sectional survey. *BMC Public Health*. 2006;6:201.
3. Marshall J, Aldhous P. Patient groups swallowing the best advice? *New Scientist*. 2006; 28:19–22.
4. Mintzes B. Should patient groups accept money from drug companies? no. *BMJ*. 2007;334(7600):935.
5. O'Donnell J. Patient groups funded by drugmakers are largely mum on high drug prices. USA Today website. <http://www.usatoday.com/story/news/nation/2016/01/21/patient-groups-drug-makers-high-drug-prices/79001722>. Published January 11, 2016. Accessed September 27, 2016.

<http://dx.doi.org/10.1016/j.mayocp.2016.08.015>

Misdiagnosis of Diverticulitis in Patients With Irritable Bowel Syndrome



To the Editor: Two articles published recently in *Mayo Clinic Proceedings*^{1,2} are relevant to an important clinical issue: the misdiagnosis of acute colonic diverticulitis in patients with irritable bowel syndrome (IBS). As clearly described in these articles, abdominal pain and disordered bowel habits are common to both disorders, and symptom severity varies in both. Furthermore, patients with either of these disorders typically have tenderness on examination, most often in the lower abdomen. Computed tomography (CT) of the abdomen and pelvis, the most commonly used diagnostic test for diverticulitis,² is often not urgently available for clinic patients, and some patients with CT-documented diverticulitis have no fever or leukocytosis.³ Therefore, similar clinical features and the inability to conclusively exclude diverticulitis underlie the potential for physicians to incorrectly attribute abdominal pain in outpatients to diverticulitis when it is actually caused by IBS.

Most patients in whom diverticulitis is diagnosed and treated with antibiotics in the Kaiser Permanente Medical Care Program of Southern California are clinic patients,⁴ as in

other settings.⁵ A recent retrospective study of patients treated with antibiotics for diverticulitis at Kaiser Permanente compared outpatients managed without CT with emergency department/inpatients managed with CT. More outpatients had prior diagnoses of diverticulitis, including outpatient-managed episodes, and they had increases in 8 symptom-based somatic and 3 mental comorbidities as well as greater dispensing of antispasmodics, anxiolytics, and serotonin receptor agents. The somatic comorbidity that varied most between the groups was IBS, which had been diagnosed in 15.1% (2399/15,846) of outpatients vs 9.6% (361/3750) of emergency department/inpatients. Outpatients with a prior diagnosis of diverticulitis had 1.5-fold greater odds of having IBS than outpatients without this history. Although the investigators could not determine which patients had mild diverticulitis vs an exacerbation of IBS, these and other findings constitute multiple types of indirect and concordant evidence of the misattribution of IBS pain to diverticulitis.⁴

Extrapolation of the Kaiser Permanente data to the US population reveals that a misdiagnosis rate of only 10% in clinically diagnosed outpatients would approximate 40,000 patients a year.⁴ Misdiagnosis causes much unnecessary antibiotic use and inherent cost and risk. Thus, in addition to the structural disorders discussed in the differential diagnosis of diverticulitis,² practitioners should carefully consider IBS in outpatients with lower abdominal pain, bowel habit abnormality, and abdominal tenderness. Chronicity of symptoms may be a particularly helpful feature. Also, Bharucha et al¹ described details of the physical examination that can help distinguish functional from structural disorders, but there may be uncertainty in some cases. In view of the overlap of clinical features of IBS and mild diverticulitis and

recent authoritative advice that antibiotics be used selectively in patients with uncomplicated diverticulitis,² management without systemic antibiotic should be considered when the diagnosis is uncertain.

George F. Longstreth, MD

Kaiser Permanente Southern California,
San Diego

Editor's Note: When publishing a letter that comments on an article published previously in *Mayo Clinic Proceedings*, it is the journal's policy to invite the author(s) of the referenced article to publish a response. Drs Adil Bharucha and Joseph Feuerstein were invited to respond, and although they were supportive of this letter, they felt the content of the letter did not require a reply.

1. Bharucha AE, Chakraborty S, Sletten CD. Common functional gastrointestinal disorders associated with abdominal pain. *Mayo Clin Proc.* 2016;91(8):1118-1132.
2. Feuerstein JD, Falchuk KR. Diverticulosis and diverticulitis. *Mayo Clin Proc.* 2016;91(8):1094-1104.
3. Longstreth GF, Iyer RL, Chu L-HX, et al. Acute diverticulitis: demographic, clinical and laboratory features associated with computed tomography findings in 741 patients. *Aliment Pharmacol Ther.* 2012;36(9):886-894.
4. Longstreth GF, Tieu RS. Clinically diagnosed acute diverticulitis in outpatients: misdiagnosis in patients with irritable bowel syndrome. *Dig Dis Sci.* 2016;61(2):578-588.
5. Feingold D, Steele SR, Lee S, et al. Practice parameters for the treatment of sigmoid diverticulitis. *Dis Colon Rectum.* 2014;57(3):284-294.

<http://dx.doi.org/10.1016/j.mayocp.2016.09.001>

MACRA Regulatory Burdens and the Threat of Physician Burnout



To the Editor: The research article by Shanafelt et al¹ regarding clerical burden and physician burnout is timely and provides much needed objective data in this arena. No doubt, for most physicians, the current electronic environment has greatly increased the clerical burden of physicians without necessarily enhancing the quality of medical care or workflow efficiency. This burden will be especially heavy

for small practices that lack the administrative resources found in large health care organizations.

For example, the Meaningful Use program from the Centers for Medicare and Medicaid Services (CMS) was designed to help make electronic health records (EHRs) fully functional, enabling better coordination of care for physicians and more transparency of information for patients. However, the rollout of this program proved to be much more difficult than intended because errors and communication gaps from poorly designed EHR systems led to practice penalties despite heavy investments and best intentions toward compliance.² Physicians were relegated to the role of data entry clerks when many of the measures needed for attestation for Meaningful Use required that the physician (and not clerical staff) be the one to perform all the electronic tasks.

The Physician Quality Reporting System (PQRS) is another mandate from the CMS that has added to the clerical burden of physicians. For those smaller practices that do not have the ability to have quality reporting linked to their EHRs, it is up to individual eligible health care professionals to log on to the CMS website and enter 20 cases every year to avoid a penalty. Because of the multiple hurdles on the CMS website and its propensity to freeze and lose data,³ a product called PQRSwizd is available for purchase as an interface between the physician and the CMS website.

The regulatory burdens faced by today's physicians are staggering and will increase with the Medicare Access and CHIP (Children's Health Insurance Program) Reauthorization Act (MACRA), which will merge the Meaningful Use, PQRS, and Value-Based Payment Modifier programs into an even larger, more complex program called the Merit-Based Incentive Payment System and Alternative Payment Models, to achieve the triple aim of the Affordable Care