

results indicate that reducing work hours is an effective individual strategy to reduce burnout for many physicians.

In summary, the increase in burnout observed in US physicians between 2011 and 2014 likely translated into approximately a 1% reduction in the professional effort of the US physician workforce. This loss is roughly equivalent to eliminating the graduating class of 7 US medical schools.⁶ This estimate does not include other potential impacts of burnout on the physician workforce such as early retirement or physicians leaving the profession to pursue nonmedical careers. Reducing professional work effort does appear to be an effective strategy for individual physicians to reduce burnout. Although this approach may help individual physicians, at the societal level it has the potential to exacerbate the pending physician workforce shortage. To preserve adequate access to care, there is a societal imperative to provide physicians a better option than burning out, working part-time, or leaving the profession.

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Industry Funding of
 Cancer Patient Advocacy
 Organizations 

To the Editor: Cancer patient advocacy organizations (PAOs) often demand faster drug approval and easier access to cancer medications with uncertain benefits and harms.¹ Previous research has found that a sizable percentage of PAOs across all disease types receive funding from the biopharmaceutical industry^{2,3}; as such, the independence of such groups has been questioned.⁴

To our knowledge, however, there has been no research specifically

TABLE. Patient Advocacy Organizations for Specific Cancer Subtypes Recommended by the National Comprehensive Cancer Center

Cancer tumor type	Organization	Biopharmaceutical sponsorship (year)	Pharmaceutical sponsors (No.)
Bladder	Bladder Cancer Advocacy Network	Yes (2014)	7
Bladder	Urology Care Foundation	Yes	15
Brain	American Brain Tumor Association	Yes	1
Brain	National Brain Tumor Society	Not reported	
Breast	After Breast Cancer Diagnosis	Not reported	
Breast	Breast Cancer Research Foundation	Yes	4
Breast	Breastcancer.org	Yes	16
Breast	Facing Our Risk of Cancer Empowered	Yes (2014)	13
Breast	Inflammatory Breast Cancer Research Foundation	No	
Breast	Living Beyond Breast Cancer	Yes (2014)	15
Breast	Metastatic Breast Cancer Network	Not reported	
Breast	National Breast Cancer Coalition	Not reported	
Breast	Sisters Network Inc	Yes (2011)	5
Breast	Susan G. Komen Breast Cancer Foundation	Yes	5
Breast	Young Survival Coalition	Yes	4
Carcinoid cancer/neuroendocrine tumors	Carcinoid Cancer Foundation Inc	Yes	2
Colon	Colon Cancer Alliance	Yes	4
Colon	Fight Colorectal Cancer	Yes (2014)	15

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TABLE. Continued

Cancer tumor type	Organization	Biopharmaceutical sponsorship (year)	Pharmaceutical sponsors (No.)
Esophageal	Esophageal Cancer Awareness Association	Not reported	
Gynecologic	Foundation for Women's Cancer	Yes (2013)	9
Gynecologic	National Cervical Cancer Coalition	Not reported	
Gynecologic	National Ovarian Cancer Coalition	Yes	2
Gynecologic	Ovarian Cancer National Alliance	Yes	10
Gynecologic	Patient Access Network Foundation	Not reported	
Head and neck	Head and Neck Cancer Alliance	Yes	3
Head and neck	Oral Cancer Foundation	Yes	7
Head and neck	Support for People With Oral and Head and Neck Cancer	Yes	4
Kidney	Kidney Cancer Association	Yes	8
Leukemia and lymphoma	Leukemia and Lymphoma Society	Yes	13
Leukemia and lymphoma	Leukemia Research Foundation	Yes	7
Leukemia and lymphoma	Lymphoma Research Foundation	Yes	6
Liver	American Liver Foundation	Yes	2
Lung	American Lung Association	Yes	7
Lung	Bonnie J. Addario Lung Cancer Foundation	Yes (2014)	15
Lung	Caring Ambassadors	Yes	14
Lung	Dusty Joy Foundation	Not reported	
Lung	Free ME From Lung Cancer	Yes	3
Lung	Free to Breathe	Yes (2014)	15
Lung	Lung Cancer Alliance	Yes (2011)	17
Lung	Lung Cancer Circle of Hope	Not reported	
Lung	Lung Cancer Initiative of NC	Yes	1
Lung	Lung Cancer Research Council Inc	Not reported	
Melanoma/skin	Aim at Melanoma	Yes	12
Melanoma/skin	American Academy of Dermatology	Yes	1
Melanoma/skin	Melanoma International Foundation	Yes	5
Melanoma/skin	Melanoma Research Alliance	Yes	16
Melanoma/skin	Melanoma Research Foundation	Yes	7
Melanoma/skin	Skin Cancer Foundation	Yes	9
Myelodysplastic syndromes	MDS Foundation	Yes	8
Myeloma	International Myeloma Foundation	Yes	7
Myeloma	Multiple Myeloma Research Foundation	Yes	4
Pancreatic	Pancreatic Cancer Action Network	Yes (2014)	19
Pancreatic	Pancreatica.org	Not reported	
Pancreatic	Lustgarten Foundation	Yes	1
Prostate	Malecare	Yes	6
Prostate	National Alliance of State Prostate Cancer Coalitions	Yes	6
Prostate	Prostate Cancer Foundation	Yes (2014)	10
Prostate	Prostate Cancer International	Not reported	
Prostate	Prostate Conditions Education Council	Yes	7
Prostate	California Prostate Cancer Coalition	Not reported	
Prostate	Prostate Health Education Network Inc	Yes	9
Prostate	Us TOO International Inc	Yes	13
Prostate	ZERO - The End of Prostate Cancer	Yes (2014)	14
Sarcoma/GIST	GIST Support International	Not reported	
Sarcoma/GIST	Sarcoma Alliance	Yes	2
Sarcoma/GIST	Sarcoma Foundation of America	Not reported	
Thyroid	American Thyroid Association	Not reported	
Thyroid	Thyroid Cancer Survivors Association Inc	Yes (2012)	7

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.

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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