

Author Affiliations: Department of Pediatrics/Pediatric Rheumatology, Erasmus MC Sophia Children's Hospital, Rotterdam, the Netherlands (m.otten@erasmusmc.nl).

Conflict of Interest Disclosures: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Dr Otten reported receiving travel grants from Pfizer (formerly Wyeth); and serving as a consultant to Roche. Dr Prince reported serving as a consultant to Bristol-Myers Squibb; receiving travel grants from Pfizer (formerly Wyeth); and receiving research grants from Abbott, Bristol-Myers Squibb, Novartis, Tevapharma, and Pfizer (formerly Wyeth). Dr van Suijlekom-Smit reported receiving grants from the Dutch Board of Health Insurances, Pfizer (formerly Wyeth), Abbott, and the Dutch Arthritis Association; serving as a consultant to Pfizer (formerly Wyeth), Roche, and Novartis; and receiving support for travel to meetings from Pfizer (formerly Wyeth) and Bristol-Myers Squibb.

- Horneff G, Schmeling H, Biedermann T, et al; Paediatric Rheumatology Collaborative Group. The German etanercept registry for treatment of juvenile idiopathic arthritis. *Ann Rheum Dis*. 2004;63(12):1638-1644.
- Gurion R, Lehman TJ, Moorthy LN. Systemic arthritis in children: a review of clinical presentation and treatment. *Int J Inflamm*. 2012;2012:271569.
- Beukelman T, Patkar NM, Saag KG, et al. 2011 American College of Rheumatology recommendations for the treatment of juvenile idiopathic arthritis: initiation and safety monitoring of therapeutic agents for the treatment of arthritis and systemic features. *Arthritis Care Res (Hoboken)*. 2011;63(4):465-482.
- Petty RE, Southwood TR, Manners P, et al; International League of Associations for Rheumatology. International League of Associations for Rheumatology classification of juvenile idiopathic arthritis: second revision, Edmonton, 2001. *J Rheumatol*. 2004;31(2):390-392.
- Prakken B, Albani S, Martini A. Juvenile idiopathic arthritis. *Lancet*. 2011;377(9783):2138-2149.

RESEARCH LETTER

Physician Violations of Online Professionalism and Disciplinary Actions: A National Survey of State Medical Boards

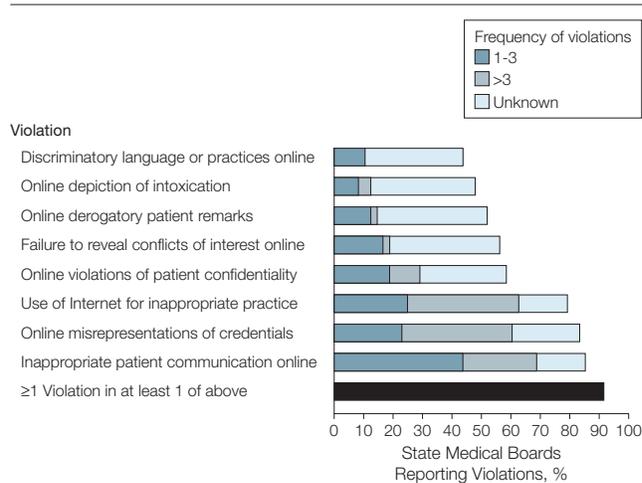
To the Editor: The use of social media by physicians to post unprofessional content online has been well documented.^{1,2} While concerns about online professionalism have prompted the creation of guidelines for social media use from professional societies such as the American Medical Association,³ there is no information about oversight by licensing authorities for physician uses of the Internet or disciplinary consequences for violations of online professionalism.

Methods. We surveyed the 68 executive directors of all medical and osteopathic boards in the United States and its territories about violations of online professionalism reported to them and subsequent actions taken. The survey was developed with input from key informants from a representative sample of 10 state boards to determine online actions by physicians most likely to directly affect patients. This study was conducted in partnership with the Federation of State Medical Boards (FSMB) and was approved by the institutional review board at Yale University School of Medicine.

Results. The response rate was 71% (48/68). These 48 boards are responsible for the medical licensure and discipline of 88% of the approximately 850 000 physicians in the FSMB database with an active license in the United States and its territories.

The majority of respondents (44/48; 92% [95% CI, 86%-98%]) indicated that at least 1 of several online profession-

Figure. Prevalence of Online Professionalism Violations Reported to State Medical Boards (N=48)



Bar length indicates total frequency for each violation type.

alism violations had ever been reported to their board (FIGURE). The most common violations reported were inappropriate patient communication online, eg, sexual misconduct (33/48; 69% [95% CI, 58%-80%] for ≥ 1 violations); use of the Internet for inappropriate practice, eg, Internet prescribing without an established clinical relationship (30/48; 63% [95% CI, 52%-74%]); and online misrepresentation of credentials (29/48; 60% [95% CI, 48%-72%]). Most boards indicated that incidents had been reported to them by patients or their families (31/48; 65%), although report by other physicians was common as well (24/48; 50%) (TABLE).

In response to such violations within their jurisdiction, 71% (34/48) of boards held disciplinary proceedings, including formal disciplinary hearings (50%; 24/48) and issuing of consent orders (physician agrees to sanctions without a hearing: 40%; 19/48) (Table). In additional, 40% (19/48) of boards issued informal warnings and 25% (12/48) reported at least 1 instance in which no action was taken. Collectively, serious disciplinary outcomes of license restriction, suspension, or revocation occurred at 56% (27/48) of the boards.

Comment. Most US medical licensing authorities reported incidents of online professionalism violations by physicians, many of which resulted in serious disciplinary actions. While the total number of these actions is relatively small compared with the approximately 65 000 lifetime board actions taken against all licensed physicians currently in the FSMB database, this is likely to change as the use of social media continues to grow. Furthermore, these violations also may be important online manifestations of serious and common violations offline, including substance abuse, sexual misconduct, and abuse of prescription privileges.⁴ In addition, these incidents are highly problematic in their own right

Table. Method of Discovery, Initial Actions, and Disciplinary Outcomes for Violations of Online Professionalism Reported to State Medical Boards

	No. (%) [95% CI] (N = 48)
Method of discovery for violations of online professionalism	
Reported by patient or patient's family	31 (65) [54-74]
Reported by another physician	24 (50) [38-62]
Discovered during investigation of another complaint	24 (50) [38-62]
Reported by nonphysician (eg, nurse, social worker)	16 (33) [22-44]
Initial actions in response to reported violations of online professionalism	
Any disciplinary proceeding	34 (71) [60-82]
Formal disciplinary meeting	24 (50) [38-62]
Informal warning issued	19 (40) [28-52]
Issue of consent order	19 (40) [28-52]
No action taken	12 (25) [15-35]
Subsequent outcomes of disciplinary proceedings of online professionalism	
Any serious action (restriction, suspension, or revocation)	27 (56) [44-68]
Letter of reprimand	23 (48) [36-60]
Restriction of license	21 (44) [32-56]
Mandated education or community service	19 (40) [28-52]
Monetary fine	16 (33) [22-44]
Suspension of license	16 (33) [22-44]
Revocation of license	10 (21) [11-31]
Probation	4 (8) [2-14]
Actions pending (active investigations)	4 (8) [2-14]

because they reflect poorly on physicians' values to the public.⁵

Our study has limitations. First, these violations are not currently tracked in the FSMB database and our survey data may be subject to recall bias. Second, we did not match individual violations with specific disciplinary actions or outcomes. In addition, we inquired about lifetime events so we cannot describe yearly incidence or trends over time.

Professionalism is a core competency required for maintenance of licensure and specialty recertification. Regulators and physicians should therefore address emerging online practices. In addition, as state licensing boards monitor physicians for breaches of professionalism, categorizing online professionalism violations separately could be of value to better gauge the extent of this problem. Our findings highlight the need to promote physician understanding and self-monitoring of online professionalism⁶ and to create consensus-driven, broadly disseminated principles to guide physicians toward high-integrity interactions online.

S. Ryan Greysen, MD, MHS, MA
Katherine C. Chretien, MD
Terry Kind, MD, MPH
Aaron Young, PhD
Cary P. Gross, MD, MPH

Author Affiliations: Division of Hospital Medicine, University of California, San Francisco (Dr Greysen) (ryan.greysen@ucsf.edu); Medical Service, Washington DC VA Medical Center, Washington, DC (Dr Chretien); Department of Medical Education, Children's National Medical Center, Washington, DC (Dr Kind); Federation of State Medical Boards, Washington, DC (Dr Young); and Robert Wood Johnson Foundation Clinical Scholars Program, Yale School of Medicine, New Haven, Connecticut (Dr Gross).

Author Contributions: Dr Greysen had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Greysen, Chretien, Kind, Young, Gross.

Acquisition of data: Greysen, Young.

Analysis and interpretation of data: Greysen, Chretien, Kind, Young.

Drafting of the manuscript: Greysen, Chretien.

Critical revision of the manuscript for important intellectual content: Greysen, Chretien, Kind, Young, Gross.

Statistical analysis: Greysen.

Administrative, technical or material support: Chretien, Young.

Study supervision: Gross.

Conflict of Interest Disclosures: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Dr Gross reported serving as a scientific advisory board member for Fair Health Inc and receiving funding as a collaborator on the Yale University Open Data Access project, which is facilitating objective analysis of Medtronic clinical data. No other author reported disclosures.

Funding/Support: The Robert Wood Johnson Foundation and the Department of Veterans Affairs, as sponsors of the Dr Greysen's fellowship program, helped to fund the research for this study.

Role of the Sponsor: The Robert Wood Johnson Foundation and the Department of Veterans Affairs had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript.

Disclaimer: The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

Additional Contributions: We recognize Humayun J. Chaudhry, DO, MS (president and CEO) and David Johnson, MA (vice president of assessment services) at the Federation of State Medical Boards for assisting in the study conceptualization and design, revision of survey instruments, collection and interpretation of data, and writing and revision of the manuscript. We also thank the Robert Wood Johnson Clinical Scholars program and the Department of Veterans Affairs for support of this research and our key informants at state medical and osteopathic boards for invaluable insights into the structure and function of their licensing bodies. Dr Chaudhry and Mr Johnson were not financially compensated for their contributions.

1. Lagu T, Kaufman EJ, Asch DA, Armstrong K. Content of weblogs written by health professionals. *J Gen Intern Med.* 2008;23(10):1642-1646.

2. Chretien KC, Azar J, Kind T. Physicians on Twitter. *JAMA.* 2011;305(6):566-568.

3. Shore R, Halsey J, Shah K, Crigger BJ, Douglas SP; AMA Council on Ethical and Judicial Affairs (CEJA). Report of the AMA Council on Ethical and Judicial Affairs: professionalism in the use of social media. *J Clin Ethics.* 2011;22(2):165-172.

4. Morrison J, Wickersham P. Physicians disciplined by a state medical board. *JAMA.* 1998;279(23):1889-1893.

5. Greysen SR, Kind T, Chretien KC. Online professionalism and the mirror of social media. *J Gen Intern Med.* 2010;25(11):1227-1229.

6. Lagu T, Greysen SR. Physician, monitor thyself: professionalism and accountability in the use of social media. *J Clin Ethics.* 2011;22(2):187-190.

CORRECTION

Incorrect Dates: In the Original Contribution entitled "Serum Vaccine Antibody Concentrations in Children Exposed to Perfluorinated Compounds," published in the January 25, 2012, issue of *JAMA* (2012;307[4]:391-397), inclusion dates were incorrectly reported in the Abstract and text. In the Abstract, the second sentence of the Design, Setting, and Participants section should have read, "A total of 656 consecutive singleton births were recruited during 1997-2000, and 587 participated in follow-up through 2008." In the text, the first sentence of the Methods section should have read, "The birth cohort was formed from 656 consecutive singleton births at the National Hospital in Tórshavn, Faroe Islands, during 1997-2000." This article was corrected online.