

Professional-Patient Boundaries: a National Survey of Primary Care Physicians' Attitudes and Practices

Harry Reyes Nieva, MAS^{1,2,3}, Elise Ruan, MD, MPH^{1,4}, and Gordon D. Schiff, MD^{1,2}



¹Division of General Internal Medicine and Primary Care, Brigham and Women's Hospital, Boston, MA, USA; ²Department of Medicine, Harvard Medical School, Boston, MA, USA; ³Department of Biomedical Informatics, Columbia University, New York, NY, USA; ⁴Montefiore Medical Center, Bronx, NY, USA.

BACKGROUND: The essence of humanism in medicine and health care is relationships—caring relationships between clinicians and patients. While raising concerns regarding professional-patient boundaries has positively contributed to our understanding and prevention of potentially harmful boundary violations, there is controversy about which types of relationships, caring acts, and practices are acceptable versus cross boundary lines.

OBJECTIVE: To examine primary care physicians' practices and attitudes regarding acts that have been questioned as potentially "inappropriate" or "unethical" crossing of professional-patient boundaries.

DESIGN: Surveys conducted via in-person polling or electronic and mailed paper submissions from April 2016 to July 2017. We calculated descriptive statistics and examined associations with practices and attitudes using logistic regression.

PARTICIPANTS: Random sample of all US primary care physicians who treat adult patients; convenience sample of attendees at medicine grand rounds presentations.

MAIN MEASURES: Outcomes were self-reported practices and attitudes related to giving patients rides home, paying for patients' medication, helping patients find jobs, employing patients, going to dinner with patients, and providing care to personal friends.

KEY RESULTS: Among 1563 total respondents, 34% had given a ride home, 34% had paid for medications, 15% helped patients find a job, 7% had employed a patient, 10% had dinner with patients, and 59% provided care to personal friends. A majority disapproved of dinner with a patient (75%) but approved of or were neutral on all other scenarios (61–90%).

CONCLUSIONS: The medical profession is quite divided on questions related to drawing lines about appropriate boundaries. Contrary to official and widespread

proscriptions against such practices (with exception of dinner dates), many have actually engaged in such practices and the majority found them acceptable.

KEY WORDS: doctor-patient relationships; professionalism; ethics; primary care.

J Gen Intern Med 35(2):457–64

DOI: 10.1007/s11606-019-05543-0

© Society of General Internal Medicine 2019

BACKGROUND

The essence of humanism in medicine and health care is relationships—caring relationships between clinicians and patients. While enhancing the quality, depth, and meaningfulness of those relationships would appear to be an important and unambiguous goal, many have raised concerns about "side effects" when these relationships go "too far" and/or cross boundaries with potentially negative consequences for patients and providers. In the past two decades, the subject of "professional-patient boundaries" has become an important one in the medical literature, medical education, and professional regulation.^{1–6} While the boundaries paradigm has positively contributed to our understanding and prevention of potentially harmful boundary violations, especially inappropriate or exploitative sexual and economic relationships, there has also been controversy about other types of relationships and practices.^{7, 8}

Multiple changes in medicine and society make this a particularly relevant and timely moment to better understand attitudes and practices related to physician-patient boundaries. Beginning in the 1970s, a series of papers and exposés revealed worrisome instances and data regarding physicians and other clinicians engaging in inappropriate sexual behaviors with patients. Beyond scandalous abuses publicized in the lay press, anonymous surveys revealed that, for example as many as 10% of male and 4% of female psychiatrists had sexual relationships with their patients.^{9, 10} Medical society peer review committees and institutional lawyers also began to critically challenge other types of potentially inappropriate or exploitative financial, personal, and other relationships between physicians and patients. To avoid risks or appearance of impropriety, professionals were instructed to maintain more

Presentations This work was presented at the Society of General Internal Medicine (SGIM) Annual Meeting held April 11–14, 2018, in Denver, CO, and an abstract from proceedings of the International Society for Quality in Health Care (ISQua) International Conference held September 23–26, 2018, in Kuala Lumpur, Malaysia, was published in the *International Journal for Quality in Health Care*.

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s11606-019-05543-0>) contains supplementary material, which is available to authorized users.

Received November 8, 2018

Revised June 10, 2019

Accepted October 8, 2019

Published online November 21, 2019

“arms-length” postures and advised to avoid social or financial relationships with patients. These changes mirrored changes in our larger society and those occurring within other professions (e.g., teachers and their students). Also, growing geographic, economic, and social class differences distanced physicians from many patients (particularly poorer patients; shifts from small towns and private practices to big cities and more corporatized care settings). The net result is what some have described as a growing alienation of patients from their physicians (and other caring professionals), raising concerns about whether the “pendulum has swung too far” in the direction of eroding human caring personal connections and relationships.^{7, 11, 12} While caring practices of providers have come into question⁷, there is a gray zone and paucity of understanding of both what practices are occurring and the range of clinicians and the public’s views on the subject.

To critically examine practices and the acceptability of various types of behavior, we surveyed primary care physicians (PCPs) about their attitudes and practices related to acts that have been questioned as “inappropriate” or “unethical” crossing of professional-patient boundaries.

METHODS

Survey Instrument

We developed and iteratively refined 6 scenarios based on actual cases in published literature⁸ and personal examples⁷ that the authors had seen or experienced as instances of potentially questionable “boundary crossings.” We presented these scenarios to explore respondents’ attitudes and practices related to these acts that have been questioned as “inappropriate” or “unethical” boundary crossings. Scenarios included giving a patient a ride home, paying for a patient’s medication, helping a patient find a job, employing a patient, going out to dinner with a patient, and providing care to a personal friend (survey instrument in [online Appendices](#)). For each scenario, we asked (a) “Have you ever personally done anything similar to what is described?” and (b) “If you heard that a colleague did something similar to what is described, how acceptable do you consider this behavior?” with dichotomous (1 = yes, 2 = no) and 5-point Likert (1 = very acceptable, 2 = acceptable, 3 = neutral, 4 = unacceptable, 5 = very unacceptable) response scales, respectively. Survey recipients were also asked about how often they give out their cell phone number to patients (always, often, sometimes, rarely, never) and demographics including year of birth, gender, race/ethnicity, clinical setting (e.g., solo, group, or hospital-based practice), and geographic location (urban, suburban, rural).

Survey Sample

Between April 2016 and July 2017, we administered electronic and mailed paper surveys to a random sample of all US primary care physicians treating adults based on records

contained in the American Medical Association (AMA) Physician Masterfile, which includes both members and nonmembers of the AMA. We also polled a convenience sample of attendees at 18 medical grand rounds-type presentations dedicated to the topic of professional-patient boundaries in 10 US cities. Participation in the polls and surveys was voluntary. This study was approved by the Partners HealthCare Institutional Review Board.

Survey Administration

We sent e-mail invitations to a random sample of US physicians in the AMA Physician Masterfile sample with hyperlinks to participate in an online survey portal hosted by SurveyMonkey. The website allowed us to collect survey responses, monitor nonresponse, track invalid e-mail addresses, send reminders, and link responses to recipient demographics found in the AMA Masterfile. After 3 e-mail reminders, we mailed a cover letter, hard copy survey with unique tracking ID, and prepaid self-addressed return envelope to a random sample of 3,000 nonrespondents. Responses from paper surveys were manually entered into the online survey portal, reviewed by study staff for accuracy, and combined with responses originating from e-mail-based submissions. We offered all electronic and paper survey recipients an incentive of raffle entry to win one of 10 Apple iPad tablet computers.

During grand rounds sessions, a presenter (GS) displayed each of the 6 scenarios and asked attendees to respond anonymously to the above questions regarding boundary crossing practices and attitudes via the PollEverywhere Audience Response System (ARS)¹³ on their smart phones. Demographic data were not collected at these sessions.

Data Management

The AMA Physician Masterfile database contained each physician’s name, National Provider Identifier (NPI), e-mail address, physical mailing address, gender, year of birth, average patient volume per day at the clinic, and number of physicians at the clinic. We calculated a mean daily patient volume per physician by dividing average patient volume per day at that clinic by the number of physicians at the clinic. We also cross-referenced physician zip codes with Rural-Urban Commuting Area (RUCA) Code approximations to classify mailing locations as urban (> 50,000 residents), large rural (10,000–50,000), small rural (2,500–9,999), or remote rural/frontier (< 2,500).^{14, 15} To compare attitudes about acceptability, we dichotomized 5-point Likert responses to “very acceptable, acceptable, neutral” (coded as 1) and “unacceptable, very unacceptable” (coded as 0) for each scenario.

Statistical Analysis

According to an Agency for Healthcare Research and Quality (AHRQ) study based on the AMA Physician Masterfile, there are 163,874 practicing primary care providers treating adults

Table 1 Demographic Characteristics of AMA Masterfile Survey Recipients. Data Sources: AMA Masterfile Administrative Data and Self-reported Survey Responses; Numbers in Each Column May Not Sum to the Total N for That Column Because of Missing Data

Characteristic	Respondents (N = 820)	Non-respondents (N = 4728)	P value
	Mean (SD)		
Age, years	53 (11)	57 (10)	< 0.001
Daily patient volume per physician	19 (17)	20 (16)	0.17
Gender	N (%)		< 0.001
Men	464 (57)	3052 (65)	
Race or ethnic origin			
White, Caucasian	600 (73)	NA	
Asian, Pacific Islander	111 (14)	NA	
Hispanic, Latino	34 (4)	NA	
Black, African American	30 (4)	NA	
Other	45 (5)	NA	
Clinical setting			
Hospital-based	232 (28)	NA	
Group practice	335 (41)	NA	
Solo Practice	114 (14)	NA	
Other	139 (17)	NA	
No. of physicians in practice			
1–4 physicians	319 (39)	NA	
5–24 physicians	303 (37)	NA	
25+ physicians	198 (24)	NA	
Self-reported geographic setting			
Urban	332 (40)	NA	
Suburban	344 (42)	NA	
Rural	144 (18)	NA	
Rural-urban continuum based on zip code			0.17
Urban	691 (84)	4078 (86)	
Large rural	83 (10)	372 (8)	
Small rural	32 (4)	188 (4)	
Remote rural/frontier	13 (2)	90 (2)	

in the USA.¹⁶ We estimated that a sample size between 599 and 1061 responses was necessary to ensure a margin of error of 3–4% at the 95% level of statistical significance.¹⁷ Given that e-mail-based physician surveys are likely to receive a response rate of 10–15%¹⁸, we estimated that a random sample of 6000 recipients would allow us to obtain the necessary number of responses.

We used the American Association for Public Opinion Research RR1 response rate and CR1 cooperation rate definitions.¹⁹ To evaluate nonresponse bias, we assessed differences in response rates by physician age, average daily patient volume per physician, gender, and geographic setting (Table 1). To adjust for unit nonresponse bias, we developed a logistic regression model to predict the probability of response and used the inverses of the predicted probabilities as sample weights.²⁰ For item nonresponse among survey respondents, we used fully efficient fractional imputation²¹ (FEFI) with jackknife variance estimation to replace missing values and used sampling weight adjustment to compensate for nonresponse. FEFI uses all observed values from an item to replace the missing values in that item. We were unable to perform a similar assessment of nonresponse for our convenience sample of polling data due to a lack of supporting demographics. Accordingly, we only present summary statistics for polling data in the form of proportions for each boundary crossing scenario and do not include them in subsequent analyses.

We calculated means, proportions, and odds ratios with 95% confidence intervals to compare respondents with and without a history of boundary crossing and respondents who

did or did not consider such boundary crossings very acceptable, acceptable, or neutral. We calculated odds ratios using logistic regression with imputation-adjusted weights and imputation-adjusted replicate weights to estimate standard errors. We compared categorical variables using the Pearson χ^2 test and continuous variables using the Student's *t* test. We calculated Cronbach's α to assess the reliability of composite scores for history and acceptability of boundary crossing. For all the above analyses, we used SAS (version 9.4, SAS Institute, Cary, NC).

We also used ArcGIS Desktop (version 10.5.1, ESRI, Redlands, CA) to geocode survey responses based on mailing addresses, calculate Global Moran's *I* statistics to assess spatial autocorrelation (the degree to which responses associated with addresses closer to one another were more alike than those farther apart), and apply inverse distance weighting (IDW) to interpolate and map national estimates of boundary crossing behavior and attitudes. We considered two-sided *P* values < 0.05 statistically significant for all analyses.

RESULTS

A total of 743 attendees responded to polling at grand rounds presentations (60% participation rate). Among the 6000 PCPs sampled from the AMA Masterfile, 453 (8%) had an invalid e-mail address and/or physical address. Of the remaining 5547 survey recipients, 819 responded (15% response rate; 85%

Table 2 Summary of Scenario Responses (N = 1563)

Scenario	Have you ever personally done something similar to what is described?		P value	If you heard that a colleague did something similar to what is described, how acceptable do you consider this behavior?		
	Yes	No		Very Acceptable, Acceptable, Neutral	Very Unacceptable, Unacceptable	
	N (%)*	N (%)		N (%)*	P value	
1. Giving patient a ride home	529 (34)	1019 (66)		1260 (81)	289 (19)	
Polling only	245 (33)	498 (67)	0.33	580 (78)	163 (22)	<0.002
Surveys only	285 (35)	521 (65)		681 (84)	126 (16)	
2. Helping pay for medication	528 (34)	1018 (66)		1032 (67)	513 (33)	
Polling only	267 (36)	476 (64)	0.16	416 (56)	327 (44)	< 0.001
Surveys only	261 (33)	543 (68)		617 (77)	186 (23)	
3. Helping to find a job	233 (15)	1315 (85)		1188 (77)	357 (23)	
Polling only	156 (21)	587 (79)	< 0.001	542 (73)	201 (27)	< 0.001
Surveys only	77 (10)	729 (90)		647 (81)	156 (19)	
4. Employing a patient	97 (7)	1390 (93)		902 (61)	583 (39)	
Polling only	45 (6)	698 (94)	0.53	357 (48)	386 (52)	< 0.001
Surveys only [†]	52 (7)	693 (93)		545 (73)	198 (27)	
5. Dinner with a patient	150 (10)	1398 (90)		388 (25)	1159 (75)	
Polling only	89 (12)	654 (88)	0.004	156 (21)	587 (79)	< 0.001
Surveys only	61 (8)	745 (92)		233 (29)	572 (71)	
6. Caring for a personal friend	921 (59)	628 (41)		1387 (90)	160 (10)	
Polling only	453 (61)	290 (39)	0.26	639 (86)	104 (14)	< 0.001
Surveys only	469 (58)	338 (42)		749 (93)	56 (7)	

*Numbers in each column may not sum to the total N for that column because of missing data

[†]77 paper surveys had scenario misprint; no response provided

cooperation rate). According to the online survey portal, 4487 (81%) of the e-mails sent out were never opened. Among all surveys received, the rate of item nonresponse averaged 3% and was greatest at 9% for the scenario regarding employment of a patient; of note, due to a survey printing error, 77 of the mailed paper surveys received were missing this scenario.

Sample Demographics

Baseline characteristics of the AMA Masterfile survey sample are presented in Table 1; demographics for the polled respondents were unavailable. Survey respondents were slightly younger than non-respondents (mean age 53 vs 57 years; $p < 0.001$) and a greater percentage of respondents were female compared to non-respondents (43% vs 35%; $p < 0.001$); no other statistically significant differences were found. On average, respondents saw 19 patients per day (standard deviation (SD), 17). Respondents were 73% White or Caucasian, 14% Asian or Pacific Islander, 4% Black or African American, 4% Hispanic or Latino, and 5% Other based on self-reported race/ethnicity. Respondents worked in a wide range of clinical settings—14% in solo practice, 41% in group practices, 28% for health systems or hospital-based clinics, 17% other. Physicians were based in a variety of

geographic settings including urban (40%), suburban (42%), and rural (18%). We received surveys from all 50 US states (mean response rate per state, 18% (SD, 10%).

Reported Practices

Of 1562 polling and survey respondents, 34% had given a patient a ride home, 34% had paid for a medication, 15% had helped a patient find a job, 7% had employed a patient, 10% had gone to dinner with a patient, and 59% had provided care to personal friends (Table 2). Differences in response proportions between polling and survey respondents were only statistically significant for physicians who had ever helped a patient find a job (21% poll vs 10% survey; $p < 0.001$) or ever had dinner with a patient (12% poll vs 8% survey; $p = 0.004$). A minority of physicians reported regularly sharing their cell phone numbers with patients (3% always, 4% often, 15% sometimes, 34% rarely, 43% never).

Among national survey respondents, physicians who were older, male, White, practicing in a solo or smaller clinic, and located in a rural area were associated with a history of giving a ride home, helping find a job, or caring for a friend (Table 3). Older, male, and Latinx physicians more commonly had paid

Table 3 Estimated Odds Ratios for History of Boundary Crossing Based on Responses to National Survey (N = 820). Data Source: AMA Masterfile Survey Responses

Characteristic	Giving a ride home	Paying for medications	Helping to find a job	Employing a patient	Dinner with a patient	Caring for a friend
Age, per decade	OR (95% CI) 2.18 (1.85–2.56)	OR (95% CI) 1.49 (1.30–1.71)	OR (95% CI) 1.32 (1.05–1.64)	OR (95% CI) 1.52 (1.15–2.02)	OR (95% CI) 1.45 (1.14–1.84)	OR (95% CI) 1.56 (1.36–1.79)
Men	1.82 (1.35–2.45)	1.50 (1.10–2.02)	2.04 (1.21–3.45)	1.05 (0.59–1.87)	1.51 (0.86–2.63)	1.52 (1.15–2.01)
White	Reference	Reference	Reference	Reference	Reference	Reference
Asian	0.46 (0.29–0.75)	0.86 (0.55–1.35)	0.69 (0.32–1.48)	1.09 (0.45–2.66)	2.02 (1.04–3.94)	0.57 (0.38–0.87)
Latino	0.76 (0.35–1.64)	2.70 (1.32–5.54)	0.55 (0.13–2.37)	1.57 (0.36–6.78)	0.88 (0.12–6.36)	0.73 (0.36–1.50)
Black	0.58 (0.24–1.39)	0.65 (0.26–1.63)	1.77 (0.65–4.79)	3.23 (1.06–9.86)	1.00 (0.14–7.31)	0.57 (0.27–1.22)
Other	0.41 (0.19–0.90)	0.71 (0.34–1.48)	0.21 (0.03–1.52)	0.77 (0.11–5.57)	1.03 (0.24–4.37)	0.59 (0.32–1.11)
Hospital-based	Reference	Reference	Reference	Reference	Reference	Reference
Group practice	2.22 (1.51–3.27)	1.45 (1.00–2.10)	1.79 (0.82–3.93)	1.33 (0.56–3.15)	1.06 (0.56–2.04)	1.35 (0.96–1.89)
Solo practice	3.91 (2.40–6.35)	1.48 (0.91–2.41)	6.56 (2.94–14.63)	5.60 (2.38–13.17)	1.35 (0.59–3.08)	3.13 (1.89–5.16)
Other	1.98 (1.24–3.18)	1.23 (0.77–1.96)	2.89 (1.23–6.80)	0.93 (0.27–3.13)	0.67 (0.26–1.76)	1.26 (0.83–1.93)
1–4 MD/DOs	Reference	Reference	Reference	Reference	Reference	Reference
5–24 MD/DOs	0.52 (0.37–0.72)	0.88 (0.63–1.23)	0.36 (0.20–0.64)	0.27 (0.12–0.59)	0.93 (0.51–1.68)	0.54 (0.39–0.74)
25 + MD/DOs	0.40 (0.27–0.59)	0.83 (0.56–1.22)	0.33 (0.16–0.67)	0.46 (0.22–0.99)	0.73 (0.35–1.51)	0.53 (0.37–0.76)
Urban	Reference	Reference	Reference	Reference	Reference	Reference
Suburban	1.46 (1.05–2.01)	0.98 (0.70–1.36)	1.75 (0.96–3.18)	1.39 (0.72–2.68)	0.70 (0.38–1.29)	1.61 (1.18–2.18)
Rural	1.81 (1.20–2.72)	1.30 (0.86–1.96)	3.46 (1.81–6.61)	1.53 (0.68–3.47)	1.22 (0.61–2.44)	2.49 (1.64–3.80)

for a patient’s medications. Older physicians and those practicing in solo or smaller practices had a higher likelihood of having employed a patient.

Respondent Attitudes

Only a minority of respondents found it unacceptable or very unacceptable to give a ride home (19%), pay for medication (33%), help find a job (23%), employ a patient (39%), or provide care to personal friends (10%). In contrast, three

fourths of physicians (75%) found it unacceptable or very unacceptable to go out to dinner with a patient. Differences in response proportions between polling and survey respondents were all statistically significant, though overall trends were similar (i.e., the majority of respondents still responded in the same way) except in the case of employing a patient.

Among national survey respondents, physicians who were older or practicing in a solo or smaller clinic were more likely to consider giving a ride home very acceptable, acceptable, or

Table 4 Estimated Odds Ratios for Acceptability of Boundary Crossing Based on Responses to National Survey (N = 820). Data Source: AMA Masterfile Survey Responses

Characteristic	Giving a ride home	Paying for medications	Helping to find a job	Employing a patient	Dinner with a patient	Caring for a friend
Age, per decade	OR (95% CI) 1.46 (1.24–1.71)	OR (95% CI) 1.41 (1.23–1.62)	OR (95% CI) 1.30 (1.13–1.50)	OR (95% CI) 1.39 (1.21–1.60)	OR (95% CI) 1.19 (1.04–1.36)	OR (95% CI) 1.70 (1.35–2.15)
Men	1.23 (0.85–1.79)	1.23 (0.90–1.70)	1.87 (1.33–2.64)	1.50 (1.11–2.02)	1.45 (1.06–1.97)	1.84 (1.08–3.14)
White	Reference	Reference	Reference	Reference	Reference	Reference
Asian	1.06 (0.60–1.88)	1.27 (0.77–2.10)	1.32 (0.77–2.26)	1.11 (0.71–1.74)	1.37 (0.89–2.12)	0.96 (0.44–2.10)
Latino	0.71 (0.28–1.78)	1.85 (0.64–5.36)	1.93 (0.58–6.40)	0.88 (0.41–1.89)	1.08 (0.49–2.40)	2.61 (1.64–4.16)
Black	0.74 (0.27–1.99)	0.48 (0.22–1.04)	1.29 (0.44–3.77)	0.84 (0.37–1.89)	0.79 (0.32–1.99)	0.71 (0.17–3.08)
Other	0.94 (0.39–2.23)	0.91 (0.45–1.87)	0.53 (0.27–1.04)	0.95 (0.48–1.87)	1.11 (0.56–2.20)	1.03 (0.26–4.03)
Hospital-based	Reference	Reference	Reference	Reference	Reference	Reference
Group practice	1.53 (0.99–2.38)	0.99 (0.67–1.47)	1.01 (0.67–1.52)	1.14 (0.79–1.64)	1.02 (0.70–1.49)	1.34 (0.71–2.52)
Solo practice	2.60 (1.27–5.33)	1.62 (0.91–2.88)	1.27 (0.71–2.26)	1.08 (0.66–1.76)	1.29 (0.79–2.10)	2.21 (0.75–6.53)
Other	1.32 (0.75–2.30)	0.79 (0.49–1.27)	1.03 (0.61–1.75)	0.90 (0.57–1.42)	1.06 (0.66–1.70)	0.91 (0.43–1.95)
1–4 MD/DOs	Reference	Reference	Reference	Reference	Reference	Reference
5–24 MD/DOs	0.48 (0.31–0.76)	0.65 (0.45–0.94)	0.61 (0.41–0.90)	0.70 (0.50–0.99)	0.75 (0.53–1.06)	0.55 (0.29–1.03)
25 + MD/DOs	0.51 (0.31–0.85)	0.81 (0.53–1.24)	0.76 (0.49–1.20)	0.89 (0.60–1.32)	0.85 (0.58–1.25)	0.62 (0.30–1.27)
Urban	Reference	Reference	Reference	Reference	Reference	Reference
Suburban	1.02 (0.68–1.53)	0.92 (0.65–1.30)	1.46 (1.01–2.11)	1.39 (1.00–1.92)	1.27 (0.89–1.79)	1.14 (0.65–2.02)
Rural	1.29 (0.73–2.27)	1.11 (0.69–1.77)	2.62 (1.47–4.69)	2.21 (1.38–3.53)	2.78 (1.83–4.21)	1.72 (0.71–4.19)

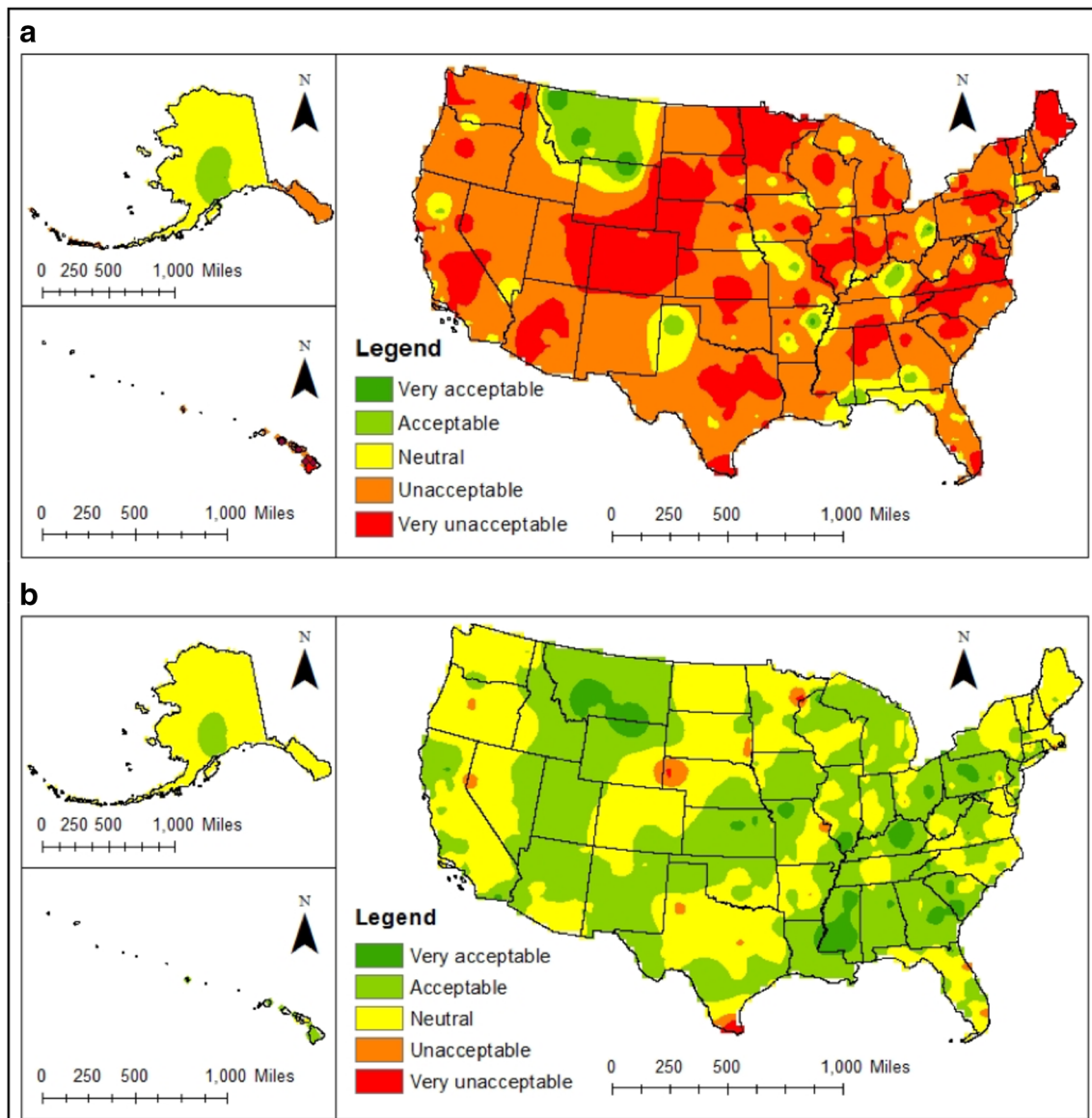


Figure 1 a, b Comparison of acceptability of going to dinner with a patient (a) and acceptability composite score for all other scenarios (b). An acceptability composite score was calculated for each patient using responses to scenarios about giving a patient a ride home, helping pay for medication, helping to find a job, employing a patient, and caring for a personal friend (Cronbach's $\alpha = 0.79$). Maps are based on inverse distance weighting of AMA Masterfile survey responses ($n = 820$).

neutral (Table 4). Older physicians more commonly considered paying for medications as very acceptable, acceptable, or neutral. Demographics associated with a higher likelihood of considering it very acceptable, acceptable, or neutral to help find a job or employ a patient were older age, male gender, and rural setting. Older and male physicians were associated with a higher likelihood of reporting dinner with a patient as very acceptable, acceptable, or neutral, while older, male, and Latinx physicians more commonly reported that caring for a friend was very acceptable, acceptable, or neutral.

History and Acceptability Composite Scores

Survey items related to a history of boundary crossing ($\alpha = 0.55$) did not meet the necessary reliability threshold (i.e., $\alpha > 0.70$)²²; accordingly, we did not calculate a composite score

for this domain. Items concerning acceptability of boundary crossing met conventional standards ($\alpha = 0.78$; mean composite score of 2.8, SD = 0.03). Reliability was highest for an acceptability composite score that did not include the scenario about dinner with a patient ($\alpha = 0.79$; mean composite score of 2.4, SD = 0.03).

Geographic Variation

Responses regarding whether or not physicians had ever engaged in a particular act exhibited positive spatial autocorrelation—physicians in a given geographic area often responded similarly—among all scenarios (eTable 1 in the online Appendices) except helping to find a job (Moran's $I = 0.04$, $p = 0.30$) or employing a patient (Moran's $I = 0.17$, $p = 0.58$) while attitudes about boundary crossing demonstrated

positive spatial autocorrelation for all scenarios. Interpolation of geocoded responses via inverse distance weighting (IDW) rendered maps that illustrate these regional differences among physicians who engaged in boundary crossing practices and their attitudes about such behavior (Figure 1 and online Appendices eFigures 1–11).

DISCUSSION

We found that a broad sample of practicing physicians across the USA considered a variety of “boundary crossing acts” to be acceptable, and many have acted in similar ways themselves. We found that the medical profession is quite divided on questions related to where to draw the line about appropriate boundaries. These data challenge prevailing proscriptions and suggest the need to rethink predominant strictly rules-based approaches.

Geospatial analysis found that physicians practicing near one another often report similar practices and attitudes, while also spotlighting regional pockets where norms may differ from the majority of the country. Regression analysis showed significant differences between physicians on a host of sociodemographic, professional, and regional factors, some consistent with the expectation that small town and even older doctors have different relationships with their patients. Whether this is related to having more opportunities (i.e., in practice longer) or genuine difference in culture and practices cannot be determined from these data. However, overall, crossing certain lines to foster caring relationships with patients appears to be considered appropriate and widely practiced by a substantial proportion of confidential respondents.

Many respondents stated that they had personally done many of the various “boundary crossing” scenario acts, and only a minority (with the exception of going to dinner with a patient) expressed views that it was unacceptable to do so. This means that the standard admonition, advising physicians (and other professionals) *never* to do a particular act, conflicts with respondents’ views and practices. While this expressed degree of acceptability may or may not mean that such practices are desirable or ethical, there are clearly ethical challenges raised by our findings.

One scenario was included intentionally to raise the potential concern for having a romantic/sexual relationship with a patient—going out to dinner with a patient. While the gender and sexual orientation of the patient and physician were deliberately unspecified, the case was designed to raise a potential red flag. It is noteworthy that the respondents rated this as something that only 10% had *ever done* and a majority (75%) felt this was unacceptable or very unacceptable. This suggests that (a) there was both more of a consensus that this represents a violation of appropriate boundaries, as well as (b) that this was clearly seen as *different* from other situations often grouped together with it to warn providers about getting too close to patients.⁷ Admonitions proscribing “relationships” with patients that lump this scenario with other types of

boundary crossings that are aimed at helping patients seem unfortunate. As our data shows, clinicians clearly make the distinction between this type of relationship and those described in the other scenarios that largely centered around acts of helping patients. One scenario most often practiced as well as considered acceptable by respondents was caring for a personal friend. Only 10% of respondents considered this unacceptable and nearly 60% had cared for a friend.

Limitations

Our findings should be considered in light of study limitations. First, the survey instrument has not been independently validated. While participants were apparently readily able to provide answers to the questions posed, for many of the scenarios, several stated that the best answer for these defined, multiple choice survey questions would be “it depends.” We concur that context often matters considerably in these gray area situations.

The lower response rate is also a concern raising questions about nonresponse bias. While our live audience polling had a high response rate, this was achieved using a convenience sample which may result in selection bias as respondents knew they were attending a grand rounds presentation on the topic of boundary crossing. In contrast, our survey responses were derived from a random sample of all US primary care physicians and were nearly equal in number to those of polling but represented a lower response rate. We anticipated this level of survey response in light of current literature regarding e-mail-based physician surveys¹⁸ and powered our study accordingly to achieve 95% confidence intervals within ± 3 –4% of population estimates obtained. Upon comparison, overall trends from survey and polling data were similar, except in the case of employing a patient.

Cross-sectional surveys are also unable to establish causal relationships and do not account for potential changes in social mores over time. For example, the survey was administered just prior to increased media attention and discussion stemming from the #MeToo movement, thus attitudes may have shifted as a result.

CONCLUSIONS

The medical profession is remarkably divided on questions related to drawing lines about appropriate boundaries. Contrary to widespread proscriptions against such practices, many have actually engaged in such practices while only a minority found them unacceptable. Having caring relationships with patients, in ways that are often frowned upon by lawyers, administrators, and educators (with exception of dinner dates), appears to be considered appropriate and widely practiced by many clinicians. This suggests that future teaching and ethical discussions might want to focus more on context and situational risk-benefit than on absolute rules, and that caring relationships/acts may actually be an important part of

fulfilling humanistic medical practice and provider and patient satisfaction.

Corresponding Author: Gordon D. Schiff, MD; Department of Medicine Harvard Medical School, Boston, MA, USA (e-mail: gschiff@bwh.harvard.edu).

Author Contributions All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Reyes Nieva and Schiff

Acquisition, analysis, or interpretation of data: All authors

Drafting of the manuscript: Reyes Nieva and Schiff

Critical revision of the manuscript for important intellectual content: All authors

Statistical and geospatial analysis: Reyes Nieva

Administrative, technical, or material support: Reyes Nieva and Ruan

Study supervision: Reyes Nieva and Schiff

Funding Information This study was funded by the Arnold P. Gold Foundation and the Lucian Leape Family Foundation. The study funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they do not have a conflict of interest.

REFERENCES

- Gabbard GO, Nadelson C. Professional boundaries in the physician-patient relationship. *JAMA*. 1995;273(18):1445-1449.
- Gutheil TC, Gabbard GO. Misuses and misunderstandings of boundary theory in clinical and regulatory settings. *Am J Psychiatry*. 1998;155(3):409-414.
- Bird S. Managing professional boundaries. *Aust Fam Physician*. 2013;42(9):666-668.
- Chen, J.A., Rosenberg, L.B., Schulman, B.J., Alpert, J.E., Waldinger, R.J., 2018. Reexamining the Call of Duty: Teaching Boundaries in Medical School. *Acad Med*, 93(11), 1624-1630.
- Ama J Ethics. 2015;17(5):416-418. doi: <https://doi.org/10.1001/journalofethics.2015.17.5.fred1-1505>.
- Federation of State Medical Boards. Addressing Sexual Boundaries: Guidelines for State Medical Boards. 2006. http://www.fsmb.org/siteassets/advocacy/policies/grpol_sexual-boundaries.pdf. Accessed September 11, 2019.
- Schiff GD. A piece of my mind. Crossing boundaries—violation or obligation? *JAMA*. 2013;310(12):1233-1234.
- Martinez R. A model for boundary dilemmas: ethical decision-making in the patient-professional relationship. *Ethical Hum Sci Serv* 2000;2(1):43-61.
- Gartrell N, Herman J, Olarte S, Feldstein M, Localio R. Psychiatrist-patient sexual contact: results of a national survey. I: Prevalence. *Am J Psychiatry* 1986;143(9):1126-1131.
- Fisher N, Fahy T. Sexual relationships between doctors and patients. *JR Soc Med* 1990;83(11):681-683.
- Gabbard, Glen O., Kristin A. Kassaw, and Gonzalo Perez-Garcia. "Professional boundaries in the era of the Internet." *Acad Psychiatry* 35, no. 3 (2011): 168-174.
- Brown S, Gunderman RB. Viewpoint: enhancing the professional fulfillment of physicians. *Acad Med* 2006;81(6):577-582.
- Kappers WM, Cutler SL. Poll Everywhere! Even in the Classroom: An Investigation into the Impact of Using PollEverywhere in a Large-Lecture Classroom. *Comput Educ J* 2015;6(20):140-145.
- Hart LG, Larson EH, Lishner DM. Rural definitions for health policy and research. *Am J Public Health* 2005;95(7):1149-1155.
- Zip Code RUCAs Approximation Methodology. <http://depts.washington.edu/uwruca/ruca-approx.php>. Accessed September 11, 2019.
- The Number of Practicing Primary Care Physicians in the United States. <http://www.ahrq.gov/research/findings/factsheets/primary/pcwork1/index.html>. Accessed September 11, 2019.
- Rosner B. *Fundamentals of Biostatistics*. 7 ed: Brooks/Cole: Cengage Learning; 2011.
- Scott A, Jeon SH, Joyce CM, et al. A randomised trial and economic evaluation of the effect of response mode on response rate, response bias, and item non-response in a survey of doctors. *BMC Med Res Methodol* 2011;11:126.
- Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. The American Association for Public Opinion Research; 2016.
- Diaz-Tena N, Potter F, Sinclair M, Williams S. Logistic Propensity Models to Adjust for Nonresponse in Physician Surveys. 2002; Alexandria, VA.
- Kim JK, Fuller WA. Fractional Hot Deck Imputation. *Biometrika*. 2004(91):559-578.
- Nunnally JC. *Psychometric Theory*. 2nd ed: New York: McGraw-Hill; 1978.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.