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Clinical and Personal Intimate Partner Violence Training Experiences of U.S. Medical Students

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ABSTRACT

Objective: To learn about U.S. medical students’ attitudes, experiences, and practices regarding intimate partner violence (IPV).

Methods: In a sample reflective of all U.S. medical schools, we surveyed the class of 2003 in 16 U.S. medical schools at three different times in their training.

Results: A total of 2316 medical students responded, for a response rate of 80%. By senior year, although 91% of medical students reported receiving at least some training in discussing IPV, only one fifth reported extensive training. Although 73% of students entering wards thought IPV was highly important for physicians to discuss with patients, only 55% of students entering wards, decreasing to 35% of seniors, thought IPV would be highly relevant to their own practice. Only 55% of seniors reported talking with general medicine patients at least sometimes about IPV. Greater frequency of discussing IPV for seniors was associated with being a woman (60% vs. 50% for men, \( p = 0.006 \)), self-designating as politically moderate or liberal (\( p = 0.0008 \)), and thinking (on entering wards) that it was highly important for physicians to talk to patients about IPV (\( p = 0.0002 \)). Perceived relevance of discussing domestic violence to intended practice was substantially higher among women, underrepresented minorities, those having a personal or family history of domestic violence, and those categorizing themselves as politically liberal or very liberal. Among seniors, the prevalence of reporting a personal history of IPV was 3% for women and 1% for men; 12% of women and 7% of men reported a family or personal IPV history.

Conclusions: Despite national interest in IPV issues, efforts in U.S. medical schools to increase IPV screening and prevention have not achieved saturation. These gaps in IPV instruction in medical schools are a concern because studies have reported that physicians who receive IPV education training are significantly more likely to screen for it.

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INTRODUCTION

INTIMATE PARTNER VIOLENCE (IPV) is a serious problem in the United States and around the world. The 1995–1996 U.S. National Violence Against Women Survey (conducted with adults ages ≥18) found that nearly 25% of surveyed women and 7.6% of surveyed men said they were raped or physically assaulted or both by a current or former spouse, cohabiting partner, or date at some point in their lifetime.\(^1\) A recent review of 48 different population-based surveys from various countries around the world showed that between 10% and 69% of women in those countries reported being physically assaulted by a male intimate partner during their lifetime.\(^2\) The physical abuse was frequently accompanied by psychological abuse and sexual abuse as well.\(^2\)

Clearly, IPV has considerable effects on women’s physical and mental health and healthcare, and health professionals should, therefore, be trained in this area. Most U.S. medical students (80%) believe they are receiving adequate training about IPV,\(^3\) and most medical schools report having some family violence education in the curriculum. Total instructional time has not increased since 1987,\(^4\) however, and reasons cited for not teaching about IPV have included lack of time in the curriculum and the belief that IPV is too complicated an issue.\(^5\) To address these needs, the Institute of Medicine (IOM) recently compiled a comprehensive review of current violence education and made recommendations for curriculum development.\(^6\) Many national medical organizations (including the American Medical Association,\(^7\) American Academy of Family Physicians,\(^8\) American Academy of Pediatrics,\(^9\) and American College of Obstetricians and Gynecologists\(^10\) ) are encouraging physicians to help prevent IPV, but little is known about current medical student attitudes and practices in these areas. We sought to fill this gap and to better understand and shape the future of medical attitudes and behaviors about IPV with a national study of medical students’ personal and professional experiences with domestic violence.

MATERIALS AND METHODS

All medical students in the class of 2003 at 16 U.S. schools were eligible to complete three questionnaires administered during their medical training: at freshman orientation (T1, summer/fall 1999), at entrance to wards (T2), and in their senior year (T3). School participation was encouraged by offering the summary use of schoolspecific data (in aggregate and without student identifiers).

We selected our convenience sample of schools to reflect all U.S. medical schools in terms of age (freshman average 24 years old vs. 24 nationally), school size (average students per school 563 vs. 527 nationally), National Institutes of Health (NIH) medical school research ranking (school average 64 vs. 62 nationally), private/public school balance (51% private schools vs. 41% nationally), underrepresented minorities (13% blacks, Hispanics, and Native Americans vs. 11% nationally), gender (45% women vs. 43% nationally), and geographic distribution.\(^11-14\) A 17th school was excluded in 2002 for nonadherence to protocol.

Students’ responses were linked across time using a unique identifier consisting of mother’s initials at her birth and father’s first two initials. In an IRB-approved protocol, the confidential questionnaires were administered to students outside of formal classroom or training time. Students were instructed that their participation was voluntary and that they could choose to withdraw from the study at any time. When necessary (at a few sites), we used Dillman’s five-stage mailing process\(^15\) to maximize response rates. Of the 2316 students who provided responses, 71.6% (\(n = 1658\)) did so at more than one time point; 971 responded at three time points, 687 at two, and 658 at one. School response rates were 48%–98%; including responses from the 17th, protocol-noncompliant school gives a conservative figure of 80.3% responding overall. Not all students were eligible to respond at all three survey points, for example, because of students leaving or returning from pursuing a complementary degree.

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**Description of variables**

Our primary outcomes were two variables concerning medical students’ talking to patients about domestic violence: (1) perceived relevance of this discussion in the student’s intended practice and (2) self-reported frequency of talking to a “typical general medicine patient.” (Terms in the literature that describe violence between spouses or other intimate partners include “domestic violence,” “family violence,” “spouse abuse,” and “intimate partner violence.” Because our questionnaire used the first term, we use it here except when referring to other literature specifically using alternate terminology.) The possible responses for relevance were: not at all/somewhat/highly, and those for frequency were: never-rarely/sometimes/usually-always. Relevance was queried at all time points (T1, T2, and T3), whereas frequency was measured only on the senior year survey (T3). Secondary outcomes of interest were the training received on domestic violence (T2 and T3), their confidence in discussing the topic with patients (T2 and T3), and how important they thought it was for physicians to talk to patients about violence (T2).

Independent variables tested for association with the primary outcomes were gender, age, ethnicity, marital status, self-defined political orientation (very liberal, liberal, moderate, fairly conservative, very conservative) queried because political beliefs may be correlated with comfort level in discussing domestic violence,17 intended specialty, psychological variables (i.e., feeling downhearted and blue, life satisfaction, and suicidal ideation [T3]), student’s household gun ownership (IPV victims may believe a gun could protect them or that it puts them at risk for further IPV), a family (T1 and T2) or lifetime personal history of domestic violence, and a lifetime personal history of sexual abuse. Variables were assessed at all three time periods unless otherwise noted. The variable “any history of domestic violence” has combined information from family (parents/siblings/grandparents) and personal history responses.

**Statistical analysis**

There were two levels of clustering in this study, student clustering within schools and repeated measurements taken on students. We adjusted variance estimates in all analyses to account for the dependence structure between observations using SUDAAN,18 treating each school as a cluster and each student’s multiple responses as subclusters.

The bivariate associations between our two categorical outcomes (relevance of discussions about domestic violence to intended practice and self-reported discussion frequency) and independent categorical predictor variables were tested using a chi-square test for independence appropriate for the dependence structure in the data. The linear and quadratic trend of the relevance outcome over time was tested using a multinomial logistic regression model via the general estimating equations model-fitting method with robust variance estimation. To keep the type I error rate close to the nominal 5% while preserving some power to detect true differences, we refer to results as statistically significant when \( p < 0.01 \) (slightly more liberal than a Bonferroni correction of \( p < 0.004 \)).

**RESULTS**

The overall response rate across the three time periods was 80% (T1, 87%; T2, 78%; T3, 75%), based on a denominator of the sum of student enrollment at each point and a numerator of individual responses at those times. Nonresponse rates for individual questionnaire items were a median of 3%.

By their senior year, 91% of medical students reported receiving at least some training in discussing domestic violence, although only one fifth reported extensive training (Table 1). This contrasts with training in discussing such areas as alcohol abuse (98%), Chlamydia screening (95%), cholesterol testing (99%), exercise (96%), safe sex (98%), and tobacco (98%), with at least a third of the students saying their training was extensive (35%, 35%, 49%, 27%, 41%, and 42%, respectively). Confidence in talking to patients about domestic violence remained fairly constant through the clinical years, with 30% feeling highly confident. Although three quarters of those entering wards thought this topic to be very important for physicians to discuss with patients, only 54% of seniors intending to go into primary care and 26% of those intending to go into non-primary care thought it would be highly relevant to their own intended specialty. Specialty was not
associated with the response to training, confidence, frequency, or importance, so these are not stratified in the tables. For all students, perceived relevance tended to peak at entrance to wards (this was true for many preventive variables), although the greatest changes were among primary care (% perceiving high relevance at T1, T2, and T3 were 44%, 74%, and 54%, respectively, for primary care vs. 31%, 44%, and 26%, respectively, for nonprimary care). About half (55%) of seniors reported talking with their general medicine patients about domestic violence at least sometimes.

Perceived relevance to intended practice of discussing domestic violence was substantially higher among women, regardless of intended specialty (Table 2). Underrepresented minorities
Table 2. U.S. Medical Students’ Characteristics Associated with Perceived Relevance and Self-Reported Frequency of Talking to Patients about Domestic Violence

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Relevance to intended practice</th>
<th>Frequency of discussion with typical general medicine patient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% highly relevant (SE)</td>
<td>Chi-square</td>
</tr>
<tr>
<td>Intended specialty and gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>0.002</td>
<td>0.1</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonprimary care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>0.002</td>
<td>0.03</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
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<tr>
<td>Undecided</td>
<td></td>
<td></td>
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<tr>
<td>Women</td>
<td></td>
<td></td>
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<tr>
<td>Men</td>
<td></td>
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<tr>
<td>Ethnicity</td>
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<tr>
<td>Asian</td>
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<tr>
<td>Black/African American</td>
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<td>Hispanic</td>
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<tr>
<td>White</td>
<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
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<tr>
<td>Marital status</td>
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<tr>
<td>Single/widowed/divorced</td>
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<tr>
<td>Unmarried couple</td>
<td></td>
<td></td>
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<tr>
<td>Married</td>
<td></td>
<td></td>
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<tr>
<td>Personal history of domestic violence</td>
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<td></td>
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<tr>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td></td>
<td></td>
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<tr>
<td>Any history (family or personal) of domestic violence</td>
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<tr>
<td>Yes</td>
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<td></td>
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<tr>
<td>No</td>
<td></td>
<td></td>
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<tr>
<td>Politics</td>
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<tr>
<td>Very conservative</td>
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<tr>
<td>Conservative</td>
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<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
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<tr>
<td>Liberal</td>
<td></td>
<td></td>
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<tr>
<td>Very liberal</td>
<td></td>
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</tbody>
</table>

In response to the question: How relevant do you think domestic violence will be in your intended practice?

bIncludes all time points; individuals may be represented 1–3 times.

cQueried during senior year only.

dp value for gender overall < 0.0001; specialty overall < 0.0001.

ep value for gender overall = 0.0057; specialty overall = 0.1221.

fep value for underrepresented minorities (black, Hispanic, other) vs. whites and Asians = 0.0015.

gp value for conservative vs. not conservative = 0.0008.

hQueried at entry to wards. Testing whether opinion held at that time is associated with perceived relevance and self-reported frequency of discussion about domestic violence during senior year.

were more likely than whites and Asians to report high relevance, as were those having a personal or family history of domestic violence and those categorizing themselves as politically liberal or very liberal. Those who believed it was highly (vs. somewhat or not at all) important to discuss domestic violence were twice as likely (41% vs. 19%) to think that it would be highly rel-
ervant to their own practice. This relationship held whether their intention was to go into primary or nonprimary care (data not shown).

Greater frequency of discussing domestic violence was associated for seniors with being a woman (60% vs. 50% for men, \( p = 0.006 \)), self-designating as politically moderate or liberal (\( p = 0.0008 \)), and thinking (at T2) that it was highly important for physicians to talk to patients about domestic violence (\( p = 0.0002 \)). Frequency of discussion was not associated with intended specialty, marital status, ethnicity, or personal/history of domestic violence. Neither perceived relevance nor frequency of discussion was related to the student’s household gun ownership, history of personal sexual abuse, or age (data not shown).

Lifetime prevalence reported by seniors of a personal history (data not shown) of domestic violence was 3% for women and 1% for men. The lifetime prevalence of reporting any history (family or personal history or both) was 12% for women and 7% for men. Blacks and Hispanics were more likely than other ethnicities to report any personal or family history of domestic violence (18% vs. 7% for others, \( p = 0.003 \)). Feeling “downhearted and blue” at least some of the time in the past 4 weeks was more likely if there was a personal or family history of domestic violence (37% vs. 27%, \( p = 0.0002 \)) and somewhat more likely with a personal history of domestic violence (46% vs. 27%, \( p = 0.03 \)). Unassociated (\( p > 0.05 \)) with histories of domestic violence were specialty, politics, life satisfaction, household guns, thoughts of suicide, or relevance, frequency, confidence, importance, or training regarding domestic violence discussions. A personal history of sexual abuse was reported by 5% of senior women and 1% of senior men; <0.5% of students reported having personal histories of both domestic violence and sexual abuse.

**DISCUSSION**

By senior year, although most (91%) medical students reported having received at least some training in discussing IPV, only one fifth reported extensive training, and only one third felt highly confident in having such discussions. Medical students were less likely to receive training in domestic violence than they were in several other preventive areas. Nearly all (95%) students had received at least some training in alcohol abuse, Chlamydia screening, cholesterol testing, exercise, safe sex, and tobacco, and at least one third of the students said their training was extensive in these areas. Further, the percent of students believing that IPV discussions would be highly relevant to their own practices decreased from one half to one third of students during their time on the wards, and only half of seniors reported sometimes talking with general medicine patients about IPV. This finding is noteworthy in light of an Association of American Medical Colleges (AAMC) report showing that 20% of U.S. graduating physicians in 2004 believed that the curriculum time dedicated to IPV was inadequate. The same report found that 15% of students believed they had inadequate training in health promotion and disease prevention, 8% of students thought their instruction in alcohol and drug abuse was inadequate, and <2% believed that they had inadequate training in patient interviewing. A higher percentage of students perceive that their IPV education is inadequate than believe that other areas are inadequately taught, and the actual IPV inadequacy may be even higher because students’ perceived relevance of this subject is low and decreases during their training.

These gaps in domestic violence instruction in medical schools are a concern because studies have reported that physicians who receive domestic violence education during their training are significantly more likely to screen for it. If medical students are not receiving adequate training in IPV and appropriate encouragement to perceive this as an important area, they are less likely to screen for IPV in their own practices and will miss the opportunity to refer their patients to appropriate resources. Although the accuracy and efficacy of IPV screening are uncertain, students are receiving more training in other health screening practices including other areas whose accuracy and efficacy are similarly uncertain. Ernst et al. reported that medical students had poor retention of IPV education 2 years after they received instruction, suggesting a need for continuing medical education.

In our study, over half (55%) of seniors reported discussing domestic violence with their general medicine patients at least sometimes, and Ernst et al. reported that 30% of medical students had recognized and treated a victim of IPV during their clinical years. Medical students may
receive scant modeling in this area: only about 10% of family medicine, internal medicine, and obstetrics and gynecology physicians routinely screen for IPV, although up to 80% will ask a patient about IPV if the patient has an injury. Rodriguez et al. found differences in screening practices among primary care physicians, with obstetrician/gynecologists (17%) being more likely than internists (6%) to screen new patients for IPV.

We found that, overall, about half (54%) of students intending to go into primary care and only 34% of nonprimary care-directed students thought discussing domestic violence would be highly relevant to their own intended specialty. These numbers peaked at entry to wards and were lower in senior year among both those intending to specialize in primary care and those intending to specialize in nonprimary care. These numbers are low overall, and it is especially of concern that they are lower senior year than at entry to wards. The specialty-influenced perception of relevance seems consistent with data showing that primary care physicians, psychiatrists, and emergency medicine physicians had higher rates of IPV education and felt more competent to treat victims than did surgeons and medical subspecialists. Bair-Merritt et al. found that 93% of chief residents believed that pediatricians should screen for IPV and that IPV was a significant health problem for their patients, but that only 24% felt sufficiently trained to handle IPV cases. All physicians will likely encounter victims of violence at some point in their training and practice, but primary care physicians may be more focused than specialist physicians on screening and assessment of health risks.

Perceived relevance to intended practice was somewhat higher among those having a personal or family history of domestic violence and among underrepresented minorities and those self-categorizing as liberal. Research on child sexual abuse and mental illness suggests that direct personal, familial, or peer experience with these adverse conditions alters one’s attitudes and awareness about them. Similarly, the Women Physicians’ Health Study showed a strong and persistent correlation between personal history/practices and patient counseling practices. It is likely that personal experience with IPV has the same effect on awareness of the problem and on perceptions about the relevance of IPV to one’s life work. Because research suggests that IPV victimization is more prevalent among women than men medical students and faculty and among black and hispanic couples than among white couples, it is not surprising that women medical students and underrepresented minorities perceive domestic violence as more relevant to their future practice. Additionally, research indicates that nursing students with more egalitarian sex-role beliefs are more sympathetic to battered women than are students with traditional sex role attitudes. Although we did not measure attitudes toward victims of IPV, it is possible that this same heightened sensitivity and sympathy toward IPV victims exist among some medical students, for example, those who self-characterize as liberal, increasing the perceived relevance of IPV to their intended practice and greater comfort level with discussing the issue with patients. Medical educators may want to use role playing and other techniques to encourage students of any political orientation to understand the experiences and limited ability of victims of IPV to prevent such attacks.

Perceived relevance and frequency of discussing domestic violence were higher for women than for men. This is noteworthy, as the number of women enrolled in medical schools and residencies has increased dramatically such that women now make up about 25% of practicing physicians. There is some evidence that groups of women and men physicians differ somewhat in physician-patient communication and in provision of women’s preventive services. A meta-analysis of 26 studies on physician-patient communication found that compared with men physicians, women physicians engage in significantly more psychosocial question asking and counseling, and visits averaged 10% longer. A study of 97,962 adult women enrolled in a health plan demonstrated higher screening mammography and Pap testing among women patients whose physicians were women rather than men. Although IPV affects both genders, it is most prevalent among women patients; thus, screening for IPV could be considered predominantly a women’s preventive service.

Prevalence of a personal history of domestic violence was reported more often by women (3%) than by men (1%), a ratio consistent with higher lifetime prevalence rates for women than men as measured in the general population by the National Violence Against Women Survey. That the prevalence rate for women medical students found here is lower than that found in a large
study of women physicians (3.7%)\textsuperscript{34} is not surprising, as the women physicians in that study were older (ranging in age from 30 to 70), thus providing more opportunity for lifetime exposure. The reported rates for both medical students and women physicians are considerably lower than the lifetime rate of IPV found for respondents of the National Violence Against Women Survey (25% of surveyed women and 8% of surveyed men).\textsuperscript{32} This may reflect different interpretations of the question but may also reflect the healthy worker effect hypothesized earlier by Doyle et al. in the Women Physicians’ Health Study.\textsuperscript{34} That is, women with histories of domestic violence may be less likely to clear the hurdles associated with medical school training, and medical students may, therefore, be less likely to report a history of domestic violence than would the general population.

That personal history of domestic violence was not significantly associated with life satisfaction, feeling blue, or suicidal ideation is surprising. The Women Physicians’ Health Study\textsuperscript{34} found significantly more likelihood of depression histories and suicide attempts for physicians with domestic violence histories. The lack of association with perceived relevance, importance, training about, and frequency of discussion about domestic violence with patients is also noteworthy. Samples with higher prevalences of personal histories of IPV (and hence greater power) may find evidence of such associations.

Our study has several limitations. As with several other variables in the larger survey, the variables about domestic violence did not undergo psychometric testing, and the frequency of counseling patients about domestic violence was self-reported. Both of these limitations could have introduced misreporting, although four other counseling topics we studied in this population were validated with extensive standardized patient testing and showed strong relationships between self-report and objective measures.\textsuperscript{35} Another limitation is that the sample was representative but not randomly selected, which decreases our generalizability. Also, as previously mentioned, the terminology we used (domestic violence) was self-defined and may have included other forms of violence among family members besides IPV. This issue also influenced our decision to accept possibly inconsistent responses over time to queries about family (n = 36) or personal (n = 14) history of domestic violence (e.g., having a history at T1 but not at T2), as inconsistencies might be explained by changes in their understanding of the term “domestic violence” or by problems with recall, sensitivity to the question, or entry error. We hope that future research can be more explicit about the forms of violence being targeted and can more fully describe students’ clinical experiences. In a future paper, we plan to look at associations between domestic violence and other prevention-related discussion/counseling topics and students’ medical school prevention promotion environment and other related factors.

In conclusion, although nearly all preclinical respondents reported that it is important for physicians to talk with patients about domestic violence, only about half of senior U.S. medical students now talk with patients about domestic violence, and less than half think it will be highly relevant to do so in their intended practice. It seems that although awareness about the importance of domestic violence may be relatively high, campaigns\textsuperscript{7–10} to increase physician participation in domestic violence prevention have not yet achieved their goals in U.S. medical schools. It would be worth exploring effective ways to remedy this, possibly including providing physician role models who can persuade students of the importance of such work. These data provide a baseline against which such interventions could be measured.

REFERENCES


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