

Don't Know, Don't Care: Revisited

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ABSTRACT Objectives: This study re-evaluates the awareness and attitudes of medical students concerning military programs, which can provide financial support for medical student education. An original study, 10 years ago, demonstrated a minimal awareness of these programs. With medical school tuitions rising dramatically in the intervening years, as well as the resultant student indebtedness increasing significantly, it is appropriate to readdress this knowledge of attitude toward financial options through military programs for medical students. Reassessment was undertaken using the same evaluation instrument. In the decade in which these four assessments were made, attitudes toward amelioration of medical student tuition indebtedness, through programs sponsored by the Department of Defense, have worsened. This phenomenon jeopardizes military medicine and, in so doing, negatively impacts readiness of our Armed Forces.

INTRODUCTION

Ten years ago, we reported¹ our then surprising observations that medical school graduates were unaware of the many and varied programs, sponsored by the U.S. Department of Defense, for medical educational cost reimbursement in return for military service as physicians. What was most disturbing was the corollary: given the essential information regarding the generous and comprehensive terms of tuition and ancillary support, students exhibited little or no enthusiasm for the offers. This was especially disconcerting considering the percentage of students in debt for their medical education and the staggering size of the individual indebtedness. Not surprising was the title of the article, "Don't Know, Don't Care: Medical Students' Knowledge of and Attitudes toward Military Medical Career Opportunities and Medical Educational Cost Reimbursement." This initial report was criticized as reflecting regional Northeastern, liberal philosophy since the data were derived from one medical school's students (New Jersey Medical School). A follow-up report² addressed that concern with an identical investigation of student awareness and attitudes at two additional medical schools, one in the Midwest—the University of Missouri, in Kansas City—and the other in the far West—the University of Utah, in Salt Lake City. Again, the findings at these two disparate medical schools indicated that the same observations prevailed among the students at all three institutions.

The need for physicians in our nation's Armed Forces should be readily apparent, as should the increasingly high cost of medical student education and resultant indebtedness of those who become physicians. The current report revisits these challenging dilemmas. The subjects of our investigation are physicians in New Jersey Medical School's Class of 2006.

METHODS

During a mandatory financial exit interview for all graduating students, conducted by the Office of Student Affairs and the Financial Aid Office of the New Jersey Medical School in Newark, a questionnaire was circulated among all those in attendance. Of the 172 members of the class of 2006, 138 attended the day-long session in May. Thirty-four students were absent or excused for a variety of valid reasons. The 138 questionnaires collected constitute the data compiled and discussed in this manuscript. The questionnaire (survey instrument) is identical to the one used in the previous studies¹⁻³ and is Table I. It was developed in conjunction with the program analysts within the office of the Department of Defense Inspector General in 1995 and contains some military terminology as a result. For comparative purposes, the text of the questionnaire has not changed during the 10-year study interval. The student participation was monitored to prevent communication between participants while they were answering the questionnaire. All questionnaires were collected immediately upon their completion.

Resultant data were computed and expressed in terms of mean and SE ($x \pm SE$) and tabulated. Significance of apparent differences was assessed with the χ^2 test or analysis of variance techniques. Point scores were applied to some questions and their responses. Other data are expressed as percentages of the samples.

RESULTS

The 138 students from the class of 2006 of New Jersey Medical School who completed the questionnaire represent 80.2% of the class. Average educational indebtedness was \$120,000 (range,

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TABLE I. Military Medical Career Opportunities: Medical Student Questionnaire

Questions
1. Your gender: (a) Male (b) Female
2. Your age: _____ years
3. Marital status: (c) Single (d) Married
4. How do you identify yourself? (a) African American, not of Hispanic origin (b) Caucasian, not of Hispanic origin (c) American Indian or Alaskan native (d) Asian or Pacific Islander (e) Mexican American/Chicano (f) Puerto Rican (Mainland) (g) Puerto Rican (Commonwealth) (h) Other Hispanic
5. Are you a veteran? (a) Yes (b) No
6. Are you currently obligated to any of the U.S. Armed Forces (Army, Navy, Air Force, Marines) for any of your medical educational expenses? (a) Yes (b) No
7. Please specify:
8. Are you currently serving in a U.S. Military Reserve or National Guard unit? (a) Yes (b) No
9. Please specify:
10. Are you aware of any program that would pay for your medical education in exchange for military service? (a) Yes (b) No
11. Please name it:
12. Are you aware of any programs that will repay a portion of your educational loans in exchange for military service? (a) Yes (b) No
13. Please name it or them:
14. Are you aware of any program that will pay you a monthly stipend while in residency training in exchange for military service? (a) Yes (b) No
15. Please name it:
16. Which one of the following financial programs would appeal to you? (a) A program to repay part of my medical educational loans (\$20,000 annually, up to a maximum of \$50,000) (b) A program to pay me a monthly stipend (\$1,300) while in residency training (c) A program that will pay me \$10,000 annually for 3 years as a board eligible physician in a reserve unit in the military (d) None of the above
17. Which of the following service programs would appeal to you? (a) Joining one of the active military services as a physician (b) Joining a local military service unit as a physician

(Continued)

TABLE I. (Continued)

Questions
(c) Assisting the military as a physician if my county was at war (d) Assisting the military as a physician in a peacekeeping force (e) Continuing in my current capacity in the reserve forces (f) I would not consider serving in the military in any capacity.
18. Using the indicated scale, please rate the following qualities of a residency training program, in terms of their importance to you, by writing the appropriate number for each item (1 = not at all important, 2 = somewhat important, 3 = very important, 4 = most important) (a) Reputation of residency training program _____ (b) Financial prestige (salary) _____ (c) Institutional prestige _____ (d) Physically challenging, adventurous activities _____ (e) Travel opportunities _____ (f) Performing a patriotic service for my country _____ (g) Attending continuing medical educational conferences _____
19. Which of the following potential constraints would influence your decision to join the military in return for relief from your educational debt? Please indicate all that apply (a) Geographic constraints (b) Family constraints (e.g., spouse's objections or employment situation) (c) Personal, moral objections to serving in the military (d) Health constraints (e.g., own health might be impaired or threatened) (e) Other
20. What is the highest degree you have obtained to date in your educational career? (a) Associate's (b) Bachelor's (c) Master's (d) Doctoral (e) Professional (f) Other
21. What is your intended specialty in medicine? _____
22. What is your educational indebtedness? (a) College \$ _____ (b) Medical School \$ _____ (c) Or combined \$ _____
COMMENTS: Thank you

\$4,000–220,000) and 98.6% of the students were in debt for their education at graduation. One-half (50%) of the students were male. Students were predominantly single (83%) and 91% were between the ages of 20 and 30 years; 44% of the students were Caucasian; 25% were Asian, 15% were African American, and 15% were Hispanic. Only 1 of the 138 students had previous service in the U.S. Armed Forces. These data are presented in Table II.

Slightly more than one-half (56%) of the students were aware that there exists a program which will pay for medical education in exchange for military service (question 10), but <4% were able to name the program (Health Professions Scholarship Program (HPSP)). Less than one-half (41%) of the students were aware of a program that would repay a portion of their medical educational loans in exchange for military service (question 12), but none was able to name it

TABLE II. Medical Student Demographic Data (Questions 1–9)

	Percent ^a
Male	50
Age 20–30 years	91
Single	83
Race (Caucasian) ^b	44
Veteran	<1
Military obligation	<1
Current service	<1

^a N = .

^b Race: Caucasian, 44%; Asian, 25%; African American, 15%; Hispanic, 15%; Other, 1%.

(Health Professionals Loan Repayment Program (HPLRP)). Less than a fourth (23%) of the students knew about a program which would pay them a monthly stipend while in residency training in exchange for military service (question 14); only 3% could name it (Specialized Training Assistance Program (STRAP)). Awareness of these programs has not changed in the last 10 years. These data are summarized in Table III. The programs are defined in Table IV.

Thirty-one percent of the students (31%) stated they would be interested in a program that would repay part of their medical educational loans (questions 16). This is significantly increased from 10 years ago when only 10% were interested. However, almost half (49%) of the students surveyed responded that they were not interested in any of the financial assistance programs. Only a third of the students expressed this 10 years ago. These data are summarized in Table V.

Few students (7%) expressed interest in “active duty” service, in our Armed Forces as a physician (question 17). Only 21% were interested in assisting as a physician in peacekeeping operations. Furthermore, 51% of students replied that they would not serve voluntarily in the military in any capacity, compared to 37% 7 years ago and 55% 10 years ago.

Queried regarding important qualities of a residency training program (question 18), “financial prestige (salary)” was ranked as the most important factor of concern to medical students, followed by “institutional prestige” and “reputation of the residency training program.” The least important con-

TABLE III. Medical Students’ Awareness of Department of Defense Financial Aid Programs (Questions 10–14)

Year	N	Program ^a		
		HPS ^a (%)	HPLRP (%)	STRAP (%)
1996	176	42 (<10)	43 (<10)	26 (0)
1999	547	41 (5)	29 (2)	19 (0)
2006	138	56 (<4)	41 (0)	23 (3)

Medical students’ awareness of Department of Defense financial aid programs are tabulated according to sample size (N), and percentage of students indicating “yes” to questions 10,12, and 14. Parenthetical percentages are responses to questions 11, 13, and 15 (“name it”).

^a See Table IV for definitions of these programs.

TABLE IV. Military Programs for Medical Educational Cost Reimbursement

Program	Description
Health Professions Scholarship Program (HPSP)	Similar to Reserve Officers’ Training Corps (ROTC) for undergraduate education; year for year pay back, all expenses (tuition, books, etc.) plus Second Lieutenant’s salary (\$1,300 per month; 300 Army, Navy; 100 Air Force positions available each year, each service).
Specialized Training Assistance Program (STRAP)	Physicians in critical specialties, such as surgery, anesthesiology, etc. are paid a monthly stipend (equivalent to Captain’s/ Lieutenant’s salary or resident’s salary) throughout residency in return for service in the Active Reserves, 2 years for each year in the program.
Health Professions Loan Repayment Program (HPLRP)	Physicians who have completed residency training receive annual payment to lending agency of \$10,000 to a maximum of \$60,000.00.
Uniformed Services University of the Health Sciences (USUHS)	The federal medical school in Bethesda, Maryland; like the service academies, places the medical student on active duty all four years of medical school. The student is paid a Second Lieutenant’s/ Ensign’s salary in return for 7 years active duty upon graduation. The service academies require 5 years of “payback.”

TABLE V. Appeal of Department of Defense Loan Repayment Programs (Question 16)

Year	n	Program ^a			
		HPLRP (a), %	STRAP (b), %	“Bonus Test Program” (c), %	None of these, %
1996 (Ref. 1)	176	36	21	12	36
1999 (Ref. 2)	547	37	20	11	29
2006	138	31	17	13	49

Appeal of Department of Defense loan repayment programs to medical students surveyed by year. Percentages refer to the number of positive responses to question 16. Parenthetical letters refer to choices in question 16.

^a (a) HPLRP, Health Professionals Loan Repayment Program; (b) STRAP, Specialized Training Assistance Program, (c) Currently known as the “Health Professionals Critical Wartime Skills Special Pay” (see Table IV for definitions of these programs).

cern was “patriotic service.” This was also the least important concern to students 10 years ago (Table VI).

Students chose “family constraints” as the most important deterrent to considering military service in exchange for relief of educational indebtedness (question 19). “Moral objections to serving in the military” accounted for 30% of the responses, compared to only 13% 6 years ago (Table VII).

DISCUSSION

There were several surprises among the data collected from New Jersey Medical School’s graduating Class of 2006, cer-

TABLE VI. Quality of a Residency Training Program: Importance to a Medical Student (Question 18)

Year	2006
Reputation of the residency program	3.1
Financial prestige (salary)	3.3
Institutional prestige	3.2
Physically challenging, adventurous activities	2.6
Travel opportunities	2.3
Performing a patriotic service for my country	1.9
Attending Continuing Medical Education conferences	2.6

Factors of concern to medical students are graded according to a scale of 1-4, with 4 being the highest or most important.

tainly when compared to our previous report in 1997,¹ but additionally when compared to a follow-up report in 1999.² In that report, we compared student responses from the Eastern (New Jersey Medical School), Midwestern (University of Missouri in Kansas City), and Western (University of Utah in Salt Lake City) United States and found not a difference, but rather a strikingly similar set of responses among the students from the three geographical regions.

The number of students in the present survey, 138, represented 81.2% of the class. Only 2 students among the survey group were free of educational indebtedness upon graduation. Thus, 98.6% of those surveyed were in debt. Ten years ago, that figure was 80%. The mean indebtedness also had risen from \$73,000 in 1996 to \$120,000 in 2006. A small percentage of the most recent class (10%) had additional indebtedness from their undergraduate education. These individuals will begin their residencies with a mean indebtedness of \$151,000.

It would have been reasonable to assume that such a daunting, home mortgage-sized, liability would have prompted a thorough search for relief. Whether popular or not, the results of such a search presumably would have brought to light the Department of Defense programs designed specifically to provide economic assistance to the medical student or recent medical school graduate. Since almost the entire class faced the same or similar problem, it would seem likely that conversation among students and their educational financial counselors would have included discussions of all the options, including those sponsored by our nation's Armed Forces. The numbers say otherwise.

Ten years after the initial survey, the same financial programs are still in place, have increased significantly in value, but have remained virtually unchanged in terms of the active or reserve service obligations. They also have been met consistently with little interest; <5% of those recently surveyed could name any of the three major funding programs (HPSP, HPLRP, and STRAP). By contrast, most medical students encountered in casual conversation are readily familiar with "Reserve Officers' Training Corps" for undergraduate educational support. When apprised of similar such postgraduate opportunities, less than a third of the students expressed interest in the loan repayment program and this was the most popular of the three programs presented. Almost one-half (49%) of the students were uninterested in all three.

TABLE VII. Deterrent Concerns Regarding Military Service (Question 19)

Year	2006 (%)
Geographic constraints	43
Family constraints (e.g., spouse's objections or employment situation)	62
Personal, moral objections to serving in the military	30
Health constraints (e.g., own health might be impaired or threatened)	20
Other or none	15

Factors deterring medical students from considering military service in exchange for educational indebtedness are presented as percentages of positive responses from students.

Similarly, attitudes toward military service as a physician, for whatever reason, have remained clearly negative. More than one-half (51%) of those surveyed, "... would not serve in any capacity." This is a significant increase compared with responses to the same question posed in 1999 (37%, $p < 0.05$).

There are multiple probable explanations for the apparent negative attitudes toward participation in military medicine, even for financial relief of staggering indebtedness. It is obviously low on the list of considerations in choosing a residency or its commitment. Most students surveyed are easily dissuaded from military service (still an all-volunteer force) by family concerns, geographic considerations, and "moral objections to military service." These responses are even more negative than when they were assessed a decade ago. One can only surmise that the war in Iraq has had an especially negative impact on military medicine recruitment and its parallel goal, retention.

Clearly, the Department of Defense is able to make the same assessment regarding the success of its financial offers of tuition support, as has this recent survey. Should an alternative course be charted? The answer to that question is obviously an affirmative, and timing is critical. Medical student, and the young physician, indebtedness is a threat to American medicine as well as national defense.

The cost of medical education continues to rise and there is no end in sight. An unfortunate result of medical educational indebtedness is the increasing number of students who choose specialty training, which is more rewarding financially, but which imperils national health care by diminishing the number of primary care physicians. Especially hard hit are potential applicants from middle and low income families. In her review of the problem, Morrison⁴ noted that for under-represented students, "... the cost of attending medical school was the number one reason they did not apply." Considering the fact that minority composition of our Armed Forces is significantly higher than that in the civilian population,^{5,6} military medicine would be expected to exhibit special appeal to minority medical students and physicians. The fact that minority physicians are under-represented in the military services as well as the civilians sectors in our country suggests otherwise.

Added to concerns regarding the cost of medical education is the obvious lack of interest in military service during an unpopular war. Military physicians need little training before becoming available for deployment overseas to Iraq or Afghanistan and this is common knowledge. Residency training is probably protected, but in time of need, commitments can change. And postgraduate training (residency/fellowship) always requires "payback time" or additional years of obligation, usually 1 year for each year of training.

What seems apparent from our survey of medical student attitudes is the belief that the risks of military service outweigh the benefits. Nonetheless, if cost of medical education is a significant deterrent to application to medical school, then any financial assistance program, even the Army's, should have appeal or at least stimulate interest, if the right audience is targeted.

Our thesis then becomes: Department of Defense programs (such as HPSP), for physician recruitment to our nation's Armed Forces, will be more successful if the target group consists of undergraduates (college, even high school students) rather than graduates (medical students, residents, fellows, and practicing physicians). Presumably, if those considering a career in medicine were made aware of the fact that they could obtain this degree, tuition and associated costs free of charge, and in fact even be paid a monthly stipend (currently \$1,300) during the 4-year curriculum, the responses would probably be significantly more favorable.

Consider for a moment the fact that career choices of this magnitude are made not during career training, but in its preparation. High school students take advanced courses in mathematics, biology, physics, and chemistry, the same subjects required for application to medical school from college. Such high school students already have made a commitment to medicine. These are the students that must be targeted and offered scholarship assistance, if they qualify, and for college. Yes, undergraduate education must be supported financially, as well as graduate education, if recruiting goals are to be achieved. Too expensive? Get real, do the math. Ten years ago, it was worth one Hell-fire missile per physician.² The price of both has probably now gone up, but not the relative value.

Regardless of the popularity of any war involving the United States, our Armed Forces are essential to national security and our service personnel deserve optimal medical care, especially when they are in harm's way. The United States has traditionally exemplified the best care of its wounded, compared to any other country in the world, or in history. As a corollary, the morale of men and women in uniform correlates care of their wounded. "Morale is the greatest single factor in successful war" (Dwight D. Eisenhower, D-Day, 1944). Finally, today's commanders are not likely to initiate military operations without knowledge of

the deployment of adequate medical resources in support of such operations. Our country's Army, Navy, Air Force, and Marine Corps depend upon their doctors. And there are whispers of a doctor draft by 2009.

Should recruitment of physicians or physicians-to-be prove to be inadequate to fill the needs/requirements of our Armed Forces, the threat of conscription (draft) increasingly becomes a reality.

CONCLUSIONS

There is a clear message when graduating medical students from classes 10 years apart possess the same low level of information about military-based financial support options for their medical training. These observations are particularly striking in light of the accompanying significant increases in medical school tuitions, which result in the increased student debt levels at graduation. Why such ignorance? There are two possible explanations. Either students are so uninterested that they do not explore scholarship options and details, or there is not adequate exposure to these programs and opportunities projected for premedical students and for current medical students. Lack of interest by the student may result from one of many considerations, ranging from an absolute position to be uninvolved with a military service to a fear of safety and/or minimal control of training location. The surveys indicate current methods of recruiting and providing information to premedical and medical students are ineffective in changing opinions about military scholarship options. These surveys also demonstrate there is likely no regional bias and that the challenge is global for the military to better educate potential participants. Equally important, the Department of Defense must consider targeting a younger audience, namely students in high school or college.

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