

# Who Will Manage American Patients with Diabetes in the Near Future?

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## Abstract

Previous work has estimated that the US has a 12–15% undersupply of endocrinologists, with this shortage predicted to expand to 25–30% by 2020. The aim of this study was to investigate why medical students are not choosing to specialize in endocrinology. Survey questionnaires were distributed to medical school students from 47 US medical schools, resulting in 524 participants (response rate ~5-10%). The survey results confirm that

medical students are staying away from diabetes: only seven students (1.3%) expressed an interest in endocrinology and only three of those were interested in pursuing diabetes care. Students cited the challenges of inadequate compensation (34.9%), lack of procedures (37.9%), and modifying patient behavior (46%) as central factors in deterring them from specializing in diabetes. In contrast, almost half of the students (48.8%) cited the

social importance of diabetes care and the pandemic status (33.4%) as reasons to enter the field, indicating awareness of the societal need. These data suggest that due to lack of financial incentives, few US students plan to enter the field of endocrinology; approximately half of current endocrine fellows are foreign-trained. Based on this data, we believe that increasing physician interest will require significant changes to reimbursement structure.

## Background

Previous work has estimated that the US has a 12–15% undersupply of endocrinologists, with this shortage predicted to expand to 25–30% by 2020<sup>1,2</sup>. Approximately half of current endocrine fellows are foreign-trained. Fewer than 3000 endocrinologists practice in the US, while approximately 3000 patients are diagnosed with diabetes daily. Unless this trend is reversed, in the coming decade the critical shortfall in diabetes specialists may compromise patient care<sup>3</sup>. The aim of this study was to identify factors that are deterring students from specializing in diabetes care, and to understand what can be done to reverse this trend.

## Methods

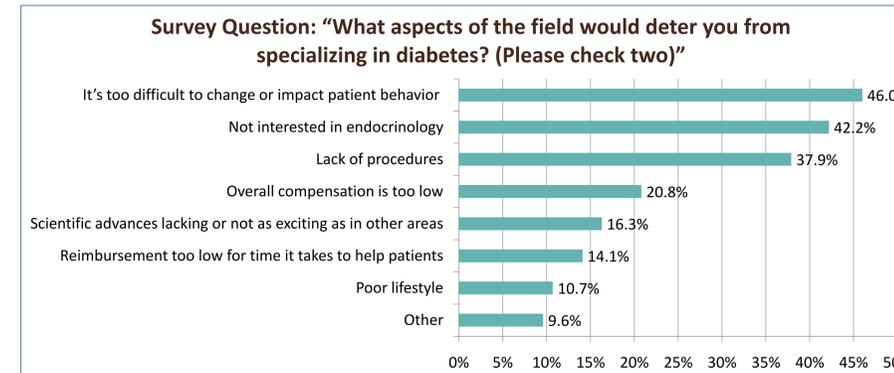
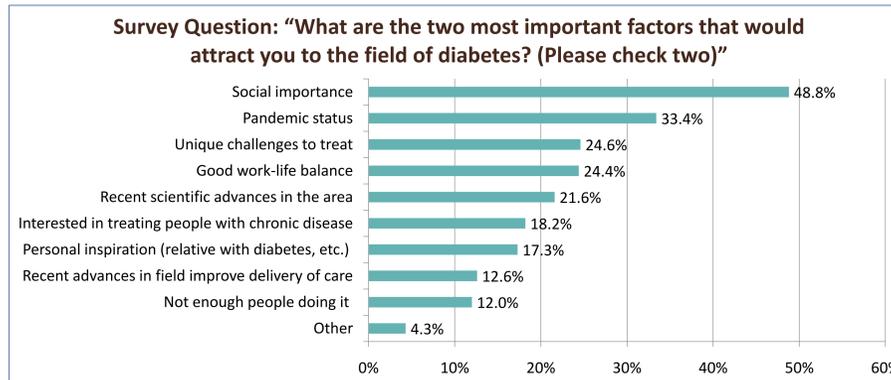
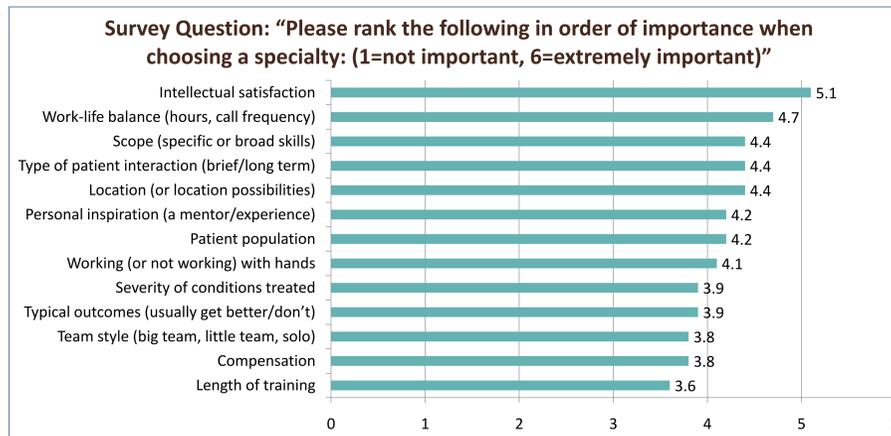
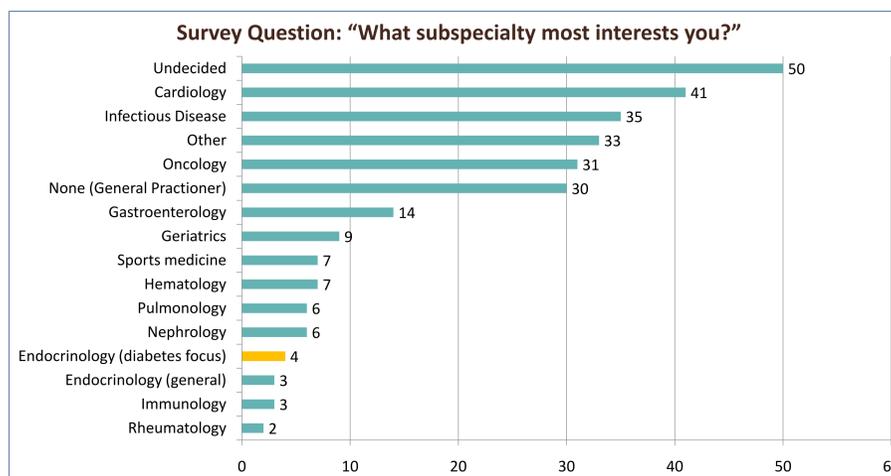
Between April and August of 2007, we conducted an electronic survey of 524 medical students and inquired about their exposure to diabetes in medical school, their interest in pursuing diabetes care, and the attributes they of a specialty that they consider to be most important. Survey respondents represented all four years of medical school, with a small bias toward first year (first: 39%; second: 23%; third: 12%; fourth: 26%). Respondents attended a variety of schools, although highly competitive institutions were represented somewhat disproportionately. Many of the respondents were from the University of California San Francisco (26%) or from Harvard (17%), while 15% attended Columbia. In descending order of number of respondents, students attended the following schools:

UCSF, Harvard Medical School, Columbia, Emory, Loma Linda University, Stanford, Cornell, Johns Hopkins University, John A Burns School of Medicine, Philadelphia College of Osteopathic Medicine, University of Arkansas for Medical Sciences, Albert Einstein College of Medicine, Mt. Sinai, Brown, New Jersey Medical School – UMDNJ, Northwestern, Nova Southeastern University, University of Massachusetts, University of Pennsylvania, UST, Albany Medical College, Boston University, Botsford Hospital, George Washington University, Indiana School of Medicine, Meharry Medical College, Michigan State University, Morristown Hospital, NYMC, Robert Wood Johnson, University of Rochester, Rosalind Franklin University of Medical Sciences, Southern Illinois University, St. George's University, SUNY Upstate, Thomas Jefferson University, UCI, UCLA – DGSOM, University of Chicago, University of Colorado Health Sciences Center, University of Illinois (Peoria), University of Michigan, University of Pittsburgh, University of Texas, Western University of Health Sciences, WSU Boonshoft, and Yale.

## Results

The survey confirmed that medical students are for the most part staying away from diabetes. Only seven students (1.3%) expressed an interest in endocrinology, and only three of those students were interested in pursuing diabetes care. Despite the small number of students planning to enter endocrinology, many students (25.7%) reported having considered a career in diabetes care, a number that is comparable to other more popular subspecialties. Most medical students reported having had some exposure to diabetes during medical school. Just under 27% said they had not yet had any exposure to diabetes in medical school, and most of these respondents were first year students. Nearly 36% of respondents reported having had “a little” exposure to diabetes, while 30.6% said they had “some” and 6.9% said they had “a lot.”

When choosing a specialty, the vast majority of medical students indicate that they are concerned primarily with the intellectual satisfaction of the work; compensation and length of training were not cited as major concerns. When asked to check the two most important factors that would attract them to the field of diabetes, the most common factors cited were the social importance (48.8%) and the pandemic status of the disease (33.4%). In a parallel question, students were asked to check the two most important factors that would deter from the field of diabetes; the difficulties associated with changing patient behavior (46.0%) and a lack of interest in endocrinology (42.2%) were the most common responses.



## Discussion and Future Directions

These data suggest that few US students plan to enter the field of endocrinology, and the burden of care for patients with diabetes will fall even more to the primary care providers in the future. The reasons underlying the lack of interest in diabetes are multi-factorial, but our data suggest that they relate to intrinsic characteristics of the diabetes patient population and the disease, as well as difficulties with reimbursement and perceived (and often real) limitations in current therapy. Students' frustration in changing patient behavior dovetails with concerns about reimbursement. Since changing patient behavior is so time consuming – and changing patient behavior often lies at the core of diabetic care – students recognize that treating diabetic patients with current reimbursement levels is not necessarily a lucrative path of medicine.

We believe that increasing physician interest will require significant changes to reimbursement structure and physician economics. New and improved therapies may also increase interest in diabetes care by providing viable alternatives to behavioral modification.

Our current study did not have large enough numbers to perform adequate subgroup analyses about whether perceptions of diabetes care change as students progress through medical school. A larger study focusing on third and fourth year medical students, or internal medicine residents, could provide information about trends in the perception of diabetes throughout a medical education.

## Summary/Conclusions

- Consistent with previous studies, we find that medical school students' interest in pursuing advanced study in endocrinology/diabetes is low. Only seven of the 524 medical school students we surveyed (1.3%) expressed an interest in endocrinology and only three of those were interested in pursuing diabetes care.
- Students cited the challenges of inadequate compensation (34.9%), lack of procedures (37.9%), and modifying patient behavior (46%) as central factors in deterring them from specializing in diabetes.
- Based on this data, we believe that increasing physician interest in diabetes will require significant changes to reimbursement structure and physician economics. Unless these changes are made, our data suggest that the burden of care for patients with diabetes will fall even more to the primary care providers than it is today.

## References

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