

# Careers in Medicine at Vanderbilt University School of Medicine: An Innovative Approach to Specialty Exploration and Selection

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## Abstract

Research on resident attrition rates suggests that medical students would benefit from more comprehensive career advising programs during medical school. Responding to this need, students and administrators at the Vanderbilt University School of Medicine (Vanderbilt) introduced a broad Careers in Medicine (CiM) program in 2005 to complement the CiM resources offered by the Association of American Medical Colleges (AAMC). In this article, the authors detail

the Vanderbilt CiM program's four core components: career-related events, an elective course, specialty interest groups, and career advising. The authors discuss the program's implementation and its student-led organizational structure, and they provide a critical assessment of important lessons learned. Using data from internal satisfaction surveys and the AAMC's Medical School Graduation Questionnaire (GQ), they demonstrate the success of Vanderbilt's career

counseling efforts. According to recent GQ data, Vanderbilt ranks above the U.S. medical school average on graduating students' ratings of overall satisfaction with career services and of the usefulness of key programming. The authors present this description of the Vanderbilt CiM model as a framework for other medical schools to consider adopting or adapting as they explore options for expanding their own career counseling services.

**M**edical students today can choose to pursue any of a large number of specialties. This diversity reflects exciting opportunities, yet it also presents significant challenges, such as providing medical students with adequate resources and guidance to help them to make informed career decisions. The reality of this problem is illustrated by resident attrition rates. Studies of general surgery residents have revealed cumulative attrition risks to be 14% to 32%.<sup>1-7</sup> Similarly, one study of obstetrics-gynecology residents found a 3.6% attrition rate over a four-year period,<sup>8</sup> whereas another identified a 21.6% cumulative risk.<sup>9</sup> Although these relatively high rates may be associated with the demanding nature of the specialties studied, publications comparing resident attrition rates before and after the implementation of the 80-hour workweek restriction have shown no significant changes.<sup>1,10,11</sup> Additionally, attempts to use data from residency

program and medical school applications to identify predictors of attrition have been mostly unsuccessful.<sup>12,13</sup> Although the roots of attrition are admittedly multifaceted, the phenomenon demonstrates the need to better equip medical students to choose the field best suited to their individual goals and needs.

The importance of career advising and mentoring is well accepted,<sup>14-23</sup> but the best system for providing this guidance is not as clear. Gazewood et al<sup>24</sup> challenged the traditional idea—that students discover their specialty during third-year rotations—by reporting that clerkship attendings had no impact on career choice and highlighting the importance of adopting a strategic approach to advising. The Association of American Medical Colleges (AAMC) has recognized this need and created Careers in Medicine (CiM), a career planning resource for both individual students and medical school advisory programs.<sup>25</sup> Its four-phase model of self-assessment, exploration, decision making, and implementation has been successfully used as a format for institutions' career advising programs.<sup>26</sup> Vanderbilt University School of Medicine (Vanderbilt) adopted the AAMC's CiM model in 2005 and, through extensive, student-led initiatives and with administrative support, has created a dynamic, comprehensive advising

program. Although select portions of this program have been described previously,<sup>27-30</sup> we present here a full and updated overview of the Vanderbilt CiM program, which we believe serves as an example of student involvement and administrative dedication to career advising in medical education. In this article, we will review the leadership structure of Vanderbilt CiM and discuss its various programming components. We will consider student feedback suggesting that this model is working well. Finally, we will examine some of the important lessons learned from our experience and comment on plans for the future.

## Vanderbilt CiM: Overview of the Program

Before 2005, Vanderbilt offered medical students an informal and loosely connected series of career planning workshops, which the medical school's administrators perceived as ineffective. Despite strong faculty commitment to mentoring, Vanderbilt's administrators felt there was a need for formal and thoughtful career programming.

In 2005, after attending an AAMC CiM professional development program, the associate dean for medical student affairs (S.R.) worked with interested students and faculty to create a local

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advising program that complements the AAMC's national program and incorporates Vanderbilt's goals. In the resulting Vanderbilt CiM program, understanding oneself and exploring how that understanding fits into various career paths is viewed as a continual, dynamic process. Choosing a specialty and getting into a residency program are viewed as direct results of this process; in other words, they are end goals achieved through personal growth during medical school.

Most aspects of the Vanderbilt CiM program are managed by a student-run organization, whose structure consists of the associate dean for medical student affairs, two upper-class student officers in executive roles (president and vice president), and several committees (ranging from one to three students) with specific responsibilities for CiM events. The strong relationship between the student and administrative leadership has shaped and continues to shape the program. This cooperation combines two viewpoints into a common goal: that of students as they actively experience the process of selecting a specialty and that of administrators who have the experience to step back and see the whole picture.

### Events

Throughout the year, Vanderbilt CiM student leaders organize "cornerstone" programming. Some of these events are tailored for students in specific years of study to address important stages in career planning, whereas others are meant for all students. These events rely on the participation of residents and attending physicians from Vanderbilt as well as the Nashville private practice community. Physician participation is accomplished through strong administrative support from the dean's office and thoughtful recommendations by faculty and students. Each year, we reinstate well-received past event participants. By fostering ongoing relationships while also searching for new participants, we are able to maintain a strong list of contacts and to provide fresh faces and points of view. We have found that the vast majority of physicians invited to participate in these events are excited to find innovative ways to interact with medical students and require no compensation for their time.

**Noon lectures.** This series of talks for all Vanderbilt medical students began in 2006 and highlights career exploration issues. The lectures are spread evenly across the fall and spring semesters. Speakers with particular backgrounds or areas of expertise are invited to address career selection topics that are not covered in the academic curriculum, such as "Building Your CV," "What Residency Programs Want," "Couples in Medicine: How to Balance Personal and Professional Life," "Academic Medicine vs. Private Practice," and "Careers in Business, Government, and Activism." Many of the topics are repeated each year, but they are subject to change based on suggestions from the CiM leadership team and the student body.

**Specialty speed dating.** In one of our most popular programs, introduced in 2008, first-year students have an opportunity to learn about different specialties through a "speed dating" event held at the medical school early in the spring semester. By this point in the curriculum, first-year students have had formal shadowing experiences and are completing their anatomy and physiology course. We believe that this exposure provides a solid foundation for appreciating each specialty. Residents and attending physicians from 16 specialties—representing both Vanderbilt and community practices—are invited. More than 75% of the first-year class attends this evening event each year. Before the event, students receive a booklet (which we refer to as the "little black book") containing basic information about each specialty (e.g., Match requirements, residency length, subspecialization options, salary data) and sample questions as suggested conversation starters. In pairs or groups of three, students rotate through a series of three- to four-minute "dates" with the physicians. This format provides enough time for students to form an impression of each specialty and allows exposure to a large number of career options in a short period of time. The speed dating portion of the evening concludes once each group of students has met with representatives of all of the specialties. Students then have the opportunity to pursue longer "dates" with physicians from the three specialties of their choosing. These 20-minute sessions

involve groups of 10 to 15 students who learn more about the selected field and begin the process of developing professional relationships.

**Specialty fair.** Since 2008, second-year students have had the opportunity to attend a two-hour specialty fair held during the spring semester when they are registering for third-year clerkships and the seniors are preparing for or have just participated in Match Day. In a setting similar to an undergraduate job fair, students casually choose to visit information booths set up by different medical center departments. Three to four representatives staff each booth, including residents, attending physicians, and fourth-year medical students hoping to match or who have matched into the respective field. The diversity of the representatives' perspectives equips second-year students to make better-informed decisions regarding options for third-year rotations and subspecialty choices. Furthermore, the specialty fair builds on knowledge they acquired during the first year and deepens their understanding of career options.

### The Senior Series: From student to resident

The associate dean for medical student affairs (S.R.) developed a formal, two-year component of the Vanderbilt CiM program, introduced in 2006, for third- and fourth-year medical students. The associate dean holds quarterly meetings attended by the entire third-year class at which he reviews goals and deadlines related to selecting a career and planning for residency applications. In one of the early sessions, he presents the AAMC CiM "Five Thinking Hats" concept,<sup>25</sup> which is designed to assist students who are choosing among several career options. In later sessions, he covers such topics as planning for a meaningful fourth year and preparing residency applications. For fourth-year students, he holds one-on-one meetings to conduct the Medical Student Performance Evaluation, extends invitations to participate in a mock interviewing program coordinated through Vanderbilt's Advisory College Program (ACP),<sup>31,32</sup> and leads a workshop on the creation of the rank order list. The Senior Series officially concludes on Match Day with a celebration involving

fourth-year students, their families, and faculty members.

### Backstage Pass elective

Vanderbilt medical students enroll in elective courses during their preclinical years to diversify their academic experience. The CiM program runs one of the most popular elective options, entitled “Backstage Pass to the Wards,” which was launched in 2007. This semester-long elective exposes first- and second-year students to a wide variety of specialties in both private practice and academic medicine through informal, in-class physician panels and shadowing opportunities. Registration is capped at 30 students per semester, which we feel is an ideal number for classroom-based learning and physician shadowing. Second-year students are given registration priority.

The class meets every other week for interactive discussions with physician panels highlighting a specialty or a group of related specialties (i.e., primary care specialties). At the beginning of each semester, CiM student leaders invite and schedule panelists based on student recommendations (which supplement the list of repeat speakers maintained internally). Student leaders then serve as the moderators for each panel. In this role, they are charged with creating an environment that fosters a comfortable, interesting, and informative dialogue among students and panelists.

Students in the elective also complete a minimum of five shadowing experiences over the semester. Dozens of area physicians make time available for this course, but students may also choose to seek out experiences with other physicians or in specialties that are not represented. Although students are unrestricted in their shadowing choices, they are encouraged to explore specialty areas they have not previously considered. A dedicated course homepage on the Vanderbilt CiM Web site facilitates simple, Web-based scheduling for shadowing opportunities and collection of student feedback after each encounter.<sup>29</sup>

The Backstage Pass elective has become a highly successful aspect of the Vanderbilt CiM program, providing students with an important introduction to the

abundance of career options before they enter the clinical years of medical school. The elective’s success is evident from enrollment data and positive student feedback. During the two academic years spanning 2009 to 2011, 111 (53%) of 208 second-year students enrolled in the elective. In the 2009–2010 academic year, we began administering a standard, five-question survey at completion of the elective. For the academic years 2009–2011, during which 108 students completed the survey, 87/108 respondents (81%) agreed or strongly agreed that the elective would enable them to “make a more informed decision regarding [their] future specialty,” and 103/107 respondents (96%) agreed or strongly agreed that they would “recommend the Backstage Pass elective to other medical students.”

### Interest groups

At Vanderbilt, the student-run CiM organization oversees specialty interest groups. While respecting groups’ autonomy, we aim to provide students with a parity of exposure from all interest groups. To this end, a percentage of the CiM budget is allocated to help subsidize interest group costs (e.g., lectures, speakers, panel discussions). Interest groups submit electronic, need-based applications to the CiM leadership.

Each year, CiM leaders also monitor the activities of interest groups and assess underpromoted specialty areas. When needs are identified, we work with the student body, school administration, and faculty physicians to reemphasize those areas. Moving forward, we are exploring options to provide standardized Web pages within the CiM site for all interest groups. Centralizing the location of interest group sites would benefit both the groups and the student population by simplifying access to information about specialties, shadowing opportunities, potential mentors, and interest group events.

### Cooperation with the ACP

Vanderbilt’s ACP was introduced in 2006 with two goals in mind: improving student wellness and providing career counseling.<sup>31,32</sup> The ACP is a formal part of the Vanderbilt experience. Incoming medical students are divided into four colleges, and each college is led by two Vanderbilt MD faculty serving

four-year terms as advisory college directors (ACDs). The faculty ACD role is considered to be a 30% full-time equivalent position. Because each incoming class averages 100 to 105 students, there is 1 ACD per approximately every 50 medical students. The associate dean for medical student affairs oversees ACD training, with career guidance sessions adapted from AAMC CiM workshops. Wellness events and social interactions occur throughout the year, both within the colleges and schoolwide. Students meet one-on-one with their ACDs twice in the first year and then on an as-needed basis in subsequent years to talk about how they are adapting to and coping with medical school, as well as to discuss their emerging career aspirations.

Vanderbilt’s CiM program and ACP purposefully overlap in the area of career exploration to strengthen the services and opportunities offered to medical students. When organizing events that require faculty involvement (i.e., specialty speed dating, Backstage Pass elective), CiM student leaders first turn to the ACDs for personnel recommendations. Similarly, when the ACDs conceive of career programming ideas, they turn to the student-led CiM organization to help implement and manage them over the long term.

### CiM Web site

Created as a complement to the AAMC’s CiM Web site,<sup>25</sup> the Vanderbilt CiM site (<https://medschool.vanderbilt.edu/cim/>) launched in 2006 initially provided specialty-related information (e.g., descriptions, residency requirements, salary information) as well as Vanderbilt-specific information (faculty contacts, interest group information) to facilitate deeper exploration of specialties and identification of potential mentors.<sup>28</sup>

As Vanderbilt CiM programming has expanded, so have the Web site’s scope and content. It is maintained by a committee of as many as three student Web site chairs with varying degrees of technical experience. These student chairs work with other CiM leaders to brainstorm, solicit, and implement additional content to benefit their fellow students, and they constantly seek feedback from the student body.

The Web site now directs students to the AAMC CiM Web site<sup>25</sup> for most specialty-specific content. Its primary focus is on program-related content, including an online interface to the Backstage Pass elective (calendar, scheduling for shadowing experiences), student-created “survival guides” for each year of medical school, and other resources (e.g., studying advice for the preclinical years, detailed clerkship descriptions, shelf exam tips, residency application guidance). Sample CVs and personal statements are posted to complement one-on-one guidance from the dean’s office. One of the most popular features is the prominently displayed “Countdown to Match Day” widget, which counts down the days, hours, and minutes between Match Days.

### Strengths and Successes

The Vanderbilt CiM program’s mission is to create a structure for specialty exploration across the four years of medical school such that students are able to arrive at informed and thoughtful decisions regarding career choice. As we have described above, the program employs a multidimensional approach with leadership from students, faculty, and administrators to provide students with information appropriate to their year of study as well as counseling from trained advisors. Students are informed that they must not wait until their third-year clerkships to begin the process of choosing a specialty. Rather, given the wide range of career options, the importance of early exploration is stressed. We take into account the various anxieties that students face along their educational trajectory to place CiM events at opportune times so that the program and organization become relevant and important to students.

Vanderbilt CiM has become prominent on the medical school campus, and the student affairs office touts its student leadership positions as critical to the school’s counseling mission. Additionally, the CiM student organization receives generous funding support in the form of a \$10,000 allotment from the dean’s office, and the medical school provides specific salary support for the ACDs, who understand that a large part of their mission is to provide career guidance to students. By collaborating with the eight talented ACDs, CiM leaders have

been able to achieve more than would be possible if the associate dean of medical student affairs were the only faculty member acting as a career counselor.

Having students hold prominent CiM leadership roles has tremendous advantages. Students often have the most creative and innovative solutions to some of the challenges medical schools face in their efforts to counsel students. For example, CiM student leaders created the program’s resource-rich Web site, which makes available information that is useful and highly relevant to students throughout their medical school education. Additionally, as described earlier, CiM student leaders suggested the Backstage Pass elective and designed the popular specialty speed dating event. These provide important content but also allow students to have fun as they learn about career options. We believe that students are more likely to invest time in and benefit from CiM offerings if they understand that their colleagues are working for them and taking part in the smooth execution of the program.

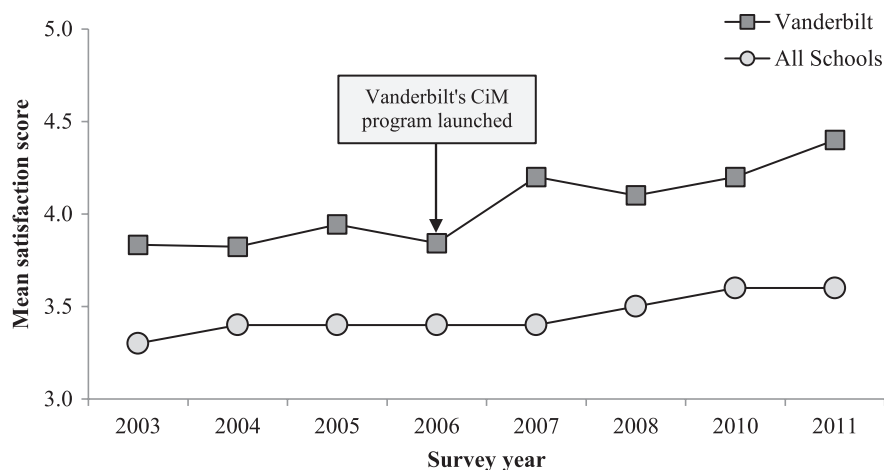
The Office of Student Affairs, which supports the ACP, plays an active role in supporting, nurturing, planning, and executing all CiM programming. The associate dean for medical student affairs meets with CiM’s student leaders regularly and also holds regular meetings with the ACDs to review all career

guidance activities. This blending of a degree of centralized governance with a healthy respect for the autonomy of the CiM student leaders and ACDs keeps efforts running smoothly and ensures accountability as well as thoughtful and timely program execution.

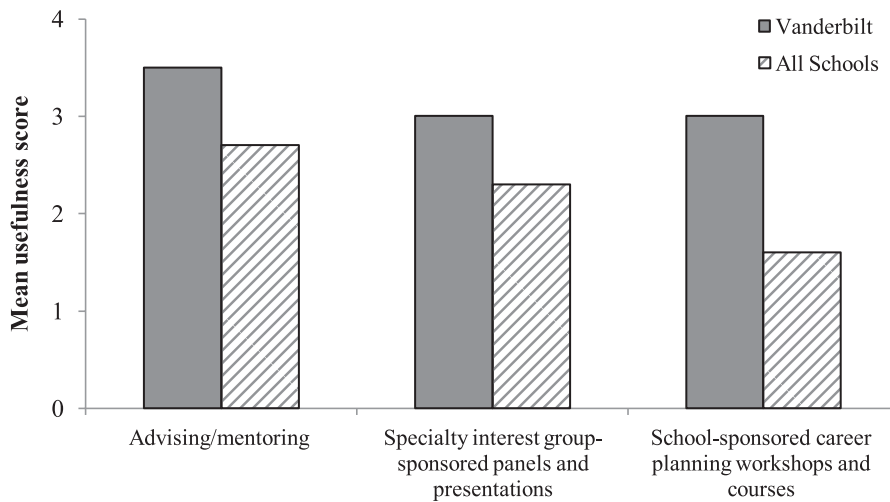
We view our innovative CiM program as successful because of widespread participation and positive feedback from students. We are encouraged by the relatively strong ratings of Vanderbilt’s career advising services in the AAMC’s annual Medical School Graduation Questionnaire (GQ), an important source of feedback from graduating students.<sup>15,33–35</sup> Vanderbilt’s ratings regarding students’ overall satisfaction with career services have been consistently above the U.S. medical school average (Figure 1), with scores trending positively since the launch of CiM programming in 2006.<sup>33–35</sup> Moreover, in the 2011 GQ, Vanderbilt students’ ratings of the usefulness of key programming were higher than the average for all U.S. medical schools (Figure 2).<sup>35</sup>

### Lessons Learned

Despite our successes, implementing CiM programming has not been without its challenges. Below, we share important lessons learned in meeting and overcoming these issues.



**Figure 1** Medical student satisfaction with overall career planning services as reported on the 2003–2008, 2010, and 2011 Medical School Graduation Questionnaire (GQ). Graduating medical students were asked to rate their satisfaction on a scale ranging from 1 = very dissatisfied to 5 = very satisfied. Data were not collected for this question on the 2009 GQ. Vanderbilt indicates Vanderbilt University School of Medicine; All Schools, the U.S. medical school average. Copyright © 2003–2011 Association of American Medical Colleges. All rights reserved. Reproduced with permission.



**Figure 2** Medical students' perceived usefulness of career planning resources to specialty choice and career planning as reported on the 2011 Medical School Graduation Questionnaire (GQ). Students in the class of 2011 were asked to rate various career planning resources on a scale ranging from 1 = not useful to 5 = very useful, or 0 = did not use. Vanderbilt indicates Vanderbilt University School of Medicine; All Schools, the U.S. medical school average. Copyright © 2011 Association of American Medical Colleges. All rights reserved. Reproduced with permission.

### Leadership

Strong student leadership is paramount. We have learned that the CiM president should be an independently driven, professional, and personable student. He or she must be able to interact effectively with other students and to represent the medical school by fostering and maintaining important relationships with administrators and faculty members throughout the hospital system. It is also important to have dedicated faculty members to advise student leaders and to retain organizational memory through annual student leadership transitions. Without such faculty, the CiM organization would be likely to spend unnecessary time trying to reinvent the wheel each year.

### Integration

Medical students can feel "overprogrammed" as disconnected organizations and extracurricular activities compete for their time. We have found that after some threshold, many of the opportunities surrounding students simply become "noise" and are ignored. We are therefore careful to weave CiM programming into the fabric of the medical school experience to the extent possible. This effort began with the choice to create a local CiM organization instead of offering a series of disjointed career workshops. Over the years, the associate dean of medical student affairs and CiM student leaders have improved

the organization's integration by working with the ACP, which students are comfortable with and trust.

### Timing

Coordinating events so that they take place at the proper times is as important as it is easy to overlook. At times in the past, CiM schedulers have failed to anticipate periods of intense studying, have tried to compete with other university or medical school events, or have simply not timed events sensibly. CiM events are now planned early, but the events are not officially scheduled until the final academic calendars have been set to ensure that our events coordinate with other medical school events. For example, the specialty career fair should take place right before or after Match Day to harness the energy of that week and make the experience more meaningful and significant for both the students attending the fair and those staffing the booths. We spend a significant amount of time considering our overall "road map" for each year, prioritizing events and scrutinizing dates.

### Branding

It is more common than one might expect for students to attend an event without associating it with the organization that put it together. Although taking credit should never be

the primary objective of an event, it is important that students who attend and enjoy events also appreciate the activities of major student-run organizations so that they will apply for future leadership positions and understand that there is a coordinated approach to career advising in their medical school. This challenge can be addressed by properly branding the organization. For Vanderbilt CiM, branding has involved creating a visually appealing logo, which is displayed prominently at all of our events and in our marketing material; developing a common language and style for all e-mails (e.g., similar subject lines, fonts, sizes, colors); and making our Web site as relevant as possible to showcase all the tools we provide.

### Fun

Choosing a specialty is a serious decision that should not be taken lightly, but events to highlight career selection and guidance need not always take a serious tone—especially events that target students in the preclinical years with the goal of simply getting them to start exploring their interests and career options. We feel that our best-received and most useful events are those specifically developed to be enjoyable. Events that have a low stress environment invite stronger participation and create a "buzz" of excitement that trickles down to the following year's class.

### Moving Forward

Medical students face a daunting task in deciding which specialty to enter. We believe they benefit from well-structured, meaningful, and integrated career advising programs. Vanderbilt CiM has been developed to proactively and systematically focus students on their professional careers from the beginning of medical school through Match Day. Moving forward, we will continue to evolve our career programming through feedback and fresh ideas from our students and faculty. We have begun to further integrate the CiM program into the medical school experience by collaborating with the ACP on personalized learning plans (PLPs) for each student. During PLP meetings, in which students meet with ACDs one-on-one, students assess themselves on each of the Accreditation Council for Graduate Medical Education core

competencies,<sup>36</sup> discuss career goals as well as personal well-being, and set academic, career, and self-care goals for each year of training. The model for first-year students was launched in fall 2011, and the rollout of PLPs for the second-year students is being planned. Once this program is fully developed, students in all years of training will have one-on-one PLP meetings with their ACDs every year.

Although we believe that the Vanderbilt CiM program has a positive impact, we would benefit from measuring more program-specific outcomes to evaluate its effectiveness. This has been difficult to do because only a handful of graduating medical school classes have experienced the full program. Moving forward, we will continue to track our graduates' responses to appropriate AAMC GQ survey questions as well as develop and compile our own internal metrics to quantify effectiveness and to identify specific areas for improvement.

In conclusion, we believe that Vanderbilt's innovative CiM program is leading our medical students to make better, more informed decisions as they select specialties. Positive anecdotes and feedback are supported by evidence from the AAMC GQ. It is our hope that the Vanderbilt CiM model can provide a framework for other schools to adopt or adapt as they consider the best ways to address the career counseling needs of their own students.

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