



Tomorrow's Doctors, Tomorrow's Cures®

# Roadmap to Diversity: Integrating Holistic Review Practices into Medical School Admission Processes

---

Learn

---

Serve

---

Lead



# Roadmap to Diversity: Integrating Holistic Review Practices into Medical School Admission Processes

Written by:

Amy N. Addams  
Ruth Beer Bletzinger  
Henry M. Sondheimer  
S. Elizabeth White  
Lily May Johnson

## About this Publication

*Roadmap to Diversity: Integrating Holistic Review Practices into Medical School Admission Processes* is the second in a series of publications to be produced by the AAMC Holistic Review Project intended to help medical schools establish and implement institution-specific, diversity-related policies that will advance their core educational goals with minimal legal risk. To successfully achieve the educational and health care-related benefits that come from a diverse student body requires school-wide, concerted efforts. Therefore, the AAMC encourages medical schools to use this publication as a tool to guide collaborations and discussions among their institution's leadership; faculty; admissions, diversity affairs, financial aid, and recruitment officers; admissions committee members; legal counsel; students; and others engaged in and affected by diversity-related issues.

**Note: The content of this publication should not be construed as legal advice, and readers should not act upon information contained in this publication without professional counsel.**

## Acknowledgments

The AAMC extends its appreciation to all those who participated in producing this publication. In particular, we thank the AAMC Advisory Committee on Holistic Review, whose members guided the development of this publication; Marc Kahn, M.D., the admission dean at Tulane University School of Medicine, and David Jones, Ph.D., the admission dean at the University of Texas Health Science Center at San Antonio, both members of the Medical School Admissions Workshop Working Group; members of the Group on Student Affairs Committee on Admissions and Committee on Diversity Affairs; EducationCounsel LLC, which provided legal and policy guidance regarding this publication; and internal AAMC reviewers Carol Aschenbrener (AAMC executive vice president), Kelly Begatto (director of AMCAS®), Laura Castillo-Page (director of research, Diversity Policy and Programs), Joseph Keyes (AAMC chief legal officer), Karen Mitchell (senior director of Admissions Testing Services), Marc Nivet (AAMC chief diversity officer), John Prescott (AAMC chief academic officer), and Charles Terrell (former AAMC chief diversity officer), who offered expert review of the document.

---

© 2010 AAMC. All rights reserved.

This publication is also available free of charge on the AAMC's Web site at: [www.aamc.org/morediversity](http://www.aamc.org/morediversity)

For more information about this publication, please email [morediversity@aamc.org](mailto:morediversity@aamc.org).

# Table of Contents

<b>Foreword</b> .....	v
<b>Overview</b> .....	vii
<b>Chapter 1: The Admissions Committee and Implementing Holistic Review</b> .....	1
• Connecting the Composition of the Admissions Committee with Institutional Mission and Goals. ....	1
• Other Considerations .....	2
• Expanding the Literature.....	3
<b>Chapter 2: Incorporating Holistic Review into Admission Policies and Processes</b> .....	5
• Connecting Admission Policies and Processes with Institutional Mission and Goals.....	5
• Other Considerations .....	6
• Expanding the Literature.....	7
<b>Chapter 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics</b> .....	9
• Connecting Admission Criteria with Institutional Mission and Goals.....	9
• Other Considerations .....	10
• Expanding the Literature.....	12
<b>Chapter 4: Using the Established Criteria to Assess Applicants</b> .....	13
• Connecting the Use of Admission Criteria with Institutional Mission and Goals.....	13
• Other Considerations .....	13
• Expanding the Literature.....	16
<b>Chapter 5: Developing Holistic Review Communications, Orientation, and Training Strategies</b> .....	17
• Connecting Communications, Orientation, and Training with Institutional Mission and Goals.....	17
• Other Considerations .....	17
• Expanding the Literature.....	20
<b>Chapter 6: Evaluating the Effectiveness of Holistic Review Admission Policies and Processes</b> .....	21
• The Importance of Evaluation .....	21
• General Approaches to Evaluation .....	22
• Disseminating the Findings .....	24
<b>Chapter 7: Holistic Review Admissions Checklist</b> .....	25

**Appendix:**

Expanding the Literature, compilation .....	A-1
Chapter References and Sources.....	A-3
Advisory Committee on Holistic Review.....	A-7
Working Group on Holistic Admissions and Enhancing Diversity.....	A-8

## Foreword

This *Roadmap to Diversity* is a challenge to think differently.

There are significant changes and challenges afoot in health care and medical education, many of which contend with providing access to high quality, culturally responsive care for everyone. They are inextricably linked, and the changes are rapidly converging into a “perfect storm.”

Whether that perfect storm becomes an escalating crisis or an opportunity to meet and tackle these challenges head-on depends, at least in part, on whether and how medical education is able to rise to the challenge. Meeting this challenge will require us to think differently—about our institutions’ core missions, values, and goals; about the physicians we want to graduate; about how well our curricula and pedagogies prepare graduates to practice in an era of continuous scientific discovery and increasing cultural diversity, and a healthcare system that is changing right before our eyes.

On a fundamental level, this context requires us to think differently about medical school admissions, so that we admit and educate students who will be able to meet those challenges. What are the specific, measurable goals for admissions at my institution? How do we develop, implement, and sustain a process that enables us to shape a diverse class and contributes to a learning environment in which all students accrue the educational benefits of that diversity? What balance of applicant experiences, attributes, and metrics will help us get there?

As chair of the AAMC Advisory Committee on Holistic Review, I have had the opportunity to engage with advisory committee members—to discuss complex issues and ideas with new depth, contribute my perspectives as a medical school dean, and learn from colleagues whose perspectives and experiences are different from my own.

The insights I have gained influence not only my work with the Holistic Review Project, but also what I want to do at my institution. The clarity of our institutional mission and values and the community in which we work have direct implications for the students we want to educate and the physicians we want to graduate.

This edition of *Roadmap to Diversity*, the second in a series, provides guidance for medical school admission deans, staff, and committees interested in integrating holistic review into their admission policies and processes with a goal of shaping a diverse medical school class. Each medical school must develop its own admission policies and processes in the context of its institutional mission, learning goals, and related diversity interests. However, regardless of mission, every medical school operates in a national and global context, and we must all work together to achieve the desired outcomes and meet these larger challenges.

All of the members of the AAMC Advisory Committee on Holistic Review look forward to working with and supporting your institution as you undertake this journey.

Jim Scott, M.D.  
Dean, George Washington University School of Medicine & Health Sciences  
Chair, AAMC Advisory Committee on Holistic Review  
Spring 2010



## Overview

The *Roadmap to Diversity: Integrating Holistic Review Practices into Medical School Admission Processes* is designed to help admission deans, staff, and committees at medical schools develop and integrate holistic review practices into their student selection processes. This publication provides schools with a flexible, modular framework and accompanying tools for:

- aligning admission policies, processes, and criteria with institution-specific mission and goals, and
- establishing, sustaining, and reaping the benefits of medical student diversity (as defined by the school) in support of those missions and goals.

<b>Examples of Medical School Goals That May Be Associated with Student Diversity*</b>	
<b>Medical School Mission-Related Goals</b>	<b>The Diversity Connection</b>
The medical profession's core obligation is to meet our nation's many health needs as comprehensively as possible. This obligation includes training a sufficient number of able physicians in different practice areas and ensuring that competent medical care is available to <i>all</i> citizens—an effort often advanced with a diverse medical school leadership and faculty.	Broadly diverse perspectives in medical education: <ul style="list-style-type: none"> <li>• enhance the quality of education for all students, and</li> <li>• translate into more effective and culturally competent physicians better prepared to serve a varied patient population.</li> </ul>
Medical schools must address pervasive racial and ethnic disparities in health care, including unequal access to quality services.	<ul style="list-style-type: none"> <li>• Minority physicians may be more likely to practice in underserved population areas.</li> <li>• Medical schools educate all of their students regarding disparities in health care to focus on research agendas and policy strategies, as well as clinical practice.</li> </ul>
Medical schools must play active roles in broadening and strengthening our nation's health care research agenda.	<ul style="list-style-type: none"> <li>• Diversity among biomedical and clinical researchers may more adequately address health issues and diseases affecting different populations in terms of gender, race, ethnicity, sexual orientation, disability, and other characteristics.</li> </ul>
Medical schools must provide the supply of professionals that will meet patients' needs, which may include preferences for professionals of the same race or those proficient in the patient's native language.	<ul style="list-style-type: none"> <li>• Minority physicians can help meet patient preferences in providing quality health care.</li> <li>• Physicians proficient in languages other than English can help address linguistic and cultural barriers that may exist.</li> </ul>
*Excerpt adapted from <i>Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools</i> , 2008.	

To this end, the following pages focus on the key components necessary for conducting holistic review in medical school admission. Each chapter is written as a standalone module that is, nonetheless, integrated with the entire publication. While this results in some repetition of key points and themes across chapters, it offers considerable flexibility in using the materials for communication and training purposes. Throughout, readers will also find references to relevant literature and available evidence. Because more work is required to confirm the impact of holistic review approaches on student selection, the document also encourages medical school faculty and staff to conduct research and evaluations at their own schools and in collaboration with other medical schools.

- o **Chapter 1: The Admissions Committee and Implementing Holistic Review** provides information on how the composition of the admissions committee, its defined roles and responsibilities, training members, and valuing the service of members affect the use of holistic review and the diversity of the medical student body.
- o **Chapter 2: Incorporating Holistic Review into Admission Policies and Processes** focuses on integrating holistic review into admission policies and processes in support of the institution’s mission, educational goals, and related diversity interests.
- o **Chapter 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics** explores the complexities of identifying and framing the criteria by which committee members review applicants for admission and that are consistent with the institution’s mission, educational goals, and diversity interests.
- o **Chapter 4: Using the Established Criteria to Assess Applicants** introduces the *Experiences, Attributes, and Metrics (EAM)* model to explore approaches for using mission-driven criteria to give balanced consideration to each applicant at each stage of the admission process.
- o **Chapter 5: Developing Holistic Review Communications, Orientation, and Training Strategies** addresses elements of developing a consistent communications strategy to assure transparency of holistic review admission policies for all those affected, such as applicants, faculty, administrators, students, and the public. The chapter also focuses on the importance of and foundations for training those who screen, interview, and select medical school applicants for admission.
- o **Chapter 6: Evaluating the Effectiveness of Holistic Review Admission Policies and Processes** emphasizes the reasons that evaluation is important to conducting holistic review in medical school admissions and provides a general overview of two common approaches to evaluation.
- o **Chapter 7: Holistic Review Admissions Checklist** frames key questions by which a medical school can assess its efforts and success in integrating holistic review into its admission processes.
- o **Appendices:**
  - Appendix A is a compilation of the topics and questions included in the *Expanding the Literature* section of each chapter.
  - Appendix B contains the references and sources, by chapter, used to develop this publication and can serve as a ready reference for readers.

Before delving into the body of the *Roadmap to Diversity*, readers are encouraged to review the following two pages, “**Points to Keep in Mind about...**” This is an at-a-glance tool that contains essential background and context for implementing holistic review policies and processes. It is also constructed as a ready-to-use handout for presentations and discussions at meetings with admissions committee members, faculty, medical school leadership, administrators, students, and other stakeholders.

<b>Points to Keep in Mind about...</b>	
<b>...the AAMC Holistic Review Project.</b>	<ul style="list-style-type: none"> <li>o <i>Project purpose:</i> To develop, distribute, promote, and assess the impact of tools and resources that medical schools can adopt or adapt to create and sustain medical student diversity that supports institutional mission-driven goals.</li> <li>o <i>Project focus:</i> The application and admission process in the context of medical school mission and goals and other institutional efforts that promote diversity (such as outreach, recruitment, financial aid, and retention).</li> </ul>
<b>...what is meant by a medical school holistic review admissions process.</b>	<ul style="list-style-type: none"> <li>o <i>Definition:</i> <ul style="list-style-type: none"> <li>• Holistic review is a flexible, highly-individualized process by which balanced consideration is given to the multiple ways in which applicants may prepare for and demonstrate suitability as medical students and future physicians.</li> <li>• Under a holistic review framework, candidates are evaluated by criteria that are institution-specific, broad-based, and mission-driven and that are applied equitably across the entire candidate pool.</li> </ul> </li> </ul>
<b>...what is meant by diversity in the context of holistic review.</b>	<ul style="list-style-type: none"> <li>o Diversity is <i>not an end goal</i>, but a means to achieving core educational goals as defined by the medical school. <ul style="list-style-type: none"> <li>• As such, diversity serves as a driver of educational excellence and a mechanism for graduating physicians that contribute to health care consistent with institutional mission.</li> </ul> </li> <li>o Diversity is a <i>student-specific, multi-dimensional</i> concept. <ul style="list-style-type: none"> <li>• It may include, but does not exclusively refer to, race, ethnicity, and gender. Diversity may encompass other dimensions of experiences and attributes, such as distance traveled, educational background, languages spoken, resilience, socioeconomic status, and geography, among others.</li> </ul> </li> <li>o Diversity is <i>not a “one-size-fits-all” concept, but an inherently institution-specific</i> concept. <ul style="list-style-type: none"> <li>• While likely sharing common elements, the diversity interests of one medical school may be quite different from those of another school, based on differences in institutional mission, educational goals, the kind of students a medical school wants to educate, and the kind of physicians it wants to graduate.</li> </ul> </li> </ul>

<b>Points to Keep in Mind about...</b>	
<p><b>...the benefits and considerations of conducting a holistic review admissions process.</b></p>	<ul style="list-style-type: none"> <li>o <i>Benefits:</i> <ul style="list-style-type: none"> <li>• Helps medical schools increase student diversity as a means of achieving such mission-related goals as:                             <ul style="list-style-type: none"> <li>o academic excellence.</li> <li>o an enriched educational environment and learning community that benefits all students.</li> <li>o a physician workforce that is better able to meet the needs of a diverse nation within a global society.</li> </ul> </li> <li>• Emphasizes multiple factors in selecting applicants for interviews and admission.</li> <li>• Prevents using any single admission criterion as the deciding factor for interviewing and selecting applicants.</li> <li>• Provides the basis for serious consideration of all the ways each applicant might contribute to a diverse educational environment in the context of institutional goals for the classroom, clinical practice, and biomedical research.</li> <li>• Is a requirement for conducting legally sustainable race/ethnicity-conscious admission policies.</li> <li>• Facilitates collection and documentation of evidence supporting the use of various criteria beyond grades and test scores for making selection decisions for medical school admission.</li> <li>• Allows medical schools to contribute to the understanding of holistic review admission practices, operational strategies, evaluation approaches, and outcomes at all levels of higher education (e.g., undergraduate, graduate, professional school) and across higher education sectors and disciplines.</li> <li>• Gives medical schools the opportunity to directly influence the nature of health care in the nation and worldwide by identifying and selecting applicants for admission who have the experiences, attributes, and metrics to address the myriad challenges of assuring quality health care for all.</li> </ul> </li> <li>o <i>Considerations:</i> <ul style="list-style-type: none"> <li>• Will likely result in some changes in the composition of the medical school's applicant pool and student body.</li> <li>• May affect average metrics in traditional criteria for medical school admission (i.e., average MCAT® scores and GPAs).</li> <li>• May affect institution position in commercial rankings.</li> </ul> </li> </ul>
<p><b>...implementing a holistic review admission process.</b></p>	<ul style="list-style-type: none"> <li>o Medical school admissions is a <i>key point on the medical education continuum, not an isolated event.</i></li> <li>o For holistic review admission policies to be effective, these policies need to be:             <ul style="list-style-type: none"> <li>• <i>aligned</i> with institutional mission and goals;</li> <li>• <i>integrated</i> across outreach, recruitment, financial aid, and curriculum; and</li> <li>• <i>consistent</i> with and directly <i>connected</i> to institutional values.</li> </ul> </li> <li>o Establishing holistic review admission policies may constitute an <i>organizational change effort</i> that requires clear support of institutional leaders and participation of administrators, faculty, students, and other stakeholders.</li> </ul>

## CHAPTER 1

### The Admissions Committee and Implementing Holistic Review

A recurring theme in discussions among medical schools is that having a diverse range of perspectives represented on the admissions committee increases the likelihood of admitting a more diverse student body. This chapter addresses the potential effect of the composition of the admissions committee on building a diverse class. The chapter describes the connections with institutional mission, the importance of valuing service on admissions committees, and the admissions committee's roles and responsibilities with respect to incorporating holistic review in the assessment and selection of applicants for admission.

#### Connecting the Composition of the Admissions Committee with Institutional Mission and Goals

A major objective of the AAMC's Holistic Review Project is to help medical schools establish and sustain medical student diversity in ways that, first and foremost, are mission-driven and support educational goals, as well as assure that the policies and processes are legally defensible.<sup>1</sup> Although perhaps not immediately obvious, this has direct implications for any medical school's admissions committee in a number of ways—from who serves on the committee, to the criteria the committee uses to assess and select applicants, to the training committee members receive about their roles as the arbiters of who will go to medical school. Admissions committees are thus burdened with both the enormous power—deciding who will join the ranks of the nation's physicians—and the enormous responsibility that accompanies such a role.

As noted in *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*:

“The key to success for any medical school seeking to enroll and graduate a broadly diverse class is the connection the school makes between the diversity it seeks and the educational, mission-driven goals to which it aspires.” Recognizing that diversity is not a one-size-fits-all concept, “...the extent that diversity-related efforts are mission-driven (as they should be), then diversity objectives should reflect the unique goals, settings, and culture[s]...” of the individual medical school. (p. vi)

The AAMC's *Handbook for Admissions Officers* also emphasizes how a medical school's mission statement grounds the admissions committee's work in identifying applicants who have the potential to fulfill the school's mission and goals. Further, it provides guidance on the composition of the admissions committee in supporting a medical school's educational interests, including its broad interest in diversity.

It is desirable that the [admissions] committee broadly represent [sic] the diverse interests of the school of medicine. Representation of both basic scientists and clinical faculty

members, men and women, and, based on institutional policies, other persons, including students, residents, and members of the community at large, is essential. Since a diverse student body makes up a core value in medical education, the admissions committee should also include members of groups underrepresented in medicine. (p. 13)

As presented in the Overview and to be explored in more detail in subsequent chapters, these statements underscore that:

- o diversity encompasses many dimensions that include, but do not solely consist of, race, ethnicity, and gender; and
- o diversity is a means to an end whereby each medical school should decide for itself which dimensions of diversity to consider in the student selection process in order to fulfill its institution-specific mission-driven goals, such as educational excellence, quality health care for all, and breakthroughs in biomedical research.

<sup>1</sup> See the *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools* for more detailed information about legally defensible policies and processes.

These statements also have implications for the composition of a medical school's admissions committee and how its members can work together to create student body diversity in ways that are anchored in institutional mission and goals. Two suppositions follow for medical schools to consider in aligning the admissions committee efforts:

- o An admissions committee whose membership reflects the medical school's mission, educational goals, and related diversity interests will be more effective in selecting a medical school class that similarly reflects the school's priorities.
- o As members of an admissions committee share an understanding of and can clearly articulate the medical school's educational and associated diversity interests, the committee will be in a better position to accept a class aligned with those interests.

### Other Considerations: Roles and Responsibilities, Training, and Valuing Admissions Committee Members

**Roles and Responsibilities:** The fundamental role of any medical school admissions committee is to select the members of the incoming class. The particulars of the committee's responsibilities for screening, interviewing, and selecting applicants vary from school to school and are outside the scope of this publication.<sup>2</sup> However, for the purpose of effectively integrating

holistic review into the admission process, the admissions committee and admission office staff need to have a clear understanding about their respective roles and responsibilities. It is especially important that there be clarity at each stage of the process (screening, interviewing, and selecting) with respect to evaluating the individual applicant's potential diversity contributions across a range of experiences, attributes, and metrics (EAM) to be determined by the medical school. For more on EAM, see Chapter 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics.

**Training:** Composing an admissions committee in which members bring diverse perspectives and experiences to the table enriches the applicant selection process. While not seeking uniformity of opinion among committee members, admissions committee members should share an awareness of the admissions committee's purpose and the institutional mission. Standardized, annual training for the admissions committee provides several benefits, including opportunities to:

- o build a common understanding of the desired, mission-driven outcomes of the admission process, as well as the criteria and processes for achieving those outcomes;
- o develop a clear understanding of roles and responsibilities for everyone involved in the admission process; and

- o create agreed-upon decision making processes for each stage of the medical school admission process.

For more on training, see Chapter 5: Developing Holistic Review Communications, Orientation, and Training Strategies.

### Valuing Admissions Committee

**Members:** Admissions committee members play a vital role for any medical school. However, service on the committee is often voluntary, a time and energy-intensive commitment, and may not be taken into account for promotions and tenure decisions. As a result, admission deans often remark how difficult it is to recruit faculty.

A related matter reflective of the physician workforce as a whole is that at most medical schools very few faculty members are from racial or ethnic populations underrepresented in medicine.<sup>3</sup> One consequence is that these faculty members are frequently invited to serve on many committees, including the admissions committee. They often are the only or one of few minority faculty on the committee and are looked to represent the perspective for all minority groups, thus creating an additional burden. Being overextended in these ways can impede career opportunities because there is not enough time to conduct activities that are valued in promotion and tenure decisions.

To address these challenges, medical schools can demonstrate in concrete ways that participation on the

<sup>2</sup> See the AAMC's *Handbook for Admissions Officers, May 2004*, for general information about medical school admission policies, processes, and procedures.

<sup>3</sup> For more detailed information about racial and ethnic diversity in the academic medicine and physician workforce, see the AAMC's *Diversity in the Physician Workforce: Facts & Figures 2006*.

admissions committee is valued. For example, some medical schools take service on the admissions committee into account for promotion and tenure decisions, offer release time, or provide salary compensation. A potential strategy for establishing diversity within the admissions committee is to invite community members who represent different perspectives, experiences, and backgrounds to participate on the committee and in the interview process.<sup>4</sup>

### Expanding the Literature

Two articles—by Reiter and Eva<sup>5</sup> and Elam, et al.<sup>6</sup>, respectively—touch on the potential effect of medical school admissions committee composition on decision-making and student selection. Reiter and Eva were interested in whether different stakeholders engaged in the admission process—community members, faculty, and medical students—assigned different levels of value and importance to applicant characteristics. They found unexpected consistency across groups in terms of applicant characteristics that were most highly valued. As a result of conducting this study, the authors advocate that all admissions committees build a common understanding and develop “the ability to ground discussion about admissions issues.” (p. 8)

Elam and her colleagues studied changes in voting patterns following admissions committee deliberation in an effort to learn how a deliberative process contributes to decision-making.

They found that a considerable number of committee members changed their votes following deliberation, with most of the votes changing from hold to accept or hold to reject. The authors acknowledge that several different factors might contribute to members’ willingness to change their votes, including “one’s experience, knowledge base, and a sense of fairness and equitable outcomes or simply a formative readiness to recognize and process new information.” (p. 101)

While neither of these studies addresses all elements related to the composition of the admissions committee or their potential impact on student selection, they do emphasize the influence and importance that discussion and deliberation can have on committee decision-making. Following from that, the composition of the committee—and specifically which perspectives and voices are expressed during deliberation—could have a significant impact on which applicants are considered and ultimately selected for admission.

While there has been some scholarship in this area, readers are encouraged to expand the literature on the effects of admissions committee composition and decision-making in the medical school setting to further explore:

- o the impact that the backgrounds and interests of admissions committee members have on admission policies, including criteria for selection, and

- o whether admissions committee members are more likely to advocate for applicants who are like themselves in terms of experiences (e.g., family environment, educational background, career interests and experiences), attributes (e.g., critical thinking skills, integrity, resilience, languages spoken, demographic factors), and metrics (e.g., grades, test scores).

<sup>4</sup> For more specific instructions on admissions committee membership and voting requirements, see the LCME *Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree*.

<sup>5</sup> Reiter, Harold I. and Kevin W. Eva. “Reflecting the Relative Values of Community, Faculty, and Students in the Admissions Tools of Medical School.” *Teaching and Learning in Medicine* 17, no. 1 (2005): 4-8.

<sup>6</sup> Elam, Carol L., Terry D. Stratton, Kimberly L. Scott, John F. Wilson, and Arthur Lieber. “Review, Deliberation, and Voting: A Study of Selection Decisions in a Medical School Admission Committee.” *Teaching and Learning in Medicine* 14, no. 2 (2002): 98-103.



## CHAPTER 2

### Incorporating Holistic Review Into Admission Policies and Processes

A central principle of holistic review is ensuring that admission policies and processes are derived from and reinforce institutional mission and goals, which often aspire to educational excellence, quality and equity in health care, and advancements in biomedical research. This chapter addresses the relationship between admission policies and processes and institutional mission and goals in a holistic review context. In doing so, the chapter describes the benefits of employing holistic review approaches and considerations for implementation.

#### Connecting Holistic Review Policies and Processes with Institutional Mission and Goals

Integrating holistic review into medical school admission processes is part of any institution’s efforts to create admission policies and processes that are well-designed, grounded, consistent, and documented. The AAMC’s *Handbook for Admissions Officers* is a good resource for admission officers and committees interested in more specific information on developing foundational admission policies. As in this publication, the *Handbook* also emphasizes connecting these policies to institutional mission-driven goals, while acknowledging that mission statements are often quite broad, thus making it important to:

...translate that statement into a set of educational goals and objectives, each of which will have implications for the selection of entering students. Committee members should welcome the opportunity to create a set of internal policies to guide and manage the admissions process. (p. 15)

The process of selecting students is complex, generally consisting of three interconnected components—

screening, interviewing, and selecting applicants. Incorporating holistic review into policies that guide each component and the process overall has a number of potential benefits. As is described in the Overview,

Holistic review is a *flexible, highly-individualized process* by which balanced consideration is given to the multiple ways in which applicants may prepare for and demonstrate suitability as medical students and future physicians.

Flexibility, fairness, consistency, clarity, and balanced consideration are all fundamental to conducting individualized holistic review and are universal good practices in admissions.<sup>7</sup> Through holistic review, the admission policies crafted by the admissions committee and adopted through the school’s established policy-approval process can contribute significantly to meeting these ideals by:

- o facilitating selection decisions—albeit one applicant at a time—that result in enrolling a diverse student body with the array of experiences, attributes, and metrics that it seeks for the purpose of achieving its mission-driven goals;
- o providing a basis for admission officers, staff, and committee members to think more broadly and intentionally about applicant experiences and attributes in the decision-making process;
- o instituting and applying clear, consistent criteria and processes that are aligned with institutional mission and goals, as well as integrated across the screening, interviewing, and selection processes (for more detail about criteria, go to Chapters 3 and 4);
- o informing the development of documented practices that ensure consistent collection of relevant data from each applicant’s portfolio of experiences, attributes, and metrics (For more on EAM, see Chapter 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics);
- o identifying probable locations of these data within the application package, such as the AMCAS® application, the medical school’s supplemental application, the interview, letters of recommendations, and so forth; and

<sup>7</sup> For more information on best practices in admissions, see the AAMC’s *Handbook for Admissions Officers* and the College Board’s *Best Practices in Admissions*.

- o determining how applicants are selected from the wait list, thus also supporting the intentional composition of a diverse class.

### Other Considerations: Resources, Timing, Context, and Models

**Holistic review is time and resource-intensive:** Holistic review approaches are, in the words of one constituent, “data hungry.” They may well require spending more time with applicants’ portfolios and devising legally sustainable strategies to streamline the process, while still conducting individualized holistic reviews. It is, however, worth the time and effort to do holistic review, as it can help the institution admit and enroll the student body the school seeks in order to achieve its mission and goals.

Many medical school admission officers and committees work in time and resource-scarce, high-pressure environments. This can lead to additional challenges, such as finding time, staff, and concentration to regularly build consensus around, evaluate, and refine admission policies in support of the institution’s mission and goals. Once the policies are in place, ensuring that holistic review practices follow an institution’s admission policies may be subject to competing pressures and priorities, such as an institution’s potential interest in published rankings, which are generally metrics-driven.

In addition, monitoring and collecting data on how matriculants perform during their preclinical and clinical years to provide evidence for who is succeeding and who is not is also time and resource-intensive. Those

data, however, help an admissions committee refine the screening, interviewing, and selection process, resulting in better informed, evidence-based decisions about applicants.

**Timing matters:** The earlier in the process the admissions committee integrates holistic review, the more potential it has to broaden the diversity of the dimensions that the medical school values in the applicant pool and subsequently among the applicants accepted for admission. Based on formal and informal feedback from institutions, it appears that many medical schools use, at least to some extent, holistic review processes from the interview stage through applicant selection. However, by waiting until these relatively late stages to integrate holistic review approaches, the admissions committee and staff have likely narrowed their potential candidate pool substantially. Incorporating holistic review as early in the cycle as initial screening opens the opportunity for creating a richer pool of potentially qualified and desirable candidates from which to shape the class.

### Holistic review admissions policies operate in an institutional context.

This includes integration with other student-related policies, in particular those affecting building student-body diversity. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools* offers medical schools a primer for achieving a shared objective for many, if not most medical schools; that is:

... to arrive at a destination in which a diverse class—including a racially and ethnically diverse

### Selected Legal Considerations

A medical school that considers the race or ethnicity of its applicants when making admission decisions should ensure that:

- relevant institutional goals
  - o are framed in educationally appropriate ways;
  - o embody the pursuit of legally-sanctioned institutional interests, which may include achieving the educational benefits of diversity; and
  - o are aligned with admission policies and practices.
- relevant admission policies and practices
  - o consider race and/or ethnicity only as necessary to achieve clearly articulated mission-driven benefits;
  - o incorporate race and/or ethnicity as part of a holistic process, where multiple individual factors may be considered; and
  - o are evaluated (and as necessary, modified) over time based upon relevant research and information regarding institutional experience and impact.

For more detailed guidance and resource information related to governing federal laws, see: Coleman, Arthur L., Scott R. Palmer, and Steve Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008.

AAMC. *Assessing Medical School Admissions Policies: Implications of the U.S. Supreme Court’s Affirmative-Action Decisions*. AAMC, 2003.

class—enhances teaching and learning for all students and establishes foundations for more expansive, quality medical care in all communities. (p. v)

It also provides information and tools that medical schools can use to develop mission-driven, educationally sound, legally sustainable, and evidence-based policies, such as considerations for race/ethnicity-based admission policies (see sidebar on previous page) and an institutional medical student diversity self-assessment tool.<sup>8</sup>

**Admission Models:** Admission models can clarify and frame the multiple components of the admission process and elucidate areas of interrelation and connectivity by “synthesiz[ing] elements to provide a framework for thinking.”<sup>9</sup> However, one element that is sometimes missing from admission models, and therefore the discussion, is a statement of the institutional mission and context.

Translating admission policies, processes, and practices into an admission model can help committee members more readily determine where and how to integrate holistic review approaches into their work. It also can assist committee members in discerning disconnects in the process, including where one part of the process works against another. A model makes it easier to see whether each part of the process (e.g., policies, process, practice, criteria, admissions committee) is consistent with and supported by the others.

### Expanding the Literature

One of the legal requirements for institutions using race/ethnicity-conscious admission policies is conducting rigorous, ongoing review and evaluation of those policies. Even for medical schools that use holistic review without considering race and ethnicity, such ongoing evaluation identifies what works and what does not. In addition to improving policies and processes at the institutional level, conducting and publishing the results of these evaluations:

- o contributes to the literature;
- o is a vehicle for medical schools nationwide to share and refine their admissions practices; and
- o augments the evidentiary basis for implementing holistic review.

Working with experts in higher education research can help admission deans and staff carry out evaluations or pursue related studies and data analyses. In addition, developing an admission model may prove useful to clarify and articulate the connections across the various components of the admissions cycle and the policies and procedures that drive them. Among other benefits, this approach serves to establish a common vocabulary and construct for talking about different dimensions of medical school admissions, ones understood by both researchers and practitioners.

Among the areas that medical schools may choose to examine further regarding effective holistic review approaches are:

- o the intended and unintended outcomes of incorporating holistic review into medical school admission policies and processes;
- o the effectiveness of strategies for developing and implementing holistic admission policies, processes, and practices; and
- o existing and emerging promising holistic review practices employed by medical schools.

<sup>8</sup> The self-assessment tool can be found on pp. 17-20 in *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools* (2008).

<sup>9</sup> For more information and examples of admission models, see the Edwards, et al, *Academic Medicine* article, “An Admission Model for Medical Schools” and the College Board’s *Toward a Taxonomy of the Admissions Decision-Making Process*.



## CHAPTER 3

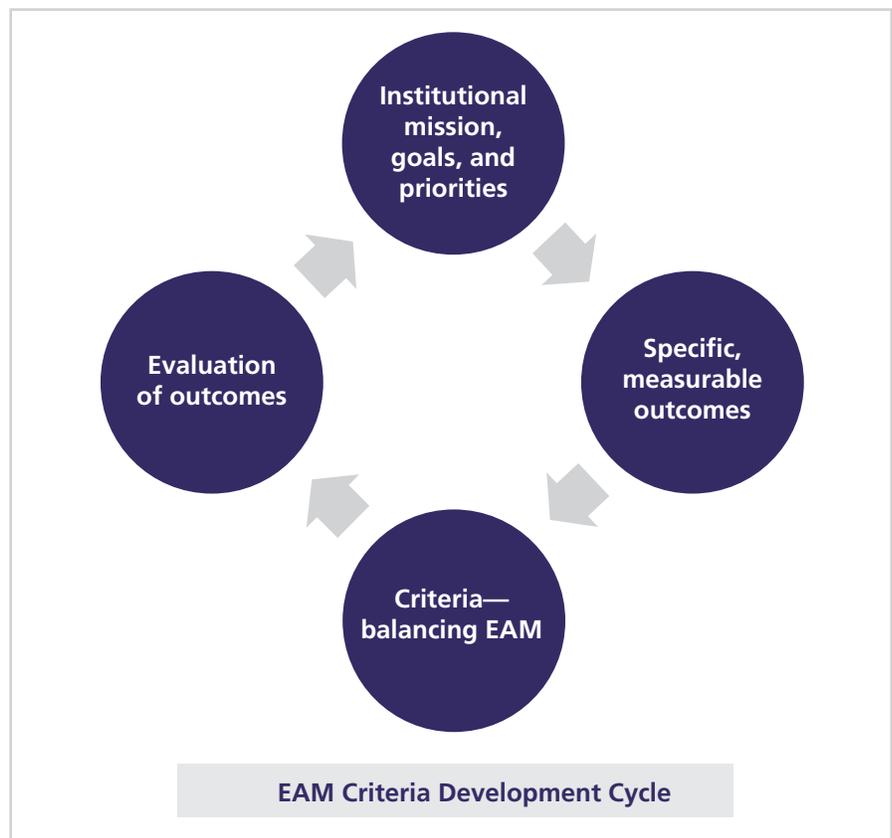
### Establishing Admission Criteria That Balance Experiences, Attributes, and Metrics (EAM)

This chapter introduces the concept of **EAM**, establishing a balance of a broad range of **experiences, attributes, and metrics** as a means for medical schools to develop admission criteria that are clearly linked to institutional priorities and promote medical student diversity as a means of realizing those priorities. The approach is designed to help medical school admissions committee members achieve a common understanding and ground criteria around the students the institution wants to educate and the physicians it wants to graduate.

#### Connecting Admission Criteria with Institutional Mission and Goals

Incorporating holistic review into medical school admission activities is about promoting excellence, not sacrificing it. An admissions committee best serves the institution by selecting applicants it expects to succeed both in medical school and as physicians. Holistic review enhances this process by calling on the committee to consider and make informed decisions about the many and diverse ways an applicant might prepare for medical school and contribute to the learning and health care environments in the context of institutional mission and goals.

To establish admission criteria that the committee thinks will serve the school's priorities, it must first define what constitutes success (broadly) in terms of those priorities. From there, committee members can identify specific, measurable objectives for the admission process, student performance in medical school, and graduates' achievement. Next, the committee can work back to identifying a balance of **experiences, attributes, and metrics (EAM)** used to screen, interview, and select applicants with the intent of creating the kind of diversity among the medical school's



students that will lead to the outcomes desired by the school. The committee, then, evaluates on an ongoing basis whether the established criteria have supported those outcomes.

In this way, the criteria and the process can be refined and become a gauge for institutional success over time by relying on analyses of evidence,

rather than anecdotes, which can be both persuasive and unreliable. (For information on evaluation, see Chapter 6: Evaluating the Effectiveness of Holistic Review Admission Policies and Processes.) Albeit a time-consuming effort at the outset, this cycle allows the admissions committee members and admission staff to build a common understanding of the criteria and how

to use them in screening, interviewing, and selecting applicants. (More on applying criteria is in Chapter 4: Using the Established Criteria to Assess Applicants.)

As with much in holistic review in admissions, definitions of success are mission-driven. As holistic review approaches encourage consideration of a broad range of criteria, it follows that definitions of success may also include some less traditional characteristics, in addition to grades and test scores. For example:

- o How and what are individual students contributing to the learning environment?
- o Are students developing into compassionate, as well as competent, physicians?
- o Are students considering specialties and career choices consistent with the institution's mission (e.g., meeting local needs, addressing national imperatives, and/or attending to global concerns)?

The AAMC's *Handbook for Admissions Officers* also recommends using a range of criteria grounded in the institution's mission and educational goals, stating that the admissions committee has responsibility for:

...creating the process that identifies applicants whose personal characteristics, level of educational achievement, and professional and

career goals conform to those of the institution and who are most likely to contribute to, and benefit from, the school's learning climate. (p. 14)

### Other Considerations: Terminology, Balancing Criteria, Understanding the Role of Metrics, and Aligning Criteria

**Terminology:** It is well known that virtually every medical school admissions committee takes criteria beyond MCAT® (Medical College Admission Test) scores and GPAs (grade point averages) into account when selecting students. However, there are numerous descriptors for these other categories of admission criteria in the medical education

literature. For the purpose of establishing a common vocabulary for discussing holistic review in admissions, the AAMC Holistic Review Project will use the following categories: **experiences, attributes, and metrics**, together referred to as **EAM**. (See sidebar for more detailed information.)

This publication uses the term **“portfolio”** to describe the full set of application materials submitted by each candidate to medical school. These materials could include, but are not limited to, the AMCAS® or primary application, the supplemental application, letters of recommendation, and interviews.

#### Experiences, Attributes, and Metrics (EAM)

- **Experiences:** This category encompasses the path the applicant has taken to get where he or she is. Examples of experiences could include being the primary care-giver for an ill family member, distance traveled<sup>10</sup>, educational background, employment history, research experience, or experience in a health care setting.
- **Attributes:** This category includes the applicant's skills and abilities at time of entry to medical school, personal and professional characteristics, and demographic factors.
  - o Examples of *skills and abilities* include active listening, problem solving, written and oral communication, critical thinking, and being multilingual.
  - o Examples of *personal and professional characteristics* include resilience, integrity, adaptability, persistence, motivation, intellectual curiosity, and empathy.
  - o Examples of *demographic factors* include socioeconomic status, parental education levels, geography, being a first generation college student, race, ethnicity, and gender.
- **Metrics:** This category includes the academic/quantitative components of the applicant's portfolio, most notably GPA and MCAT® scores.

<sup>10</sup> The term “distance traveled” is a component of “experiences” in the EAM model. The term is increasingly used in the medical education literature. Here is a carefully drawn description from Garcia, Nation, and Parker's essay, included in *In the Nation's Compelling Interest: Ensuring Diversity in the Health Care Workforce*, “Certain characteristics are important to consider, particularly for those students who have not had optimal access to educational opportunities. The following characteristics are among those that merit careful attention: parental income, education, and occupation, precollege education, hours worked while attending college, cultural barriers, geographic location or neighborhood where applicant was raised, prior experience with prejudice, and special family obligations or other circumstances” (p. 247-248). For more detail, see their full essay, “A Look at Best Practices in Admissions.”

**Balancing Criteria:** Establishing criteria for a holistic review admission process involves broadening the range of criteria considered. It also involves identifying a balance of experiences, attributes, and metrics (EAM) in individual applicants, and the class as a whole, that will help the institution achieve its goals.

Thinking about the institutional mission will help frame discussions about establishing selection criteria. For example, if the institution's mission is to graduate physicians who will practice in rural areas, what range of admission criteria is most compelling in the context of the school's learning environment and goals? For insight into particular attributes, experiences, and/or metrics associated with achieving that outcome, admissions committees and staff can analyze the institution's student performance data to identify any correlations between applicant characteristics and eventual outcomes. Talking to and learning from admission officers, faculty, and staff at medical schools with similar missions might also provide some ideas for establishing meaningful criteria. In addition, the medical education research literature could provide additional direction.

As described in the institutional self-assessment tool found in *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*,

A medical school should establish substantive criteria for admissions that...balance among academic accomplishments and personal factors in applicants designed to achieve mission-related goals. (p. 19)

Admission staff and committee members may benefit from analyzing historical student performance data across a range of categories: matriculants' contributions to the learning environment, grades, and clinical performance. They can compare those data with the data contained in students' application portfolios to address some key questions:

- o Were there specific experiences, attributes, and/or metrics evident in those students who performed well? In those who struggled?
- o Based on this evidence, is there a baseline, whether purely metrics-based or EAM-based, at or above which the admissions committee may reasonably expect an applicant to succeed?

In establishing the broad, balanced range of criteria on which they will assess applicants, admissions committee members may also want to identify "deal breakers." These deal breakers, which are likely to differ from school to school, might be particular experiences, attributes, and/or metrics committee members consider essential for acceptance. For information on applying a balance of criteria when selecting students, see Chapter 4: Using the Established Criteria to Assess Applicants.

**Understanding the Role of Metrics:** It is difficult to identify balanced criteria without understanding metrics. Metrics are important, but they tell only part of the story. This emphasizes the importance of balancing metrics with experiences and attributes in the EAM

model. There are two interrelated ways to think about metrics in the context of establishing criteria in a holistic review admission process. The first is to understand what metrics, particularly the MCAT®, do and do not predict. The second is to understand metrics in the context of the individual institution.

Based on AAMC research, there is evidence that MCAT® scores are strong predictors of performance on the United States Medical Licensing Exam® (USMLE), particularly Steps 1 and 2, and academic performance in the first three years of medical school. In addition, there are two primary ways in which admissions committees use the MCAT® that are considered appropriate by MCAT®:

1. To predict who will succeed academically in medical school, or
2. To predict who may need help to succeed in medical school so that staff and faculty can then work closely with those students.<sup>11</sup>

Whether an admissions committee decides to use MCAT® scores to predict who will succeed or who is capable but may need help to succeed, it is important that the committee has an understanding of which students have been successful at their institution and the basis for this success or lack of success. Assessing the correlation between past matriculants' metrics and their performance at the medical school can help admissions committee members establish evidence-based criteria to use in initial screening. This can also help them decide the relative importance or weight they attach to MCAT® scores and GPAs in selection decisions.

<sup>8</sup> Julian, Ellen. "Validity of the Medical College Admission Test for Predicting Medical School Performance." *Academic Medicine*, 80 no. 10 (2005): 910-917.

**Aligning Criteria:** To support a synergistic admission process, aligning criteria across the following three dimensions is key.

- o Institutional mission and goals serve as a polestar for the entire process and, as a result, constitute a major theme of this publication.
- o Enrollment management initiatives—outreach, recruitment, admissions, financial aid, retention efforts, and other related student support services—should work in concert to assure the success of accepted applicants both academically and in terms of the school’s broader priorities.
- o Alignment of criteria across the discrete stages of the admission process—screening, interviewing, and selection—is necessary because:
  - each stage is affected by the outcomes of the those stages that precede it, and
  - if the admissions committee uses different, non-overlapping criteria at each stage, the applicant pool from which the admissions committee ultimately selects students may not reflect the EAM balance and diversity the institution seeks.

### Expanding the Literature

Within the medical education research focused on assessing the reliability and validity of admission criteria, the most conclusive literature is about MCAT® scores and GPAs. The work of the Medical School Objectives Project (MSOP)<sup>12</sup> and the Accreditation Council for Graduate Medical Education (ACGME)<sup>13</sup> has established a solid foundation for what is expected of current medical students and residents. Mark Albanese and his colleagues, in their article “Assessing Personal Qualities in Medical School Admissions,” also address the challenge of assessing personal attributes in medical school admissions. Perhaps more provocatively, they propose developing a “Unified System of Assessment.” They argue that:

...if one considers competencies to be a continuum from cradle to grave, the natural progression could serve as a means for assessing individuals at specific defining points. The evaluation methods used could build upon one another for continuity so that students feel a sense of progression and are better able to self-regulate their learning. (p. 320)<sup>14</sup>

Translating those identified characteristics, skills, and abilities into admission criteria could provide a foundation on which to expand the literature. For example, such research could focus on identifying applicants’ experiences and attributes associated with successful performance in medical school and development into caring, compassionate, competent physicians.

<sup>12</sup> For more information about medical student competencies, see the first MSOP publication: *Learning Objectives for Medical Student Education: Guidelines for Medical Schools*. AAMC, 1998.

<sup>13</sup> For more information about resident competencies, see the ACGME’s *Common Program Requirements: General Competencies*. ACGME, 2007.

<sup>14</sup> Albanese, Mark A., Mikel H. Snow, Susan E. Skochelak, Kathryn N. Huggett, and Phillip M. Farrell. “Assessing Personal Qualities in Medical School Admissions.” *Academic Medicine* 78, no. 3 (2003): 313-321.

## CHAPTER 4

### Using the Established Criteria To Assess Applicants

The criteria the admissions committee uses affect the medical school's applicant pool, interview pool, and, ultimately, its entering class. By interpreting and applying those criteria, the admissions committee puts into practice what it values in students and the class as a whole. This chapter focuses on balancing the **experiences, attributes, and metrics (EAM)** committee members and others use to screen, interview, and select applicants for admission and enroll a diverse student body.

#### Connecting the Use of Admission Criteria with Institutional Mission and Goals

The heart of holistic review in admissions is giving balanced consideration to the multiple ways in which applicants may prepare for and demonstrate suitability as medical students and future physicians. As noted throughout the publication, this review of applicants is done in the context of creating a diverse student body *for the purpose* of achieving institutional mission and goals.

Admissions committee members and screeners can contribute to shaping the diverse class the institution seeks by giving thoughtful consideration to each applicant's portfolio.<sup>15</sup> They can do this by assessing how each applicant may contribute to, and benefit from, the learning environment of the institution. As introduced in Chapter 3, this review is achieved by developing mission and goals-driven admission criteria that balance applicants' experiences, attributes, and metrics (EAM) and using those criteria at each stage of the admission process.

Ultimately, the committee must think about the range of criteria it needs in a

class, not just in individual applicants, to achieve the institution's mission and goals. In other words, not every applicant has to exhibit all of the individual criteria, although admissions committees may decide that certain factors are "deal breakers" or essential for consideration for admission. Some attributes or experiences that might enhance one applicant's portfolio might not be relevant for another applicant. Such individualized consideration is a touchstone for holistic review in admissions. One responsibility of the admissions committee, then, is to weigh and balance these different factors when screening, interviewing, and selecting applicants.

#### Other Considerations: Integrating Holistic Review, Inter-Rater Reliability, Interpreting Metrics, Finding Evidence of Criteria, Transparency, and Authenticity

**Integrating Holistic Review:** The earlier the holistic review of applicants is introduced into the admission process, the more effective it is likely to be. For the purposes of this document, the admission process is divided into three primary stages: initial screening of applicants for interview, interviewing applicants, and selecting students for admission.

**Screening:** Based on informal feedback from constituents, at most institutions the screening phase appears to be the least holistic. This is due to a number of reasons, not least of which is a much larger number of applications than there are interview slots or medical student seats. Applicants' MCAT® (Medical College Admission Test) scores and GPAs (grade point averages) are often significant factors during this screening stage because they are frequently seen as easier to interpret and categorize than applicants' experiences and/or attributes.

While capacity issues may impede nuanced consideration of each applicant's portfolio during screening, using a balance of key experiences, attributes, and metrics at this stage can facilitate the shaping of a richly diverse interview pool.

- o One approach that may assist institutions in balancing criteria is establishing a baseline at and above which applicants are considered academically prepared. Effectively, this means making a reasoned, research-based judgment about who is academically prepared that is not based solely on grades and MCAT® scores. This approach is

<sup>15</sup> This publication uses the term "portfolio" to describe the full set of application materials submitted by a candidate to medical school. These materials could include, but are not limited to, the AMCAS® or primary application, the supplemental application, letters of recommendation, and interviews.

substantively different from using a cut score below which an applicant is not considered for admission in that academic preparedness is not defined by a single metric, but by a range of indicators the school deems valuable and useful. For instance, an applicant might demonstrate preparedness through the depth and breadth of courses taken, research experience, and documented willingness to learn and challenge himself or herself, among other factors.

- o Another option might be an experience-first approach rather than a metric-first approach. For example medical schools already require that applicants have one or more health-related experiences, whether clinical service, bench research, or clinical research, before being considered for interview.
- o Similarly, in a mission-based admission process, an attribute-first screen is often employed. This process has been particularly successful in programs designed to identify, matriculate, and train physicians who will ultimately enter rural practice.<sup>16</sup>

*Interviewing:* Based on formal studies and informal feedback, it is clear that admissions committees place significant weight on the interview. The interview is frequently seen as an opportunity to delve more deeply into the applicant's experiences and attributes and to assess "fit" with the institution. There are more and less reliable and valid ways to structure

and conduct an interview. Medical education research shows that a structured or semi-structured interview conducted by two or more interviewers is the most reliable and valid.<sup>17</sup>

Admissions committees might also consider using information gained during the less formal time applicants are on campus for their interviews. For example, gathering the most memorable information, both positive and negative, from other people, such as current medical students and administrative staff, who had contact with the applicants can indicate whether the applicant's behavior outside of the interview was consistent with how she or he presented herself or himself during the interview.

*Selecting for admission:* Based on informal feedback from constituents, it appears that admissions committees are most likely to use holistic review methods during the selection stage. Giving thoughtful consideration during selection to each applicant's individual

experiences and attributes and potential diversity contribution to the medical school's learning environment facilitates shaping a class in line with the institutional interests.

In a holistic review admission process, selecting applicants from the wait list is also done with attention to shaping the class. If applicants on the wait list are assumed to be qualified for admission and would have been accepted were there more slots available, the admissions committee could then focus on balancing criteria in support of the institution's educational goals and related diversity interests when selecting applicants from the list.

**Inter-rater reliability:** The equitable consideration of applicants is an important element in holistic review in admissions. This fairness is heavily dependent on inter-rater reliability, which the College Board defines as "the agreement between readers, or the extent to which readers judge a college application...in the same way." (p. 1)<sup>18</sup>

#### Inter-Rater Reliability\*

- "The first [aspect of inter-rater reliability] is the *composite reliability* of judges or readers; it can be evaluated by correlating ratings made by different readers on the same group of applicants.
- The second is *reader consistency*; it can be evaluated by calculating the percent agreement between different ratings on the same group of applicants.
- A third aspect of inter-rater reliability is *inter-rater severity*, which captures the degree of leniency or stringency of different readers by comparing average ratings between them."

\* Excerpted from the College Board's *Consistency and Reliability in the Individualized Review of College Applicants*. (p. 1)

<sup>16</sup> Rabinowitz, Howard K., James J. Diamond, Fred W. Markham, and Jeremy R. Wortman. "Medical School Programs to Increase the Rural Physician Supply: A Systematic Review and Projected Impact of Widespread Replication." *Academic Medicine* 83, no. 3 (2008): 235-243.

<sup>17</sup> Harasym, Peter H., Wayne Woloschuk, Henry Mandin, and R. Brundin-Mather. "Reliability and Validity of Interviewers' Judgments of Medical School Candidates." *Academic Medicine* 71, no. 1 (1996): S40-S42.

<sup>18</sup> Shaw, E. J. and G. B. Milewski. *Consistency and Reliability in the Individualized Review of College Applicants*. RN-20; The College Board, 2004.

(See sidebar for information about the types of inter-rater reliability and how to evaluate them.)

Inter-rater reliability does not mean that everyone engaged in the admission process has the same opinion. After all, valuing and seeking diversity of perspectives and representation among admissions committee members is considered essential for enhancing and maintaining a medical student body that is similarly diverse. Rather, it is about having a reliable process in which everyone fundamentally agrees on the shared mission, goals, and approach.

Inter-rater reliability among screeners and interviewers requires training. It is not easy and, for many medical schools, it may be an aspirational goal. The College Board publication, *Selection Through Individualized Holistic Review*, offers suggestions for maintaining inter-rater reliability in addition to training.

**Interpreting Metrics:** Screeners and admissions committee members who understand what the MCAT® is intended to do, how to use MCAT® scores, and what the test does and does not predict are better able to interpret MCAT® scores when assessing applicants. The AAMC MCAT® guidance on *Using MCAT Data in 2010 Student Selection* includes information about using MCAT® Total scores rather than MCAT® section scores in evaluating applicants:

Because they reflect examinees' performance on more multiple-choice questions than individual section scores do, MCAT® Total

scores provide better estimates of student achievement than do section scores. MCAT® Total scores should be used to screen applicant pools or evaluate individual examinees. (p. 3)<sup>19</sup>

In addition, having a basic understanding of the reliability, standard error of measurement, and confidence intervals for the scores can help screeners and committee members more appropriately interpret MCAT® scores.

A test's reliability level is a reflection of the precision with which the test measures the skills it is designed to measure. Reliability estimates can be expressed in terms of the standard error of measurement. For the MCAT® Total score, the standard error is [±] 2 points. This information can be used to derive confidence intervals representing the range of test scores within which an individual's true achievement level probably lies. An individual's score plus or minus one standard error is used to calculate the 68% confidence interval.<sup>20</sup>

Therefore, the fine distinction schools might make, for example, between a Total score of 31 and a Total score of 29, might not be a real difference.

**Finding Evidence of Criteria:** For screeners and admissions committee members to assess applicants based on the range of admission criteria established by the medical school, they need to rely on evidence from applicants' portfolios. This may mean orienting screeners and committee members to where the evidence is located within the portfolio,

*All applicants have the opportunity to highlight their own potential diversity contributions through the submission of a personal statement, letters of recommendation, and an essay describing the ways in which the applicant will contribute to the life and diversity of the... [s]chool.*

—Justice Sandra Day O'Connor, emphasizing positive dimensions of the University of Michigan's Law School application in the majority opinion in *Grutter v. Bollinger* (2003) (p. 26)

whether in the primary application (e.g., AMCAS®), the letters of recommendation, the personal statement, the interviewers' feedback, or other sources. It may also mean developing institutional tools, such as summary forms for screeners and rating worksheets for interviewers, to capture relevant information. Screeners and interviewers could then use these tools to present applicant information clearly to admission staff and committee members.

This process also includes determining whether the medical school's current application materials (e.g., AMCAS® application, supplemental application, letters of reference, interview, essays) provide applicants with sufficient opportunities to demonstrate how their experiences, attributes, and metrics map onto the medical school's admission criteria.

As a result of that analysis, the admissions committee may decide

<sup>19</sup> AAMC communication. *Using MCAT Data in 2010 Student Selection*. AAMC, 2009.

<sup>20</sup> Ibid.

to modify or refine elements of the application or interview process. This could mean crafting more relevant and meaningful essay questions or providing interviewers with a series of prompts to help guide the discussion and elicit the information the committee needs from this stage.

**Transparency:** Consistency and clarity in messaging benefits key institutional stakeholders, including administrators, admissions committee members, faculty, and potential applicants, by explicitly linking holistic review in admissions with the institutional mission. Having medical school stakeholders who can clearly articulate the link between the admission criteria and holistic review admission process and the institution’s mission and goals reinforces the centrality of those institutional priorities. Making clear what the institution values most highly also may help mitigate potential external influences on the admission process, such as rankings. (See Chapter 5: Developing Holistic Review Communications, Orientation, and Training Strategies for more information on achieving transparency.)

**Authenticity:** There is common concern about applicants “gaming” the system, whether through coaching or faking. Building confidence that admission staff and committee members receive authentic examples of applicant work could involve changing how applicants provide certain information and the institutional tools (including the supplemental application, worksheets, and summary forms) used to capture and present

applicant information. In addition, opportunities to practice reviewing applicant portfolios and gain experience in assessing and discussing applicants can help build confidence among screeners, interviewers, and committee members that they are making accurate assessments of applicants. Over the long term, analyzing how students who are accepted perform in medical school—if they succeed, if they struggle, and why—can also help refine the approaches screeners, interviewers, and committee members use in assessing applicant portfolios.

### Expanding the Literature

Informal feedback from medical school admission deans, faculty, and staff suggests that such attributes as motivation, persistence, and resilience are highly valued among medical students and may contribute even more to their success than high metrics (grades and test scores). There is also a strong interest in identifying reliable and valid ways to measure these and other attributes for the admission process. Eric Sui and Harold Reiter, in their article “Overview: What’s Worked and What Hasn’t as a Guide towards Predictive Admissions Tool Development,” provide a comprehensive overview of numerous assessment tools used in medical school admissions and their relative reliability and validity in predicting outcomes.<sup>21</sup> Their article identifies additional avenues of study.

Mark Albanese and his colleagues, in their article “Assessing Personal Qualities in Medical School

Admissions,” propose a few different measurement approaches, including using applicant essays, the interview, letters of recommendation, and transcript information.<sup>22</sup> They also identify challenges and limitations associated with each approach. For example, both the essays and the letters of recommendation could provide good insights into the applicant, but the lack of standardization makes comparison difficult. The structured interview fares best in their analysis, though it requires thought, time, and resources on the part of the institution to make the interview a valid and reliable tool.

As explained in Chapter 3, Albanese and his colleagues also propose a “Unified System of Assessment” that would span every point on the medical education continuum from medical school admission through continuing medical education.

Based on the available research, the topic of measuring applicant attributes in valid and reliable ways would benefit from additional study in such areas as:

- o identifying and developing valid and reliable ways to measure personal attributes in medical school admissions, and
- o pursuing the idea proposed in Albanese’s article about developing a standardized system of assessment for medical school admission through continuing medical education, recognizing that there will likely also be institution-specific, mission-driven nuances.

<sup>21</sup> Siu, Eric and Harold I. Reiter. “Overview: What’s Worked and What Hasn’t as a Guide towards Predictive Admissions Tool Development.” *Advances in Health Science Education*, published online April 2, 2009.

<sup>22</sup> Albanese, M.A., et al. “Assessing Personal Qualities in Medical School Admissions.”

## CHAPTER 5

# Developing Holistic Review Communications, Orientation, and Training Strategies

Consistency of decisions made about applicants is an essential part of an equitable holistic review admission process. Holistic review encourages that those determinations be made in the context of the institutional priorities, which include how building a diverse student body serves educational excellence and other mission-driven goals. This chapter is about assuring consistency and transparency throughout a medical school's holistic review admission process. Developing and implementing a comprehensive communications strategy can help assure transparency, while training key stakeholder groups can help assure consistency and proficiency throughout the process.

### Connecting Communications, Orientation, and Training with Institutional Mission and Goals

One aim of implementing holistic review in medical school admissions is establishing and maintaining a fair and equitable process, which requires both consistency and transparency. The AAMC *Handbook for Admissions Officers* emphasizes the importance of consistency, transparency, and fairness, explaining, “The admissions officer is responsible for ensuring that... policies apply fairly and transparently in all recruitment and admission functions.” (p. 17) Core to achieving this aim is having a communications strategy directed to key audiences and providing solid orientation and training opportunities for admissions committee members, staff, and others who are directly involved in the medical school admission process.

Developing and executing such an infrastructure can be intensive in terms of time, staff, and, in some cases, funding. Expertise from outside of the admission office may also be necessary. However, the institutional commitment required is worth the effort to attain a comprehensive and comprehensible holistic review admission process that consistently enrolls a diverse student body that meaningfully reflects the aspirations

of the medical school, whether in education, service, or research. Informal feedback from constituents indicates that institutional mission is often the missing link in these efforts. As a result, together with all other facets of putting holistic review into practice, highlighting the centrality of mission in communications, orientation, and training is essential.

### Considerations for Communications, Orientation, and Training

**Communications Strategy:** A communications strategy provides the framework for disseminating consistent messages to multiple stakeholder audiences through a variety of channels. As explained in

#### Considerations for Developing a Holistic Review Communications Strategy

- *Identify the internal and external stakeholders.* Stakeholder audiences might include institutional and medical school leadership, admissions committee members, faculty, medical students, potential applicants, the public, and pre-health advisors, to name a few.
- *Identify the most appropriate communications vehicles* to reach each of the respective audiences, including the institutional website, printed materials, *Medical Student Admission Requirements*® (MSAR) and *Minority Student Opportunities in U.S. Medical Schools* (MSOUSMS) entries, information sessions, and presentation materials.
- *Craft clear, consistent messages* that convey the necessary information about:
  - the institutional mission and goals, including how student body diversity supports these goals; enhances the learning environment; and contributes to long-term outcomes, such as addressing healthcare needs in line with the institutional mission, and
  - the ways in which the holistic review admission process supports institutional priorities.
- *Routinely review all communications channels* to make sure that the information is current and consistent across vehicles for communication, such as medical school brochures, national publications (e.g., MSAR® and MSOUSMS), web pages, policy documents, and presentations.
- *Update and refine messages* to keep them current and relevant.

Chapter 4, documenting and sharing clear, consistent, explicitly mission-driven holistic review admission policies, processes, and criteria with key audiences can help increase awareness and understanding of what the school seeks in applicants and how it assesses applicants for admission. Thus, a goal of a communications strategy is that key institutional stakeholders understand and can articulate the ways in which holistic review admission processes supports institutional priorities.

**Orientation and Training:** Though orientation and training support each other, they are not the same. Both are important venues for assuring that those individuals most heavily involved in the admission process receive the same information and guidance about holistic review in admissions and how it supports the institutional mission. Both also provide venues for admissions committee members and staff to develop a shared vision and purpose for the process, albeit without suppressing the diversity of perspective that is so valuable in holistic review.

Orientation and training, however, serve different purposes. A well-structured *orientation* agenda is useful for conveying general information, reviewing policies and processes, and highlighting changes to the process. *Training* allows in-depth attention to particular issues or areas that are, for example, new or require improvement. It can also foster increased proficiency and confidence for those who are new to the process, as well as those who are more experienced.

### Considerations for Developing Holistic Review Orientation Sessions

Examples of information that might be included in an orientation session:

- A clear charge from the medical school dean about expectations for the medical school class;
- Consideration of the medical school's mission as the central element to which everything—including learning goals, related diversity interests, and the admission process—is linked;
- Discussion about the kinds of students the school wants to educate, the kind of physicians it wants to graduate, and how these ideals reflect on the experiences, attributes, and metrics of the applicants it wants to admit;
- The desired outcomes and goals of the admission process, including, but not limited to, shaping a diverse class;
- A definition of holistic review, explanations for the medical school's rationale for using it, and the ways in which it will contribute to achieving admission goals and outcomes;
- Historical student performance data, including information about which students performed well, which struggled, and what factors and/or characteristics contributed to those experiences; clinical performance; and data from the AAMC's *Medical School Mission Management Tool*; and
- Clarity about:
  - roles and responsibilities of committee members, interviewers, and the staff who screen the applications;
  - criteria to be used to screen, interview, and select applicants;
  - admission policies and processes to be followed;
  - legal considerations; and
  - how the admission process intersects with outreach, recruitment, financial aid, and retention.

**A word about time commitment:** Medical school admission deans have noted that it can be difficult to find time to bring all admission staff, committee members, and interviewers together even for a couple of hours of orientation. Despite this challenge, as noted at the beginning of the chapter, the benefits of conducting annual orientations and focused training sessions are substantial, but require commitment.

**For example:**

- Senior medical school leadership can make the orientation and/or additional training sessions mandatory so that participation in these sessions becomes a named responsibility of committee members and interviewers.
- At medical schools where committee members' departments are partially

compensated for the time they spend on admissions, participation in orientation and/or training sessions may be mandatory for service on the committee.

- o The admission dean can make participating in information sessions and training an explicit part of admission staff members' jobs, so that these are not additional duties or responsibilities.

**Orientation:** Orientation is generally an annual informational session for admissions committee members and staff. It serves a number of purposes. Among them is to demonstrate how the medical school's holistic review admission policies, processes, and

admission criteria—and the practices needed to implement them—support the medical school's mission-driven goals. In addition, the orientation session is used to assure that there is clarity about fundamental aspects of the admission process, such as roles, responsibilities, and policies. Orientation also provides opportunities for newer members and staff to learn from those who are more experienced, including approaches for analyzing application materials in an holistic way, managing challenging interviews, and reviewing and assessing complex cases.

**Training:** Training is more in-depth than orientation and focuses on specific, measurable outcomes.

The purpose of training is to enhance proficiency and, for new policies and processes, to change previous approaches or even modify perspectives. Training sessions may be targeted to people performing certain roles in the admission process, including screeners and interviewers; may include hands-on exercises; and may occur more frequently than once a year. When new policies, goals, tools, and/or committee members are involved, training may be more effective than an orientation.

One of the benefits of training is that it builds proficiency in conducting individualized holistic review. For example, training can focus on using tools and resources employed throughout the process or on making selection decisions with sample case studies. In addition, training can provide opportunities for screeners and admissions committee members to review or assess applicants using criteria that balance experiences and attributes, as well as metrics, in alignment with institutional mission. Similarly, interviewers can prepare for interacting with applicants using the same criteria. Discussions that occur during training provide an opportunity to check for depth and consistency of understanding, address questions, and mediate differences. In the absence of training, it is difficult to assure that committee members and staff will share a common purpose and understanding or be proficient in performing their roles and responsibilities throughout the process.

Ongoing training can also support efforts to improve and maintain inter-rater reliability among screeners and interviewers. (For more on inter-rater reliability, see Chapter 4.) For

### Considerations for When to Conduct Holistic Review Training

Examples of situations where training may be more effective than relying on an annual orientation:

- **New or revised mission, policies, and processes:** The medical school is taking steps to integrate holistic review into its admission process. Thus, the policies, processes, criteria, and tools used to review and select applicants are different from previous years.
- **New legal context:** The medical school has, in the past, used race and ethnicity-conscious policies in its admission process. However, the state in which the school is located has recently passed a referendum making it illegal to take race, ethnicity, or gender into consideration in admission and hiring decisions.
- **Translating policy into practice:** The admission dean is concerned that admissions committee members rely too heavily on metrics in their selection decisions, despite policies encouraging a balanced consideration of experiences, attributes, and metrics. The dean wants committee members to deepen their understanding of the desired balance of criteria and build proficiency in integrating different data and criteria into their review and decision-making processes.
- **Inter-rater reliability:** The admission dean thinks that evaluative consistency—or “inter-rater reliability”—between screeners and interviewers could be stronger. The dean wants to provide periodic opportunities for people serving in those roles to practice using institutional admissions tools on sample applicants to help ensure they are arriving at similar determinations about applicants. (See Chapter 4 for more information on inter-rater reliability.)

screeners and interviewers, a one-time training session may be insufficient for maintaining consistency throughout the admission season. The College Board explains, “One helpful way to encourage reliability between readers is to have the readers meet somewhat regularly to discuss their ratings of several of the same applicants and their reasoning behind the scores they assigned.” (p. 41)<sup>23</sup> If it is feasible, bringing screeners and interviewers back together periodically during the admission cycle to compare notes can help sustain a level of inter-rater reliability.

### Expanding the Literature

The benefits of well-designed training, including specific measurable outcomes and changes in behavior, are well documented. Exploring the effects of communications strategies, orientation sessions, and training programs that support holistic review in the medical school admission process would serve to augment the literature. It would also provide medical schools with information on effective practices, the use of technologies to streamline holistic review training, and the impact of these efforts both on creating efficiencies in the holistic review process and on the composition of the applicant pool and matriculating class.

---

<sup>23</sup> Rigol, G. *Selection Through Individualized Review*.

## CHAPTER 6

### Evaluating the Effectiveness of Holistic Review Admission Policies and Processes

A key principle of holistic review in admissions is using evidence to develop and refine admission policies, processes, and criteria. This chapter is not intended to describe everything one needs to know in order to conduct evaluation. Rather, it emphasizes the reasons that conducting evaluation is important for institutions using holistic review in admissions and provides a brief overview of two general approaches to evaluation. A separate *Roadmap to Diversity* publication focused entirely on evaluation will be forthcoming.

#### The Importance of Evaluation

Conducting evaluation and sharing the findings provide medical schools the opportunity to demonstrate what holistic review is doing for the school in meaningful ways. Evaluating the effectiveness of admission policies, processes, and criteria in producing outcomes that reflect a medical school’s mission is a core element of holistic review. The AAMC’s *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools* recommends that diversity policies—particularly those that are race and ethnicity-conscious—be grounded in “evidence of mission-related benefits that stem from a diverse student body.” (p. A-3) (See sidebar for more information about types of evidence.) In a holistic review admission process, the importance of evaluation extends beyond justifying race and ethnicity-conscious policies.

As noted in previous chapters, transitioning to a holistic review approach requires a commitment of time and resources. This transition should be thought of not as a discrete event, but as a continuously evolving process. From that perspective, evaluation should emulate the role

of a director rather than that of a critic. Evaluation begins with a vision that helps shape the roles to be played by the actors involved. As implementation proceeds, evaluation involves continuous observation to determine whether things are going as planned. Based on this observation, changes are made along the way to improve the process and direct it in a way that will achieve the desired outcomes. As a result, evaluation can help admission staff and committee members improve their work. As The Kellogg Foundation’s *Evaluation Handbook* explains, “evaluation should not be conducted simply to *prove* that a project worked, but also to *improve* the way it works.” (p. 3)<sup>24</sup>

Evaluation can help admission officers and committees work more effectively by:

- o assessing the extent to which they have adopted and implemented a holistic review approach;
- o identifying what in the holistic review admission process is working and what is not, as well as the location of the impediments;
- o building evidence that will contribute to better informed

decisions about how to improve and refine holistic review admission policies, processes, and criteria;

- o assessing whether holistic review is producing the intended, mission-driven short-term, intermediate, and long-term outcomes;
- o identifying unanticipated consequences of implementing holistic review;
- o revising holistic review policies and processes to align with any changes that might occur in institutional missions and goals; and
- o documenting information about the effectiveness and impact of holistic review in admissions to share with different stakeholder audiences, including, but not limited to, the dean, faculty, boards of trustees, medical students, potential applicants, pre-health advisors, the public, and other medical schools.

Evaluation, particularly conducting in-depth studies, is sometimes viewed as a specialized skill set. However, there are evaluation projects that a person without an extensive evaluation background can undertake, in addition to the more rigorous or complex studies that may require a formal

<sup>24</sup> Kellogg Foundation. *Evaluation Handbook*. Kellogg Foundation, 2004.

evaluation background. Further, conducting evaluation can provide wonderful opportunities to collaborate with experts in evaluation at the medical school, in other departments and schools (e.g., school of education, department of sociology), and across medical schools. Another consideration is to hire a graduate or medical student, or to engage groups of students to collect and analyze data, which presents the possibility of becoming a dissertation topic for a graduate student in another department or school.

In conducting such evaluations, medical schools should consider that, while an important function of holistic review in admissions is selecting students who will help advance the institution's mission and educational environment, admissions is only one ingredient. There are multiple other factors that contribute to the ability of the institution to achieve mission-driven outcomes. Once students enter medical school, many variables (e.g., social support, climate, formal and informal learning opportunities, curriculum design) will affect the ability of students to thrive, reach their potential, and fulfill the vision that the school had in admitting them.

### General Approaches to Evaluation

It is not necessary for evaluation projects to be complex, but it is important to conduct evaluation well, thoughtfully, and regularly. Undertaking evaluation efforts can help admission officers, committee members, and staff clarify their thinking about what they wish to achieve in alignment with institutional priorities. An essential step is having evaluation be a central component of

**Legal Requirements for Institutions Using Race and Ethnicity-Conscious Policies\***

“To successfully pursue one or more of the [institutional] goals...including possible consideration of race and ethnicity in enrollment management decisions—it is important that medical schools conduct institution-specific research and assemble and retain relevant evidence on a regular, ongoing basis. Although that evidence can take many forms, it should (at a minimum) include the following elements:

1. A clear statement of the **medical school's core educational mission**, including central educational philosophies and aims, and the school's view of its role in society;
2. A clear statement that the medical school has reached a deliberative educational judgment that the **student diversity it seeks is essential to its mission-related goals**, with an explanation of the connection between the two;
3. **Institution-specific evidence** through regular, ongoing collection efforts that supports the connection between the medical school's mission statement and diversity, including administration, faculty, and student perspectives (e.g., testimony, feedback) as well as data analyzing the connection between medical school student diversity over time (perhaps the recent past) and desired educational (and other) outcomes;
4. **Evidence from other sources** that affirm and/or correspond to the institutionally aligned interests and evidence associated with diversity. This should include relevant social science research, documented experiences at similar schools, and broad-based data that correspond to core goals and efforts to achieve those goals.”

\*The preceding text is excerpted from the AAMC's *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. (pp. 8-9)

any holistic review admission process. The Kellogg Foundation's *Evaluation Handbook* emphasizes this point:

Effective evaluation is not an 'event' that occurs at the end of a project, but is an ongoing process which helps decision makers better understand the project...and how it is being influenced/impacted by both internal and external factors. Thinking of evaluation tools in this way allows you to collect and analyze important data for decision making throughout the life of the project. (p. 3)

There are two general approaches to evaluation: **process evaluation** (sometimes also called formative evaluation) and **outcome evaluation** (also called summative evaluation). The approaches each have a unique purpose, strategy, and timing, but both are important to developing and implementing a comprehensive evaluation strategy.

With both approaches, there are ways admission officers, committee members, and staff can enhance the usefulness of evaluation efforts. For example:

- o What might the short-term, intermediate, and long-term goals for holistic review in admissions be in the context of the institution’s mission-driven goals?
- o What are some of the measurable objectives that will help the institution make and assess progress toward those goals?
- o What are the types of data admission office staff and others might collect at each stage to determine whether these objectives have been met? (Types of data might include analyzing the experiences, attributes, and academic metrics of incoming classes; gathering performance data for current students; assessing student contributions to the formal and informal learning environment of the medical school; and reviewing graduates’ career choices.)

This type of thinking early on in the process “increase[s] the likelihood that implementation activities are linked to the outcomes the school is trying to achieve.” (p. 28)<sup>25</sup>

**Process evaluation:** Process evaluation is defined as “document[ing] and analyz[ing] the early development and actual implementation of the strategy or program, assessing whether strategies were implemented as planned and whether expected output was actually produced.”<sup>26</sup> Process evaluation is not a one-time activity; rather it is conducted at several points

throughout the project or program. Key questions addressed by process evaluation include:

1. “Are we implementing this program [policy, process] as planned?”
2. “What is or is not working with this program [policy, process, criteria] and how can we enhance it?” (p. 9)<sup>27</sup>

In a holistic review admissions context, process evaluation can help admission officers and committees assess whether the school’s admission process has changed, whether the school is genuinely using a holistic review process, and the extent to which the policies and process are aligned with the institutional mission and goals.

**Outcome evaluation:** The purpose of outcome evaluation “is to assess a mature project’s success in reaching its stated goals.”<sup>28</sup> The focus is on assessing whether the policies, processes, and/or practices worked. Unanticipated outcomes frequently surface during this type of evaluation.

In the context of holistic review, outcome evaluation could focus on whether a diverse student body admitted through a holistic review admission process produced and/or contributed to the short-term, intermediate, and long-term mission-driven outcomes the institution wants. These outcomes could include, in addition to traditional metrics, such as graduation rates and residency matches:

- o a richer classroom experience for all students;
- o the introduction of perspectives and topics that might otherwise have been missing;
- o specialty choices more in line with the institution’s mission;
- o a heightened commitment among students and graduates to providing high quality care for all and meeting the needs of underserved populations;
- o medical students, residents, practicing physicians, and researchers interested in and committed to addressing disparities in health and healthcare; and/or
- o other outcomes that support and promote the institution’s mission.

In summary, evaluation is important because the results can help admission staff and committee members identify what is working and what is not, enabling them to make informed decisions about how to improve admission policies, processes, and criteria. Process and outcome evaluations can both provide data that inform decision-making and, thus, are both key elements in a comprehensive evaluation strategy.

The AAMC, through both the Holistic Review Project and other staff activities, aims to be a resource for medical schools in their evaluation efforts in multiple ways. The Holistic Review Project plans to publish a

<sup>25</sup> Kellogg Foundation, *Evaluation Handbook*.

<sup>26</sup> Bureau of Justice Assistance. *Urban Street Gang Enforcement*. Washington, DC: Prepared for the U.S. Department of Justice, Bureau of Justice Assistance by the Institute for Law and Justice, Inc.; 1997.

<sup>27</sup> Chemers, M. *Diversity Research Forum*, 2007 AAMC Annual Meeting, Washington, DC; AAMC, 2008. Found at: [https://services.aamc.org/publications/index.cfm?fuseaction=Product.displayForm&prd\\_id=240&prv\\_id=297](https://services.aamc.org/publications/index.cfm?fuseaction=Product.displayForm&prd_id=240&prv_id=297).

<sup>28</sup> National Science Foundation. *The 2002 User-Friendly Handbook for Project Evaluation*. NSF, 2002. Found at: <http://www.nsf.gov/pubs/2002/nsf02057/start.htm>.

*Roadmap to Diversity* document focused entirely on evaluation. In April 2009, the AAMC Office of Student Affairs and Student Programs sent the first annual *Medical School Mission Management Tool*, which includes data on forty-five measures in six domains, to all medical school deans. The tool is designed to provide information about a school's progress in meeting its individual mission and goals. There are also additional resources within the AAMC that can assist medical school faculty and staff with their data collection efforts.

### **Disseminating the Findings**

Many admissions committee members and staff are currently attempting to implement holistic review admission policies, and there is a great deal of knowledge and wisdom being developed in these processes. Many in the medical education community can learn from the triumphs and challenges individual medical schools encounter. Disseminating the results of their evaluations provides an opportunity for medical school staff to share what they have learned from implementing holistic review in admissions with both other medical schools and the larger higher education community.

Therefore, medical school admission deans, staff, committee members, and other faculty members and students are encouraged to do the work recommended throughout this document and share it with others in the field, whether through journal articles, presentations, or other vehicles.

## CHAPTER 7

### Holistic Review Admissions Checklist

The Holistic Review Admissions Checklist frames key questions by which a medical school can assess its efforts and success in integrating holistic review into its admission processes. The sections of the checklist reflect the major sections of the publication: admissions committee; admission policies and processes; admission criteria; communications, orientation, and training; and evaluation.

The Holistic Review Admissions Checklist is not intended to be a one-size-fits-all list, but a tool that medical schools can use to assess their current and ongoing progress and work. Institutions may want to create their own template, drawing from these checklist questions and/or other questions to drive their work.

The Admissions Committee and Holistic Review	Y/N
<b>Aligning Diversity Interests with Institutional Mission and Goals</b>	
<ul style="list-style-type: none"> <li>• <b>Has the medical school integrated its diversity interests as stated in its institutional mission and educational goals with its admission processes?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do admissions committee members and relevant staff have a shared understanding of</b></li> </ul>	
<ul style="list-style-type: none"> <li>o the specific diversity interests of the institution?</li> </ul>	
<ul style="list-style-type: none"> <li>o how these diversity interests support the institutional mission and its educational goals?</li> </ul>	
<ul style="list-style-type: none"> <li>o the multiple factors (e.g., experiences, attributes, and metrics) they will use to screen, interview, and select applicants for admission to create the diversity the school is seeking?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Are the admissions committee members and relevant admission staff able to explain how the school’s diversity interests align with and support its institutional mission and educational goals?</b></li> </ul>	
<b>Composition and Roles and Responsibilities of the Admissions Committee</b>	
<ul style="list-style-type: none"> <li>• <b>Does the membership of the school’s admissions committee reflect the diversity the school is seeking in its student body?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• If no, does the medical school have a strategy for enhancing the mix of admissions committee members?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Are there clearly defined roles, responsibilities, and expectations vis-à-vis diversity for everyone involved in the admission process:</b></li> </ul>	
<ul style="list-style-type: none"> <li>o staff members who screen the initial application materials?</li> </ul>	
<ul style="list-style-type: none"> <li>o faculty and staff members responsible for interviewing candidates?</li> </ul>	
<ul style="list-style-type: none"> <li>o admissions committee members responsible for creating admission policies and selecting new students?</li> </ul>	
<ul style="list-style-type: none"> <li>o admission office staff who respond to applicants’ questions and requests?</li> </ul>	
<ul style="list-style-type: none"> <li>o other staff, faculty, and students involved in the admission process (e.g., greeters, tour guides, luncheon hosts, financial aid staff, and so forth)?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Does everyone involved in the admission process understand their individual role and responsibilities and the institution’s expectations of them, vis-à-vis the benefits that accrue from a diverse student body in support of its institutional mission and goals?</b></li> </ul>	

<b>Training</b>	
<ul style="list-style-type: none"> <li>• <b>Has the school established annual, standardized orientation and/or training for admissions committee members and relevant staff on carrying out holistic review of applicants?</b><sup>29</sup> (NOTE: More detailed questions appear in the checklist for orientation and training)</li> </ul>	
<b>Process</b>	
<ul style="list-style-type: none"> <li>• <b>Is there an agreed-upon decision-making process for each stage of the admission process that supports individualized, holistic review of applicants?</b> <ul style="list-style-type: none"> <li>◦ Screening applicants to determine whom to interview?</li> <li>◦ Reviewing applicant portfolios once they are complete?</li> <li>◦ Interviewing applicants?</li> <li>◦ Selecting applicants for admission?</li> </ul> </li> </ul>	
<b>Value</b>	
<ul style="list-style-type: none"> <li>• <b>Is participation on the admissions committee valued at this school?</b>  (Examples: Is committee service considered in salary, time allocation, and tenure and promotion decisions, as applicable? Are individual committee members' departments compensated for the time devoted to admissions committee activities [e.g., through a mission-based management system]?)</li> </ul>	
<b>Incorporating Holistic Review into Admission Policies and Processes</b>	<b>Y/N</b>
<b>Aligning Diversity Interests with Institutional Mission and Goals</b>	
<ul style="list-style-type: none"> <li>• <b>Do the school's admission policies and processes align with its institutional mission, educational goals, and related diversity interests?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Is the medical school providing the necessary resources for conducting holistic review in admissions?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do these admission policies and processes incorporate individualized, holistic review of applicants?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do the policies and procedures incorporate a periodic process of evaluation to determine their effectiveness, such as assessing whether:</b> <ul style="list-style-type: none"> <li>◦ The policies and processes are yielding the student diversity the school is seeking (to be backed up with data—see "Policies" below)?</li> <li>◦ At a school at which race and ethnicity are taken into account in the admission process, the policies continue to be necessary?</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Is there a process in place for revising the school's admission policies and processes based on the outcome of this evaluation process?</b></li> </ul>	

<sup>29</sup> Adapted from the medical school diversity self-assessment tool found in the AAMC's *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*.

<b>Holistic Review Considerations for Admission Policies and Processes</b>	
<ul style="list-style-type: none"> <li>• <b>Do the institution’s admission policies<sup>30</sup>:</b> <ul style="list-style-type: none"> <li>o Identify the probable location of relevant data in the applicant’s portfolio to conduct a holistic review?</li> <li>o Ensure consistent collection of relevant data for each applicant to conduct holistic review (e.g., initial and supplementary application materials, essays, interview)?</li> <li>o Ensure consistent consideration of those data across all applicants as part of an individualized holistic review of each applicant?</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Does the institution have evidence that supports its policies and procedures?</b>  (Example: If the institution set an MCAT® and GPA threshold in the initial screening process, was the threshold based on evidence of past performance of matriculants?)</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do the institution’s admission policies provide operational definitions of its selection criteria, including parameters for selecting applicants to interview?<sup>31</sup></b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Is the manner in which the institution uses its wait list consistent with its goals for selecting a diverse student body?</b></li> </ul>	
<b>Holistic Review Considerations for Admission Policies and Processes</b>	
<ul style="list-style-type: none"> <li>• <b>If the school’s admission policies permit consideration of race and/or ethnicity, do the school’s policies<sup>32</sup>:</b> <ul style="list-style-type: none"> <li>o Ensure a competitive review of all applicants in one pool (e.g., no quotas or set-asides for minority applicants; no separate track for minority applicants)?</li> <li>o Reflect a good faith effort to consider workable race-neutral (or less restrictive) alternatives to achieving mission-related diversity goals?</li> <li>o Minimize the burden on non-qualifying applicants (i.e., those who are not in the populations targeted by race/ethnicity policies)?</li> <li>o Undergo periodic review and evaluation against legal standards to determine if consideration of race/ethnicity may be eliminated from the admission process in light of success in achieving mission-related goals?</li> </ul> </li> </ul>	
<b>Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics</b>	
<b>General: Identifying Criteria that Support the Medical School’s Diversity Interests</b>	
<ul style="list-style-type: none"> <li>• <b>Has the school established substantive criteria for admission that<sup>33</sup>:</b> <ul style="list-style-type: none"> <li>o Are aligned with the institutional mission and educational goals?</li> <li>o Are grounded in data that document that it is graduating physicians who are fulfilling the institutional mission and educational goals?</li> <li>o Are approved by the faculty?</li> </ul> </li> </ul>	

<sup>30</sup> AAMC. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*.

<sup>31</sup> Ibid

<sup>32</sup> Ibid

<sup>33</sup> Ibid

<ul style="list-style-type: none"> <li>• <b>Is the school developing or does it already have substantive, educationally grounded evidence for its admission considerations (e.g., why and/or how selections are made) with regard to<sup>34</sup>:</b></li> </ul>	
<ul style="list-style-type: none"> <li>o Academic background (e.g., major, GPA, MCAT® scores, science background, academic trend data, other academic interests, enthusiasm of recommenders, quality of undergraduate institution, quality of essay, area and difficulty of undergraduate course selection, coursework loads)?</li> </ul>	
<ul style="list-style-type: none"> <li>o Personal characteristics (e.g., culture, socioeconomic status, family status/background, geography, rural/inner city, sexual orientation, gender)?</li> </ul>	
<ul style="list-style-type: none"> <li>o Personal attributes (e.g., altruism, motivation, leadership, perspective)?</li> </ul>	
<ul style="list-style-type: none"> <li>o Personal experiences (e.g., overcoming hardship, work history, being multilingual, community service, experience caring for a family member, healthcare experience, research experience, success in prior career(s), life experiences)?</li> </ul>	
<ul style="list-style-type: none"> <li>o Other criteria used in the decision-making process (please specify)?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Are the medical school’s admission criteria:</b></li> </ul>	
<ul style="list-style-type: none"> <li>o Documented?</li> </ul>	
<ul style="list-style-type: none"> <li>o Transparent?</li> </ul>	
<ul style="list-style-type: none"> <li>o Well understood by all stakeholders in the process?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Has the admissions committee and admission office staff integrated these admission criteria into the following processes designed to ensure achievement of the institutional diversity goals?</b></li> </ul>	
<ul style="list-style-type: none"> <li>o Applicant recruitment activities?</li> </ul>	
<ul style="list-style-type: none"> <li>o Applicant screening process to determine which applicants to interview?</li> </ul>	
<ul style="list-style-type: none"> <li>o Applicant interview process?</li> </ul>	
<ul style="list-style-type: none"> <li>o Applicant selection process?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Has the medical school established:</b></li> </ul>	
<ul style="list-style-type: none"> <li>o The determinants for consideration at the institution?</li> </ul>	
<ul style="list-style-type: none"> <li>o The predictors of acceptance into the institution (i.e., is experience in a healthcare setting a de facto requirement for admission even if it is not named as such in the admission and applicant materials)?</li> </ul>	
<ul style="list-style-type: none"> <li>o How well they align with the institutional mission and educational goals?</li> </ul>	
<b>Using the Established Criteria to Assess Applicants</b>	<b>Y/N</b>
<b>General: Applying Holistic Review Criteria</b>	
<ul style="list-style-type: none"> <li>• <b>Are admission criteria being applied equitably by all reviewers for each applicant at every stage of the process (screening, interviewing, and selection)?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do an applicant’s potential diversity contributions to the medical school’s learning environment enhance his or her competitiveness for admission?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Do the institution’s admission criteria align with the information being requested from applicants (i.e., does the school have reliable ways of identifying and assessing relevant information in the applicant’s portfolio)?</b></li> </ul>	

<sup>34</sup> Ibid.

<ul style="list-style-type: none"> <li>• Does consistent and equitable application of the institution’s admission criteria at every stage produce an entering class that represents the diversity of experiences, attributes, and metrics (EAM) the school seeks to support its mission-driven goals?</li> </ul>	
<ul style="list-style-type: none"> <li>• Does the admissions committee assess the level of inter-rater reliability between screeners, readers, and interviewers?</li> </ul>	
<b>General: School-Developed Admission Tools</b>	
<ul style="list-style-type: none"> <li>• Do the school’s tools (e.g., worksheets, checklists) used in the screening, interviewing, and selection processes help capture the applicant information needed to conduct a holistic review of each applicant?</li> </ul> <p>(Example: If the tool only allows someone to capture GPA and MCAT® scores, is that incongruent with the full range of criteria committee members want in order to create the diversity the school is seeking to meet its mission and goals?)</p>	
<ul style="list-style-type: none"> <li>○ Do these tools present information about applicants in a format and context that will help admissions committee members balance applicant experiences, attributes, and metrics?</li> </ul>	
<ul style="list-style-type: none"> <li>○ Are the tools being used consistently by screeners, interviewers, and admissions committee members?</li> </ul>	
<b>Stage One: Screening Applicants</b>	
<ul style="list-style-type: none"> <li>• If an MCAT® and GPA threshold is used during the initial screening process, is it evidence based (e.g., drawn from past performance of students at the institution)?</li> </ul>	
<ul style="list-style-type: none"> <li>• Once applicants have progressed through the initial screening stage, are they considered academically prepared for admission?</li> </ul>	
<ul style="list-style-type: none"> <li>• In screening applicants, does the school take into account applicant experiences and attributes in addition to metrics?</li> </ul>	
<b>Stage Two: Interviewing Applicants</b>	
<ul style="list-style-type: none"> <li>• Does the admissions committee view the interview as an opportunity to validate the qualitative information included in the applicant’s portfolio?</li> </ul> <p>(Example: Does the interviewer probe for how a particular experience shaped an applicant’s motivation for becoming a physician?)</p>	
<ul style="list-style-type: none"> <li>• In the school’s interview process:</li> </ul>	
<ul style="list-style-type: none"> <li>○ Does the admissions committee have a well-reasoned and supported justification for sharing or not sharing particular applicant materials (such as grades and MCAT® scores) with interviewers?</li> </ul>	
<ul style="list-style-type: none"> <li>○ Do the interviewers share a common understanding of how the institution’s mission and educational goals are integrated with its diversity interests, as well as of the criteria by which the committee assesses applicants in order to create the diversity the school is seeking?</li> </ul>	
<ul style="list-style-type: none"> <li>○ Do interviewers use a structured or semi-structured interview process?</li> </ul>	
<ul style="list-style-type: none"> <li>○ Do the interviewers receive training to:                             <ul style="list-style-type: none"> <li>• Learn the interview protocol?</li> <li>• Develop proficiency evaluating applicants using the institution’s mission-based criteria and assessment tools?</li> </ul> </li> </ul>	

o Does the admissions committee have a process for integrating interviewer feedback into the applicant assessment and selection process in a way that supports holistic review of applicants?	
o Has the school's admissions committee or admission office staff evaluated the inter-rater reliability of its interviewers?	
<b>Stage Three: Selecting Applicants for Admission</b>	
• <b>Does the admissions committee select applicants with an eye toward accepting a class that will support the institution's mission and educational goals and contribute to the educational environment?</b>	
• <b>Does the admissions committee integrate information not in the application per se about applicants as a means of determining their suitability for medical school and a medical career?</b>  (Examples: behavior on tours, interactions with staff and medical students, or information on social networking sites)	
• <b>Does the admissions committee's selection process align with:</b>	
o The institutional mission, educational goals, and related diversity interests?	
o The school's documented admission policies and procedures?	
o The school's documented admission criteria?	
o The role and purpose of each stage of the admission process (i.e., recruitment, in particular those underrepresented in medicine; applicant screening, interviewing, and selection)?	
• <b>Does the admissions committee assume that applicants on the wait list are qualified for admission to the institution (i.e., would these applicants be accepted were there more slots available)?</b>	
• <b>Does the admissions committee select applicants from the wait list in a manner consistent with the holistic review process it uses in initial student selection?</b>	
<b>Holistic Review Communications, Orientation, and Training Strategies</b>	<b>Y/N</b>
<b>Communications</b>	
• <b>Is the value of holistic review in admissions clearly stated across the spectrum of communication vehicles (e.g., brochures, institutional website, presentations)?</b>	
• <b>Can the school's key stakeholders articulate how the institution's holistic review admission policies, processes, and criteria:</b>	
o Support institutional mission and goals?	
o Contribute to creating an educational environment that uses student body diversity as a driver of excellence in order to achieve its mission and goals?	
o Will create a student body in line with what the institution seeks in its students and its graduates?	
• <b>Does the school's entry in the <i>Medical School Admission Requirements</i>® publication (MSAR) clearly articulate the experiences, attributes, and metrics it seeks in applicants for admission?</b>	

<b>Orientation and Training</b>	
<ul style="list-style-type: none"> <li>• <b>Has the admission dean determined whether a well-structured orientation is sufficient for senior admissions committee members?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Has the school documented in writing its training approach for those responsible for screening, interviewing, and selecting applicants for admission (e.g., admissions committee members, admission office staff, and other relevant faculty, staff, and students)?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Are all of the active participants in the admission process (see bullet above) included in all or some parts of the training?</b></li> </ul>	
<ul style="list-style-type: none"> <li>o Does everyone hear the same messages?</li> </ul>	
<ul style="list-style-type: none"> <li>o Is there a process for training newcomers or committee members and others who could not be present at the formal training?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Does the dean and/or other appropriate medical school leadership give the admissions committee its charge, including conducting holistic review of applicants?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Does the orientation and/or training include:</b></li> </ul>	
<ul style="list-style-type: none"> <li>o The integration of the school's diversity interests with its institutional mission and educational goals into the student selection process?</li> </ul>	
<ul style="list-style-type: none"> <li>o Opportunities to develop a shared understanding around admission policies, processes, and criteria that incorporate holistic review of applicants in support of institutional priorities?</li> </ul>	
<ul style="list-style-type: none"> <li>o Discussions aimed at building consensus about the types of applicant experiences and attributes that will help the school achieve its mission and goals?</li> </ul>	
<ul style="list-style-type: none"> <li>o Opportunities to surface and discuss unspoken and/or undocumented policies and guidance?</li> </ul>	
<ul style="list-style-type: none"> <li>o Explanation of the guiding legal principles on the use of race and ethnicity in admission decisions?</li> </ul>	
<ul style="list-style-type: none"> <li>o Explanation, when relevant, of state statutes regarding the use of race and ethnicity in admission decisions?</li> </ul>	
<ul style="list-style-type: none"> <li>o Guidance on how metrics are balanced with applicant experiences and attributes?</li> </ul>	
<ul style="list-style-type: none"> <li>o Opportunities to develop an accurate understanding of what MCAT® scores and GPAs do and do not predict and how to incorporate that information into the applicant review and selection process?</li> </ul>	
<ul style="list-style-type: none"> <li>o Opportunities to assess historical student performance data regarding accepted applicants to identify which applicants have and have not been successful medical students and why?</li> </ul>	
<ul style="list-style-type: none"> <li>o Access to historical institutional data (e.g., the <i>AAMC Medical School Mission Management Tool</i> and other relevant data sources) documenting graduates' career decisions?</li> </ul>	
<ul style="list-style-type: none"> <li>o Orientation on where to look for experiences and attributes within applicant portfolios?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Does the school provide guidance on how to use tools and resources?</b></li> </ul>	
<ul style="list-style-type: none"> <li>o Are there opportunities for admissions committee members, admission office staff, and other faculty, staff, and students involved in the admission process to practice using the school's admission tools and resources (e.g., worksheets, checklists) with sample applicants?</li> </ul>	
<ul style="list-style-type: none"> <li>o Are there periodic opportunities to reconvene committee members to ensure that they continue to assess applicants in a manner consistent with agreed upon admission policies, procedures, and training?</li> </ul>	

<ul style="list-style-type: none"> <li>• Does the medical school have a process in place to establish and maintain inter-rater reliability?</li> </ul>	
<ul style="list-style-type: none"> <li>• Is the guidance provided to admissions committee members written down and distributed to all persons involved in the admission process (i.e., screeners, interviewers, other faculty, staff, and students)?</li> </ul>	
<ul style="list-style-type: none"> <li>• Are methods in place to evaluate the effectiveness of training?                             <ul style="list-style-type: none"> <li>◦ Does the school’s training yield the desired outcomes, such as shaping a diverse class of matriculants?</li> </ul> </li> </ul>	
<b>Evaluating the Effectiveness of Holistic Review Admission Policies and Processes</b>	
	<b>Y/N</b>
<ul style="list-style-type: none"> <li>• Are mechanisms in place to evaluate the degree to which the medical school’s admission process is yielding, in addition to traditional metrics:                             <ul style="list-style-type: none"> <li>◦ The diversity and type of students the school wants to educate in terms of interests and capacity to learn and contribute to the educational environment the school seeks?</li> <li>◦ The types of physicians the school wants to graduate?</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Does the admissions committee have opportunities throughout the admission process to periodically assess whether the process is achieving the type of diversity the school seeks?</li> </ul>	
<ul style="list-style-type: none"> <li>• Has the school generated institutional data to support assumptions about who is likely and not likely to be successful at the school?</li> </ul>	
<ul style="list-style-type: none"> <li>• Does the admissions committee evaluate individual applicants in light of the institution’s mission, educational goals, and related diversity interests?</li> </ul>	
<ul style="list-style-type: none"> <li>• Does the admissions committee evaluate the class it shaped in light of the institution’s mission, educational goals, and related diversity interests?</li> </ul>	
<ul style="list-style-type: none"> <li>• Has the admissions committee identified the data it wants to collect to document that the student selection process is achieving the desired outcomes?                             <p>Examples of short, intermediate, and long-term data:</p> <ul style="list-style-type: none"> <li>◦ Short term: snapshot of entering class</li> <li>◦ Intermediate: who succeeds and who struggles and why</li> <li>◦ Long term: specialty and career choices of graduates</li> </ul>                             (Tool: <i>AAMC Medical School Mission Management Tool</i>)                         </li> </ul>	
<ul style="list-style-type: none"> <li>• Does the admissions committee have access to the <i>AAMC Medical School Mission Management Tool</i>?</li> </ul>	

## APPENDIX A: Expanding the Literature

This appendix is a compilation of all the research topics included in this *Roadmap to Diversity* publication. The questions identify general areas for further exploration, though medical school faculty and staff are encouraged to delve more deeply.

---

### **Chapter 1: The Admissions Committee and Implementing Holistic Review**

- o The impact that the backgrounds and interests of admissions committee members have on admission policies, including criteria for selection
- o Whether admissions committee members are more likely to advocate for applicants who are like themselves in terms of experiences (e.g., family environment, educational background, career interests and experiences), attributes (e.g., critical thinking skills, integrity, resilience, languages spoken, demographic factors), and metrics (grades, test scores)

### **Chapter 2: Incorporating Holistic Review into Admission Policies and Procedures**

- o The intended and unintended outcomes of incorporating holistic review into medical school admission policies and processes
- o The effectiveness of strategies for developing and implementing holistic admission policies, processes, and practices
- o Existent and emergent promising holistic review practices employed by medical schools

### **Chapter 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics**

- o Translating those identified characteristics, skills, and abilities into admission criteria could provide a foundation on which to expand the literature.
  - Example: Identifying applicants' experiences and attributes associated with successful performance in medical school and development into caring, compassionate, competent physicians.

### **Chapter 4: Using the Established Criteria to Assess Applicants**

- o Identifying and developing valid and reliable ways to measure personal attributes in medical school admissions
- o Pursuing the idea proposed in Albanese's article about developing a standardized system of assessment for medical school admission through continuing medical education, recognizing that there will likely also be institution-specific, mission-driven nuances

## Chapter 5: Developing Holistic Review Communications, Orientation, and Training Strategies

- o Exploring the effects of communications strategies, orientation sessions, and training programs that support holistic review in the medical school admissions process
- o Using technologies to streamline holistic review training
- o The impact of these efforts both on creating efficiencies in the holistic review process itself and on the composition of the applicant pool and matriculating class

## APPENDIX B: Chapter References and Sources

### Chapter 1: The Admissions Committee and Holistic Review

- AAMC. *Handbook for Admissions Officers*. AAMC, 2004. Found at: [http://aamc.org/members/gsa/committees/coa/handbook/admissions\\_handbook.pdf](http://aamc.org/members/gsa/committees/coa/handbook/admissions_handbook.pdf).
- Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).
- Elam, Carol L., Terry D. Stratton, Kimberly L. Scott, John F. Wilson, and Arthur Lieber. "Review, Deliberation, and Voting: A Study of Selection Decisions in a Medical School Admission Committee." *Teaching and Learning in Medicine* 14, no. 2 (2002): 98-103.
- Liaison Committee on Medical Education. *Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the M.D. Degree*. LCME, June 2008. Found at: <http://www.lcme.org/functions2008jun.pdf>.
- Reiter, Harold I. and Kevin W. Eva. "Reflecting the Relative Values of Community, Faculty, and Students in the Admissions Tools of Medical School." *Teaching and Learning in Medicine* 17, no. 1 (2005): 4-8.

### CHAPTER 2: Incorporating Holistic Review into Admission Policies and Procedures

- AAMC. *Assessing Medical School Admissions Policies: Implications of the U.S. Supreme Court's Affirmative-Action Decisions*. AAMC, 2003. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version5.pdf&prd\\_id=75&prv\\_id=65&pdf\\_id=5](https://services.aamc.org/publications/showfile.cfm?file=version5.pdf&prd_id=75&prv_id=65&pdf_id=5).
- AAMC. *Handbook for Admissions Officers*. AAMC, 2004. Found at: [http://aamc.org/members/gsa/committees/coa/handbook/admissions\\_handbook.pdf](http://aamc.org/members/gsa/committees/coa/handbook/admissions_handbook.pdf).
- Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).
- Edwards, Janine C., Carol L. Elam, and Norma E. Wagoner. "An Admissions Model for Medical Students." *Academic Medicine* 76, no. 12 (2001): 1207-1212.
- Grutter v. Bollinger*, 539 U.S. 306 (2003).

Perfetto, Greg. *Toward a Taxonomy of the Admissions Decision-Making Process: A Public Document Based on the First and Second College Board Conferences on Admissions Models*. College Board, 1999.

Rigol, Gretchen. *Best Practices in Admissions Decisions: A Report on the Third College Board Conference on Admission Models*. College Board, 2002.

### CHAPTER 3: Establishing Admission Criteria that Balance Experiences, Attributes, and Metrics

AAMC. *Handbook for Admissions Officers*. AAMC, 2004. Found at:  
[http://aamc.org/members/gsa/committees/coa/handbook/admissions\\_handbook.pdf](http://aamc.org/members/gsa/committees/coa/handbook/admissions_handbook.pdf).

AAMC. *Report I, Learning Objectives for Medical Education: Guidelines for Medical Schools*. AAMC, Medical School Objective Project, 1998. Found at:  
[https://services.aamc.org/publications/showfile.cfm?file=version87.pdf&prd\\_id=198&prv\\_id=239&pdf\\_id=87](https://services.aamc.org/publications/showfile.cfm?file=version87.pdf&prd_id=198&prv_id=239&pdf_id=87).

ACGME. *Common Program Requirements: General Competencies*. ACGME, 2007. Found at:  
<http://www.acgme.org/outcome/comp/compCPRL.asp>.

Albanese, Mark A., Mikel H. Snow, Susan E. Skochelak, Kathryn N. Huggett, and Phillip M. Farrell. "Assessing Personal Qualities in Medical School Admissions." *Academic Medicine* 78, no. 3 (2003): 313-321.

Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at:  
[https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).

Garcia, Gabriel G., Cathryn L. Nation, and Neil H. Parker. "Increasing Diversity in the Health Professions: A Look at Best Practices in Admissions." *In the Nation's Compelling Interest: Ensuring Diversity in the Health-Care Workforce*. Washington, DC: The National Academies Press, 2004.

Julian, Ellen R. "Validity of the Medical College Admission Test for Predicting Medical School Performance." *Academic Medicine* 80, no. 10 (2005): 910-917.

### CHAPTER 4: Using the Established Admission Criteria to Assess Applicants

AAMC communication. *Using MCAT Data in 2010 Student Selection*. AAMC, 2009.

Albanese, Mark A., Mikel H. Snow, Susan E. Skochelak, Kathryn N. Huggett, and Phillip M. Farrell. "Assessing Personal Qualities in Medical School Admissions." *Academic Medicine* 78, no. 3 (2003): 313-321.

*Grutter v. Bollinger*, 539 U.S. 306 (2003).

Harasym, Peter H., Wayne Woloschuk, Henry Mandin, and R. Brundin-Mather. "Reliability and Validity of Interviewers' Judgments of Medical School Candidates." *Academic Medicine* 71, no. 1 (1996): S40-S42.

Rabinowitz, Howard K., James J. Diamond, Fred W. Markham, and Jeremy R. Wortman. "Medical School Programs to Increase the Rural Physician Supply: A Systematic Review and Projected Impact of Widespread Replication." *Academic Medicine* 83, no. 3 (2008): 235-243.

Shaw, Emily J. and Glenn B. Milewski. *Consistency and Reliability in the Individualized Review of College Applicants*. RN-20; The College Board, 2004. Found at: <http://professionals.collegeboard.com/data-reports-research/cb/individualized-review-college-applicants>.

Siu, Eric and Harold I. Reiter. "Overview: What's Worked and What Hasn't as a Guide towards Predictive Admissions Tool Development." *Advances in Health Science Education*, published online April 2, 2009.

## CHAPTER 5: Developing Holistic Review Communications, Orientation, and Training Strategies

AAMC. *Handbook for Admissions Officers*. AAMC, 2004.

Found at: [http://aamc.org/members/gsa/committees/coa/handbook/admissions\\_handbook.pdf](http://aamc.org/members/gsa/committees/coa/handbook/admissions_handbook.pdf).

Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).

Rigol, Gretchen. *Selection Through Individualized Review: A Report on Phase IV of the Admissions Models Project*. The College Board, 2004.

## CHAPTER 6: Evaluating the Effectiveness of Holistic Review Admission Policies and Processes

Bureau of Justice Assistance. *Urban Street Gang Enforcement*. Washington, DC: Prepared for the U.S. Department of Justice, Bureau of Justice Assistance by the Institute for Law and Justice, Inc.; 1997. Found at: [http://www.ojp.usdoj.gov/BJA/evaluation/guide/documents/process\\_evaluation\\_gangs.htm](http://www.ojp.usdoj.gov/BJA/evaluation/guide/documents/process_evaluation_gangs.htm).

Chemers, Martin. *Diversity Research Forum*. 2007 AAMC Annual Meeting. Washington, DC; AAMC, 2008. Found at: [https://services.aamc.org/publications/index.cfm?fuseaction=Product.displayForm&prd\\_id=240&prv\\_id=297](https://services.aamc.org/publications/index.cfm?fuseaction=Product.displayForm&prd_id=240&prv_id=297).

Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).

Kellogg Foundation. *Evaluation Handbook*. Kellogg Foundation, 2004.

National Science Foundation. *The 2002 User-Friendly Handbook for Project Evaluation*. NSF, 2002. Found at: <http://www.nsf.gov/pubs/2002/nsf02057/start.htm>.

## CHAPTER 7: Holistic Review Admissions Checklist

Coleman, Arthur L., Scott R. Palmer, and Steven Y. Winnick. *Roadmap to Diversity: Key Legal and Educational Policy Foundations for Medical Schools*. AAMC, 2008. Found at: [https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd\\_id=219&prv\\_id=275&pdf\\_id=109](https://services.aamc.org/publications/showfile.cfm?file=version109.pdf&prd_id=219&prv_id=275&pdf_id=109).

## AAMC Advisory Committee on Holistic Review

### Charge

The AAMC Advisory Committee on Holistic Review is charged with advising the Association as it develops, distributes, promotes, and assesses the impact of information and tools for use by medical schools in their efforts to create and sustain medical student diversity. The project's specific focus is on the application and admission process and how it links to medical school mission and goals, as well as to the constellation of enrollment management functions that support diversity, such as outreach, recruitment, financial aid, and retention.

### Members and Staff

**David A. Acosta, M.D.**

Associate Dean for Multicultural  
Affairs  
University of Washington  
School of Medicine

**Cynthia E. Boyd, M.D., M.B.A.**

Associate Vice President, Chief  
Compliance Officer  
Rush University Medical Center

**Dwight Davis, M.D.**

Associate Dean for Admissions and  
Student Affairs  
Pennsylvania State University  
College of Medicine

**Linda K. Don, M.Ed.**

Assistant Dean, Office of Outreach and  
Multicultural Affairs  
University of Arizona  
College of Medicine

**O'Rese J. Knight, M.D.**

Surgery Resident  
University of Miami

**Stacey R. McCorison, M.B.A.**

Associate Dean for Medical Education  
Administration, Financial Aid,  
and Registrar  
Duke University School of Medicine

**Jeffrey F. Milem, Ph.D.**

Associate Dean for Academic Affairs  
College of Education  
Professor of Higher Education/  
Professor of Medicine  
University of Arizona

**Somnath Saha, M.D., M.P.H.**

Associate Professor of Medicine  
Oregon Health and Science University  
Staff Physician  
Portland VA Medical Center

**James L. Scott, M.D. (Chair, Advisory  
Committee on Holistic Review)**

Dean  
George Washington University School  
of Medicine & Health Sciences

**David A. Verrier, Ph.D.**

Director, Pre-Professional Programs  
and Advising  
Johns Hopkins University

**Robert A. Witzburg, M.D.**

Professor of Medicine  
Associate Dean and Director of  
Admissions  
Boston University School of Medicine

**Geoffrey H. Young, Ph.D.**

Associate Dean for Admissions  
Associate Professor of Psychiatry and  
Health Behavior  
Medical College of Georgia

**Steve Zweck-Bronner, J.D.**

Managing Senior Associate University  
Counsel  
University of Colorado at Denver and  
Health Sciences Center

**AAMC Staff**

Amy N. Addams  
Ruth Beer Bletzinger  
Lily May Johnson  
Robert Sabalis, Ph.D.  
Henry M. Sondheimer, M.D.  
S. Elizabeth White

# Association of American Medical Colleges Medical School Admissions Workshop Working Group (Convened 2005-2006)

## Members and Staff\*

### **Linda K. Don, M.Ed.**

Director, Office of Minority Affairs  
University of Arizona College of  
Medicine

### **Vicki Fields**

Assistant Dean, Medical Education  
Oregon Health and Science University  
School of Medicine

### **David J. Jones, Ph.D.**

Associate Dean for Admissions  
University of Texas Medical School,  
San Antonio

### **Marc J. Kahn, M.D.**

Associate Dean and Director of  
Student Affairs  
Tulane University School of Medicine

### **Sade Kosoko-Lasaki, M.D., M.S.P.H., M.B.A.**

Associate Vice President  
Health Sciences – Multicultural and  
Community Affairs (HS-MACA)  
Associate Professor of Ophthalmology,  
Preventive Medicine, and Public Health  
Creighton University School of  
Medicine

### **Yvette N. Martin**

M.D./Ph.D. Student  
Mayo Medical School

### **Liliana Montano**

Assistant Dean, Admissions  
Weill Medical College of Cornell  
University

### **Silas Norman, M.D.**

Assistant Dean of Admissions  
Wayne State University School of  
Medicine

### **Shawn O'Leary**

Director of Multicultural Affairs  
Dartmouth Medical School

### **Susan E. Skochelak, M.D., M.P.H.**

Senior Associate Dean, Academic  
Affairs  
University of Wisconsin Medical  
School

### **Catherine M. Solow, M.A.**

Director of Admissions  
University of Iowa Carver College of  
Medicine

### **C. Larry Sullivan, Ph.D.**

Chief Health Professions Advisor  
Avila University

### **AAMC Staff**

Ruth Beer Bletzinger  
Robert Sabalis, Ph.D.

\*at the time the working group met









**Association of  
American Medical Colleges**

2450 N Street, N.W., Washington, D.C. 20037-1127

**T** 202 828 0400 **F** 202 828 1125

[www.aamc.org](http://www.aamc.org)