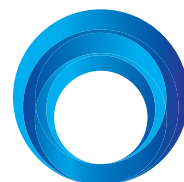


Holistic Admissions in the Health Professions

FINDINGS FROM A NATIONAL SURVEY



SEPTEMBER 2014



Urban
Universities
for HEALTH



Urban
Universities
for HEALTH

URBAN UNIVERSITIES FOR HEALTH

Urban Universities for HEALTH (Health Equity through Alignment, Leadership and Transformation of the Health Workforce) is a partnership effort of the Coalition of Urban Serving Universities (USU)/Association of Public and Land-grant Universities (APLU), the Association of American Medical Colleges (AAMC) and the NIH National Institute on Minority Health and Health Disparities (NIMHD). The project aims to improve evidence and the use of data that will help universities enhance and expand a culturally sensitive, diverse and prepared health workforce that will improve health and health equity in underserved urban communities.



Coalition of
Urban Serving Universities

THE COALITION OF URBAN SERVING UNIVERSITIES

The Coalition of Urban Serving Universities (USU) is a president-led organization committed to escalating urban university engagement to increase prosperity and opportunity in the nation's cities, and to tackling key urban challenges. The USU includes 42 public urban research universities representing all U.S. geographic regions. The USU agenda focuses on creating a competitive workforce, building strong communities, and improving the health of a diverse population. The USU has partnered with the Association of Public and Land-grant Universities (APLU) to establish an Office of Urban Initiatives, housed at APLU, to jointly lead an urban agenda for the nation's public universities.



THE ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

The Association of Public and Land-grant Universities (APLU) is a research, policy, and advocacy organization representing 235 public research universities, land-grant institutions, state university systems, and affiliated organizations. Founded in 1887, APLU is North America's oldest higher education association with member institutions in all 50 states, the District of Columbia, four U.S. territories, Canada, and Mexico. Annually, member campuses enroll 4.7 million undergraduates and 1.3 million graduate students, award 1.1 million degrees, employ 1.3 million faculty and staff, and conduct \$41 billion in university-based research.



THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The Association of American Medical Colleges is a not-for-profit association representing all 141 accredited U.S. and 17 accredited Canadian medical schools; nearly 400 major teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and nearly 90 academic and scientific societies. Through these institutions and organizations, the AAMC represents 128,000 faculty members, 83,000 medical students, and 110,000 resident physicians.

This project was supported by the National Institute on Minority Health and Health Disparities of the National Institutes of Health (NIH), Award Number U24MD006960, with additional funding support provided by the Health Resources and Services Administration (HRSA). Publication and report contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH or HRSA.

Suggested Citation:

Glazer, G., Danek, J., Michaels, J., Bankston, K., Fair, M., Johnson, S. & Nivet, M. (2014). Holistic admissions in the health professions: findings from a national survey. *Urban Universities for HEALTH*. Washington, DC.

Preface

Urban Universities for HEALTH is a partnership effort of the Coalition of Urban Serving Universities (USU)/Association of Public and Land-grant Universities (APLU), the Association of American Medical Colleges (AAMC) and the National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD). The project aims to improve evidence and the use of data that will help universities enhance and expand a culturally sensitive, diverse and prepared health workforce with the goal of improving health and health equity in underserved urban communities.

As leaders of Urban Universities for HEALTH, we are proud to present this report to our colleagues and the university community. University leaders have a unique ability to shape the health workforce through their admissions policies. The National Study on University Admissions in the Health Professions is the first to examine the impact of admissions strategies across multiple health professions on a national scale. This study supports the work of Urban Universities for HEALTH by providing new data regarding a promising admissions practice intended to improve diversity in the health workforce.

We hope that university leaders and health professions deans will benefit from this study as they design their admissions processes to promote access to education in the health professions and increase success for all students. Insights from this report will also be of use to national health professions and higher education associations, federal agencies, and other organizations working to reduce health disparities and build a health workforce that better meets the needs of communities.



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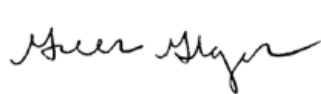
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From the Research Team

Across the country, significant health workforce shortages exist, patient populations are becoming more diverse, and health needs are growing more complex. At the same time, we are facing dramatic changes to the nation's health care system. As leaders of health profession schools, we have a responsibility to prepare enough professionals with the right combination of skills, qualities, and experiences to succeed in the workplace and meet the needs of the diverse communities they will serve. This starts with ensuring that we have individuals with a broad set of attributes and strong potential for success entering health professions programs.

We are privileged to have had the opportunity to lead this landmark study looking at an important process that has significant implications for the health professions workforce. Our hope is that university leaders will use the evidence from this study to recruit and train a health workforce that meets community and employer needs.

We believe that this report is a call to action. University leaders are urged to re-think their admissions strategies and ensure that their practices are aligned with institutional mission and goals. This may require support and resources to make the effort a success. We have made some progress in expanding access to health professions education, and ensuring that all students succeed, but we still have much more to do. Creating a pipeline of diverse students who will be admitted, graduate and successfully enter the health professions workforce is an important step toward improving health and health equity for all.



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Acknowledgements

Urban Universities for HEALTH would like to thank many individuals and organizations for their contributions. First, we would like to recognize Julia Michaels at APLU/USU for leading the survey design and data analysis and for assistance with developing the final report, and Angela Clark, from the University of Cincinnati team, for leading the qualitative research design and analysis. Jun Ying from the University of Cincinnati and Taniecea Arceneaux provided helpful statistical advice. Special thanks to Shari Garmise at APLU/USU and Malika Fair at the AAMC for their leadership, and Sherese Johnson at the AAMC for facilitating distribution of the survey.

We would like to thank the AAMC Advancing Holistic Review Initiative team, including Henry Sondheimer, Liz White, and Amy Addams for their invaluable advice over the course of the project, and Kim D'Abreu from the American Dental Education Association (ADEA) for assisting with outreach. We appreciate Judith Sondheimer for copyediting assistance.

We would like to thank the National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD) and the Health Resources and Services Administration (HRSA) for financial support of the project.

The USU Health Action Group on Admissions was responsible for developing the action item that led to this study, and we appreciate the insights of those individuals, especially Jorge Girotti, Christina Goode, Naty Lopez, Ann Christine Nyquist, Linda Scott, and Andrea Wall. We thank the USU Health Steering Committee for providing strategic oversight and the Urban Universities for HEALTH demonstration site teams for their feedback.

We are especially indebted to Santa J. Ono, President of the University of Cincinnati, and M. Roy Wilson, President of Wayne State University, who have been important champions for the USU's health agenda, and provided invaluable support for this study. Charles Bantz, Chancellor of Indiana University-Purdue University Indianapolis, Mark P. Becker, President of Georgia State University, Darrell G. Kirch, President and CEO of AAMC, and Peter McPherson, President of APLU, are also acknowledged for their leadership and support.

Finally, this project would not have been possible without the contributions of the university presidents and chancellors whose institutions participated in this study and the many health professions deans and admissions directors who completed the survey.

Introduction

Universities are facing increased pressure to graduate students who will succeed in the workforce and meet changing labor market demands. This need is particularly urgent in the health professions. Growing health workforce shortages, a rapidly diversifying patient population, and transformative changes to the health care system have combined to create new challenges for universities with health professions schools. University and health leaders are increasingly concerned with preparing graduates who possess the personal qualities, professional skills, and experiences to be successful in the workforce while also satisfying the health needs of the communities they serve.

In order to achieve this goal, many universities have begun making changes not only to their curricula and learning environments, but also to the practices used to select students for admission. With the growing recognition that standardized test scores and GPAs do not capture the breadth of experiences and personal qualities that an applicant brings to the university and the profession, many universities have begun to incorporate “holistic review” into the admission process, with the goal of admitting a diverse body of students that will not only excel academically, but will also have the qualities needed for success in the current work environment.

WHAT IS HOLISTIC REVIEW?

Holistic review is a university admissions strategy that assesses an applicant’s unique experiences alongside traditional measures of academic achievement such as grades and test scores. It is designed to help universities consider a broad range of factors reflecting the applicant’s academic readiness, contribution to the incoming class, and potential for success both in school and later as a professional. Holistic review, when used in combination with a variety of other mission-based practices, constitutes a “holistic admission” process.

In 2003, the U.S. Supreme Court officially described the strategy as a “highly individualized, holistic review of each applicant’s file, giving serious consideration to all the ways an applicant might contribute to a diverse educational environment”(Grutter v. Bollinger, 539 U.S. 306, 2003). The Association of American Medical Colleges (AAMC) further refined this definition to provide specific guidance to medical schools, stating that in a holistic review process, “balanced consideration is given to experiences, attributes, and academic metrics

and, when considered in combination, how the individual might contribute value as a medical student and future physician” (Association of American Medical Colleges, 2013).

The desired outcomes of a holistic admission process will vary depending on each institution’s mission and goals. However, one core goal of a holistic process is the assembly of a diverse student body — diverse not only in race, ethnicity, and gender, but also in experience, socioeconomic status, and perspective. A key tenet of holistic review is the recognition that a diverse learning environment benefits all students and provides teaching and learning opportunities that more homogenous environments do not (Milem, 2003).

BOX 1. FOUR CORE PRINCIPLES OF A HOLISTIC ADMISSION PROCESS

1. Selection criteria are broad-based, are clearly linked to school mission and goals, and promote diversity as an essential element to achieving institutional excellence.
2. A balance of applicant experiences, attributes, and academic metrics (E-A-M)
 - c. Is used to assess applicants with the intent of creating a richly diverse interview and selection pool and student body;
 - d. Is applied equitably across the entire candidate pool
 - e. Is grounded in data that provide evidence supporting the use of selection criteria beyond grades and test scores.
6. Admissions staff and committee members give individualized consideration to how each applicant may contribute to the school learning environment and to the profession, weighing and balancing the range of criteria needed in a class to achieve the outcomes desired by the school.
7. Race and ethnicity may be considered as factors when making admission-related decisions only when such consideration is narrowly tailored to achieve mission-related educational interests and goals associated with student diversity, and when considered as part of a broader mix of factors, which may include personal attributes, experiential factors, demographics, or other considerations.¹

Adapted from the Association of American Medical Colleges “Roadmap to excellence: Key concepts for evaluating the impact of medical school holistic admissions,” 2013.

1 Under federal law (and where permitted by state law); seven states have banned the use of race in admissions. These states are: Washington, Michigan, Nebraska, Arizona, New Hampshire, California and Florida.

USE OF HOLISTIC REVIEW IN THE HEALTH PROFESSIONS

Many colleges and universities currently use a holistic admission process to select students. The practice has become more popular in health fields such as medicine, because it permits evaluation of a broader range of criteria important for student success, and the selection of individuals with the background and skills needed to meet the demands of a changing health care environment. The Association of American Medical Colleges (AAMC) Advancing Holistic Review Initiative (previously the Holistic Review Project) has provided critical initial steps in enabling medical and other health professions schools to conduct holistic review, by translating abstract legal and educational policy concepts into implementable and assessable practices. The AAMC convened its Holistic Review Committee in 2007 and piloted its first Holistic Review in Admissions workshop with 10 member institutions in 2010. Similar workshops have been conducted in dentistry since 2009 by the American Dental Education Association (ADEA). Other professions have joined medicine and dentistry in adopting holistic review as well. The Coalition of Urban Serving Universities (USU) member survey of 2011 indicated that many USU member health professions schools had transitioned to a holistic admission process (Coalition of Urban Serving Universities, 2011).

Universities often implement holistic review with the intent of increasing the diversity of their student bodies and developing a campus culture that values diversity and inclusion. The need for diversity is particularly important in the health professions, where lack of diversity among professionals may contribute to disparities in access to health care and services for minority populations. Access to care is often limited in areas heavily populated by ethnic minorities and immigrant communities (Smedley, Stith, and Nelson, 2003). Minority providers currently care for the bulk of minority patients in the United States and play a larger role than non-minority providers in treating patients in poor health (Edwards, Maldonado, & Engalgau, 2000; Terrell & Beaudreau, 2003; Komaromy et al., 1996; Marrast, Zallman, Woolhandler, Bor, and McCormick, 2013). Language and cultural barriers limit providers' ability to serve the needs of minority patients in ways that are linguistically and culturally relevant (Kirch, 2012; Manetta et al., 2007). Having medical providers similar to patients in important dimensions of identity (e.g. race, ethnicity, language) enables effective communication and improves the provider-patient relationship (Ferguson & Canbib, 2002).

Research also shows that when groups of students with different backgrounds and perspectives are brought together, there is a positive impact on all students' attitudes regarding access to care and an increase in the number of students who indicate an interest and intent to work with the underserved (Saha et al., 2008). Educating students in environments that value diversity and inclusion produces graduates better prepared to practice in underserved communities and whose understanding of the cultural needs of patients improves patient satisfaction and trust.

In order to achieve the full benefits of diversity, deliberate attention is paid to the institutional conditions in which that diversity is realized. Specifically, faculty must be prepared to incorporate diversity into their pedagogy and curriculum. While diversity is an important first step in enhancing the educational environment of a campus (Milem, O'Brien, and Bryan, 2013), it should not be viewed as the end goal, but rather an important means toward achieving key educational and workforce goals, as defined by the institution in its mission (Addams et al., 2010; Coleman et al., 2008; Gurin et al., 2002; Milem, 2003; Milem, Chang, and Antonio, 2005; Milem, Dey, & White, 2004).

Background: National Study on University Admissions in the Health Professions

The survey data presented in this report are part of the National Study on University Admissions in the Health Professions. This work is being conducted through the Urban Universities for HEALTH Learning Collaborative, a partnership of the Association of Public and Land-Grant Universities (APLU)/Coalition of Urban Serving Universities (USU) and the Association of American Medical Colleges (AAMC), with funding from the National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD) and the Health Resources and Services Administration (HRSA). The broader aim of the Collaborative is to improve evidence around university efforts that lead to a more diverse, culturally competent and prepared health workforce as a means of improving health and reducing health disparities in urban communities.

The initial idea for this research emerged from a task force of university leaders in the health professions convened by the Collaborative in 2013. This study was recommended as a way to better understand and evaluate the growing practice of holistic review and its role in diversifying the health professions. It was subsequently selected as one of six top priorities by USU member presidents and chancellors.

Additional research related to this national study are ongoing, including an in-depth examination of admissions practices in nursing that may contribute to increased student body diversity.

BOX 2. PRIOR RESEARCH HIGHLIGHTS

In 2001, the Robert Wood Johnson Foundation convened a number of dental schools through the Pipeline, Profession and Practice: Community Based Dental Education Program (Pipeline) to help address disparities in dental care for underrepresented and underserved populations. Holistic review was defined as a key component of each school's participation (Dental Pipeline, 2010). Admissions committees were encouraged to review applications for admission with special attention to factors contributing to each institution's mission and goals and to factors that might relate to a student's potential for future success, such as life experiences, motivation, and ability to work through challenging circumstances. Dental schools adopting this approach saw an increase in compositional diversity, and this framework has become the foundation for holistic review in dental school admissions (Price & Grant-Mills, 2010).

In 2003, the Boston University School of Medicine began the process of transitioning from a traditional admissions process that emphasized grades and test scores to a more holistic admission process. It took nearly five years to complete the implementation, during which the school crafted a mission statement for admissions, operationalized the mission statement into decision-making criteria, re-structured its interviewing procedures, and provided faculty and staff with comprehensive training on the new process. By 2012, the school found that the characteristics of their incoming classes had changed dramatically. The share of students traditionally underrepresented in medicine increased from 11 to 20 percent. The average GPA of the incoming class increased nearly one-tenth of a point. The average Medical College Admission Test (MCAT) score increased by almost two points. Furthermore, faculty noted that students were more engaged with the community, more collegial, and more open to new ideas and perspectives (Witzburg and Sondheimer, 2013).

Although there has been some research on the impact of holistic review on medical, dental and undergraduate schools, the literature contains few reports or descriptions of the use of holistic review and its impact in other health professions such as nursing, pharmacy, and public health. The National Study on University Admissions in the Health Professions aims to address this gap.

Methodology

SURVEY PURPOSE

The purpose of the survey was to determine the extent to which health professions schools at public universities in the United States have adopted holistic review. We wished to determine whether schools making a change to holistic review in the last decade had experienced an increase in diversity of their incoming classes, and if there were any measureable changes in the academic quality of incoming students, in student retention, or in measures of student success since adoption of holistic review practices. Finally, we wanted to gain a better idea of how health professions schools nationwide are currently evaluating their admissions practices.

SURVEY DESIGN

The researchers developed a survey instrument designed to assess admissions practices and student outcomes based on existing admissions literature. Survey content was validated by a panel of university admissions experts in medicine, dentistry, nursing, pharmacy, and public health. The panel also included undergraduate advisors for students planning careers in health as well as national experts on implementation of holistic review practices. The survey questionnaire included four sections: I) Mission, Goals, and Admissions Practices; II) Screening Processes and Criteria; III) Use of Holistic Admissions and Outcomes; and IV) Special Programs. The survey instrument contained a total of 46 questions, which included both multiple-choice and short-answer questions. With some exceptions, respondents were required to select an answer choice. The survey was piloted at a select number of institutions prior to its launch.

ASSESSING USE OF HOLISTIC REVIEW

The researchers took a dual approach to evaluating use of holistic review. First, schools were questioned about their use of a number of admissions practices consistent with holistic review that are supported by existing literature (see Table 1). Second, schools were asked toward the end of the survey to identify themselves as either having or not having transitioned to a more holistic admission process within the past ten years.

The schools' use of practices consistent with a holistic process was scored, and scores were combined into an overall "holistic review score" from 1-10. Schools with high holistic review scores (8-10) were considered to be using many elements of holistic

review, while those with mid-range scores (4-7) were considered to be using “some elements” of holistic review. Schools with scores between 0 and 3 were considered to be using “few or no elements” of holistic review. A control group of 11 schools well known for their use of holistic review was used to provide construct validity for the model. The mean score for this control group was 8.00. Summary statistics were compiled for the self-reported assessment of holistic review, and both these statistics and the holistic review scores were compared to determine overlap.

SAMPLING METHODS

An electronic survey was sent to presidents of 163 public² universities having two or more health professions schools, with instructions to forward the survey to deans and admissions directors at each school of medicine, dentistry, pharmacy, nursing, and public health at the institution. Participants were informed that survey responses would be confidential and information reported only in aggregate.

The sample was constructed using stratified sampling techniques to ensure an adequate sample size for each health profession. The number of health professions schools at each institution was assessed, and five independent lists were formed (one for each of the selected health professions). Eighty schools were selected randomly from each list,³ and duplicate entries removed to form the sample of 163 public universities. In order to ensure an adequate sample size in dentistry, all 64 nonprofit, U.S.-based⁴ dental schools with accredited DDS/DMD programs received the survey.

A total of 104 universities in 45 states participated in the study, for a response rate of 64 percent. Two hundred and twenty eight (228) individual health professions schools completed the survey, including 66 nursing schools, 44 medical schools, 43 dental schools, 39 schools or programs of public health, and 36 pharmacy schools.

LIMITATIONS

Survey respondents were asked to report how student outcomes have changed generally over the past ten years to identify overall trends. We recognize that many other variables, both internal to the institution and external (including demographic changes and national economic and population trends) may have been important factors also affecting the type of students applying for admission and their educational outcomes. In addition, the practices identified in this survey

2 The sample included 39 Coalition of Urban Serving Universities (USU) institutions, 94 Association of Public and Land-grant Universities (APLU) institutions, and 30 non-member institutions.

3 There were fewer than 80 schools of pharmacy and medicine located at public universities with two or more health professions schools, so all schools of pharmacy and medicine that met these criteria were included in the sample.

4 Excluding Puerto Rico.

are not a comprehensive list of all holistic review practices, and we recognize that schools may have developed different approaches to holistic review over the years that may not have been captured by the survey. Finally, the survey assessed information on admissions practices and use of holistic review only among schools of medicine, dentistry, nursing, public health, and pharmacy. While holistic review is used in other health professions, this data may not be directly applicable to other health professions.

TABLE 1. HOLISTIC REVIEW SCORING MODEL

EXPLANATION OF THE MODEL	
<p>The Holistic Review Scoring Model assesses schools' use of practices consistent with theoretical principles governing implementation of holistic review that are identified in the existing literature (Wells et al., 2011; Monroe et al., 2013; AAMC, 2013). Practices span the admission process, including the approach to evaluating applicants' files as well as other admission practices designed to fulfill a school's mission or goals. The types of criteria included in the model are broad including, but not limited to, a school's mission for increasing diversity. A high holistic review score (8-10) indicates schools are using many of these practices; schools with a mid-range holistic review score (4-7) are using some practices, and schools with a low holistic review score (0-3) are using few or no practices. The model was validated using a control group of schools well known for their use of holistic review.</p>	
MODEL PRACTICES ASSESSED ⁵	
Does the institution evaluate applicant criteria related to specific mission or goals of the school (e.g. primary care, research mission, global health, urban or rural focus)	
Does the institution have a mission statement for admissions that includes diversity	
Does the institution consider non-academic criteria as well as academic metrics such as GPA and test scores in the initial screening process	
By what means and to what extent does the institution evaluate non-academic criteria related to student background or experience in the initial screening (e.g. first-generation status, socioeconomic status, gender, race, foreign language ability, community of origin)	
Does the institution select students from the waitlist by characteristics related to school's mission or goals	
Does the institution provide training for the admissions committee related to school mission and/or diversity	
CATEGORY	SCORE RANGE
Many elements of a holistic process	8-10
Some elements of a holistic process	4-7
Few or no elements of a holistic process	0-3

⁵ The practices used in our practice-based assessment are not a comprehensive list of holistic review practices, nor would it be expected that any university would adopt all components.

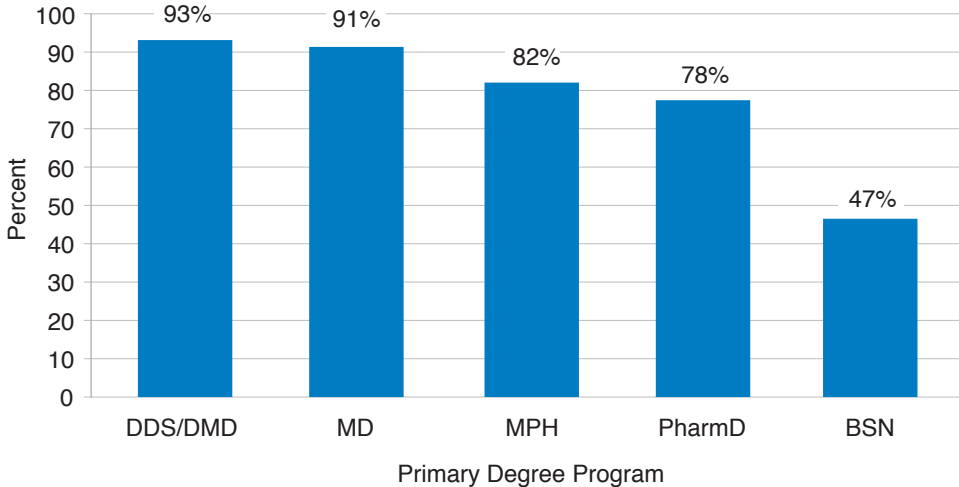
Results

THE LAST DECADE: USE OF HOLISTIC REVIEW IN THE HEALTH PROFESSIONS

Sixty-seven percent of health professions schools responding to the survey reported having changed to a holistic admission process within the past 10 years, and 8 percent indicated that they had used a holistic admission process for more than 10 years.⁶ Use of holistic review varies by field, with more frequent use reported among the surveyed medical and dental schools and less frequent use among the nursing schools surveyed (Figure 1).

FIGURE 1. USE OF HOLISTIC REVIEW (N=171)

Percent of schools that self-report using holistic review, by primary degree program



HOLISTIC REVIEW MODEL RESULTS ON EXTENT OF PRACTICES

Using the practice-based model described in Table 1 we found differences in the extent to which schools that self-identified as using holistic review are implementing specific holistic review practices. According to the model, 38 percent of the schools self-identified as using holistic review in the past decade are using “many elements” of a holistic admission process, 48 percent have adopted “some

6 The majority of schools using holistic review for more than 10 years are medical schools.

elements,” and the remaining 14 percent are using few or no practices consistent with holistic admission (see Figure 2). Descriptive statistics for the holistic review score generated by the practice-based model are reported in Table 2.

TABLE 2. HOLISTIC REVIEW MODEL

Descriptive statistics for the holistic review score

HOLISTIC REVIEW SCORE	CONTROL GROUP	USING HOLISTIC REVIEW N=171	NOT USING HOLISTIC REVIEW N=57	OVERALL N=228
MEAN	7.9	6.3	2.7	5.4
MEDIAN	8	7	3	6
MIN	6	0	0	0
MAX	10	10	9	10

HOLISTIC REVIEW: IMPACT

STUDENT DIVERSITY

The majority of schools self-identified as using holistic review reported an increase in the diversity of the student body over the past decade. When these schools were further assessed via the practice-based model, more of the schools with a high holistic review score (“many elements of a holistic process”) reported an increase in diversity as compared to schools with lower holistic review scores (“few or no elements of a holistic process”) (see Table 3). The correlation is statistically significant, suggesting schools that implement many elements of holistic review are more likely to see an increase in diversity than schools that implement fewer practices (see Table 4).

TABLE 3. HOLISTIC REVIEW: IMPACT ON DIVERSITY

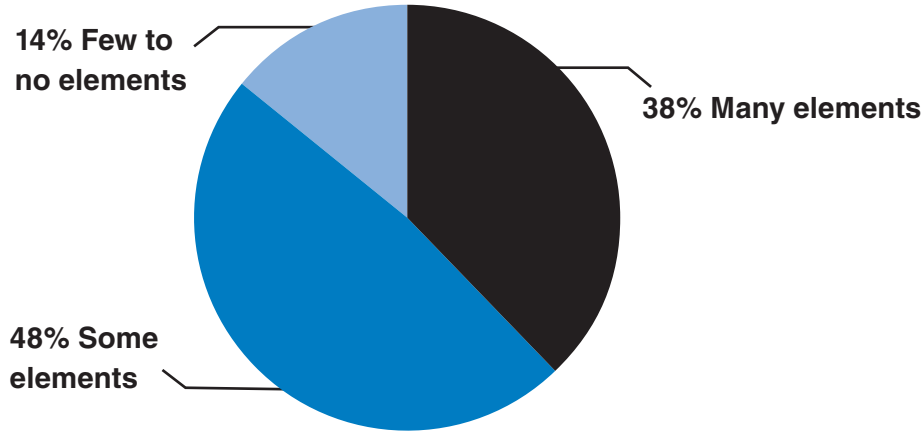
Change in diversity for schools self-identified as using holistic review, by holistic review score

DIVERSITY OF THE INCOMING CLASS	INCREASED	UNCHANGED	DECREASED	TOTAL
Schools using many holistic review elements N=57	81%	16%	4%	100%
Schools using some holistic review elements N=60	67%	32%	2%	100%
Schools using few to no holistic review elements N=15	60%	40%	0%	100%
Total Schools Using Holistic Review (N=132)⁷	72%	26%	2%	100%

⁷ Includes schools self-identified as using holistic review that track diversity outcomes.

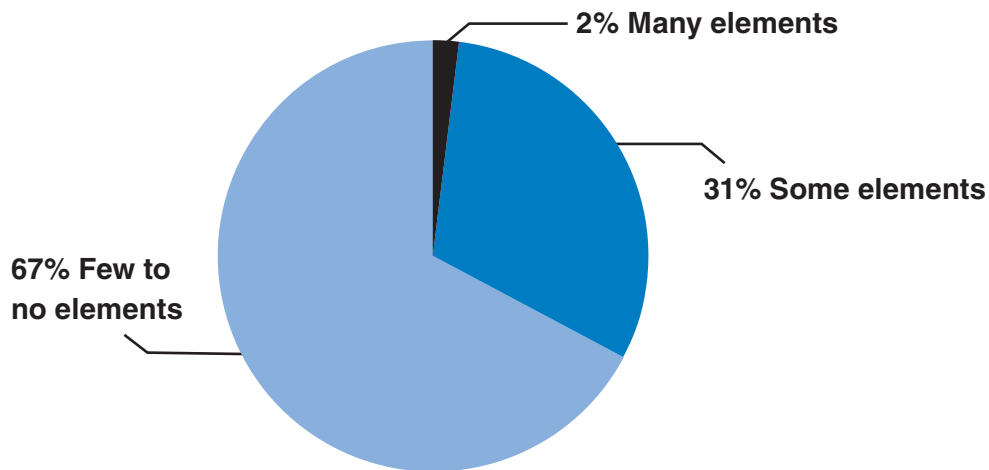
FIGURE 2. MODEL RESULTS

Extent of Use of Holistic Review:
Schools Self-identified as Using Holistic Review



Percent of health profession schools self-reporting use of holistic review that are using many elements, some elements, or few to no elements from the practice-based model (N=171)

Extent of Use of Holistic Review:
Schools Self-identified as Not Using Holistic Review



Percent of health profession schools that self-report not using holistic review that are using many elements, some elements, or few to no elements from the practice-based model (N=57)

TABLE 4. CORRELATION BETWEEN HOLISTIC REVIEW SCORE AND INCREASED DIVERSITY

VARIABLES	<i>r</i>	T(130)	TWO-TAILED P-VALUE ⁸	M	SD	RANGE
Holistic Review Score ⁹						
Increased Diversity of the Incoming Class ¹⁰	0.1902*	2.2087	0.0289	0.66	0.24	0-1

ACADEMIC SUCCESS

Among schools self-identified as using a holistic admission process, the majority reported that measures of student success over the past decade were unchanged or improved (see Figure 3). The schools using holistic review were asked to report changes to the following measures¹¹ of student success including:

- **ACADEMIC QUALITY OF INCOMING CLASSES.** Measures of incoming class quality were largely unchanged or improved. Over the past decade, 90 percent of the schools using holistic review reported that the average GPA of the incoming class remained unchanged or increased, while 10 percent reported a decrease. Eighty-nine percent reported that average standardized test scores for incoming classes remained unchanged or increased, while 11 percent reported a decrease.
- **STUDENT RETENTION.** Ninety-six percent of the schools using holistic review reported that graduation rates were unchanged or increased, while only 4 percent reported a decrease.
- **STUDENT ACADEMIC PERFORMANCE.** Measures of student academic performance were largely unchanged or improved. Ninety-seven percent of schools reported that the average GPA of the graduating class was either unchanged or increased, while only 3 percent reported a decrease. Ninety-one percent of schools reported that the average number of attempts for students to pass required licensing exams remained unchanged or improved (decreased number of attempts needed).

8 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

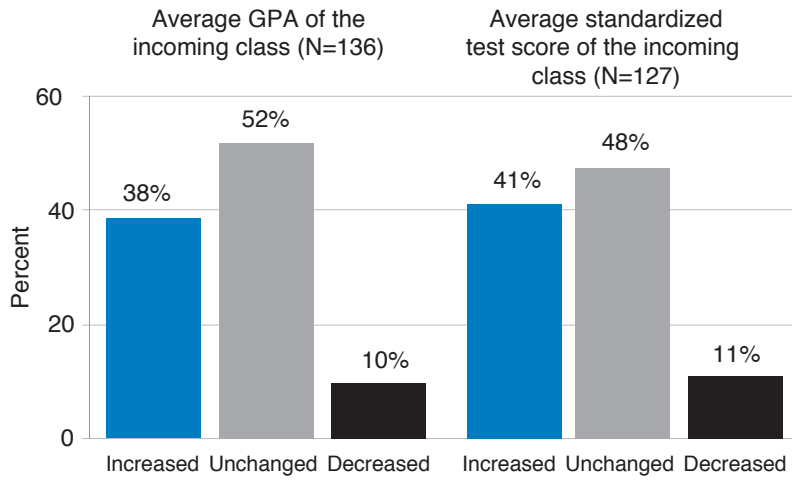
9 For schools self-identifying as using holistic review, and that track diversity outcomes (N=132)

10 Increased = 1, Decreased = 0, Unchanged = 0

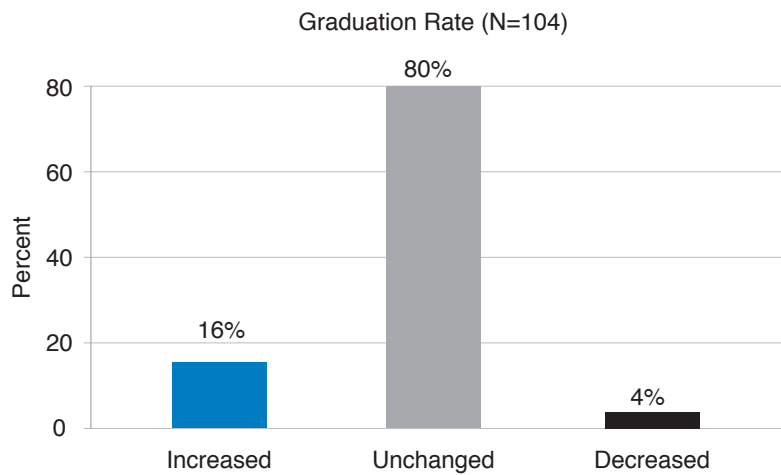
11 A total of 154 (90 percent) of the schools that transitioned to a holistic admission process are evaluating admissions outcomes; within that group, the extent to which schools are measuring specific outcomes varies.

FIGURE 3. HOLISTIC REVIEW: Student Success Measures

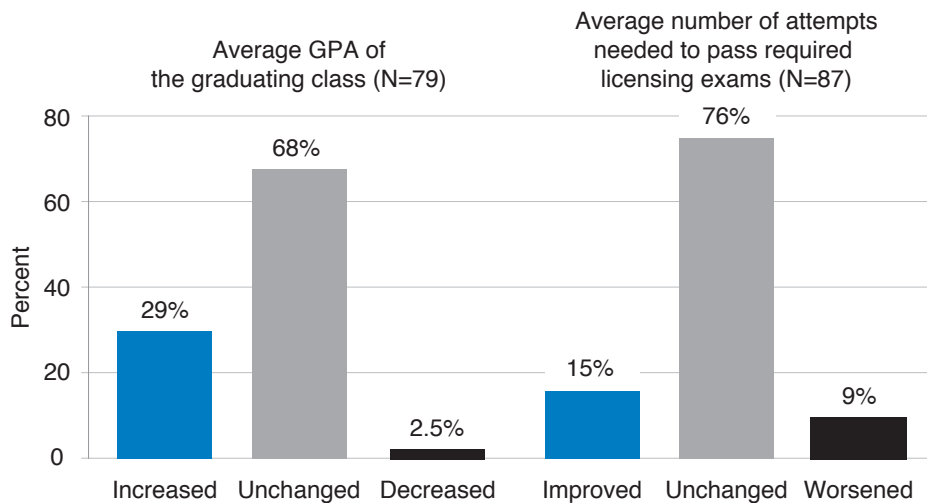
Incoming Class Academic Measures



Student Retention



Student Academic Performance



“Improved” indicates decreased number of attempts needed, while “worsened” indicates increased number of attempts needed.

OTHER MEASURES OF STUDENT SUCCESS

The survey also asked schools to report changes to other measures of student success in the health professions. These measures are qualitative but are considered important contributors to the success of the individual student as well as the teaching and learning environment of the school. The majority of schools that tracked these measures, including student engagement with the community, student cooperation and teamwork, and student openness to ideas and perspectives different from their own, reported an improvement in the measures (see Figure 4). This change was reflected in many of the qualitative responses as well. Respondents stated that “*students are now much more engaged in community outreach efforts,*” and that “*students are interested in serving underserved populations.*”

Although fewer schools were tracking these qualitative measures, the measures are increasingly important to evaluating student success in the field. One interesting finding is that schools using holistic review were evaluating these measures in much higher numbers than schools not using holistic review (see Table 5).

HOLISTIC REVIEW: PERCEIVED IMPACT BY UNIVERSITY ADMISSIONS LEADERS

The survey asked admissions leaders to report on the perceived impact of holistic review on the school overall. Leaders from 91 percent of the schools stated that holistic review had a positive impact on the school, with the remainder stating that the impact was neutral or not discernable. The most frequently reported positive impacts mentioned were increased diversity, admission of students who are better prepared for success in the profession, admission of students who have faced barriers to success in their lifetimes and who would have been excluded under traditional admissions processes, and increased awareness of and sensitivity to diversity among admissions committee members. One respondent highlighted the impact of holistic review on the learning environment, noting that “*applicants with diverse life experiences have enriched the learning experience of all students.*”

When asked to report on any unintended consequences of the change to holistic review, 83 percent of respondents indicated that there were none. The most common responses among those who did report unintended consequences were: resistance from prospective students and alumni, increased faculty and staff time devoted to admissions, and increased need for student support services.

FIGURE 4. HOLISTIC REVIEW: OTHER MEASURES

Other Measures of Student Success

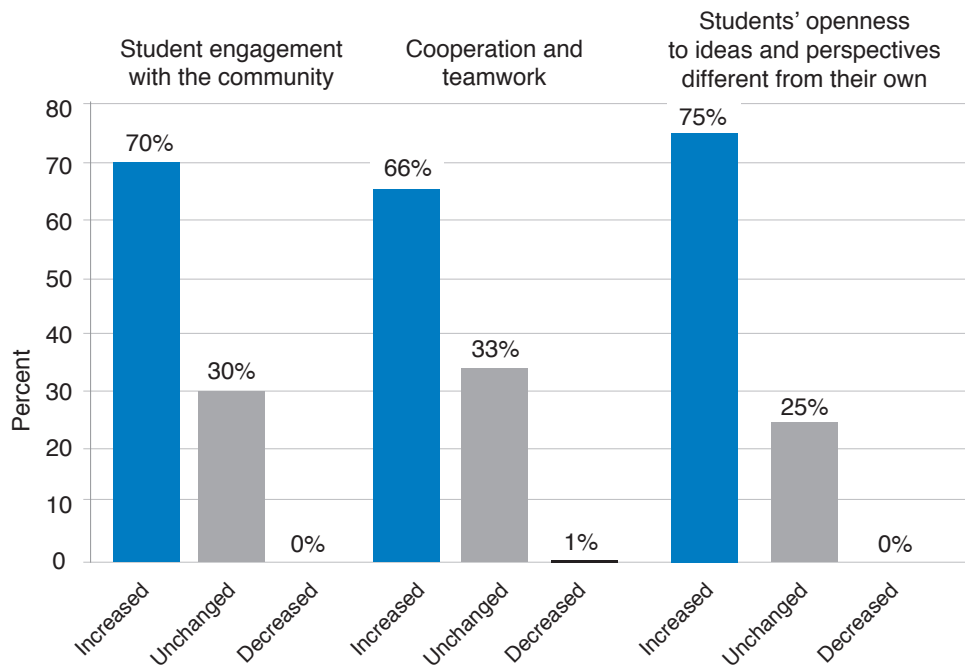


TABLE 5. EVALUATION OF OTHER MEASURES OF STUDENT SUCCESS

MEASURES	PERCENT OF SCHOOLS USING HOLISTIC REVIEW THAT EVALUATE THESE MEASURES OF SUCCESS N=154	PERCENT OF SCHOOLS NOT USING HOLISTIC REVIEW THAT EVALUATE THESE MEASURES OF SUCCESS N=49
Student engagement with the community	64%	16%
Cooperation and teamwork among students	55%	10%
Students' openness to ideas and perspectives different from their own	50%	4%

HOLISTIC REVIEW: HOW SCHOOLS ARE USING HOLISTIC REVIEW PRACTICES

ASSESSMENT OF NON-ACADEMIC CRITERIA

Schools that self-report using holistic review are incorporating a variety of changes in their admissions procedures. The most widespread change is the assessment of non-academic criteria in the initial review after applicants have met the minimum criteria for admission. This change was reported by 71 percent of schools. Schools using holistic review were also more likely to report that non-academic criteria are as important as academic measures from the time of initial screening than schools not using holistic review (see Table 6).

Schools using holistic review were more likely to evaluate criteria specific to an applicant's background, geographic origin, or experience with diverse or underserved populations in the initial screening (see Table 7). While schools are evaluating a range of factors, more schools consider an applicant's income, first generation college student status, or experience working with disadvantaged populations than factors such as race or gender. On average, schools using holistic review evaluated a greater number of characteristic related to student background than schools not using holistic review (an average of 3.25 criteria compared to 0.81 for schools not using holistic review).

EVALUATION OF APPLICANT CRITERIA RELATED TO SPECIFIC MISSIONS

Schools that utilize holistic review more frequently evaluated criteria in applicants pertinent to their specific institutional missions - including primary care, research, commitment to underserved urban or rural populations, or global health - than schools not using holistic review (see Table 8).

TABLE 6. CONSIDERATION OF NON-ACADEMIC CRITERIA

IMPORTANCE OF OTHER (NON-ACADEMIC) CRITERIA DURING THE INITIAL SCREENING PROCESS	USING HOLISTIC REVIEW N=171	NOT USING HOLISTIC REVIEW N=57	TOTAL N=228
Non-academic criteria are the most important criteria during the initial screening process.	2.3%	0%	1.7%
Non-academic criteria are of equal importance to academic metrics during the initial screening process.	43%	16%	36%
Academic metrics are somewhat more important than non-academic criteria during the initial screening process.	36%	23%	33%
Academic metrics are the most important criteria during the initial screening process.	19%	61%	29%
TOTAL	100%	100%	100%

TABLE 7. ASSESSING APPLICANT BACKGROUND AND EXPERIENCE

Percent of schools assessing applicant background and experience factors, by self-reported use of holistic review

NON-ACADEMIC CRITERIA ASSESSED	USING HOLISTIC REVIEW N=171	NOT USING HOLISTIC REVIEW N=57	TOTAL N=228
First generation college student	57%	12%	46%
Experience with disadvantaged populations	50%	9%	40%
Socioeconomic status	47%	11%	38%
Origin in a community that is medically underserved	46%	9%	37%
Origin in a geographic area specifically targeted by the school	44%	14%	37%
Race/ethnicity (if permitted by state law)	39%	14%	32%
Foreign language ability	27%	9%	22%
Gender	15%	4%	12%
None of the above	27%	68%	37%

TABLE 8. MISSION-RELATED CRITERIA

Percent of schools considering applicant criteria related to specific institutional mission and goals, by self-reported use of holistic review

MISSION-RELATED CRITERIA	USING HOLISTIC REVIEW N=171	NOT USING HOLISTIC REVIEW N=57	TOTAL N=228
Focus on underserved rural communities	53%	12%	43%
Focus on underserved urban communities	49%	12%	40%
Research mission	33%	5%	26%
Primary care mission	31%	9%	25%
Global health mission	25%	7%	20%

DIVERSITY PRACTICES

Other diversity practices are being implemented among schools using holistic review. Nearly all schools surveyed have included diversity in the school’s mission statement and goals. However, schools using holistic review are implementing additional practices that operationalize their mission statements, such as broadening the composition of the admissions committee to include other types of individuals and requiring the admissions committee to undergo training related to admissions goals, including diversity (see Table 9).

TABLE 9. IMPLEMENTATION OF HOLISTIC REVIEW

Changes to admissions practices among schools using holistic review

TYPE OF CHANGE	PERCENTAGE N=171
Nonacademic criteria are being assessed during the initial review, after applicants have met any minimum criteria for admission	71%
The school/college has added essay questions to the application for admission that are designed to identify students who have faced social, economic, or other barriers to success	39%
The school/college has added essay questions to the application for admission that address some other aspect of the school/college mission and goals	38%
The composition of the admissions committee has been broadened to include other types of individuals	32%
The school/college now requires the admissions committee to undergo training related to admission goals, including diversity	29%

HOLISTIC REVIEW: REASONS FOR THE CHANGE AND EXISTING BARRIERS

Schools cited a number of reasons for making the change to holistic review. The most frequently cited reason was that holistic review enabled the school to shape the incoming class to better meet its mission and goals, including increasing diversity. For example, in the qualitative comments, one respondent mentioned that their school transitioned to a holistic process because “*it creates the most competitive cohort.*” Another stated they had adopted holistic review to improve the chances that the school’s graduates would better “*reflect the public they will serve.*” Other schools changed to a holistic review in order to address perceived problems with prior approaches noting that, “*Holistic admissions processes eliminated the use of weighted formulas that were not effective.*” Reasons reported less frequently include implementing holistic review to meet accreditation requirements, or in response to encouragement from university administration.

Of schools that reported not using holistic review, about half indicated that they were considering making a change to a holistic admission process. The primary reasons for not making the change were lack of knowledge or expertise regarding the implementation of a legally sound holistic admission process, concern that faculty and staff would not have enough time to review applications, and concern that the process would not be as efficient as the current process.

NEED FOR ADDITIONAL RESOURCES

Survey respondents were asked to describe any additional faculty, staff, or other resources that were required to support the implementation of a holistic admission process. Two-thirds of respondents indicated that a variety of other resources or changes were required, and the remainder stated that holistic review was implemented without additional resources. The most common additional resources mentioned were additional staff and faculty to support the admissions process and additional training for existing staff. Several schools indicated that they had implemented an electronic system to process admissions information more quickly, and others mentioned that they planned to invest in a holistic review workshop led by the AAMC or ADEA.

Discussion

The findings from our survey indicate that most health professions schools have adopted some form of holistic review in admissions over the past decade. The majority of these schools reported an increase in diversity, while measures of student success were largely unchanged, or, in many cases, improved. Although two-thirds of schools required some additional resources to implement holistic review, nearly all of the admissions leaders perceived the impact of the investment to be positive.

The study also revealed that health professions schools are adopting holistic review practices to varying degrees. In practical terms, holistic review is being utilized along a continuum. There may be many reasons for the variation among schools. Schools that have just begun to adopt holistic review may still be in the process of fully operationalizing their admissions practices. The variation also likely represents differences in perception about what holistic review entails. Lack of resources may also constrain schools from implementing specific practices that require additional time or cost. The findings from our study suggest that schools seeking to increase diversity are more likely to see results if they apply holistic review practices broadly across the admissions process.

The difference in use of holistic review among health fields is significant, with medical and dental schools reporting change in greatest numbers. These findings are not entirely surprising as there have been significant efforts in the past decade by national funders and associations (including AAMC and ADEA) to assist the nation's dental and medical schools in adopting holistic review. The extent of change in these fields suggests that these national initiatives have been effective. Some of the difference in use of holistic review by health field may also be related to the fact that primary degree programs for each field have different points of entry. Nursing is the only undergraduate degree program surveyed, and most nursing schools work jointly with the main admissions office at the university and do not admit students directly into their programs. Finally, it is conceivable that accreditation standards are also playing a role, as many fields evolve to include greater focus on ensuring diversity and cultural competence among graduates.

Conclusion

Higher education and health leaders are deeply concerned with improving access to higher education, diversity in the health professions, and overall student success. Evidence is needed to inform decision making about interventions that may potentially move the dial in these areas. Holistic review is one strategy universities have undertaken to achieve these goals. The findings from this study suggest that holistic review is an effective strategy for schools that seek to increase the diversity of their student bodies and develop an inclusive, positive learning environment that supports student success. Understandably, leaders want to know the impact of this practice on incoming student academic qualifications, student retention, and student performance, and the evidence from our research is reassuring on these issues. We still have a long way to go before achieving desired outcomes in the areas of access, diversity, and student success in higher education, and further research will be needed to support decision making in admissions. Examining admissions practices for other disciplines where diversity is also urgently needed, such as STEM and biomedical research, may also be of value to university leaders.

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