COMBINED BA/MD DEGREE PROGRAM

ACADEMIC PROGRAM REVIEW: SELF-STUDY
THE UNIVERSITY OF NEW MEXICO
COMBINED BA/MD DEGREE PROGRAM
MARCH 1 – 3, 2022

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Criterion 1. Introductory Section & Background Information.

The section should provide a brief introduction to the Self-Study Report, which includes the following elements: summary, history, organizational structure, prior APR and accreditation.

1A: Summary *An Executive Summary that provides a one to two-page summary/abstract of the information contained within the Self-Study Report.*

The University of New Mexico (UNM) Combined BA/MD Degree Program's mission is to improve the health and well-being of New Mexicans and address the critical physician shortage in New Mexico by providing educational opportunities to a diverse group of students committed to serving New Mexico communities. The BA/MD Program is funded by the New Mexico State Legislature and provides financial support for students who are committed to practicing medicine in New Mexico's medically under-served communities. Although there are more than 50 Combined BA/MD Programs in the country, the UNM Program is one of very few with a mission emphasizing diversity and meeting the needs of underserved populations. The Program draws on four key factors that have been shown to increase the likelihood of rural practice in future MDs: rural background, underrepresented minorities, training in rural and underserved areas and training in primary care. Appendix A is an infographic developed to provide a visual summary of Program highlights.

Recruitment and Admissions: Thus far, admitted students come from 30 of the 33 counties in New Mexico, with percentages admitted from each county closely matching the county proportion of New Mexico's total population. Admitted students also broadly reflect the racial/ethnic demographic of the state, with a majority of students admitted from groups underrepresented in medicine. Admission to the program is based on holistic review prioritizing those with a high likelihood of fulfilling the mission and eventually serving as physicians in the state. The Program admitted its 16th cohort of students in Fall 2021.

Curriculum and student support: Our Program is an 8 year, two-stage, dual degree program, in which participating students first complete a Baccalaureate degree from the UNM College of Arts & Sciences, and then complete a Doctor of Medicine degree at the UNM School of Medicine. Students in the BA component graduate with a major or minor unique to the BA/MD Program: Health, Medicine & Human Values (HMHV), which includes: a 15 credit enhanced pre-health humanities and social sciences curriculum and a rigorous basic science curriculum. Students also participate in a summer practicum immersion experience, during which they live and serve in rural communities in New Mexico, completing a community health project and shadowing physicians in rural hospitals and clinics. Other unique benefits of the Program include: a summer bridge program before their freshmen year in preparation for a rigorous pre-medical curriculum; a cohort structure which provides a living/learning community with numerous community and cohort building opportunities; a last dollar scholarship to ensure that the basic cost of education is met; advising with a low student-to-advisor ratio, academic and tutoring support through the UNM Center for Academic Program support; and an MCAT prep course.

Faculty: The undergraduate component of the BA/MD Program is an inter-disciplinary program within Arts & Sciences, and has "joint-appointment" faculty, with each tenure-track and lecturer faculty member having their "home" in one of Arts & Sciences' departments. As of the fall semester of 2021, the BA/MD Program is comprised of 17 faculty from 11 different departments, all teaching at least one course per year for the Program, covering nearly all of the required courses in our curriculum, including the pre-medical prerequisite science courses. Our faculty are leaders in teaching innovations and research across campus and contribute significantly to service in the Program on committees, providing students with research opportunities and mentoring.

Program Outcomes: The Program is proud to have 49 physicians who have completed their training and are in practice. Of these, 34 are practicing in NM (69%). Notably, 55% are from racial/ethnic groups underrepresented in medicine and about 57% from hometowns outside the Albuquerque metro area. There are another 324 students at various stages of training on track to become physicians over time, with 28 added each year. It takes a minimum of 8 years of training to become a physician from the start of an undergraduate degree, several additional years of post-graduate specialty medical training (residency) and optional subspecialty training (fellowship). As such, even the very first cohort to be admitted (2006) is still producing doctors. Undergraduate (BA) retention has improved from 67% for the first three cohorts (2006-2008) to 90% (2009-2012) and most recently 98% (2013-2017) owing initially to a 'merge' program[1] and then to systematic improvements to structure and student support. We anticipate an improvement in the overall (BA and MD) retention of 55% for the first three cohorts to a number closer to 80% for the most recent cohorts who have completed their undergraduate degrees. The 4-year graduation rate for the undergraduate part of BA/MD is 90%, with that rising to 96% in six years. This compares very favorably with UNM's 4- and 6-year graduation rates, 27% and 48% respectively. The Program is successful at recruiting a diverse cohort of students in terms of hometown (rural versus urban), race/ethnic diversity, socioeconomic status (as measured by Pell grant eligibility) and first-generation college status. Equity gaps still exist between attrition of rural and urban students, and for attrition of American Indian students (who are most often rural), although the Program has made significant improvements to overall attrition. The differences are likely due to lower educational opportunity in K-12 education for rural students, and efforts are on-going to understand and provide better support to reduce these disparities.

Broader impact: In addition to the primary mission, the BA/MD Program contributes to the entire undergraduate mission at UNM in several ways. Through hiring of faculty with interdisciplinary expertise in health fields, for which BA/MD has provided bridge funding, as well as ongoing contributions to salary, the Program has strengthened the University's expertise in health-related fields. By extending the Health, Medicine and Human Values curriculum as a minor, all UNM students have access to the expertise of these faculty members. The pre-medical science prerequisite courses have expanded capacities to allow opportunity to non-BA/MD UNM students interested in STEM courses with a specific health-science focus. BA/MD faculty are leaders in curriculum innovation at UNM.

Future direction and challenges: Although significant strides have been made since the last APR in terms of student retention, an on-going challenge persists: to continue to improve retention of rural and minority students. In addition, as the Program matures, an increasing focus on alumni tracking is needed to help understand factors that bring alumni back to the state as well as factors that draw them away. There is more opportunity for alumni involvement as a voice in program improvement, providing positive and diverse role models to current students and participating in the Program admissions processes. Finally, with a robust start to alumni successes, the Program must communicate its successes to stakeholders with the aim of maintaining and growing funding levels to allow the continued high level of student support for this critical pipeline program.

[1]Program leadership developed and implemented a 'merge' program in 2009 to fill available seats from students who left the Program by the end of the 2nd year. Students are eligible to merge into available spots in the Program if they originally applied, went through the holistic admissions process, were accepted to the alternate list, and are currently attending and achieving highly (3.5 pre-med GPA) at UNM.

1B: History *A brief description of the history of each degree/certificate program offered by the unit.*

First established as a two-year medical school, the UNM School of Medicine (SOM) opened in September 1964 and consisted of two buildings, a former 7-Up bottling plant which housed labs, classrooms and the library, and an adjacent former mortuary which housed the anatomy labs. From these humble beginnings, the UNM SOM has experienced tremendous growth and has made great contributions locally regionally and nationally to patient care, research and medical education. Its mission is to advance the health of all New Mexicans by educating and increasing the diversity of health professionals, leaders and scientists, providing outstanding and compassionate care, advocating for the health of all New Mexicans and pursing new knowledge and excellence in practice. From this mission, the idea of the UNM BA/MD Program sprung.

In FY 2005, the New Mexico State Legislature first appropriated funds for the planning and development of the BA/MD Program, and in each subsequent year, a multi-phase funding process guaranteed the full implementation of the BA/MD Program. Prior to 2006 (and continuing since then), 30 of New Mexico's counties had been federally designated as Medically Underserved Areas (MUS), and also Health Profession Shortage Areas (HPSA). The first cohort of BA/MD students was admitted into the Program in the fall of 2006, following several years of planning with stakeholders and leaders at the UNM School of Medicine and the College of Arts & Sciences. Key to the development of the Program were Dr. Paul Roth, Dr. Valerie Romero-Leggott and Dr. Ellen Cosgrove at the School of Medicine and Arts & Sciences Dean Reed Dasenbrock. This collaboration continued over subsequent years and evolved to include Interim Dean Vera Norwood, of Arts & Sciences, Professor Gary Harrison, of the Department of English, Richard Santos, Professor of Economics, and many others.

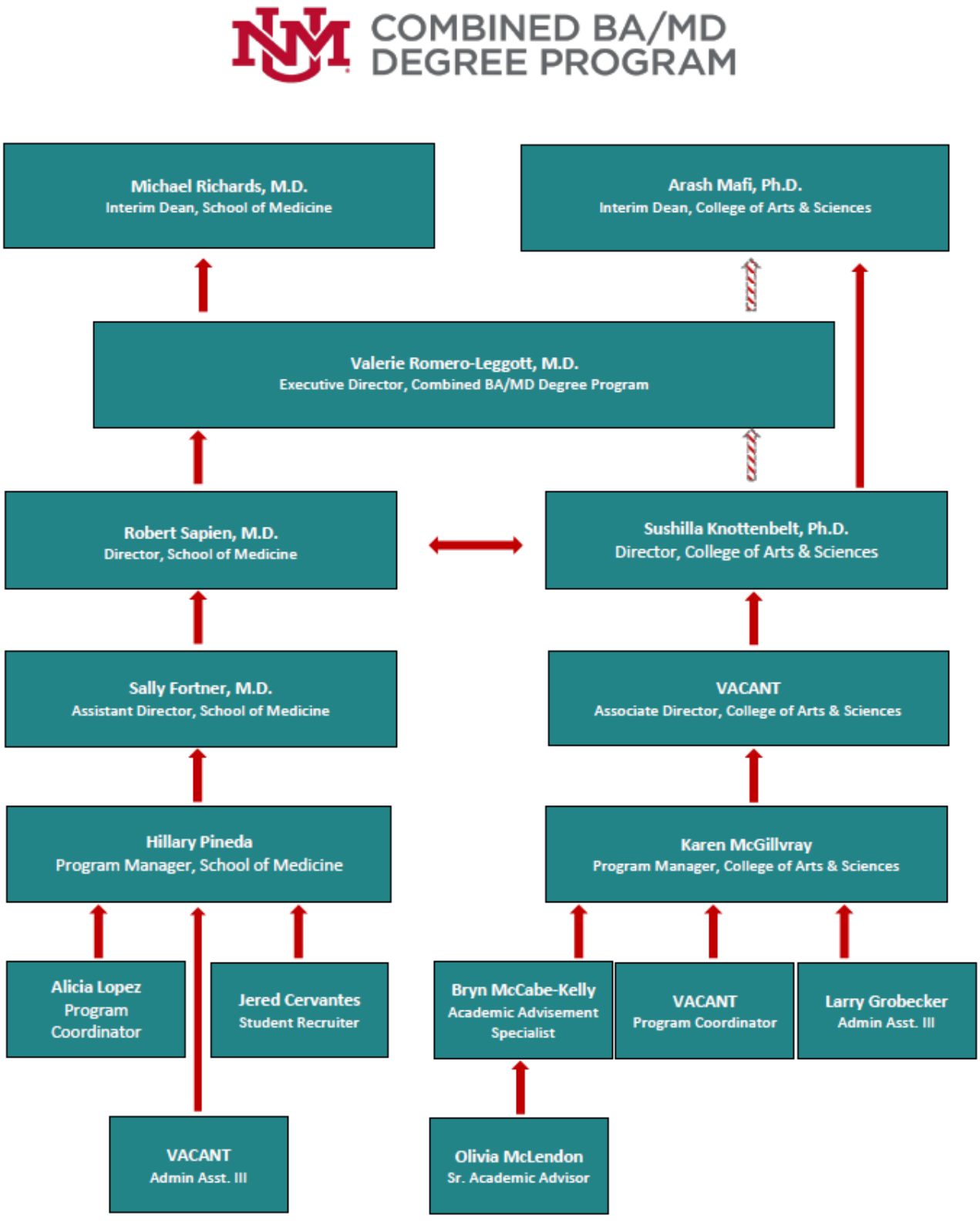
The Combined BA/MD Degree Program was envisioned to support a key aspect of the mission of the UNM School of Medicine: to educate and increase the diversity of health professionals, leaders and scientists. In doing so, it serves to address both the physician shortage in New Mexico as well as the need for greater diversity of physicians in rural and underserved areas. In 2005, the President of the American Association of Medical Colleges (AAMC) outlined the need to increase the "racial and ethnic diversity of the medical profession." The goals and mission of the BA/MD Program hit both of these marks. A review[2] of the recruitment and retention of primary care physicians published in *Academic Medicine* found that "Pre-medical school factors such as rural upbringing and specialty preference were most strongly correlated with recruitment of physicians to rural areas."

Administration: Dr. Valerie Romero-Leggott, from the School of Medicine, and Dr. Richard Santos, from the College of Arts & Sciences, served as the founding Directors of the Program. In 2008, Dr. Philip Ganderton became Director for Arts & Sciences (A&S). In 2010, Dr. Robert Sapien became Director for the School of Medicine portion of the Program, while Dr. Romero-Leggott assumed the position of Executive Director of the Program. In 2011, Professor Greg Martin became A&S Director. In 2019, Dr. Sushilla Knottenbelt became A&S Director. In the more than fifteen years since its inception, the BA/MD Program has remained committed to curricular balance between HMHV seminars in the social sciences and humanities and a strong foundation in the premedical core of required basic science courses. While the requirements and courses themselves have remained relatively constant, the Program

[2] Eaglen RH, Arnold L, Girotti JA, Cosgrove EM, Green MM, Kollisch DO, McBeth DL, Penn MA, and Tracy SW. (2012). The scope and variety of combined baccalaureate-MD programs in the United States. Acad Med. Nov;87(11):1600-8.

has evolved significantly in how these are delivered in response to student performance data. In the years immediately before the last APR (2014), key developments included pedagogical innovation in the Basic Science and Mathematics courses and the hiring of a committed joint-appointment faculty who are invested in the Program's mission, the students' success, course integration and professional development. Since the last APR, efforts have focused on data collection used to assess program effectiveness, updating and revising program policies as well as continued efforts to optimize student support and well-being.

1C: Organizational Structure *A brief description of the organizational structure and governance of the unit, including a diagram of the organizational structure.*



1D: Accreditation *Information regarding specialized/external program accreditation(s) associated with the unit, including a summary of findings from the last review, if applicable. If not applicable, indicate that the unit does not have any specialized/external program accreditation(s).*

Medical education programs leading to the M.D. degree in the United States and Canada are accredited by the Liaison Committee on Medical Education (LCME). The LCME's scope is limited to complete and independent medical education programs whose students are geographically located in the United States or Canada for their education and that are operated by universities or medical schools chartered in the United States or Canada. LCME accreditation is a voluntary, peer-review process of quality assurance that determines whether the program meets established standards. This process also fosters institutional and program improvement. To achieve and maintain accreditation, a medical education program leading to the M.D. degree in the U.S. and Canada must meet the LCME accreditation standards contained in the document Functions and Structure of a Medical School. Programs are required to demonstrate that their graduates exhibit general professional competencies that are appropriate for entry to the next stage of their training and that serve as the foundation for lifelong learning and proficient medical care. While recognizing the existence and appropriateness of diverse institutional missions and educational objectives, the LCME subscribes to the proposition that local circumstances do not justify accreditation of a substandard program of medical education leading to the M.D. degree. The UNM SOM Combined BA/MD Program is accredited through the LCME under the parent institution, UNM School of Medicine.

1E: Previous APR *A brief description of the previous Academic Program Review Process for the unit. The description should:*
- *note when the last review was conducted;*
- *provide a summary of the findings from the Review Team Report;*
- *indicate how the Unit Response Report and Initial Action Plan addressed the findings; and*
- *provide a summary of actions taken in response to the previous APR.*

Summary of findings from the Review Team Report (2014)
Robert Eaglen, Roseman University of Health Sciences
Brenda Rogers, University of Missouri – Kansas City
Gary Smith, University of New Mexico

The University of New Mexico's Combined BA/MD Degree Program began in the fall of 2006 as a joint effort by the College of Arts & Sciences and the School of Medicine. The Program has intertwined missions of educating physicians to address the health care needs of rural and medically underserved communities in the state, broadening the diversity of the student body, and establishing enduring links between the Program's students and medically underserved New Mexico communities. Planning for the program began in 2002 and 2003, when the medical school dean and his senior leadership engaged their counterparts in the College of Arts & Sciences about potential collaboration. The resulting combined degree program entailed an interdisciplinary undergraduate program housed in the College of Arts & Sciences, followed by the standard medical school curriculum. Distinctive features of the baccalaureate component include a balanced presentation of humanities and social sciences along with a rigorous curriculum in science and math, a summer practicum that provides students with an opportunity to

participate actively in community health programs in rural and other underserved areas, and a strong, highly integrated system of academic advising and personal support. The program received a substantial boost with the recent hiring of 13 joint-appointment faculty, funded initially by the BA/MD Program. These faculty additions have enabled the College of Arts & Sciences to offer required core science courses in small sections (50 students, equally divided between BA/MD students and traditional UNM undergraduates) that emphasize active learning. Students admitted to the program simultaneously receive provisional admission to the medical school, contingent on satisfactory performance during the baccalaureate component of the program. The program has accepted 28 students per year for the program since its inception. Two students from the original 2006 charter class graduated a year early and are now in the second year of residency training, and an additional eight students have completed their MD studies and began residency training in July of 2021.

Challenges and Opportunities for Quality Improvement

Financial support for the BA/MD Program derives primarily from the New Mexico state legislature. The university has utilized this funding to provide student support for the cost of attendance as well as for the administration of the program including financial support for the faculty and staff. Currently the state legislature continues to provide the support, with annual updates about the program provided to them by the Dean of the School of Medicine. The patience of the legislature in funding a program that will not have definitive outcome data about its success for at least twelve years after its inception is remarkable. The risk to the Program, however, is the loss of this financial support as it provides the majority of the funding. The university administration has expressed a willingness to provide financial support to the program should the state legislature limit or withdraw its support. This situation, however, represents a potential risk to the Program.

From the beginning, the BA/MD Program has invested substantial, ongoing effort in a recurring cycle of program evaluation and improvement. It has not, however, engaged in a formalized strategic planning process that examines the internal and external environment, identifies potential opportunities and vulnerabilities, and develops contingency plans to take advantage of opportunities and anticipate potential challenges to sustained program effectiveness. As the Program continues to mature and more outcome data become available, it becomes increasingly important to step back and take a larger look at the program, its achievements and limitations, and the long-range prospects for its continued success.

Summary of recommendations from previous APR:

1. Publish GOALS & SLOs
2. Increase Student Awareness of Goals
3. Form a Strategic Planning Committee

Initial response:

1. Suggestion: Publish GOALS & SLOs. "Student learning outcomes (SLOs) are stated in the self-study but aren't clearly published anywhere (i.e., website)."

Initial Response & Action Plan: Based on review team feedback and discussion, the subgroups (Basic Science & HMHV) are currently revising our overall Assessment Plan, which involves both Program Goals and SLOs. This revision began in the first meeting of our subgroups after the Site Visit, and will continue and finish in the first subgroup meetings of the Spring 2015 semester, in February. After these meetings, the Program will both publish our SLOs on our BA/MD website and post the newly revised

Assessment plan to the A&S website at: http://artsci.unm.edu/for-faculty/assessment/program-assessment.html. Both tasks will be completed by the end of the Spring Semester 2015.

Update as of Fall 2021: The initially generated Student Learning Outcomes were used, discussed and revised in 2017. Following discussion of Program Assessment data in 2020, one of the outcomes had a minor revision. Current learning outcomes are now posted online at https://bamdas.unm.edu/curriculum/student-learning-outcomes.html

2. Suggestion: Increase Student Awareness of Goals: Integrated Course Syllabi: "It is not clear if the individual course syllabi include learning objectives that are explicitly linked to the goals and SLO's for the program (only one of two provided syllabi contained objectives and neither mentioned program goals). Given the unusual nature of an interdisciplinary undergraduate degree where all students enroll in the same courses, there may be a missed opportunity to explicitly align the course outcomes with the program goals and to make that alignment explicitly visible to students."

Initial Response & Action Plan: Some HMHV courses do explicitly link in their syllabi Goals and SLOs within the course to the corresponding Goals and SLOs of the program. This recommendation from the Reviewers has been made in the past by the Director, and it will be reiterated at our first HMHV meeting of the Spring 2015 semester. While the program agrees that this kind of integration and synergy is ideal, we also want to balance that with a respect for faculty autonomy, which includes the content of their course syllabi.

Update as of Fall 2021: Several efforts have been made to increase the awareness of student goals and learning outcomes. A consistent approach to assessment following revised assessment plans in 2017 has led to greater awareness among the faculty of the student learning outcomes and efforts directed to better measuring student achievement of these outcomes. Assessment of direct measures of student outcome achievement have been developed and are discussed by faculty. This process has led to initial identification of areas where faculty can work together to improve these outcomes and is on-going.

The Program assessment strategy now includes an indirect measure – a survey of how well students consider they have achieved each learning outcome. In an end of Program survey, graduating seniors complete a comprehensive survey which includes a self-report of their achievement of all student learning outcomes using a Likert scale, as well as an opportunity to explain their rating. Tied to specific assessment initiatives, specific cohorts of students rate their achievement of specific outcomes in end of semester surveys. These results are also discussed by faculty as part of the assessment process and add to awareness of the SLOs. In addition, this increases student awareness of the SLOs as they are asked to reflect on them at various points in the curriculum. Lastly, we have included the goals and learning outcomes during our freshman orientation as a way to provide students with an inspiring overview of what they will achieve during their 4 years in the Program.

3. Suggestion: Form a Strategic Planning Committee: "While the program routinely engages in operational decision-making activities grounded in program evaluation data, the approach is more reactive to emerging issues, rather than the more proactive approach typical of traditional strategic planning efforts. The latter approach has potential benefit for pointing out potential vulnerabilities and opportunities, and stimulating periodic reassessment of the program as a whole."

Response & Action Plan: Program Leadership from both the A&S and SOM meets twice a month to make operational decisions, but a more formal process to conduct strategic planning does not currently exist. As part of our response to this concern and suggestion, we would first like to provide some further context, that, in retrospect, could have been included in the original program report. For the first six years of the program, a Steering Committee did conduct the kind of strategic planning mentioned in the recommendation, and it met several times a year and included leadership from both campuses. Over time, as the program evolved and made substantial changes, the need for these meetings decreased and met so the group met less frequently. In 2012, the program moved away from this Steering Committee and formed an Executive Committee, comprised of the Chancellor, the Vice Chancellor for Diversity, the Executive Vice Dean, and the Senior Associate Dean for Medical Education, which could be called to meet on an as needed basis by the Program Directors. Still, it is true, that such meetings are rare, and also, as stated above, reactive. In response to this suggestion, the Program has formed a Strategic Planning Committee, comprised of Program Directors and Program Managers from both campuses, as well as the Associate Dean of Undergraduate Medical Education, which will meet annually, in June, to brainstorm about opportunities, potential vulnerabilities, and conduct the kind of big picture periodic reassessment recommend by the review team.

Update as of Fall 2021: Because of some restructuring in the School of Medicine, the composition of the BA/MD Executive Committee changed, it was renamed to Leadership Committee, and regular meetings were reinstated in 2019. The APR team suggested that a Strategic Planning Committee would be desirable to conduct big picture periodic reassessment of opportunities and potential vulnerabilities of the Program, and this work was assumed by the new Leadership Committee. A large focus of efforts in the last few years have been to assemble a systematic tracking system to collect data, particularly related to alumni tracking to enable a frank and detailed assessment of the Program. Because of the long pipeline (11 years from start of Program to potential practice, with most students taking longer to train due to extended study and/or personal delays), we are now in a phase where we have enough practicing MD alumni to start to meaningfully assess the Program's performance towards fulfilling its larger goals.

1F: Vision & Mission *Provide a brief overview of the vision and mission of the unit and how each degree/certificate offered addresses this vision and mission. Describe the relationship of the unit's vision and mission to UNM's vision and mission. In other words, to assist the university in better showcasing your unit, please explain the importance of its contribution to the wellbeing of the university, including the impact of the unit's degree/certificate program(s) on relevant disciplines/fields, locally, regionally, nationally, and/or internationally?*

The UNM Combined BA/MD Degree Program's mission is to:
I. Provide doctors to rural and medically underserved communities and address the critical physician shortage in the state of New Mexico.
II. Strive to admit and educate a diverse (social, economic, geographical, cultural) group of students committed to staying in New Mexico to practice medicine.
III. Connect students with New Mexico communities and the health care needs of New Mexicans.

The undergraduate component (BA) of the Program meets both goals II & III through educating and graduating a diverse group of students who, through their studies and through service learning built in the curriculum, continually connect with New Mexico's medically underserved communities. The graduate (MD) component of the program addresses the first goal of the Program's mission, through graduating physicians who will go on to live and work in New Mexico's medically underserved communities.

This Program's mission addresses the UNM vision and mission by offering both undergraduate and professional educational programs, partnering with local communities in health-related projects throughout the state which originate from the program's curriculum, and providing essential training and support for the field of medicine and public health in New Mexico. The Program recruits widely across the state (so far, 30/33 counties have at least one student accepted into BA/MD) and offers a high-quality curriculum designed to broaden perspectives of these future doctors, and provides exceptional levels of student support to ensure that motivated students can succeed regardless of prior educational advantage.

The Combined BA/MD Degree Program augments the University's commitment to meet the health care needs of the state through increasing the total size of the medical school class by 25%. With 2/3 of BA/MD students from under-represented populations, and 2/3 of BA/MD students from rural, medically underserved areas; this Program is one of the University's hallmark diversity pipeline programs, unique not only to UNM, but also in the region and nationally.

Criterion 2. Teaching & Learning: Curriculum

The unit should demonstrate the relevance and impact of the curriculum associated with each degree/certificate program.

2A: Curricula *Provide a detailed description of the curricula for each degree/certificate program within the unit.*
▪*Include a description of the general education component required, including any contributions from the unit to general education, and program-specific components for both the undergraduate and graduate programs.*
▪*Discuss the unit's contributions to and/or collaboration with other internal units within UNM, such as common courses, courses that fulfill pre-requisites of other programs, courses that are electives in other programs, cross-listed courses, etc.*

All students complete a major or minor unique to the Program within the University: Health, Medicine & Human Values (HMHV). The UNM BA/MD Program is one of only a relative few combined degree programs nationally to have its own specially-designed major, with its own joint-appointment faculty.

HMHV ACADEMIC PROGRAM REQUIREMENTS

Joint Requirements: Options I, II, and III: Students in the BA/MD Program must fulfill the UNM General Education curriculum, all of the requirements for their selected major and concentration, and the Pre-Medical Science core requirements. All students must also complete 15 credit hours of special seminars and 8 credit hours of Community Health Practica. The combined 23 credit hours of special seminars and Community Health Practica promote cohort building among the students and constitute the interdisciplinary and experiential Health, Medicine and Human Values curriculum. The Pre-Medical Science core (which fulfills the SOM required prerequisites) focuses on the sciences, including chemistry, biology, biochemistry, physics, and mathematics. The Pre-Medical Science core is required supportive coursework for all curriculum options and is not a direct requirement of the Health, Medicine and Human Values major in itself. All coursework must be completed with a grade of "C" or better.

Health, Medicine and Human Values Seminars (15 credit hours): The Health, Medicine and Human Values seminars are interdisciplinary courses that provide opportunities for experiential and problem-based learning, applied writing and speaking, and small-group problem solving. The seminars involve collaborative teaching with faculty from the School of Medicine and the College of Arts & Sciences. The seminars are: (* indicating those which fulfill the UNM US and Global DEI Requirement)

HMHV 1110. Contours of Health in New Mexico*. Seminar exploring ethnic, economic, demographic, and geographic variables impacting public health in New Mexico and the Southwest. Topics include access to health care; local alternatives to medical treatment; cultural definitions of health, illness, and death.
HMHV 2110. Literature, Fine Arts, and Medicine. Seminar exploring links among health, illness, literature and the arts, encompassing a diverse range of forms and genres. Topics include representations of health, illness, and medicine; arts as therapy; medical history in literature and art.
HMHV 301. Health Economics, Politics, and Policy. Seminar exploring political and economic forces that impact health care policies and practices. Topics include political and economic forces impacting health care; health care reform; the institutional and political organization of medicine.
HMHV 310. Health and Cultural Diversity*. Seminar exploring cultural variables that affect the experience and practice of health and health care: how culture, ethnicity, race, and gender inform ideas of health and illness, death and dying, and the patient-physician relationship.

HMHV 401. Ethics, Medicine, and Health. Seminar exploring ethical and legal considerations that influence medical practices and decision-making. Topics include contemporary ethical and moral issues in medicine; and a comparative and critical analysis of relationship between professional ethics and personal beliefs.

Community Health Practica ("Summer Practicum", 8 credit hours) ***HMHV 398 Community Service-Public Health Workshop; HMHV 350 Community Health Practicum I and HMHV 450 Community Health Practicum II***

The Community Service-Public Health Preparatory Workshop (HMHV 398) is taken in the spring semester prior to the summer after the second or third year in the program. The course is a preparatory seminar which builds on students' existing knowledge of social determinants of health in rural communities and introduces approaches in community outreach. Students must complete this course with a grade of "C" or better to be eligible to enroll in the Community Health Practica, HMHV 350 and 450. Completion requires proof of required immunizations, HIPAA and Blood Borne Pathogens certification, and all other requirements of the assigned clinical shadowing location (i.e. drug screening, background check, additional paperwork, etc.). The Community Health Practica, taken in the summer after the second year in the program places students in rural communities for one month and are designed to allow students to engage in experiential learning projects involved in community and clinical health. The Practica enable students to put into practice some of the problem-solving skills and information acquired in the seminars and other parts of the Health, Medicine and Human Values curriculum. Each practicum involves writing and experiential components. The practica series comprises**.** Detailed descriptions of the additional requirements for each curriculum option are presented below.

Option I: Arts & Sciences Major (B.A. or B.S.)

The Arts & Sciences option enables BA/MD students to choose a major from one of the College of Arts & Sciences degree-granting programs, while completing the structured set of courses designed for the HMHV Program to prepare students for medical school. In addition to completing all departmental requirements for the selected major, students must complete the Health, Medicine and Human Values seminars; the Community Health Practica; and a 45-credit hour Pre-Medical Sciences Core follow

Table 2A-1: Option I ARTS & SCIENCES MAJOR

		CREDIT HOURS
1.	**Health, Medicine and Human Values Seminars** (See "Joint Requirements" above).	**15**
2.	**Community Health Practica** (See "Joint Requirements" above).	**8**
3.	**Pre-Medical Sciences Core**	**45**
	Mathematics: MATH 1430 or above and MATH 1350	6
	Biology: BIOL 2110C, 2410C, and 304/304L	12
	General Chemistry: CHEM 1215/1215L and 1225/1225L	8
	Organic Chemistry: CHEM 301/303L and 302/304L	8
	Physics: PHYC 1230/1230L and 1240/1240L	8
	Biochemistry: BIOC 423	3
4.	**Departmental Major Requirements**	**32+**
5.	**UNM General Education curriculum**	**21+**

Option II: Health, Medicine and Human Values: Health, Humanities and Society Concentration (B.A.)

This option offers students a structured set of distributed requirements emphasizing humanities and the social sciences, while providing them with additional study in mathematics and the physical and natural sciences. In addition to completing the Health, Medicine and Human Values seminars, the Community Health Practica, and a 45-credit hour Pre-Medical Science core, students must complete 33 credit hours of distributed coursework for the Health, Humanities and Society concentration.

Table 2A-2: Option II HMHV: HEALTH, HUMANITIES & SOCIETY CONCENTRATION

		CREDIT HOURS
1.	**Health, Medicine and Human Values Seminars** (See "Joint Requirements" above).	**15**
2.	**Community Health Practica** (See "Joint Requirements" above).	**8**
3.	**Pre-Medical Sciences Core**	**45**
	Mathematics: MATH 1430 or above and MATH 1350	6
	Biology: BIOL 2110C, 2410C, and 304/304L	12
	General Chemistry: CHEM 1215/1215L and 1225/1225L	8
	Organic Chemistry: CHEM 301/303L and 302/304L	8
	Physics: PHYC 1230/1230L and 1240/1240L	8
	Biochemistry: BIOC 423	3
4.	**Health, Humanities and Society Concentration Requirements:** The Health, Humanities and Society concentration requires 33 credit hours of distributed course work across the arts and sciences, at least 18 of which must be in 300 to 400 level upper-division courses. (Note: in consultation with the BA/MD advisor, students may choose electives within each distribution area other than the recommended courses below.)	**33**
	Mathematics/Physical & Natural Sciences (9 credit hours, at least 3 of which are 300-level or above).	9
	Humanities/Fine Arts (9 credit hours, at least 6 of which are 300-level or above).	9
	Social/Behavioral Sciences (9 credit hours, at least 6 of which are 300-level or above)	9
	Electives	6
5.	**UNM General Education Curriculum**	**21+**

Option III: Health, Medicine and Human Values Major: Biomedical Sciences Concentration (B.A Sciences Concentration (B.A.)

This option emphasizes intensive study in mathematics and in the physical and natural sciences. Students in Option III must complete the Health, Medicine and Human Values seminars, the Community Health Practica, a 45-credit hour Pre-Medical Science core, 19 credit hours of distributed coursework, and 18 additional credit hours of upper-division electives.

Table 2A-3: Option III HMHV: BIOMEDICAL SCIENCES CONCENTRATION

		CREDIT HOURS
1.	**Health, Medicine and Human Values Seminars** (See "Joint Requirements" above).	**15**
2.	**Community Health Practica** (See "Joint Requirements" above).	**6**
3.	**Pre-Medical Sciences Core**	**45**
	Mathematics: MATH 1430 and MATH 1350	6
	Biology: BIOL 2110C, 2410C and 304/304L	12
	General Chemistry: CHEM 1215/1215L and 1225/1225L	8
	Organic Chemistry: CHEM 301/303L and 302/304L	8
	Physics: PHYC 1230/1230L and 1240/1240L	8
	Biochemistry: BIOC 423	3
4.	**Distributed Coursework**	**19**
	Mathematics: MATH 1440	3
	Biology: BIOL 303/303L	4
	Anatomy and Physiology: BIOL 2210/2210L and 2225/2225L	8
	Microbiology: BIOL 2305 or BIOL 351/351L	4
5.	**Upper Division Electives** The Biomedical Sciences concentration requires an additional 18 hours of course work in 300 to 400-level upper-division courses distributed across the Arts & Sciences Group categories.	**18**
6.	**UNM General Education Curriculum**	**21+**

Minor in Health, Medicine and Human Values (21 credit hours)

A. Minor Requirements for students in the BA/MD Program
BA/MD students enrolled in Option I who complete HMHV 1110, 2110, 301, 310, 350, 401, and 450 are awarded a minor in Health, Medicine and Human Values. BA/MD students enrolled in Options II and III who complete all requirements for those options receive a major in Health, Medicine and Human Values; there is no minor requirement for either Option II or III.

B. Minor Requirements for students who withdraw or are released from the BA/MD Program
BA/MD students enrolled in Options I, II or III who leave the program after completing 12 credit hours of HMHV seminars and 6 credit hours of the Community Health Practica (HMHV 350 and 450) may receive a minor in Health, Medicine and Human Values by completing another 3 credit hours of distribution requirements from the list of courses below. Students must achieve a cumulative GPA of 3.00 or above in all 21 credit hours submitted for the HMHV minor. 15 of the 21 credit hours for the minor must be upper-division.
BA/MD students enrolled in Options I, II or III who leave the program after completing 12 credit hours of HMHV seminars (without completing the Community Health Practica) may receive a minor in Health, Medicine and Human Values by completing another 9 credit hours of distribution requirements from the list of courses below. Students must achieve a cumulative GPA of 3.00 or above in all 21 credit hours submitted for the HMHV minor. 15 of the 21 credit hours for the minor must be upper-division.

C. Minor Requirements for students outside the BA/MD Program

Since the last APR in 2014, 98 students outside the BA/MD Program have earned HMHV Minors. UNM undergraduate students who complete 12 credit hours of HMHV seminars may receive a minor in Health, Medicine and Human Values by completing another 9 hours of distribution requirements from the list of courses below. Students must achieve a cumulative GPA of 3.00 or above in all 21 credit hours submitted for the HMHV minor. 15 of the 21 credit hours for the minor must be upper-division.

Twenty-one credit hours as follows:

Twelve credit hours of the following HMHV seminars:

HMHV 1110	Contours of Health in New Mexico	3
HMHV 2110	Literature, Fine Arts and Medicine	3
HMHV 301	Health Economics, Politics and Policy	3
HMHV 310	Health and Cultural Diversity	3
HMHV 401	Ethics, Medicine and Health	3

Plus, **nine** credit hours taken from the list of distribution requirements below. At least three credit hours of the distribution requirements must be from a 400-level course. Note: No substitutions are allowed, except in the case of a 400-level special topics course with a clear emphasis in health/medicine. Consult the BA/MD academic advisor. Some of the courses below require pre-requisites, so students must plan accordingly.

ANTH 365	Anthropology of Health
CJ 314	Intercultural Communication
CJ 450	Health Communication
ECON 335	Health Economics
ECON 410	Topics in Health Economics
ENGL 413	Scientific, Environmental and Medical Writing
HIST 416	History of Medicine to 1850
HIST 417	History of Modern Medicine
SIGN 352	Language and Culture in the Deaf Community Part I
PHIL 368	Biomedical Ethics
PSY 324	Infant Development

PSY 329	Adolescent Psychology
PSY 421	Advanced Development Psychology
POLS 376	Health Policy and Politics
SOC 310	Sociology of Aging and the Aged
SOC 340	Sociology of Medical Practice
SOC 420	Race and Cultural Relations

2B: Mode of Delivery *Discuss the unit's mode(s) of delivery for teaching courses.*

The BA/MD Program uses a variety of modes for delivery its courses, including seminar large and small group discussion, lecture, active learning and problem-based learning, on-site service learning, as well as incorporating web-enhanced tools such as Blackboard Learn and various publisher developed learning support materials. The BA/MD Program prides itself on being a leader and contributor to innovative approaches in best practices pedagogy. The use of active-learning and flipped classroom techniques has spread widely in the science classes at UNM due in part to the efforts of BA/MD faculty. With the exception of the pandemic, the Program has not developed or encouraged fully online courses. There are several reasons for this choice. The cohort-based nature of the Program as well as active-learning pedagogies in the science classes and discussion-based seminar classes make in-person or at least synchronous modalities the optimal mode of delivery. In addition, the UNM School of Medicine limits the number of online courses that can be used for pre-medical prerequisites in non-pandemic times.

Criterion 3. Teaching & Learning: Assessment

The unit should demonstrate that it assesses student learning and uses assessment to make program improvements. In this section, the unit should reference and provide evidence of the program's assessment plan(s) and annual program assessment records/reports.

3A: Assessment Plans *Provide current Assessment Plan for each degree and certificate program in the unit.*

Academic Program
Plan for Assessment of Student Learning Outcomes
College of Arts and Sciences
The University of New Mexico

A. College, Department and Date

1. College:*Arts & Sciences*
2. Department: *BA/MD Combined Degree Program*
3. Date: *04/30/17 (minor modifications highlighted as footnotes as of 12/01/2020)*

B. Academic Program of Study*
B.A. Health Medicine & Human Values (HMHV)

C. Contact Person(s) for the Assessment Plan
Sushilla Knottenbelt, Director, sknotten@unm.edu

D. Broad Program Goals & Measurable Student Learning Outcomes
1. Broad Program Learning Goals for this Degree/Certificate Program
A. To provide students with the knowledge, skills, and principles to be exemplary medical students and physicians who serve the needs of New Mexico.

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program [Your program should have at least 3 and these should be aligned with the program Goals (as indicated by A, B, C, etc.) and UNM's broad learning goals]

A1. Identify and analyze health systems and the social determinants of health in the context of social and cultural diversity in New Mexico.
UNM Goals (X Knowledge X Skills X Responsibility)

A2. Interpret data and evidence related to medicine and health and communicate in written and verbal form the results.
UNM Goals (X Knowledge X Skills X Responsibility)

A3. Apply basic principles from biology, chemistry and physics to understanding living systems.
UNM Goals (X Knowledge X Skills__Responsibility)

A4. Apply quantitative reasoning to describe or explain phenomena in the natural world.
UNM Goals (X Knowledge X Skills__Responsibility)

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

A5. Students will integrate skills and knowledge of different disciplinary perspectives in the humanities and social sciences and apply them to specific health issues.

UNM Goals (X Knowledge X Skills X Responsibility)

A6. Students will be able to identify and articulate their most effective learning strategies, as well as their strengths and weaknesses as learners.

UNM Goals (X Knowledge X Skills X Responsibility)

E. Assessment of Student Learning Three-Year Plan

All programs are expected to measure some outcomes and report annually and to measure all program outcomes at least once over a three-year review cycle.

1. Timeline for Assessment

In the table below, briefly describe the timeframe over which your unit will conduct the assessment of learning outcomes selected for the three-year plan. List when outcomes will be assessed and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with program faculty, interdepartmental faculty, advisory boards, students, etc.)

Year/Semester	Learning outcomes	Assessment Activities
Year 1	3 and 4	Direct measure: Assessment developed by faculty and administered to seniors in the spring semester. Indirect measure: End of program survey for seniors.
Year 2	1, 2, 5 and 6	1,2, and 5 Direct measures: Samples of student work from 3 out of the 6 HMHV courses 6: Direct measure: Learning and Study Strategies Inventory[3] Indirect measure: End of semester survey in each of the courses assessed
Year 3	1 and 5	Direct measure: Case study prompt developed by faculty and administered to seniors in the spring semester.[4] Indirect measure: End of program survey for seniors

2. How will learning outcomes be assessed? (Assessment instruments provided in Appendix B)

A. What:

i. *For each SLO, briefly describe the means of assessment, i.e., what samples of evidence of learning will be gathered or measures used to assess students' accomplishment of the learning outcomes in the three- year plan?*

[3]. The LASSI is an established and valid instrument, a 10-scale, 60-item assessment of student's awareness about and use of learning and study strategies related to skill, will and self-regulation components of strategic learning. The focus is on both covert and overt thoughts, behaviors, attitudes and beliefs that relate to successful learning and that can be altered through educational interventions. Click here for more information and see Appendix A for more detail on the sub-scales.

[4] In 2019, it was decided that these outcomes would be more meaningfully assessed through samples of student work.

ii. *Indicate whether each measure is **direct** or **indirect**. If you are unsure, contact assessmentas@unm.edu for clarification. You should have **both direct and indirect measures** and at least **half of the assessment methods/measures program wide will be direct** measures of student learning.*

*iii. Briefly describe the **criteria for success** related to each direct or indirect measures of assessment. What is the program's performance target (e.g., is an "acceptable or better" performance by 60% of students on a given measure acceptable to the program faculty)? If scoring rubrics are used to define qualitative criteria and measure performance, include them as appendices.*

B. Who: State explicitly whether the program's assessment will include evidence from all students in the program or a sample. When possible, it is best to study the entire population of students in your program. However, in larger programs it may be more pragmatic to study a sample of the students instead. This is acceptable if 1) the sample of students is chosen in a way that ensures representativeness of all of the students, and 2) the sample is large enough to achieve reasonable margins of error (confidence intervals) of the assessment measurements. If you wish to avoid calculating confidence intervals, sampling at least 30 students should be acceptable, provided the sampling is representative. To ensure the representativeness of your sample, either chose your sampled students purely at random, and/or select by courses or milestones that they all pass through. Analysis that looks at subgroups within your student population or that uses multivariate methods may require larger samples.

A1. Identify and analyze the social determinants of health and health systems in the context of social and cultural diversity in New Mexico.

1. Direct measure: Samples of student work HMHV courses will be collected and analyzed using a rubric. Assignments will be selected for the assessment process and the rubric to evaluate them developed by the group of faculty who teach the HMHV courses. (Year 2 of the timeline) Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations.
   Criteria for success: 80% of students meet or exceed expectations.
   Who: A random sample of 6 or 7 students' work will be drawn from each of 3 of the 6 HMHV classes. This will include students at different levels in the program as the classes span freshman through junior year. This represents about 25% of the total population of each class.

2. Direct measure: Students will respond to a case study prompt in the Spring semester of their senior year. The case study will be chosen and developed by the group of faculty who teach the HMHV courses. (Year 3 of the timeline) Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations.
   Criteria for success: 80% of students meet or exceed expectations
   Who: A random sample of 6 or 7 students will be evaluated. This represents about 25% of the total population of the senior class.

3. Indirect measures: End of program and end of semester surveys collect data on student perceptions of their achievement of outcomes. (Year 2 and Year 3 of the timeline) Courses used to gather data for direct measure 2 will have targeted questions on the end of semester surveys to probe this SLO. The question will involve a Likert scale asking student to rank their achievement

of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.
Criteria for success: The Likert scale average should be 3.5 or higher.
Who: All students taking the classes involved in the assessment process (up to 28 in each class with 3 classes sampled in total) and all seniors (28).

A2. Interpret data related to medicine and health and communicate in written and verbal form the results.

1. Direct measure: Samples of student work HMHV courses and from Math 180 will be collected and analyzed using a rubric. Assignments will be selected for the assessment process and the rubric to evaluate them developed by the group of faculty who teach the HMHV courses. (Year 2 of the timeline). Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations.
   Criteria for success: 75% of students meet or exceed expectations.
   Who: A random sample of 6 or 7 students' work will be drawn from each of 3 of the 6 HMHV classes. This will include students at different levels in the program as the classes span freshman through junior year. This represents about 25% of the total population of each class. The scores from an assessment question on a Math 180 exam will be also be used and all students in the program who take Math 180 will be assessed.

2. Indirect measures: End of program and end of semester surveys collect data on student perceptions of their achievement of outcomes. (Year 2 and Year 3 of the timeline) Courses used to gather data for direct measure 2 will have targeted questions on the end of semester surveys to probe this SLO. The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.
   Criteria for success The Likert scale average should be 3.5 or higher.
   Who: All students taking the classes involved in the assessment process (up to 28 in each class) and all seniors (up to 28).

A3. Apply basic principles from chemistry and physics to understanding living systems.

1. Direct measure: End of program assessment developed by faculty teaching the Basic Sciences and math sequence. Overall score and scores on particular concept areas will be collected. (Year 1)
   Criteria for success: 75% of students score at least 50% on the assessment.
   Who: All seniors (up to 28 students)

2. Indirect measure: End of program surveys collect data on student perceptions of their achievement of outcomes. (Year 1 of the timeline) The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.
   Criteria for success: The Likert scale average should be 3.5 or higher.
   Who: All seniors (up to 28).

A4. Apply quantitative reasoning to describe or explain phenomena in the natural world.

1. Direct measure: End of program assessment developed by faculty teaching the Basic Sciences and math sequence. Overall score and scores on particular concept areas will be collected. (Year 1)
   Criteria for success: 75% of students score at least 50% on the assessment.
   Who: All seniors (up to 28 students)

2. Indirect measure: End of program surveys collect data on student perceptions of their achievement of outcomes. (Year 1 of the timeline) The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.
   Criteria for success: The Likert scale average should be 3.5 or higher.
   Who: All seniors (up to 28).

A5. Students will integrate skills and knowledge of different disciplinary perspectives in the humanities and social sciences and apply them to their future paths as physicians.

1. Direct measure: Case study prompt developed by faculty and administered to seniors in the spring semester. The rubric to evaluate them developed by the group of faculty who teach the HMHV courses. (Year 3 of the timeline) Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations.
   Criteria for success: 75% of students meet or exceed expectations.
   Who: A random sample of 6 or 7 students' work. This represents about 25% of the total population of each class.

A6. Students will reflect upon their learning process and experiences and identify and articulate their most effective learning strategies, as well as their strengths and weaknesses as learners.

1. Direct measure: (Year 2 of the timeline) Learning and Study Strategies Inventory (LASSI). The LASSI measures 10 subscales: Anxiety, Attitude, Concentration, Information Processing, Motivation, Selecting Main Ideas, Self-Testing, Using Academic Resources, Test Strategies, and Time Management. Each of these scales is primarily related to one of three of the components of strategic learning: skill, will and self-regulation. The LASSI is administered to freshmen at the beginning and end of their first year in the Program.

   Criteria for success: The average LASSI score for the POST test per subscale should be above 50% with 75% of students scoring 50% or greater
   Who: All first year students

2. Indirect measures: End of program and end of semester surveys collect data on student perceptions of their achievement of outcomes. (Year 2 and Year 3 of the timeline). The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.

Criteria for success: The Likert scale average should be 3.5 or higher.
Who: All first year students and all 4th year students in the Spring end of semester/program surveys.

3.What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

Briefly describe:

1. *Who will participate in the assessment process (the gathering of evidence, the analysis/interpretation, recommendations).*
2. *The process for consideration of the implications of assessment for change:*
   - *a. to assessment mechanisms themselves,*
   - *b. to curriculum design,*
   - *c. to pedagogy*
   - *…in the interest of improving student learning.*
3. *How, when, and to whom will recommendations be communicated?*

Assessment data will be gathered either by instructors of specific courses or by the assessment sub-group of the Committee for Curriculum and Student Progress (CCSP) depending on whether the assessments are administered in a specific course, or in one of the program meeting times for the student cohorts. The HMHV subgroup of the CCSP will meet to analyze, interpret and provide initial recommendations for outcomes 1, 2 and 5 in the years in which data is collected for these outcomes. The Basic Sciences and Math subgroup of the CCSP will meet to analyze, interpret and provide initial recommendations for outcomes 3 and 4 in the years in which data is collected for these. Both subgroups will report out to the full CCSP group in the Fall semester following completion of the first three year cycle. The assessment sub-group will be responsible for monitoring and coordinating recommended changes which will be implemented by HMHV and Basic Sciences and Math subgroups, and individual faculty.

3B: Assessment Reports *Provide current Assessment Report for each degree and certificate program in the unit. Expand on any initiatives/changes that have resulted from these reports.*

Part I: Cover Page
College, Department and Date: Combined BA/MD Degree Program
Date: 12/15/2021

Active Plan Years (select the three-year cycle that applies):
AY16/17-18/19 AY17/18-19/20 AY18/19-20/21 **AY19/20-21/22**

Academic Program of Study:*
Degree or Certificate level: B.A.
Name of the program: B.A. Health Medicine & Human Values (HMHV)

Contact Person(s) for the Assessment Plan (include at least one name, title and email address):
Sushilla Knottenbelt, Program Director, sknotten@unm.edu

Part II: Assessment PLAN
Please identify at least one of your program goals:
Program Goal #1: To provide students with the knowledge, skills, and principles to be exemplary medical students and physicians who serve the needs of New Mexico.

Please use the grid below to align your program goals to your student learning outcomes and assessment plans:

Student Learning Outcomes (SLOs) *For each row in the table, provide a SLO. If needed, add more rows. A SLO may be targeted by or aligned with more than one program goal. If a program awards more than one degree (i.e., B.S., M.A. etc.), the SLOs for graduate and undergraduate must be different. Graduate degree SLOs must be different (Master ≠ Doctorate). For additional guidance on SLOs, click here.*	**Program Goal #** *Please list the Program Goal(s) that the SLOs are aligned under. Use the numbering system (1,2,3..) assigned above.*	**UNM Student Learning Goals** *Check as appropriate: K=Knowledge; S=Skills; R=Responsibility*			**Assessment Measures** *Provide a description of the assessment instrument used to measure the SLO. For additional guidance on assessment measures, click here.*	**Performance Benchmark** *What is the program's benchmark (quantitative goal/criteria of success for each given assessment measure)? State the program's "criteria for success" or performance benchmark target for successfully meeting the SLO (i.e., At least 70% of the students will pass the assessment with a score of 70 or higher.)*	**Student Population(s)** *Describe the sampled population, including the total number of students and classes assessed. See note below.*
		K	S	R			
1. Identify and analyze health systems and the social determinants of health in the context of social and cultural diversity in New Mexico.	1	✓		✓	Samples of student work HMHV courses will be collected and analyzed using a rubric. Assignments will be selected for the assessment process and the rubric to evaluate them developed by the group of faculty who teach the HMHV courses. (Year 2 of the timeline) Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations. Indirect measures: End of program and end of semester surveys collect data on student perceptions of their achievement of outcomes. (Year 2 and Year 3 of the timeline). The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.	75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher for direct measures. 75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher for direct measures.	A random sample of 6 or 7 students' work will be drawn from each of 3 of the 6 HMHV Classes.
2. Interpret data related to medicine and health and communicate in written and verbal form the results.	1	✓	✓	✓	Samples of student work HMHV courses will be collected and analyzed using a rubric. Assignments will be selected for the assessment process and the rubric to evaluate them developed by the group of faculty who teach the HMHV courses. (Year 2 of the timeline) Rubrics will rank student achievement of outcomes into one of three categories; does not meet expectations; meets expectations and exceeds expectations.	75% of students meet or exceed expectations (2) The Likert scale average should be 3.5 or higher 75% of students meet or exceed expectations.	A random sample of 6 or 7 students' work will be drawn from each of 3 of the 6 HMHV classes.

					Indirect measures: End of program and end of semester surveys collect data on student perceptions of their achievement of outcomes. (Year 2 and Year 3 of the timeline). The question will involve a Likert scale asking student to rank their achievement of this outcome from 1-5, where 1 is no achievement of this outcome and 5 is mastery of this outcome. This will be followed by a free-response question prompting them to explain their ranking.	(2) The Likert scale average should be 3.5 or higher for direct measures.	
3. Apply basic principles from biology, chemistry and physics to understanding living systems.	1	✓	✓		Direct measure: End of program assessment developed by faculty teaching the Basic Sciences and math sequence. Overall score and scores on particular concept areas will be collected. (Year 1)	75% of students score at least 50% on the assessment. (2) The Likert scale average should be 3.5 or higher. 75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher for direct measures.	All seniors (up to 28 students)
4. Apply quantitative reasoning to describe or explain phenomena in the natural world.	1	✓	✓		Direct measure: End of program assessment developed by faculty teaching the Basic Sciences and math sequence. Overall score and scores on particular concept areas will be collected. (Year 1)	75% of students score at least 50% on the assessment. (2) The Likert scale average should be 3.5 or higher 75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher	All seniors (up to 28 students)
5. Students will integrate skills and knowledge of different disciplinary perspectives in the humanities and social sciences and apply them to specific health issues.	1	✓	✓	✓	Direct measure: Case study prompt developed by faculty and administered to seniors in the spring semester. The rubric to evaluate them developed by the group of faculty	75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher.	A random sample of 6 or 7 students' work. This represents about 25% of the total population of each class.

6. Students will be able to identify and articulate their most effective learning strategies, as well as their strengths and weaknesses as learners	1	✓	✓		Direct measure: (Year 2 of the timeline) Learning and Study Strategies Inventory (LASSI). The LASSI measures 10 subscales related to effective study strategies, e.g. Self-Testing, Anxiety, Test-Taking and Selecting Main Ideas.	75% of students meet or exceed expectations. (2) The Likert scale average should be 3.5 or higher.	All students in the first year cohort (28)

SECTION II-2 NOTE: State explicitly whether the program's assessment will include evidence from **all** students in the program or a **sample** (by student, by course section, by milestone). When possible, it is best to study the entire population of students in your program. However, in larger programs it may be more pragmatic to study a sample of the I students instead. If sampling, please describe the course sections and/or the milestones. If you have questions about appropriate sampling, please contact your unit's assessment representative or the Office of Assessment at assess@unm.edu or (505) 277-4130.

Assessing and analyzing student learning outcomes:

a. Please describe the student artifact/performance that you will use to gather your assessment data?

SLOs 1, 2, and 5: Direct measures: Samples of student work from 3 out of the 6 HMHV courses; Indirect measure: End of semester survey in each of the courses assessed
SLOs 3 & 4: Direct measure: Assessment developed by faculty and administered to seniors in the spring semester; Indirect measure: End of program survey for seniors.
SLO 6: Direct measure: Learning and Study Skills Inventory
SLOs 1 & 5: Direct measure: Case study prompt developed by faculty and administered to seniors in the spring semester. Indirect measure: End of semester survey

b. Does your program assess all SLOs every year, or are they assessed on a staggered, three-year cycle? If staggered, please describe which SLOs will be assessed for each year. If a table better describes your response, insert it here.

Year 1: SLOs 3 & 4. Year 2: SLOs 1, 2, 5 & 6 Year 3: SLOs 1 & 3 (current assessment year) Changes to plan based on previous year's assessment and Covid. – actual outcomes assessed this year: 3, 4 and 6

c. What is the process you will use to review, analyze and interpret your assessment data?

Assessment data will be gathered either by instructors of specific courses or by the assessment sub-group of the Committee for Curriculum and Student Progress (CCSP) depending on whether the assessments are administered in a specific course, or in one of the program meeting times for the student cohorts. The HMHV subgroup of the CCSP will meet to analyze, interpret and provide initial recommendations for outcomes 1, 2 and 5 in the years in which data is collected for these outcomes. The Basic Sciences and Math subgroup of the CCSP will meet to analyze, interpret and provide initial recommendations for outcomes 3 and 4 in the years in which data is collected for these. Both subgroups will report out to the full CCSP group in the Fall semester following completion of the first three year cycle. Indirect measures will be collected on all outcomes each year through an end of program survey. Outcome 6 and all indirect measures will be discussed by the full CCSP group.

d. What is the process you will use to communicate and implement your assessment results?

Meetings occur in the Assessment subgroup of the Committee for Curriculum and Student Progress (CCSP) as well as the Basic Sciences and HMHV subgroups. Results are also communicated to the main CCSP group. All members of the CCSP receive the Program assessment report. Implementation happens after results are discussed and plans made as to whether to modify assessment, or make changes in the curriculum or both.

Part III: Assessment REPORT Body
UNM Academic Programs/Unit Combined Assessment Plan and Report Template
The University of New Mexico

In response to last year's assessment report, please:

a. Describe the program changes that were implemented.

The promising preliminary results that show that students who take a LASSI subscale prescription show greater gains on that subscale in the post LASSI test have prompted us to expand use of the prescriptions. In the academic year AY 20-21, freshmen took the pre-LASSI at the start of the year and the post-LASSI at the end of the year and chose 8 out of 10 of the LASSI subscale prescriptions to complete. In addition, we added a faculty mentoring program, one component of which is the LASSI. Students reflect on their LASSI scores and the learning from each prescription at regular intervals through the year. The faculty mentor provided feedback to help the students expand and apply their learning from the prescriptions.

b. Describe any revisions to your assessment process that were made for this reporting cycle.

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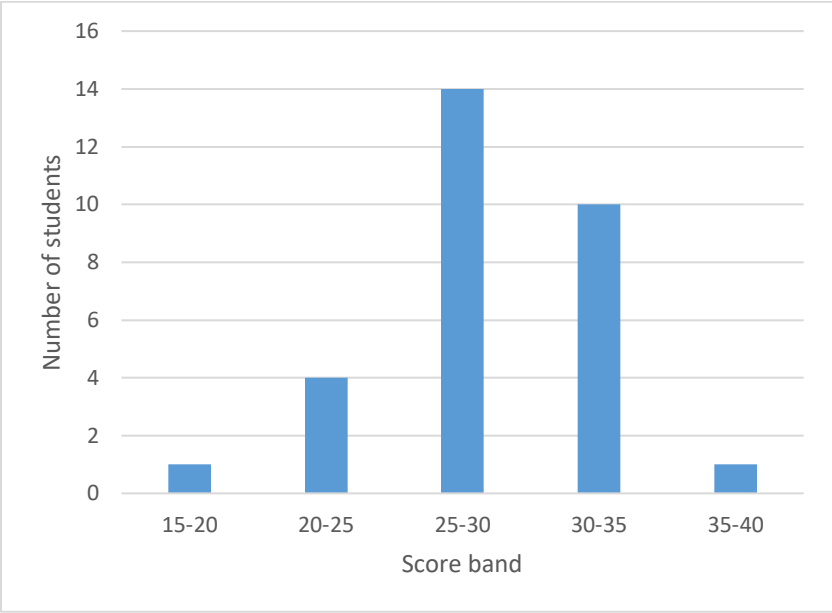
We graded and analyzed the SLO 3 and 4 using the Basic Science Assessment collected in the previous year, grading of which had been postponed due to COVID.

Please use the grid and narrative responses below to discuss your assessment results from this year:

SLOs (from PLAN above) *SLOs are from your entries in the PLAN above that were **measured during this year**:*	**Student Population** *Describe the sampled population, including the total number of students and classes assessed.*	**Results*** *State whether the performance benchmark was met, not met, or exceeded AND the total number of students assessed (i.e., Exceeded, 95 out of 111 (86%) students)* *For additional guidance on reporting results, click here.*
Apply basic principles from biology, chemistry and physics to understanding living systems.	BA/MD students in their senior year, total N = 29 (7 students unable to take the assessment)	**Direct measure:** 28/29 (97%) of students scored over 50% (meeting the benchmark of at least 80% of students scoring over 50%. In addition, 14/29 students (48%) scored above 70%, which serves as a benchmark for exceeding expectations. **Indirect measure:** The average Likert scale score for self-assessed mastery of this outcome was 4.62 out of 5, meeting the benchmark of success, > 3.5.
Apply quantitative reasoning to describe or explain phenomena in the natural world.	BA/MD students in their senior year total N = 29 (7 students unable to take the assessment)	**Direct measure:** 26/29 (90%) students scored above 50% on the question, which meets the benchmark for success of >80%. **Indirect measure:** The average Likert scale score was 4.53 out of 5, meeting the benchmark of success, > 3.5.
Students will be able to identify and articulate their most effective learning strategies, as well as their strengths and weaknesses as learners	Direct assessment: Learning and Study Strategies Inventory (LASSI) 28 students in the 2020 (first year) cohort were given the LASSI at the start and end of their first year, with students choosing 7/10 subscales to develop through prescriptions followed by reflections to faculty mentors, on which they received feedback. We looked at • LASSI subscale average in the post test • Gain in LASSI subscale average • No. of students scoring below 50th percentile in each subscale in the pre- and post-tests. • Effect of taking LASSI prescriptions on Post-Pre gain. Indirect measure: End of program survey for 4th year students asking them to rate confidence in study strategies for medical school and describe how study strategies have changed over their undergraduate years	**Direct measure**. The POST test results showed greater than 60th percentile averages for ALL 10 LASSI subscales. Gains were seen in the percentile averages of ALL the LASSI scales. All LASSI scales showed an increase in the number of students scoring above the 50% percentile. In addition, gains were significantly higher for the 2020 cohort and the new pairing with faculty mentoring than for the 2019 cohort who did fewer prescriptions and did not have a mentoring component. Meets benchmark for ALL scales: the average LASSI score for the POST test per scale should be above 50% with 75% of students scoring 50% or greater. **Indirect measure:** Likert scale mean was 4.28/5, exceeding the benchmark of 3.5. 22/34 students ranked their confidence as either 4 or 5/5, not meeting the benchmark of 75%. Specific comments: for an open-ended question to explain their Likert scale response, students expressed uncertainty explaining that they have been told that nothing prepares them for medical school and they don't know what to expect. When asked if and how their study strategies had changed, 27/34 students said they had changed their strategies, with the largest numbers reporting improved time-management and learning to use academic resources to help. Several mentioned specifically self-testing, active learning, high yield/efficiency strategies and a focus on learning.

Please use the area below to elaborate on your findings.
Figure 1: Distribution of scores on the basic sciences assessment (maximum score is 40)



Compared with last assessment cycle, a larger number of students scored in the 25-35 band, with fewer in both the top band 35-40 and bottom band 15-20. Analysis of score band by major showed that the top two grade bands consisted solely of science majors. The middle band had an even representation of science and non-science majors, as did the lower two bands.

Please identify the SLOs that did not meet your benchmark defined in the Assessment Plan. Elaborate on what you think contributed to this:
All benchmarks met this year!

SECTION III-2
In response to this assessment report, please answer the following questions:

a. Who participated in the assessment process (the gathering of evidence, the analysis/interpretation, recommendations)?

- Gathering evidence: Assessment coordinator and BA/MD staff
- Analysis and interpretation: all faculty and staff on the CCSP (a cross disciplinary group).

- Recommendations: All faculty and staff on the CCSP.

b. Data Analysis: Describe strengths and/or weaknesses of each SLO in students' learning/performance based on the data results you provided in the table above (e.g., Even though the benchmark was met, 40% of the students struggled with Topic X …).

SLO 3: Overall, students retain a reasonable amount of learning in essential and foundational concepts from their basic science and math sequence – we easily meet our assessment goal. Given that this was a 'cold' assessment (students were not told what or how to prepare and students had no resources available to them during the test), we are satisfied with the average scores. A few students have excellent retention and application at all levels of knowledge.

Compared with the previous cohort, knowledge levels were very similar, however improvements were noted in important area of acid-base chemistry. Based on the results of this assessment in the previous year, faculty teaching General Chemistry, Cell Biology, Organic Chemistry and Biochemistry have made a concerted effort to give students practice in applying acid-base principles to predict protonation state. The increase in score on this item is evidence that progress has been made. Anecdotally, students who have been through the BA/MD basic science sequence have a better grasp of this topic than those who have not.

Students also did much better on the question about the implications of charge/protonation state for membrane transport, showing improved ability to apply the basic science concepts of solubility and protonation state. It is possible some students confuse "like dissolves like" with "like charges repel" in their analysis of problems involving polarity/non-polarity/solubility.

Despite changed question wording to improve clarity, students still struggle with placing important biochemical processes in the cell.

As previously found, most students do well in quantitative reasoning and basic level biochemical driving forces.

SLO 4: Students again showed good conceptual understanding, with some improvement shown in graphical interpretation. Even with prompting to 'do the calculation and show your work' we observed the same difficulties with calculating the exact answer, either not remembering the equation, not remembering how to use logarithms to solve the equation, or just preferring to estimate in a 'no stakes' assessment situation. We plan to modify the wording to try to distinguish between the various alternatives above.
This cohort appeared more confident in their learning, despite a very similar objective assessment of their learning by the Basic Science Assessment.

SLO 6: Although we observed significant improvement across all subscales, the lowest averages were for Selecting Main Ideas and Self-Testing at just over 60% each. In addition, Selecting Main Ideas had the largest number of students (7) scoring below the 50th percentile and hence with significant improvement still to be had.

c. Based on your assessment results from this year and last year, describe the recommendations that you have for improvement: Describe any program changes (e.g., curriculum, instruction, etc.) that will be implemented.

Improvements between this and last year's assessment results for SLO 6 support the continued use of the LASSI with prescriptions and faculty mentoring. As a result of feedback from students and faculty, the number of prescriptions and reflections has been reduced, and so we will see how this affects overall gain in LASSI subscales. Additional resources to support students in developing the skill of Selecting Main Ideas are needed.

SLO 3 and 4 have shown significant increases in important areas of acid-base chemistry. Faculty plan to keep the emphasis on protonation state across the curriculum. Further information is needed to clarify other potential areas of weakness, which may result from students misinterpreting the question.

d. Describe any revisions to your assessment process that will be made for the next reporting cycle.

The Basic Sciences assessment will be modified to clarify several questions which will help remove ambiguity about exactly how students are struggling.
A suggested new learning outcome specifically related to development of competence in ethics will be tested.
Recognizing that all HMHV courses do not address all learning outcomes, we are reducing our course sampling per outcome to 2 from 3.

e. How, when, and to whom will results and recommendations be communicated in a meaningful way?

Results are shared with the Committee for Curriculum and Student Progress which consists of all teaching faculty as well as staff and administrators of the Program. Further discussion has occurred in both subgroups, and implementation of changes to the curriculum and assessment process will continue starting from the Spring, along with continuing work as small and large groups to improve student learning in the Program.

3C: Primary Constituents *Describe the unit's primary constituents and stakeholders. Include and explanation of how the student learning outcomes for each degree/certificate are communicated to students, constituents, and other stakeholders.*

Figure 3C-1: Program Stakeholders

Internal Stakeholders	External Stakeholders
BA/MD Student & Alumni Population	NM State Legislature
SOM Administration & Faculty	NM Communities
SOM Departments	NM Healthcare Workforce
SOM Office of Diversity & Inclusion	NM Patients
A&S Administration & Faculty	
A&S Joint Appointment Departments	

Program goals and learning outcomes are published on the website and introduced during our freshman orientation. In coordination with program assessment efforts, students report their degree of achievement of the learning outcomes in annual program evaluation surveys administered by the School of Medicine SOM Program Evaluation, Education and Research (PEAR) office. Undergraduate faculty participate in the assessment process, providing data and contributing to analysis of achievement of student learning outcomes. The evaluation results are processed by SOM PEAR and sent to all leadership. The A&S BA/MD Director sends each BA/MD faculty evaluation feedback of their course and reviews with staff team. The students are welcomed to ask for the evaluation results on individual basis.

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The A&S Director provides an annual self-evaluation to the A&S Dean which provides data and analysis on the state of the Program, including overall program outcomes as well as student learning outcomes. Additionally, the A&S Dean distributes evaluations of the A&S Director to colleagues and stakeholders in the institution.

The BA/MD Program includes the Committee on Curriculum and Student Progress (CCSP) that holds membership of BA/MD leadership, faculty and staff from the UNM School of Medicine (SOM) and College of Arts & Sciences. The SOM Program Evaluation, Education and Research (PEAR) provides an annual academic update every fall to CCSP updating the community of the student learning outcomes and areas for improvement. The Program leadership and staff used to offer a modified version of the annual academic update to the student population, however found that this information may be contributing to student stress and imposter syndrome. The students are welcomed to ask for this type of information on individual basis.

In 2021, the Program developed an infographic, Appendix A, for communication of important Program outcomes to various stakeholders and we are developing a strategy to share that widely.

Criterion 4. Students (Undergraduate & Graduate)

The unit should have appropriate structures in place to recruit, and retain undergraduate and graduate students.

4A: Recruitment *Discuss the unit's proactive recruitment activities for both undergraduate and graduate programs, including specific efforts focused on recruiting students of color, underserved students, and students from groups that have been traditionally under-represented in your academic field.*

The Program employs one Student Recruiter to cover the state of New Mexico. Duties and responsibilities of this individual include attendance at college fairs, organized school visits, career fairs and community events. Recruitment is also heavily dependent on applicant visits, allowing students the opportunity to visit UNM HSC and help to further solidify interest in the Program. The Student Recruiter visits all NM high schools at least once and many two to three times to share information with the student body as early as their freshmen year in high school. The Recruiter also does outreach to high schools outside of NM, but on the Navajo Nation as the Navajo Nation is part of our application catchment area. This individual also partners with many entities, both internal and external to UNM (Santa Fe School, Health Sciences Center Office for Diversity, Equity and Inclusion, and Center for Native American Health among others), to organize targeted efforts for identification of interested students. A series of recruitment videos posted on our website have been available in the past and are currently undergoing updating as of this report. The Program has grown in popularity every year and word of mouth remains an essential component of recruitment. High school counselors, administrators, community members and students serve as some of the external recruitment resources the Program has come to appreciate. Internally the first contact individuals have is with the Student Recruiter. Due to COVID, the majority of recruiting efforts were in a virtual format. We also added a number of question-and-answer sessions intended to help applicants and their families prepare their applications. One of the most powerful aspects of our program, seen from its inception, is the deep commitment, dedication, and love our students have for their hometowns and how actively engaged and committed they are to speaking about the Program to others in their communities, from schools to community leaders to business leaders. They are compelling ambassadors. In a state that is the fifth largest in land area, it is the 36th largest in population and 45th in population density with only 16.2 people per square mile, the reach of these students into their communities, where they are respected and admired, is an effective and important recruitment tools for our program.

4B: Admissions *Discuss the unit's admissions criteria and decision-making processes (including transfer articulation(s) for both undergraduate and graduate programs. Evaluate the impact of these processes on enrollment.*

The Program admissions process runs from August through April, with an acceptance deadline of May 1st. Students are notified of the application opening date via targeted correspondence and recruitment efforts. August 15th marks the application opening date annually. Students work closely with Program staff, starting sometimes six months in advance, to ensure they will complete and submit their applications by the early November deadline. Upon the application deadline the Admissions Committee begins the review process for all eligible applicants.

The BA/MD Admissions Committee is a subcommittee of the School of Medicine Committee on Admissions and is co-chaired by the UNM SOM Assistant Dean of Admissions and the BA/MD

Assistant Director. The committee is comprised of UNM SOM faculty, UNM staff, community members and community physicians, who volunteer their time to the selection of the new class of twenty-eight students. Each student who meets eligibility criteria is granted interviews with two committee members between the months of November and February. These members serve as the student's advocate in full committee discussion. Applicants are reviewed and scored in a variety of holistic categories d throughout the season. The numbers are crunched to generate a rank score. Applicants are placed in rank order for consideration. Once a final list has emerged, is voted upon and approved, it is presented to the UNM SOM Committee on Admissions for final approval. Since students are provisionally admitted to the UNM SOM, the UNM SOM Committee on Admissions has final approval of the Program list. Students are notified of the admissions decision in April and have until May 1st to submit their response to the admissions offer.

COVID-19 Pandemic Accommodations

The admissions steps described above constitute the traditional process. Due to the COVID-19 Pandemic, however, certain accommodations were made to the processes. First, all applicant interviews and committee meetings were conducted online. Second, due to delays in ACT and SAT administration, the minimum score requirement to apply was waived, consistent with the institution's policy. All acceptance offers were provisional until test scores could be verified. If the applicant did not receive the minimum scores, a proficiency test in math was offered. These tests were conducted online by the university testing center and the cost was covered by the Program. The applicant had 2 weeks and 3 attempts to achieve a passing score. Once achieved, their acceptance became official. The COVID-19 accommodations will be in effect at least through the application season ending in April 2022.

Table 4B-1: Admissions Requirements

Application eligibility for the Combined BA/MD Degree Program requires that a student:

- Be a New Mexico resident at time of application.
- Be a current New Mexico high school senior (high school seniors outside New Mexico who are enrolled members of the Navajo Tribe and live on the Navajo Nation are also eligible).
- Have a personal commitment to pursue a medical career in New Mexico's rural or medically underserved areas.

Minimum ACT/SAT scores*

	ACT	SAT
Math	22	≥ 510
Reading	18	
Science	19	
English	19	≥ 450 (SAT verbal)

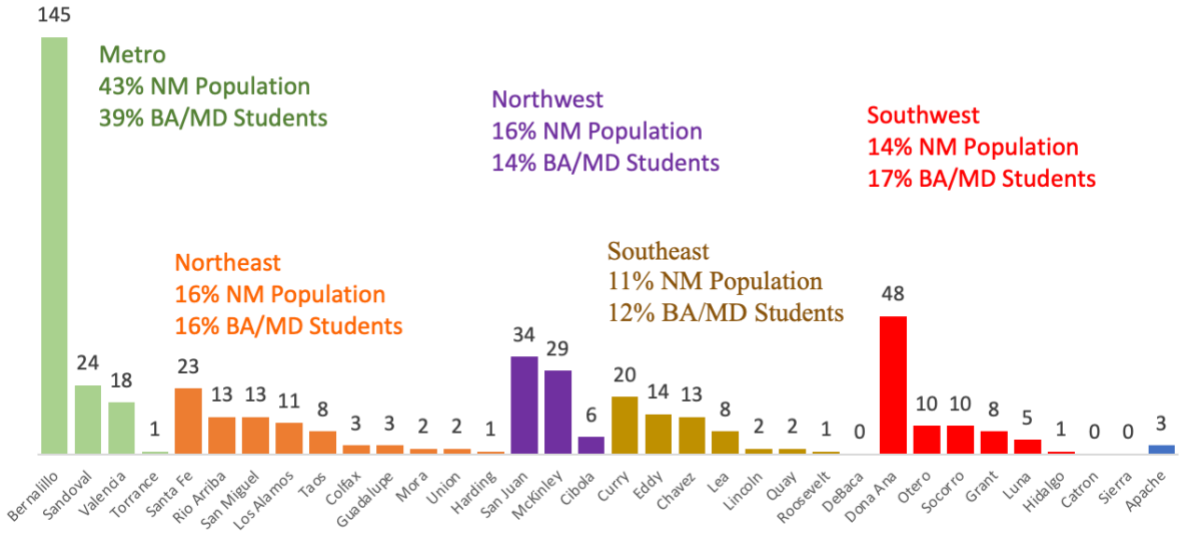
*For 2019 and prior admissions cycles.

Each year the School of Medicine Office of Admissions produces a comprehensive admissions and longitudinal report of BA/MD Program. The report summarizes applicant data for the year of the report as well as trends, following the students as they transition through undergraduate, medical school, post-graduation residency and clinical practice setting (Please see Appendix C for the annual report with applicant names redacted.)

4C: Data *Provide available data and an analysis of the unit's 1) enrollment, 2) retention, and 3) graduation (i.e. time to degree, graduation rates, etc.) trends. Please provide data and analysis on enrollment, retention and graduation rates for students by race/ethnicity, gender, first generation, and Pell grant status, where possible. Include an explanation of the action steps or initiatives the unit has taken to address any significant challenges or issues highlighted in these trends. When possible, data should be obtained from a UNM source such as MyReports or OIA. The APR office will assist with identifying appropriate data sources.*

The BA/MD Program admits 28 students per year (30 were admitted in the first cohort in 2006). By Legislative mandate, 2/3 of students admitted come from outside the Albuquerque/Rio Rancho area (the state's only metropolitan urbanized area). Thus far, students represent 30 of the 33 counties in the State, and county representation tracks closely with overall NM population numbers.

Figure 4C-1: BA/MD matriculant representation from each county and region in New Mexico since the first cohort in 2006 compared with overall population share. Total number of students = 481.



Although not subject to mandated minimum percentages for race/ethnicity as it is for hometown, the Program recruits a broad diversity of students that also tracks broadly with the demographic characteristics of the general New Mexico population (Figure 4C-2). Racial/ethnic groups considered under-represented in medicine in New Mexico (URM) are Black/African American, American Indian, Hispanic and Vietnamese. The Program does not have specific recruitment targets with reference to gender (although more BA/MD students up to this point are female).

Figure 4C-3 shows the variation of a number of different demographic characteristics over time for all of the admitted cohorts. The percentage of students admitted from groups Underrepresented in Medicine (URM) varies between about 50% and 75% of each cohort. Pell eligibility is a proxy for students who have come from backgrounds with financial need and seems to track closely with First Generation college status. Between 14 and 60 % of students in each cohort are first generation college and/or Pell-eligible, with averages of 30% (First Gen. – available for cohorts starting after 2009) and 33%

(Pell). According to UNM institutional data (Office of Institutional Analytics) about 40% of students at UNM identify as first-generation college and about 35% of students (registered in AY 2020/202) receive Pell grants. According to the National Center for Educational Statistics, about 34% of undergraduate college students receive Pell grants. As such, the BA/MD student population is broadly similar to the UNM student population in these two respects. Neither Pell eligibility nor first-generation college status are collected on the BA/MD application and hence the Admissions Committee is blind to this information. Admitted students come from a range of hometown sizes (e.g. 31 students were admitted from towns with populations of less than 500) and high school graduating class sizes (ranging from less than 30 students to more than 300). For easy reference, high school size is color-coded on the weekly rank report that lists applicants for admissions committee consideration.

Figure 4C-2: BA/MD matriculant Race/Ethnicity distribution compared with R/E distribution within New Mexico (numbers in parentheses show % representation in NM population, blue bars show groups under-represented in medicine)

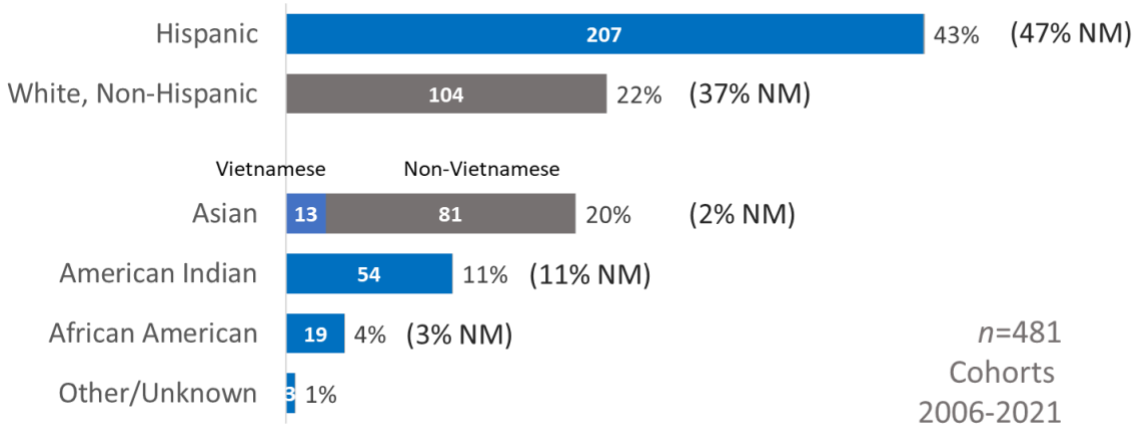
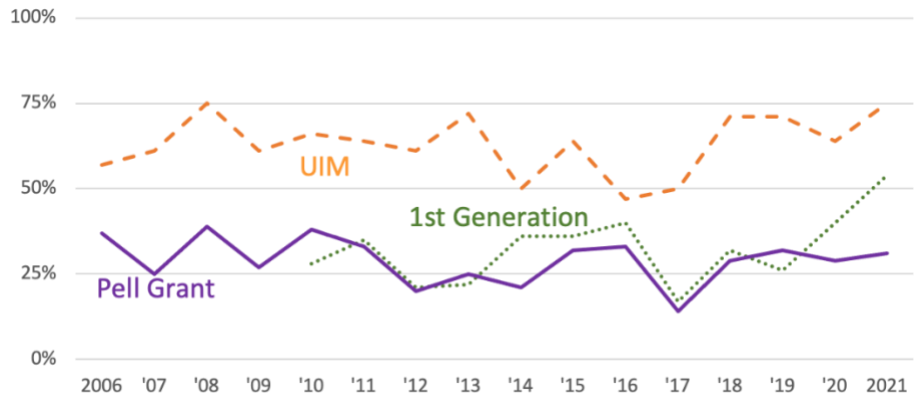


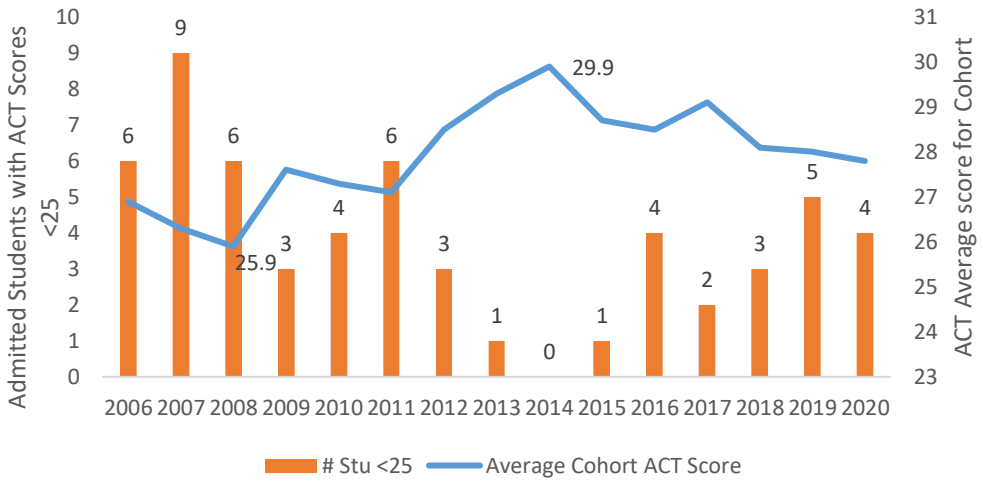
Figure 4C-3: Race/ethnicity, Pell eligibility and 1st Generation status for each cohort.



*Note that a student may be counted in more than one of these categories, so the percentages do not add up to 100%.
UIM = Underrepresented in Medicine: African American, American Indian, Hispanic and Vietnamese.

In terms of academic preparation as measured by standardized test scores, (Fig 4C-4) the Program also admits a wide range of students with ACT composite scores cohort averages varying between 26 and 30 (blue line, y-axis label on the right side of the graph), and up to 9 students per year admitted with ACT composites being less than 25 (orange bars, y-axis label on the left side of the graph). The ACT composite score of 25 has been shown in previous program data analysis to be a benchmark of student risk. Data has shown that students scoring below 25 on the ACT are less likely to successfully complete the Program. However, several students with entering ACT composites of less than 25 are now practicing physicians and serving their communities effectively. A large number of BA/MD Programs nationally have ACT minimums of at least 29, with the average ACT scores of admitted students being much higher. Our admissions policy is consistent with the Program mission in that it offers educational opportunity and support to students who have high potential to return and serve their communities, even if they have not benefited from previous educational opportunity.

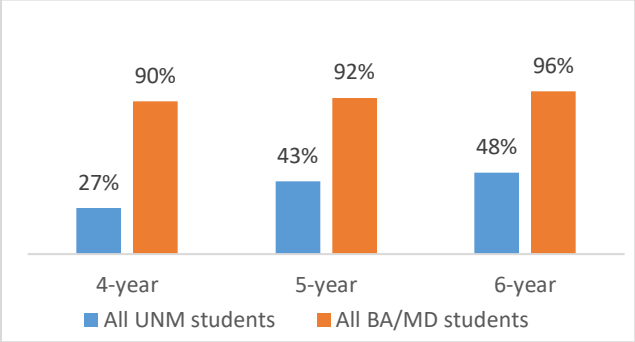
Figure 4C-4: Average ACT scores of admitted students by cohort (blue line) and total number of admitted students with ACT scores less than 25 (orange bars). N = 410 (all matriculants 2006-2020). Note that ACT/SAT scores were not available for most matriculants for the 2021 cohort due to Covid.



Graduation Rate Data and Analysis

For 'big picture' context to the detailed discussion of retention trends in the Program, it is important to compare common metrics that UNM uses to define student success (Figure 4C-5). Students in the Program almost overwhelmingly graduate from UNM whether or not they are retained in the Program. In addition, 90% of them graduate in 4 years, compared with the UNM 4-year graduation rate of 27%. As a result, *this is the only data that is presented in comparison to UNM as a whole, and focused on graduation rates because the vast majority of students enrolled in the BA/MD Program graduate from UNM in 4 years*. Given that the Program selects students through a highly competitive process, this difference is not unexpected. However, it is important to keep in mind that the admissions process is holistic and does not limit itself to measures of previous academic success (like standardized test scores). The remainder of this section focuses on data and analysis of retention within the Program and applies various demographic filters.

Figure 4C-5: Graduation rates of BA/MD students compared with all UNM students



Retention within the BA/MD Program

Table 4C-1 shows retention in the undergraduate part of the Program (including all cohorts who could have graduated from the undergraduate part of the Program, 2006-2017) in three time periods, where years reflect the starting cohort year o and the groups reflect different phases of program evolution.

1. 2006-2008: Initial implementation: the first three cohorts.
2. 2009-2012: Development phase: merge and early program improvements.
3. 2013-2017: Mature phase

Retention is defined as the total number of students who started in the Program divided by the total number of students who matriculated in the same time period. Two retention percentages are reported, with and without the merge program. Students in the merge program helped immediately address attrition and get closer to delivering 28 students per year to the School of Medicine. Ideally, the merge program is used to address attrition due to change of heart, which accounts for about a third of student attrition with the other two thirds being due to academic reasons. In response to the high level of attrition in the first phase due to academic reasons, the Program implemented several significant changes to structure and support in order to better support and retain the students who are admitted as freshmen which will be discussed later.

At the start of the Program, high attrition was observed: about a third of students were lost from the Program while completing their undergraduate degree (Table 4C-1, first row). To immediately address the attrition, Program leadership developed and implemented a 'merge' program in 2009 to fill available seats from students who left the Program by the end of the 2nd year. Students are eligible to merge into available spots in the Program if they originally applied to the Program, went through the holistic admissions process, were accepted to the alternate list, and are currently attending and achieving highly (3.5 pre-med classes GPA) at UNM. In addition, in keeping with the Program mission, merge spots are allocated to keep the rural/urban balance of students in the Program. As such, as much as possible, every rural student who is lost in the first two years is replaced by another rural student from the alternate list. With the merge program providing an immediate solution to attrition by replacement, the Program set out to improve retention for the students originally admitted with a series of improvements to structure and support (Figure 4C-6), based on data and evidence of the largest barriers for students. Through merge and program improvements, we have seen a considerable improvement in retention over time.

Table 4C-1: Retention in the Undergraduate part of the Program by evolution period.

Phase and Cohort Year	Start UNM	Merge	Grad BA	Undergraduate Retention without Merge %	Undergraduate Retention Overall %
1. 2006-2008	86	0	57	66	66
2. 2009-2012	112	22*	102	71	91
3. 2013-2017	140	9#	137	91	98
Overall (2006-17)	**338**	**31**	**296**	**78**	88

*3 merge spots available for 2012 cohort, but 8 high achieving students admitted to make up for previous attrition.
#1 merge spot available for 2016 cohort, but 8 high achieving rural students admitted to make up for previous attrition.

In the second time period of program evolution (2009-2012, Table 4C-1 second row), early implementations of improvements resulted in a small increase in retention (71% compared with 66% for the first period). The Merge program helped improve overall retention (based on number of students promised to enroll in the School of Medicine) to 91% (from 66%). The end of section 4C contains an analysis of merge student success in both parts of the Program. In the third Program evolution period, 2013-2017, matured program improvements as well as a more competitive applicant pool resulted in improved retention of 91% without the Merge program and 98% with Merge. The trend of improved retention is holding well for the most recent four cohorts – 2018-2021. It should be noted that the Covid-19 pandemic has had wide reaching effects within our Program (as well as globally) on student recruitment, admission, support and achievement, and it is probable that these will increase attrition for the 2019, 2020 and 2021 cohorts, with uncertain effects in the future, despite the best efforts of faculty, staff and students.

Table 4C-2 shows the reason for attrition by time period. Surprisingly, following the program improvements, in addition to anticipated decreases in attrition due to academic difficulty and low MCAT, a decrease in attrition was also seen due to changes of heart (Table 4C-2).

Table 4C-2. Reasons for Attrition by Program evolution period.

Start Year	UNM Status		Reason for Attrition			
	N	W/D	Change of Heart	Acad. Diff.*	Low MCAT	Other
2006-08	86	29	8	11	10	
2009-12	112	30	9	14	7	
2013-17	140	11	3	2	5	1
Total	**338**	**70**	**20**	**27**	**22**	**1**
Percent of total loss			**29**	**39**	**31**	**1**

*Academic difficulty: Student is dismissed for failure to meet GPA milestones in one of three phases.

Academic struggle and change of heart are often connected, with an intertwined correlation/causation relationship. The change of heart could be prompted by academic difficulty (the student would really like to become a doctor but doubts their abilities when they are struggling, and so decides on a different path). Conversely, academic difficulties may be caused by change of heart (the student is no longer motivated to become a doctor so finds it difficult to put in the effort for the pre-requisite classes). Program improvements to student support may enable students to succeed more readily, which is very positive for the first group of students but may delay attrition to the School of Medicine for the second group of students. Additionally, our students may perceive a great deal of stress from their family and community to perform and complete the Program through feelings of obligation.

Major program improvements to address early attrition due to academic difficulty.

Figure 4C-6 provides a timeline of the systematic improvements to Program structure and student support to address attrition and the list below provides further descriptions and context.

Figure 4C-6: Overview of Program Improvements and Evolution

<table>
<tr><th>Start year</th><th>Admit Low ACT</th><th>Pre-college Prep</th><th>Pedagogy in Science Prereqs.</th><th>Eligibility Review</th><th>Jr. Year Merge</th><th>Jr. Year MCAT Prep</th></tr>
<tr><td>2006-2008</td><td rowspan="4">More Low ACT scores & avg. <28.0</td><td rowspan="5">College Algebra</td><td rowspan="2">Traditional/ unspecified ≈250 students/class</td><td>No policy</td><td>No policy</td><td>Fall/ Spring</td></tr>
<tr><td>2009</td><td>After Year 2</td><td rowspan="3">Added 4 to 8 students/year</td><td rowspan="8">Spring/ Summer</td></tr>
<tr><td>2010</td><td rowspan="3">After Years 2 & 3</td><td rowspan="6">Active learning, ≈50 students/ class, Joint appointment faculty</td></tr>
<tr><td>2011</td></tr>
<tr><td>2012</td><td rowspan="4">Fewer Low ACT scores & avg. > 28.0**</td><td rowspan="4">Added FSLA*</td></tr>
<tr><td>2013</td><td rowspan="4">After Years 1, 2, & 3</td><td rowspan="4">Few merges needed (but added 8 to 2016 cohort)</td></tr>
<tr><td>2014</td></tr>
<tr><td>…2018</td></tr>
<tr><td>2019</td><td rowspan="2">Lower scores</td></tr>
<tr><td>2020</td><td>Only College Algebra (COVID)</td></tr>
<tr><td>2021</td><td>Few scores available</td><td>College Algebra and FSLA</td></tr>
</table>

**FSLA =Foundations of Science Learning Academy = Summer Bridge Experience to support College Transition in Science classes.*

***Fewer low ACT scores admitted while maintaining the rural/urban mandate and keeping high percentages of UIM*

1. Annual eligibility review and intermediate milestones were implemented **(2009-2012)**. These allow close monitoring of student progress and a probation period to alert students at risk to their status and

provide an increased level of support. If the student still cannot reach the academic milestones to succeed, the student is released, allowing the opportunity of a merge spot for another deserving student.
2. Joint-appointment faculty members hired to teach small sections (50 compared with 200+) of basic science and math prerequisites with a health science focus using research-established best-practice pedagogy **(2011).** BA/MD faculty were among the first at UNM to implement this type of curricular change which has been shown to improve outcomes for all students and reduce achievement gaps. In addition, faculty have shared these strategies with colleagues and been part of a wider effort to improve STEM education and outcomes at UNM.
3. A mandatory summer bridge program before the start of freshman year to improve science and math skills as well as college transition is provided for students with ACT composite <25 but encouraged for all students **(2013).**

Another important factor contributing to increased retention has been the admissions and recruitment process (see Section 4A of this report and Appendix C). With time and focused efforts and resources on wide recruitment across the State, the Program became familiar to more students across the state and a wider pool of applicants was available to the Admissions Committee to select from while maintaining the different types of diversity that the Program values in selecting future doctors for New Mexico.

Detailed demographic data on attrition

Attrition is examined by various demographic categories in this section to search for patterns and opportunities for improvement. These are rural/urban status (Table 4C-3), race/ethnicity (Table 4C-4) and Pell eligibility (Table 4C-5). We do not observe any gender differences in attrition in the undergraduate part of the program and hence do not present any demographic data disaggregated by gender. In terms of rural/urban demographic, rural students are overrepresented in attrition. Comprising about 70% of the total of admitted students, their 'share' of attrition should be about 70% in each category. Rural students show higher academic difficulty and low MCAT scores, which could be due to disparities in educational preparation, and are much more likely to have a change of heart.

Table 4C-3: Undergraduate Attrition by Rural/Urban status

Start Year 2006-17	Overall	W/D	Change of Heart	Acad. Diff.	Low MCAT
Total number	338	70	20	27	22
Urban	33%	19%	10%	22%	23%
Rural	69%	81%	90%	78%	77%

We know through the admissions process (applicant interviews and application information), that our students have experienced great systemic educational challenges, e.g. absence of college admissions test preparation, lack of advanced placement courses, high school teachers teaching subjects out of their specialty. A report[5] on teachers and teaching conditions in Rural New Mexico (Jimerson, 2004), summarizes key challenges faced by rural schools in New Mexico. Some of these challenges mirror

[5] https://www.ruraledu.org/user_uploads/file/teachers_newmexico.pdf

those that the BA/MD Program seeks to address to improve rural medical care - difficulty in hiring and retaining highly qualified professionals and a mismatch between the demographics of the teachers and students which may 'impede students from exposure to teachers with relevant cultural sensitivity and knowledge of their own native languages, and who serve as appropriate role models'. The COVID-19 Pandemic has added to these challenges in rural and underserved areas of NM. In 2018, a judge ruled on the Yazzie-Martinez lawsuit, finding that the State of New Mexico was not meeting its constitutional obligation to provide an adequate, sufficient education to at-risk students – i.e. socioeconomically disadvantaged children, English learners, Native American students, and children with disabilities. Since this time, the State has been working to address these concerns and improve the situation, but this is important to note as context for the challenges facing our students, particularly those from rural backgrounds.

Table 4C-4: Undergraduate Attrition by racial/ethnic group and time period

Time Period	Overall	African-American/ Black	Asian (non Viet.)	American Indian	Hispanic	White	Viet.
Total number	338	13	53	41	141	77	13
2006-2008	34%	50%	40%	29%	41%	23%	0%
2009-2012	28%	25%	0%	50%	28%	31%	0%
2013-2017	9%	0%	3%	21%	11%	4%	0%
Overall: 2006-2017	21%	23%	6%	37%	25%	19%	0%

Attrition by race/ethnicity is calculated as the total number of students who left the Program from a particular demographic group divided by the total number of students admitted to the Program from the same demographic group in the same time-period. Any attrition percentages exceeding the overall attrition indicate that students from that group are disproportionately lost from the Program. Over time, overall attrition has improved from 34% to 9%. In addition, attrition has improved within each demographic group. Although the decrease in attrition for African American students is encouraging, it reflects a small number of students, so more time is needed to see if the trend continues. However, American Indian students show a much higher rate of attrition than the average, even in the most recent time-period with mature Program improvements. Nonetheless, the Program retains American Indian students at a much higher rate than at UNM in general (6-year graduation rate for American Indian students is 29% (an attrition rate of 71%), and most of the students who do not complete the Program still graduate from UNM within 6 years. Although there is a large urban American Indian population in Albuquerque, the state's only major metropolitan area, the American Indian students in our program are predominately from rural high schools in the state. As shown in Table 4.3C, our rural students regardless of race/ethnicity have a higher attrition rate compared to our urban students. As such, it is possible that the high attrition of American Indian students is more to do with their rural background with associated reduced educational opportunity than their race/ethnicity.

A national report[6] by the American Association of Medical Colleges highlights the importance of training American Indian physicians as well as the critical shortage: as of 2016, only 0.56% (4,099) of the estimated 727,300 practicing physicians in the US were American Indian. UNM School of Medicine is featured in this report as one of four schools who have been relatively successful at recruiting and retaining American Indian students through a variety of initiatives related to admission and support. The BA/MD Program is one important pipeline in support of this goal and has delivered 27 American Indian students to the UNM School of Medicine since the first cohort matriculated in 2010. This number is worthy of note in context of the very small total number of American Indian practicing physicians in the US. However, the disparities are still a call to action for us to reflect, learn, understand and implement strategies to better support all our students and reduce achievement gaps. There is also a significant opportunity for the UNM Program to become a national leader in developing an improved pathway for American Indian students and rural students to become physicians.

Our final category of demographic disaggregated data explores students who have financial need, as measured by eligibility for Pell grants (Table 4C-5). Interestingly, students with financial need (as indicated by Pell-eligibility) are lost from the Program in very similar ratios as they are accepted into the Program, and as such, we do not see a disparity in attrition compared to their peers without financial need. Even though the Program is a last dollar scholarship for the 4 years of undergraduate education which mitigates financial need, financial need often indicates a lack of privilege in educational opportunity up to this point. As such, it is encouraging not to see a lot more attrition in our Pell eligible students than expected based on their overall percentage representation of our population. Because there are significant gaps in our information about first generation status, and because it appears to track closely with Pell eligibility, we did not perform a separate analysis related to first generation student retention, with the presumption that it will look similar to the data from Pell eligibility. In addition, the APR Office also noted that this challenge of tracking first-generation status is issue across all APRs at UNM and supported our decision to omit this analysis.

Table 4C-5: Undergraduate Attrition by Pell status and time period

Time period	Total number	No. with Pell	% with Pell	No. Withdraw	No. Withdraw Pell	% with Pell Withdraw
Overall 2006-17	338	100	30%	70	33	33%
2006-2008	86	29	34%	29	11	38%
2009-2012	112	37	33%	30	14	38%
2013-2017	140	34	24%	11	8	24%

Merge student outcomes

As a group, merge students have a lower attrition rate than regular admits (Table 4C-6), both in the undergraduate and medical school portions. This is not surprising, given that they are selected from a population of merge-eligible applicants who have achieved highly in their first two years of pre-medical

[6] https://store.aamc.org/downloadable/download/sample/sample_id/243/

course work independent of support from the Program. Based on the comparative success of merge students, it might be tempting to ask if the BA/MD admissions committee is missing out on admitting these students in the initial phase, but this is complicated. We do not collect systematic data on how many students on the merge eligible list each year do not meet the minimum standards for merge (3.5 Pre-med courses GPA), and thus have not been as successful at UNM. Much like some BA/MD students thrive and some struggle, it is likely that the same pattern exists among merge-eligible students, and we hypothesize a higher rate of student struggle without the support of the Program. Unfortunately, it is not possible to easily collect this data to evaluate further due to these students not being a part of the Program. We believe that merge students have a lower attrition rate simply as a factor of them being admitted 2 years into college and having had to succeed independently to be accepted into the Program.

Table 4C-6 Comparison between merge and regular admit student outcomes

Student status	Merge students admitted to 2017 cohort or earlier	Regular admits (2017 cohort and earlier)
Total	31	338
Left BA	3 (10% attrition)	70 (20% attrition)
Started MD	28	268
Left MD	2	29
Still enrolled at SOM	7	115
Graduated MD	19 (10% attrition)*	124 (19% attrition)*

*calculated using (left MD/(started MD-Still enrolled) to account for the students still in the pipeline. Not final attrition numbers, but likely to be close to final.

As part of the holistic admissions process, regular admit BA/MD students may be ranked higher in the application process than their alternate list (merge eligible) counterparts in part based on the distance travelled in their journeys and their resilience in meeting challenges in their lives. These challenges often persist into college and medical school, and as the level of academic challenge rises, students may struggle. Merge students have been highly successful at UNM early without support (although many of them enroll in and benefit from the BA/MD special science sections and take HMHV classes made available to students pursuing the minor). This success arises from a number of different factors, which may include a lower level of external challenges to juggle along with adjustment to college-level learning, and/or a higher resilience to meet those challenges.

Another question that might be raised is whether the size of the entering class could be reduced with the plan to admit more merge students later. This would certainly improve retention, but has the consequence of losing some students who are strongly committed to the mission with great potential to serve their communities who may only thrive with the Program's support from the beginning. While this data doesn't necessarily support changes to admissions practices, it does highlight an untapped population of future medical students who have expressed interest in and commitment to serving in New Mexico. Program leadership have identified this as an opportunity, should more funding become available, for a 'merge untapped' program to financially support qualified students for whom there is no merge availability in their 3rd and 4th years at UNM and encourage application to the UNM School of Medicine (see the Strategic Planning section of this report).

Summary

The Program recruits widely to achieve a student demographic that is representative of the State of New Mexico both by geographic distribution and racial/ethnic group. More than half of admitted students come from racial/ethnic groups that are underrepresented in medicine. After struggles with retention in the early years, the Program made systematic changes to structure and student support which resulted in significant improvements in retention over the course of the undergraduate part of the Program. A very high percentage of students in the Program (90%) graduate from UNM within 4 years and nearly all graduate within 6 years, whether or not they are retained in the Program (79% since 2006 and 91% in the most recent period (2013-2017). All demographic groups have shown improvement in retention over time, however there are still equity gaps in particular for rural students and American Indian students (who are most often rural) that require further investigation and action.

4D: Advisement Practices *Discuss the unit's advisement process for students, including an explanation of how the unit has attempted to improve or address issues regarding its advising practices and to ensure inclusiveness and equity in advising.*

The BA/MD Program is fully committed to the success of its students. As such, an extensive support network of academic advisement and academic evaluation is in place to measure and promote positive student outcomes. The Program employs one full-time Senior Academic Advisor and one Academic Advisement Supervisor. The key objectives of the BA/MD advisement are to help BA/MD students successfully navigate through the university system, the Program and feel supported. The advisors provide direct assistance to the BA/MD students throughout the undergraduate portion of the BA/MD Program in such matters as course registration, academic planning and support services (including tutoring, scholarship and financial aid assistance, program support and guidance). In addition, the advisors monitor student progress through the Program from start through the transition to the UNM School of Medicine. All BA/MD students are required to meet at least once each academic semester with the BA/MD advisement.

UNM provides a bi-annual advisor institutes provide an opportunity to all undergraduate academic, integrated, and branch advisors to participate in a shared professional development experience. During these institutes there are plenary and breakout sessions which are given by members of the advisement community as well as supporting departments. This opportunity is made possible by the Office of the Provost, as well as the generous participation of the UNM advising community. In addition, the advisors complete trainings and/or seminars in the following areas:

- Safe Zone – LGBTQI+ support
- Green Zone – Veteran student support
- DREAM Zone – undocumented and immigrant support
- Staff Council Diversity, Equity and Inclusion committee

In addition, most of the staff team complete the same trainings which enhances the accessibility for all students. Once training is completed, staff post a logo(s) or item(s) on their office door and/or office to provide a visible aid to students indicating their support of communities.

The advisors are members of National Association of Academic Advisement (NACADA) and National Association of Advisors for Health Professions (NAAHP). The membership includes active consultation, resources, journals, regional and national conferences as well as many other professional development opportunities for the evolving student population.

4E: Student Support Services *Discuss any student support services that are maintained by the unit and evaluate the relevance and impact of these services on students' academic success.*

ARTS & SCIENCES

One of the Program's greatest strengths is creating an environment that leads to **cohort building** and individual's support networks. The cohort is immediately immersed with diverse backgrounds, identities, personalities, and academic styles. This experience can have many benefits when facilitated in growth. We offer several programs designed specifically to welcome, orient, and support cohort building from the time of admitted through the end of the first year.

YEAR OFFERED	EVENT
1st year	Preview Day
1st year	BA/MD Orientation
1st year	Foundations of Science Learning Academy
1st year	Living & Learning Community
1st year	Freshmen Friday!
1st year	Welcome BBQ
1st year	Faculty Mentorship program
1st year	HMHV 2993
1st, 2nd & 3rd	CAPS
1st, 2nd, 3rd & 4th	Coffee & Cookies with Directors
1st, 2nd, 3rd & 4th	BA/MD Wellness Initiative
1st, 2nd, 3rd & 4th	Goodies & Games
1st, 2nd, 3rd & 4th	Spring Kickball game
2nd year	HMHV 398 & Summer Practicum
1st, 2nd, 3rd & 4th	Pre-Med & HMHV shared curriculum
1st, 2nd, 3rd & 4th	BA/MD Organization (student led)
3rd year	MCAT preparatory course
4th year	Senior meeting series (financial literacy, NM Health Resources, Med School 101, etc.)

The Program continues programming in the second, third and fourth year appropriate to the students' academic and professional development. As you can see, it does not offer as much programing as the first year as we are encouraging independence, accountability, and have the students take responsibility for the utilizing resources and seeking their own experiences. Every part of our programming is dedicated to the mission of cohort and/or inter-cohort bonding and extended support. The Program invests effort into growing their academic, professional and personal relationships – this investment rewards with providing convenient emotional support with normalizing cohort experiences in and out of the classroom. In general these events are well-supported, with the majority of students participating in the BA/MD Olympics and Kickball events, and significant attendance of optional events such as Wellness workshops, Coffee and Cookies with the Directors etc.

The A&S BA/MD Program partners with the **UNM Center for Academic Program Support (CAPS)** to provide four distinct components of academic support for our students: (1) Supplemental Instruction, (2) STEM Program, (3) Learning Strategies Program, and (4) Faculty Office Hours. (Note: Many of our students go on to become tutors for CAPS due to their academic performance.)

Supplemental Instruction (SI) is a series of weekly review sessions to help students succeed in historically difficult courses, specifically traditional pre-medical courses for BA/MD students. SI is for all students who want to maximize their study time, while improving both their understanding of course material and developing lifelong learning skills. SI sessions are led by trained SI Leaders who have previously taken the course and earned a B+ or better. SI Leaders attend all class sessions to keep up with the course material and they create opportunities for students to discuss concepts, compare notes, learn key study strategies, gain a deeper understanding of the content, and network with peers. The BA/MD Program believes that SI is a strong complement to support our active learning pedagogy.

Of these, our primary focus is to offer Supplemental Instruction for eight academic courses within the first three years of the BA/MD curriculum of:

- Math 1430: Calculus for the Life Sciences
- Chemistry 1215: General Chemistry I
- Chemistry 1225: General Chemistry II
- Chemistry 301: Organic Chemistry I
- Chemistry 302: Organic Chemistry II
- Biology 2110C: Molecular & Cell Biology
- Biology 2410C: Genetics
- Biochemistry 423: Introduction to Biochemistry

During STEM Program drop-in hours, students may utilize tutors to help with any Math/Science course. The CAPS Learning Strategies Program offers students support to improve their study strategies through our their academic career, and CAPS presents to freshman during the HMHV 2993 seminar to publicize these services.

The **BA/MD Wellness Initiative** is to help BA/MD students develop a strong wellness basis to support them during their undergraduate career and eventually at the School of Medicine. The initiative is modeled after the seven areas of the Wellness Wheel, which captures the environmental, intellectual, social, physical, spiritual, occupational, and emotional aspects of wellness. Participating in the BA/MD Wellness Initiative is entirely optional, and students may participate in none or any number of events depending on their availability and desire. The BA/MD Trello Board is a database of events and resources available on campus and in the community. The database is organized through a free Trello webpage. Students can access the Trello board at: https://trello.com/b/SONvvTFb/wellness-resources. Each resource is organized by the seven areas of the Wellness Wheel. Under each category, each card is color-coded to reflect environmental, intellectual, social, physical, spiritual, occupational, and emotional wellness. This resource is being transitioned to a Google Site and we hope showcase this during the APR site-visit.

Each fall and spring semester, students can expect 1-2 event(s) structured to share experiences and strategies to best support their journey in the BA/MD Program. Events will include small group or panel

discussions at least once a semester which will spotlight undergraduate or medical school students, faculty, or health professionals who are willing to share their experiences.

Following is a list of past events the Program has offered:

- **Dealing with Stress and Anxiety Workshop: facilitated by a SHAC counsellor**.
- **From BA/MD Undergrad to Medical School** BA/MD undergraduate and medical students shared their experiences through storytelling. With four presenters, the event gave a well-rounded perspective of the BA/MD student trajectory and featured the perspectives of students from 3rd year in undergraduate to fourth year medical student.
- **Self-Hypnosis Workshop** Through patient case presentation, this workshop given by Dr. Robert Sapien discussed health benefits of medical hypnotherapy. It introduced medical and scientific foundations of hypnosis for stress relief and allowed an (optional) opportunity to learn self-hypnosis for stress reduction. This is a technique that many BA/MD medical students have reported to be beneficial.
- **Olivia's Pet Corner** Pet therapy is an important part of emotional, social and physical health. Studies have shown the benefits of animal therapy in promoting human-animal interactions and oxytocin (feel good cuddle hormone). At Olivia's Pet Corner students, staff and faculty join virtually (future events in-person once it is safe to do so) to introduce their pets and marvel at other's pets. Psychosocial and Psychophysiological Effects of Human-Animal Interactions: The Possible Role of Oxytocin- Frontiers in Psychology, July 2012
- **Occupational Wellness with Presbyterian Medical Group**: a series of MD speakers sharing their paths, including challenges, and current day-to-day experiences as physicians in New Mexico.

SCHOOL OF MEDICINE

The **Applied Cognition in the Medical Sciences Program (ACMSP)** focuses on the use of cognitive science to enhance student abilities throughout medical school. ACMSP teaches advanced techniques for retaining medical knowledge, and methods of transferring complex information into problem solving skills for medical exams or clinical settings. ACMSP provides workshops and walk-in support for preparing for USMLE Step 1 & 2 exams; developing data driven study habits; improving memory by understanding neural networks; and understanding the science of comprehending high volumes of information.

The mission of the **Learning Communities Program** is to facilitate the development of safe, significant relationships and a sense of community with faculty and peers while enabling medical students to develop their unique professional identities and find meaning within their academic, personal and professional lives. The Learning Communities Program was created to provide all medical students with a faculty mentor who will be available to provide advisement and personal support for the student. This program is designed to help with student career counseling, student support and to fulfill one of the requirements for reaccreditation by the LCME for our medical school.

The **Office of Medical Student Wellness** is committed to all UNM medical students graduating from medical school as healthy as or healthier than when they started their training. To this end, we have many resources available for you to access, some of which appear on this website and some of which are only an e-mail or phone call away. Medical students will have a chance to meet with Liz Lawrence, MD,

Chief Wellness Officer for the School of Medicine, through various workshops on wellness, resiliency, and self-care in the curriculum.

- UNM Health Science Center Psychotherapy and Counseling Guide [PDF]
- Physician and Medical Student Wellness Resources

The **Jumpstart Course** is a 2-week, voluntary summer course for our students transitioning to the School of Medicine. Jumpstart is a pre-orientation course which introduces the student to critical thinking processes integral in medical education. Unfortunately, due to COVID this course has not been offered for the past two years.

4F: Graduate Success *Discuss the success of graduates of the program by addressing the following questions:*

- *How does the unit measure the success of graduates (i.e. employment, community engagement, graduate studies, etc.)?*
- *What are the results of these measures?*
- *Discuss the equity of student support and success across demographic categories.*

Alumni highlights: The ultimate goal of the BA/MD Program is to produce doctors who will practice medicine in New Mexico and as of October 2021, we are proud to report 49 BA/MD alumni in practice, 69% (34) of whom are practicing in New Mexico. As a comparison, 26% of practicing physicians who completed their MD at the School of Medicine are now practicing in the state (PEAR location report, 2020). 57% of practicing alumni come from rural hometowns and 55% are from racial/ethnic groups that are under-represented in medicine (Figure 4F.1). In addition, several alumni are practicing outside the Albuquerque metro area, and a significant proportion of those within the metro area are serving underserved populations, (Table 4F.1). These are notable achievements: the Program is meeting its mission of providing educational opportunity to a diverse group of students and supporting them to become doctors to serve New Mexico. Several of our alumni have received honors and assumed positions of leadership within UNM and nationally, and as they progress in their careers, we anticipate that they will continue to lead and serve to improve healthcare outcomes for all New Mexicans.

Figure 4F.1: Self-reported Race/Ethnicities of Practicing Alumni

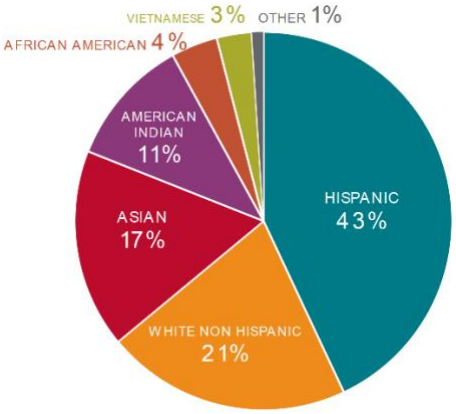


Table 4F.1: Practicing alumni physician location information

Practice location	No. of Physicians	No. of Physicians serving underserved populations
Albuquerque	22	13
Alamogordo	1	1
Edgewood	1	1
Farmington	3	3
Santa Fe	1	1
Rio Rancho	2	0
Espanola	2	2
Los Lunas	1	1
Roswell	1	1
Out of state	15	8

In considering alumni data, we note that it takes many years to train a physician. In order to be licensed as a physician, students must complete four years of undergraduate study, four years of medical school, and almost always another three to seven years of residency training. After residency, there is are options of further training through fellowships. As such, even the first cohort of students admitted in 2006 is still producing physicians. Due to the improvements in the pipeline resulting in improved retention outlined in section 4C, we anticipate a higher rate of growth of practicing physicians in future years. Although the Program does not formally collect data and updates on the career paths of students who do not complete the Program, these students often continue to pursue health-care professions and train as doctors, nurses, physicians assistants, physical therapists, mental-health counsellors etc., some of whom are practicing in New Mexico and as such, contribute to improving health care in New Mexico.

The BA/MD Program tracks its students throughout medical school and collects annual updates (prior to October 1st, to reflect status in the next calendar year) from alumni who are due to complete residency or are in practice. Important metrics include STEP exam scores and successful completion of medical school, as well as the number of practicing physicians overall, those practicing in New Mexico, those practicing outside the Albuquerque Metro area, those caring for underserved populations, and those practicing in specialties with critical physician shortages.

Detailed Alumni outcomes: Of the 49 practicing physicians, 28 (57%) come from hometowns outside Bernalillo County and 21 from within Bernalillo County). 15 students have returned to practice in their hometowns (4 outside Bernalillo County). Towns outside the Albuquerque metro area have the greatest challenges recruiting and retaining physicians, so when alumni choose to return to their rural hometown to practice, it is hoped that they will remain in practice there for many years. Of the 49 practicing physicians, 34 are practicing in primary care. Of the 34 practicing in New Mexico, 25 (74%) are in primary care. A recent study (Ballejos et al, 2019, see Appendix D) utilizing a matched cohort design showed that BA/MD alumni are more likely to choose a family medicine residency when controlling for a wide variety of variables such as MCAT and USMLE score. There is an acute shortage of primary care doctors, and as such, producing more doctors in primary care specialties is a desirable outcome. In measuring alumni success, we note that our students are usually well-represented in awards given to

graduating medical students and often rise to leadership roles at UNM (one has served as Student Regent, and several in UNM School of Medicine student organizations) and nationally.

There is less data on attrition at the School of Medicine (Table 4F.2) due to the number of students who are still completing that phase of the Program, with only the first phase (2006-2008) attrition being final. However, the second phase (2009-2012) attrition numbers are likely to be close to final, with most students past the major hurdle of the Step 1 Board Exam at the School of Medicine. From the data in Table 4F.2, the attrition at the School of Medicine for the first time period is 18% (82% retained). For the second time period, the best-case scenario is 12% attrition (if all students still at SOM graduate) and the worst-case scenario is 15% (if none of the students still at SOM graduate). The cohort starting in 2013 could have graduated with no delays, and the attrition range for this cohort is 4-48% because of the large number still enrolled at SOM.

Table 4F.2 Attrition at the School of Medicine for all cohorts who could have graduated from the School of Medicine.

Start Year	n	Grad	Still Enrolled	W	D	% Attrition
2006-2008	57	47	—	8	2	18%
2009-2012	99	84	4	8	3	12-15%
2013	23	12	10	—	1	4-48%
Total	**179**	**143**	**14**	**16**	**6**	**12-20%**
% of total	100%	80%	8%	9%	3%	

*Attrition ranges represent best possible case (all students still enrolled complete) and worst possible case (all students enrolled do not complete) with the most realistic number being closer to the best possible rate.

For the most recent 4 cohorts (2014-2017) to matriculate to the School of Medicine (Table 4F.3), only 4 students have left SOM so far. Although there are a significant number of students with academic delays, the improved retention in the undergraduate part of the Program has resulted in more students starting at the School of Medicine and so it is probable that more students will graduate from the School of Medicine. However, it will be important to see if the improved retention in undergraduate leads to an increased attrition at the School of Medicine, due to later change of heart and/or academic difficulty.

Table 4F.3: Retention at the School of Medicine for the most recent cohorts who are still enrolled at the School of Medicine.

Start Year	N	On-Time	Pers Delay/ PhD	Acad Delay	W	D	% Attrition
2014	26	17	1	6	2	--	8-30%
2015	27	18	3	5	1		4-22%
2016	31	28	1	1	1		3-6%
2017	28	28					
Total	**112**	**81**	**5**	**12**	**4**		**4-14%**
% of total		**72%**	**4%**	**11%**	**4%**		

In comparison to non-BA/MD peers at the School of Medicine, (Table 4F.4), BA/MD students are more likely to withdraw or have academic delays, although the gap seems to be narrowing in the most recent time period (MS 22-25). For meaningful comparisons, this data compares all students who started in the same SOM cohort, which are labelled by year of on-time MD graduation. MS2014-2016 will contain most of the students who started their undergraduate degree in 2006-2008. There are several likely contributing factors to the difference in attrition. In general BA/MD students are much younger on average than their SOM peers. Because BA/MD students are evaluated for conditional admission to medical school 4 years earlier than their peers, there is less information about academic performance.

The BA/MD Program provides a high degree of structure and support through the undergraduate years. As evidenced by lower ACT scores, several students accepted into the Program have been accepted through the holistic admissions process based on high motivation for the Program's mission of producing doctors to serve the underserved in New Mexico and significant strengths related to knowledge of and care for their communities, cultural and linguistic wealth and resilience, even though they have had less educational opportunity. These strengths are incredible assets to have in practicing physicians in New Mexico, but often the early lack of educational opportunity causes significant difficulty in their academic path and it is possible that some of them would not have been able to successfully complete their undergraduate degree successfully, let alone graduate in 4 years. As such, the Program provides a pipeline of students committed to the goal of serving New Mexico in health care and with valuable strengths who may not have made it to the application phase as a traditional applicant without the support from the Program. Medical school provides a unique set of challenges, as well as a large financial burden, and adds new stress to students who have had a lot of support in the previous 4 years. Interestingly, there are not pronounced differences in attrition at the School of Medicine by the demographic groups that include race/ethnicity and rural/urban (data not shown).

Table 4F.4: Attrition at the School of Medicine compared with non-BA/MD peers.

SOM Cohorts	BA/MD	*n*	Grad./On-Time	W/D
MS2014-MS2016	BA/MD	60	83%	17%
	Trad. SOM	233	95%	4%
MS2017-MS2020	BA/MD	92	86%	12%
	Trad. SOM	321	91%	3%
MS2021	BA/MD	27	52%	7%
	Trad. SOM	76	71%	--
MS2022-MS2024	BA/MD	83	71%	5%
	Trad. SOM	220	83%	1%

Tables 4F.5 and 4F.6 compare the USMLE STEP exam performance between BA/MD and traditional peers at the School of Medicine. It should be noted that from 2022, the STEP 1 exam will be pass/fail. The large majority of BA/MD and traditional SOM students pass both step exams eventually, and improvements have been seen for both groups on first time passing rate for both exams. Similar improvements have been seen in first time score and high score. Despite these improvements, gaps remain between BA/MD students and their peers. STEP 1 score has been a very important factor in determining residency options for students. With the change to pass/fail, it remains to be seen whether the STEP 2 score will assume more weight on residency applications.

The Program continues to look for patterns and opportunities for anything we can do to support our students better in the undergraduate part in order to be more successful at the School of Medicine. Analysis of number of undergraduate credit hours of Anatomy and Physiology against Step 1 score for BA/MD students showed no correlation. Students were as likely to get a high Step 1 score with no A&P credit hours as if they had taken all the available A&P credit hours. We have also developed a wellness program to help students support mental health and wellness habits while they have more time and flexibility in their undergraduate years. It is important to note that each cohort of BA/MD students is a very diverse group consisting also of students who are near the top of their medical school class, and often are leaders in service initiatives and student organizations.

Table 4F.5: Comparison of USMLE STEP 1 performance between BA/MD and Peers

SOM Cohorts	BA/MD	*n*	1st time pass rate	1st time score	Final pass rate	High score
MS2014-16	BA/MD	54	85%	209	94%	210
	Peers	305	90%	219	98%	221
MS2017-20	BA/MD	83	87%	217	96%	220
	Peers	314	89%	220	99%	222
MS2021-23	BA/MD	61	93%	223	100%	223
	Peers	216	97%	227	99.5%	228

Table 4F.6: Comparison of USMLE STEP 2 performance between BA/MD and Peers

SOM Cohorts	BA/MD	*n*	1st time pass rate	1st time score	Final* pass rate	High score
MS2014-16	BA/MD	50	88%	230	100%	233
	Peers	296	94%	238	99%	239
MS2017-20	BA/MD	80	96%	236	99%	237
	Peers	289	96%	238	99%	240
MS2021-22	BA/MD	31	100%	241	100%	241
	Peers	106	99%	245	100%	245

In summary, the Program has been successful so far in producing practicing physicians, many of whom are fulfilling our mission and goal of providing educational opportunity to a diverse group of students who will become doctors and serve underserved communities in New Mexico. Due to improved retention in the undergraduate part of the Program after the first phase (2006-2008), we expect a significantly larger number of practicing MDs in subsequent years, and to be able to learn more about where they choose to practice in order to help optimize these outcomes for future cohorts. In addition, we expect that several of our alumni will assume leadership roles in health-care in New Mexico, using their education and experiences to improve health outcomes at a broader level for all in the State of New Mexico.

Criterion 5. Faculty

The faculty (i.e., continuing, temporary, and affiliated) should have appropriate qualifications and credentials and be suitable to cover the curricular requirements of each degree/certificate program.

5A: Composition *After completing the Faculty Credentials Template (Appendix D), discuss the composition of the faculty and their credentials (i.e. proportion of senior versus junior faculty, proportion of women and underrepresented faculty, etc.). Provide a link to the faculty vitae.*

Of all the interdisciplinary programs in the College of Arts & Sciences, the BA/MD Program is the only one with its own joint-appointment faculty. Each of our tenure-line faculty has a tenure "home" in one of Arts & Sciences departments, but each also has a separate MOU each year outlining teaching and service commitments, related to their FTE in the Program. In addition, each tenure-track faculty member who has been hired since the Program's inception has stipulated the terms and conditions of this joint-appointment in their contractual offer letter. As an interdisciplinary program in the College, we are grateful for, and keenly aware, how fortunate we are to have the financial, support and commitment from the New Mexico State Legislation and the leadership of the UNM School of Medicine.

The BA/MD Program is comprised of 17 faculty from 11 different departments, all teaching at least one semester per year for the Program, covering nearly all of the required courses in our curriculum. The faculty is a mixture of tenured or tenure-track and non-tenure track faculty. The non-tenure track faculty consist of five with the Lecturer III rank (2 Principal, 3 Senior) and one Adjunct. Tenured or tenure-track faculty are comprised of three full professors, five associate professors and two assistant professors. There are eleven women and six men. Seven are from underrepresented race/ethnicities. All of the tenured or tenure-track faculty have 0.25 FTE joint-appointments in BA/MD. The FTE of non-tenured faculty members depends on the proportion of their teaching load that is allocated to the BA/MD program. This can be one or two courses per year depending on the faculty member. All faculty members teach at least one course for the Program per year, either to the BA/MD students or those taking the HMHV minor. All faculty members also serve on the Committee for Curriculum and Student Progress (CCSP) which meets regularly throughout the year to monitor and analyze student progress and work together for Program improvement.

Table 5A.1: BA/MD faculty summary

Cartwright, Kate	Sch. of Publ. Admin.	Assistant Professor	HMHV 398
Diaz Fuentes, Claudia	Economics	Senior Lecturer III	HMHV 301
Ginossar, Tamar	Communication Journalism	Professor	HMHV 310
Hayek, Summer[7]	Biochemistry	Lecturer III	BIOC 423
Hong, Yangsun	Communication Journalism	Assistant Professor	HMHV 310
Howe, Kelly	Biology	Principal Lecturer III	BIOL 2410
Johnston, Christopher	Biology	Associate Professor	BIOL 2110
Knottenbelt, Sushilla	Chemistry	Senior Lecturer III	CHEM 1215/1225
Morgan-Tracy, Mark	Physics Astronomy	Principal Lecturer III	PHYS 1230/1240
Murphy, Ann	Philosophy	Associate Professor	HMHV 410
Santos, Richard	Economics	Professor	HMHV 301
Torrez, Diana	Sociology	Term Teacher	HMHV 1110
Van Der Goes, David	Economics	Associate Professor	HMHV 301
Wearing, Helen	Biology	Professor	MATH 1430
Whalen, Lisa	Chemistry	Principal Lecturer III	CHEM 301/302
Whooley, Owen	Sociology	Associate Professor	HMHV 1110

[7] *Although the Department of Biochemistry serves students in the College of Arts and Sciences, it is housed within the School of Medicine Administrative structure.*

In addition to the detailed table of Faculty Credentials in the Appendix, and Faculty Vitae: https://unmm-my.sharepoint.com/:f:/g/personal/sknotten_unm_edu/Epz0-9goFAxEkDpPuDMzNVsBXIo5HPbGjDeolxdOveUykQ?e=kmDZ1R ,

Although there is no formal agreement of continuing commitment, Dr. Carolyn Thomas in Philosophy regularly teaches the HMHV 401 section offered for students who are HMHV minors.

Dr. Kristin Barker (Sociology), Dr. Gregory Martin (English and former A&S Director) and Dr. Martina Rosenberg (Biochemistry) no longer have BA/MD joint-appointments or teaching responsibilities for the Program but have served during a significant amount of the time period covered by this APR. In addition, Dr. Anne Baril (Philosophy), Dr. Alyosha Goldstein (American Studies), Dr. Loren Zech (Dermatology) and Dr. Julie Shields (Communication and Journalism) also taught for the Program during this last APR period. All of these faculty members were valued members of our community and their contributions to the Program are acknowledged with gratitude.

Recent Notable Awards in Teaching

BA/MD faculty have been recognized for excellence in teaching in each year but one since our last APR in the University wide teaching awards, and several of our faculty members receive multiple nominations for these awards each year, but are ineligible because they have been a recipient in a previous year.

- Dr. Yangsun Hong received the Graduate Studies Faculty of Color All Around Award for 2020-2021
- Dr. Tamar Ginossar was awarded the UNM Presidential Teaching Fellowship for 2019-2020
- Dr. Owen Whooley received the UNM Regents Lecturer Award in 2019
- Dr. Kate Cartwright received the New Teacher of the Year Award for 2017-2018
- Dr. Mark Morgan Tracy was awarded the Lecturer of the Year for 2014-2015

5B: Course-Load *Explain the process that determines and assigns faculty course-load (i.e., how many courses do faculty teach per semester, how does the unit determine faculty assignment to lower division vs. upper division courses, etc.). Describe the faculty-to-student and faculty-to-course ratio, and any impacts this has on unit success.*

Faculty each have a specific and consistent teaching assignment based on previously determined Program needs. Joint-appointment faculty receive an annual MOU which is shared with their Department Chair, with the opportunity to revisit specifics based on the need of the faculty member and/or Department. Faculty teaching the HMHV classes alternate between teaching the section reserved for the BA/MD students and the section that serves the general UNM population who are able to minor in HMHV. Having two faculty members able to teach most of these classes provides opportunity to share ideas and different perspectives, as well as provides flexibility (e.g. for sabbaticals etc.). HMHV tenured or tenure track faculty teach 1 out of 4 classes of their total teaching load per year for the Program. The one lecturer in the HMHV subgroup teaches 1 out of 6 classes of her total teaching load

for the Program. Faculty teaching basic science and math classes will either teach 1 class per year (Calculus, Cell Biology, Genetics, Biochemistry) or 1 class per semester if the class is part of a 2-semester sequence (General Chemistry, Organic Chemistry, General Physics). What fraction of courses are taught by these faculty depend on specific teaching loads in their Departments, and whether they are tenured/tenure track, or lecturers.

The faculty: student ratio is 1:28 for BA/MD cohort HMHV seminars (with GA support) and 1:20 for HMHV minor seminars. All of the basic science/math classes have a 1:50-60 ratio except Biochemistry, which has a 1: 30-40 ratio. Note that all the of the basic science/math classes serve non-BA/MD students in addition to the up-to 28 BA/MD students, thus extending the benefit of small sections with a specific health science focus to students outside the Program.

5C: Professional Development *Describe the professional development activities for faculty within the unit, including how these activities are used to sustain research-related agendas, quality teaching, and students' academic/professional development at the undergraduate and graduate level. Describe what measures the department takes to ensure appropriate support, mentoring, workload and outcomes for faculty of color and members of groups that are traditionally under-represented in your field.*

Initially, all BA/MD joint appointment faculty engaged regularly in two forms of professional development. The **Group Instructional Feedback Technique (GIFT) evaluation (**a means for getting early to mid-semester student feedback in a class to enable the instructor to make meaningful changes to a class within the semester) and **Peer Observations.** After a few years of this practice in a very stable faculty group (very little turnover), these opportunities were organized on request, and not regularly scheduled. Both opportunities are offered and encouraged for all new faculty joining the group, and offered every year as part of a beginning of the year survey and to any faculty who express interest based on a change in their classes. For example, faculty members who have experienced challenges with student buy-in for active-learning have taken advantage of both (student and peer feedback) to get insight into the student experience to help them adapt the class structure or framing. Another faculty member requested a GIFT evaluation to help optimize their remote class in their first semester of teaching in the pandemic. The Program expects students to complete detailed course evaluations at the end of each semester, and these evaluations provide a starting point for conversations with faculty as to how students experience each class. These conversations can help faculty understand the student perspective and wider context, which may or may not warrant changes in the class structure or framing. Sharing student evaluations also provide an opportunity to express appreciation for faculty efforts and the teaching excellence that results.

The Program is conscious of providing support to all faculty, especially junior faculty and those from underrepresented groups. This involves providing regular opportunities for connection with other faculty, staff and students, and being responsive to concerns raised by faculty members. Having two HMHV faculty members for each course provides opportunities for mentorship of new faculty from another faculty member who has experience with BA/MD as well as the home department. As previously mentioned, the Program has a fairly high faculty retention rate and we attempt to increase the diversity of our faculty by providing a supportive environment for faculty, staff and students is likely.

Criterion 6. Research, Scholarship, & Service

The unit should have structures in place to promote active engagement in research, scholarly, and creative works among the faculty and students.

6A: Scholarly & Creative Works *Describe the scholarly/creative works and accomplishments of the faculty. Explain how these supports the quality of the unit; what are particular areas of strength?*

Our faculty is widely interdisciplinary, with a broad range of research foci. The main role of each faculty member in the Program is to teach the undergraduate students, with no coordinated research being a direct part of the mission. However, research and scholarly activity by our faculty bring benefit to the UNM community as well as the wider state, country and world with their research that relates broadly to education, social science aspects of health, as well as science and math. Several of our faculty provide opportunities for BA/MD students to get involved in research, both as undergraduates, and later, when as medical students, they are required to participate in a research project.

BASIC SCIENCE & MATH FACULTY

Summer Hayek is a Lecturer III for UNM's Department of Biochemistry & Molecular Biology (BMB), and joined the Combined BA/MD Degree Program in 2018. Her work has involved creating student-centered, active-learning course material for both lecture and lab-based 400-level biochemistry courses. Prior to her appointment as a lecturer, she served as a research assistant professor within UNM's Department of Biochemistry & Molecular Biology from September 2016 until August 2018. During that time, she was an author on (2) primary research and (2) review articles related to pH regulation via the V-ATPase proton pump. She was also awarded two small, local grants for this work. Prior to accepting her position at UNM, she was located in Florida and was involved in a variety of creative science positions. These included serving as the Science Education Director for the Emerald Coast Science Center, where she designed hands-on outreach activities for K-12 students, and as a biochemistry textbook content designer for the Bedford, Freeman & Worth Publishing Group, where she created online instructional videos and assessment quizzes to accompany the Berg Biochemistry (8e) textbook.

Kelly Howe has been a Lecturer in the UNM Biology Department since 2004 and joined the BA/MD program in 2012. Her teaching focus is Cellular/Molecular Biology and Genetics and she currently teaches the introductory Genetics course for the BA/MD Program. Dr. Howe's re-design of the introductory Genetics course has led to increased retention and overall grade improvement within the course. She incorporates a significant active learning process where students learn through a mix of instructor lecture and group problem-solving.

Christopher Johnston is an Associate Professor in the Department of Biology and investigates the molecular mechanisms through which the axis of cell division is controlled during animal development. Positioning of the mitotic spindle is the key determinant of this process, and Dr. Johnston's research has identified several key signaling pathways involved in spindle orientation. His research lab uses a multidisciplinary approach, with techniques spanning in vitro protein biochemistry, structural biology, cell culture systems, and in vivo Drosophila genetic models. Since starting his independent research lab at UNM in 2013, his group has published 14 original manuscripts in leading scientific journals, with an additional 3 currently under review. Much of this work was completed as part of a 5 year NIH-funded grant (R01GM108756; ~$1.4M total budget) awarded to him as the sole PI. To date, he has graduated two PhD students and one MS student, and has four additional MS students finishing in 2021. He also serve on the editorial board of the Journal of Developmental Biology.

Sushilla Knottenbelt serves as UNM Student Experience Project Science Lead. The Student Experience Project focuses on bringing social psychological research on growth mindset and social belonging into the classroom to improve equity in student experience and outcomes. She developed activities to support social belonging and was recognized as a Fall 2020 and Spring 2021 'bright spot' instructor, contributing activities to a resource bank for instructors.
https://studentexperienceproject.org/wp-content/uploads/SEP-Bright-Spots-Fall-2020.pdf

Sushilla also collaborates with faculty on research in teaching and learning, most recently related to the impact of studio classrooms. Selected publications and presentations:

- **Learning through designerly practices**. Paper presented at the AERA, Philadelphia, PA., J. (2014, April 3-7). Svihla, V., Knottenbelt, S., & Buntjer,
- **Development of student metacognition and progression of expertise across chemistry and biochemistry classes.** The FASEB Journal vol. 28 no. 1 SupplementLB114, April 2014 Rosenberg, M., Knottenbelt, S., & Whalen, L**.**
- **Classrooms Designed for Engaging Learners: Learning Studios at the University of New Mexico;** Gary Smith, Aurora Pun and Sushilla Knottenbelt. New Mexico Higher Education Assessment and Retention Conference, Albuquerque, February 2014.
- **General chemistry course redesign projects at the University of New Mexico**; Sarah Toews Keating, K. Joseph Ho and Sushilla Knottenbelt New Mexico Higher Education Assessment and Retention Conference, Albuquerque, February 2014.
- **The Effect of Classroom Environment on Student-Centered Learning;** Sushilla Knottenbelt. Biennial Conference on Chemical Education: Grand Valley State University, July 2014.
- **Creating a Community through Assessment** Sushilla Knottenbelt, Diana Habel-Rodriguez and Sarah Toews Keating. Biennial Conference on Chemical Education: Grand Valley State University, July 2014.
- **Learning Studios: Increasing Success for ALL Students**. Sushilla Knottenbelt, Aurora Pun, Gary Smith, Audriana Stark, Damien Sanchez and Victor Law. New Mexico Higher Education Assessment and Retention Conference: February 2015.
- **Educational Outcomes and Student Perceptions of Introductory Science Instruction in Studio Classrooms at an Ethnically and Socioeconomically Diverse Large University.** Aurora Pun, Sushilla Knottenbelt, Victor Law, Gary Smith, Audriana Stark and Damien Sanchez.National Forum for Active Learning Classrooms at the University of Minnesota August 2015.
- **Tracing Critical Thinking Skills and Learning Strategies of Undergraduate STEM students.** Sushilla Knottenbelt and Martina Rosenberg.New Mexico Higher Education Assessment and Retention Conference, Albuquerque: February 2016.
- **Writing in Introductory Chemistry: experiences at a Hispanic Serving Institution.** Sushilla Knottenbelt, Cristyn Elder, Julia Fulghum and Alisha Ray· Biennial Conference on Chemical Education: University of Northern Colorado, August 2016.
- Poster presentation at the Biennial Conference on Chemical Education, BCCE 2018, at the University of Notre Dame: **Grit and pathways of the undergraduate STEM student.** Amy Overstreet, Sushilla Z. Knottenbelt, and K. Joseph Ho, August 2018.
- Poster presentation at National Forum for Active Learning Classrooms: **What achievement gap? Interconnectedness levels the playing field in ALCs.** Carolyn J. Hushman, Aurora Pun, & Sushilla Knottenbelt, University of New Mexico, August 2019.
- **Active Learning Classrooms: Promoting Learning Through Student Connections in Large-Enrollment Introductory Science Courses, Carolyn J. Hushman, Aurora Pun, Sushilla Knottenbelt, Paper accepted at the** annual meeting of the American Educational Research Association (AERA) **2020**

Mark Morgan-Tracy has been a lecturer in physics and astronomy and a member of the BA/MD faculty at the University of New Mexico since 2012. For both the BA/MD program and the Department of Physics and Astronomy, his teaching focus has been on the algebra-based physics sequence taken by pre-med and life-science students. Through the use of active and collaborative learning, he aims to

maximize success for all students and to avoid the achievement gap that often prevents first-generation and traditionally underrepresented students from realizing their full potential.

Recent examples of faculty development:

- Completed the six-week Evidence-Based Practices for Teaching Online course to become a certified online teacher at UNM.
- Fulfilled a long-term goal and having all algebra-based physics courses (and not just the BAMD section) be "flipped" classes where introductory material is given in online pre-class videos. Class time is then spent actively interacting with the material in such a way as to deepen the students' understanding.
- Created and refined multiple-choice clicker questions for use in larger algebra-based physics courses. A collection of approximately 400 questions allows Physics I and II students to spend the entirety of every class meeting interacting with material while avoiding a traditional lecture format.
- For the BAMD section, author of over thirty in-class worksheets on topics from algebra-based physics I and II that allows students to spend the entirety of every class meeting interacting with material.

Helen Wearing has been associated with the BA/MD Program since 2007. Since the previous APR, Dr. Wearing has published 18 papers in peer-reviewed journals, graduated 4 PhD students and 3 MS students, and mentored 10 undergraduate students on research projects. The major emphasis of her research at UNM has been on developing mathematical models for the emergence of dengue fever and other infectious diseases transmitted by insect vectors. Her recent papers quantify aspects of the environmental, ecological and immunological factors important for understanding the effectiveness of control measures in endemic regions, and the potential for emergence into new areas, and include collaborations with researchers who work with laboratory mosquito-virus systems, and in entomological and public health surveillance. In 2016, she received funding with Dr. Rebecca Christofferson (Louisiana State University), through a joint NSF/NIH initiative to investigate how temperature, mosquito and virus interact to determine successful viral transmission. Dr. Wearing is also interested in how mathematical models can be effective tools in public health decision making. Since 2017, she has worked with UNM epidemiologist, Dr. Kim Page, to develop models for assessing the impact of transmission heterogeneities and different treatment interventions on Hepatitis C Virus prevalence. In addition, she has made significant contributions to other areas of theoretical biology in the past few years, including evolutionary cancer dynamics and the metabolic theory of ecology, which have resulted in publications in PLoS Computational Biology (2018) and Science (2019), respectively. In 2020, she began working with colleagues from UNM's Museum of Southwestern Biology (MSB) and the Health Sciences Center on an NSF-funded EAGER project screening frozen tissue collection at the MSB to characterize betacoronavirus diversity in wild mammals and its implications for human coronavirus emergence.

Lisa J. Whalen teaches organic chemistry to undergraduates by exploring the use of collaborative learning in both large (>50) and small (<50) courses. She is the supervisor of the undergraduate organic chemistry laboratory program, where current efforts are concentrated on building a laboratory for the 21st century and "greening" the curriculum. Dr Whalen was nominated for UNM Outstanding Adjunct Teacher/Lecturer of the Year in 2016, 2018, and 2020. She was recognized with the Award for Teaching Excellence from the National Society for Leadership and Success in 2018. She participated in the design of new organic laboratory facilities constructed in 2015 that serve the BA/MD students.

Recent Publications:

- Deck, L.M.; Greenberg, J.A.; Whalen, L.J.; Vander Jagt, D.L.; Royer, R.E. Synthesis of naphthoic acids as potential anticancer agents. Synlett 2019, 30, 104-108.
- Deck, L.M.; Hunsaker, L.A.; Vander Jagt, T.A.; Whalen, L.J.; Royer, R.E.; Vander Jagt, D.L. Activation of anti-oxidant Nrf2 signaling by enone analogues of curcumin. Eur. J. Med. Chem. 2018, 143(1), 854-865.
- Deck, L.M.; Whalen, L.J.; Hunsaker, L.A.; Royer, R.E.; Vander Jagt, D.L. Activation of anti-oxidant Nrf2 signaling by substitute trans stilbenes. Bioorg. Med. Chem. 2017, 25(4), 1423.

Recent Presentations:

Whalen,L.J.; Hunsaker, L.A.; Heynekamp, J.J.; Busby, T.S.; Vander Jagt, D.L.; Royer, R.E.; Deck, L.M. Synthesis of phenyl substituted dihydroxynaphthoic acids using a Suzuki coupling. Presented at the 248th National Meeting of the American Chemical Society, San Francisco, CA, August 2014, Poster ORGN 931.

A&S HMHV FACULTY

Kate Cartwright is faculty in the UNM School of Public Administration Master of Health Administration program as well as HMHV faculty. She is a medical sociologist with a public health expertise in health management, administration, and policy. She investigates health disparities and identifying pathways to improve health equity. She studies racial and ethnic health inequity topics ranging from access to care and quality of care to specific health outcomes. A primary focus has been the inequities facing immigrants and US Latinx populations in relation to chronic illness. Through her time at UNM she has responded to the needs of the greater New Mexico community and has expanded her research agenda to include health inequities facing diverse rural populations. Current projects include culturally responsive care in rural hospital and clinic settings (which stem from the two summers of rural health and COVID-19 work) and grant-funded team-based project examining culturally responsive practices, cancer screening in preventable cancer, and cancer disparities in Native American populations. Her work has been funded by internal and external funders including projects supported by the Robert Wood Johnson Foundation, the National Institutes of Health, and the National Institute on Minority Health and Health Disparities.

Recent publications include:

- **Cartwright, K.**, M. Gonya, L. Baca,* and A. Eakman.* "We're Such a Small Community": A Qualitative Study of COVID-19 Pandemic Experiences in Rural New Mexico. In: Kronenfeld, J.J., Ed. *Research in the Sociology of Health Care: Health and Health Care Inequities, Infectious Diseases and Social Factors* (pp. 1-26). Emerald. (Accepted, forthcoming). *BA/MD Student Co-authors
- **Cartwright, K.** 2021. "Social Determinants of the Latinx Diabetes Health Disparity: A Oaxaca-Blinder Decomposition Analysis." *Social Science & Medicine-Population Health, 15*: 1-10.
- **Cartwright, K.** and L. Chacon. 2021. "The Impact of Immigration-Related Separation and Reunification on Children's Education: Evidence from the American Community Survey 2010-2018." *Children and Youth Services Review, 126*: 1-11.
- **Cartwright, K.** 2021. "Delivered from the Temptation of Smoking: An Examination of Religion and Health Behaviors of New U.S. Immigrants." *Journal of Religion & Health, 60*: 1739-1759. (Published online ahead of print in 2019.)
- **Cartwright, K.** 2021. [Review of the book *Citizen Patient: Reforming Health Care for the Sake of the Patient Not the System*, by N. Hadley]. *World Medical and Health Policy, 13*: 406-407.
- **Cartwright, K.** 2021. [Review of the book *Health Care Off the Books: Poverty, Illness, and Strategies*, by D. Raudenbush]. *Humanity & Society, 45*(1), 127-129.
- Cunningham, S., E. Chandrasekar, **K. Cartwright**, and K. Yount. 2019. "Protecting children's health in a calorie-surplus context: household structure and child growth in the United States." *PLoS ONE, 14*(8): 1-19.
- Idler, E. and **K. Cartwright**. 2018. "What Do We Rate When We Rate Our Health? Decomposing Age-Related Contributions to Self-Rated Health." *Journal of Health & Social Behavior, 59*(4): 74-93.

- Nelson-Nuñez, J. & **K. Cartwright**. 2018. "Getting Along or Going Alone: Understanding Collaboration between Local Governments and NGOs in Bolivia." *Latin American Politics and Society*, *60*(1): 76-101.

Claudia Diaz-Fuentes studies health disparities among older adults and immigrants. Her research focuses on the role of upstream transfers of time and financial resources on health outcomes. Her research has addressed several of the methodological constraints pertinent to multigenerational resource exchange. In addition to developing a broad teaching portfolio that includes HMHV301 (Health Economics and Policy) along with other six courses, she has been deeply involved in health insurance policy research. Her focus has been on insurance markets competitiveness and accessibility, particularly for plans sold under the ACA marketplaces. She have also engaged in population health-centered research. Her most recent publications focus on access to care for patients with cancer, as well as undocumented immigrants in the construction industry. More recently she has studied the key role and challenges facing the non-profit organizations that address community, family and individual issues that are not addressed by the public safety net.

Tamar Ginossar is a Full Professor at the Department of Communication and Journalism. As a health communication scholar, her research focuses on health, science and environmental communication. Since Fall 2014, she received tenure (2015) and was promoted to full professor (2021). She has published 21 peer-reviewed journal articles, and 3 book chapters, with four manuscript and one book proposal under review. She received a few grant proposals and is awaiting the review of one NIH proposal. She also mentored 10 medical students on their research projects and advised 4 doctoral students and 4 MA students who graduated successfully. She served as C&J department interim-chair for 6 months and is serving as Associate Chair for about 4 years.

Yangsun Hong is an Assistant Professor in the Department of Communication and Journalism. Her research examines communication as a social contextual factor to reduce health inequities among marginalized groups. She situates people's intersectional social positions and communication opportunity at the center of communication research.

Ann V. Murphy does work in ethical theory and political philosophy on embodiment and violence. Since the last APR, she has published 5 peer-reviewed journal articles, 2 chapters in edited volumes, 3 encyclopedia articles, a co-edited anthology, and an edited special journal issue. She has 5 additional articles forthcoming and am at work on her second monograph.

Richard Santos' areas of expertise are labor and health economics, with a specialization on Hispanic issues. His work in these areas of research progresses with co-authored publications in Journal of Medical Economics (2018), Journal of Pediatric Nursing (2017), and Sociology of Health and Illness (2012). He is serving as a faculty mentor and dissertation co-chair to a RWJF Graduate Fellow whose funded work is on food insecurity and health consequences among low-income adults. Other dissertation students that he is currently serving as co-chair or committee member include research on mode of transportation and health visits and the impact of food stamps on high school attendance. Professor Santos' recent work on health (e.g. food stamps, health insurance among Mexican Americans) has been presented at several national economic conferences including the Southern Economics Association, and the American Economic Association.

Diana Torrez is an instructor and therefore primarily engages in teaching courses. The courses she teaches are Sociology courses. She teaches HHMV 1110 – Social Contours of Health. She also teaches Introduction to Sociology, Sociology of Medical Practice and Gerontology.

David van der Goes is an associate professor of economics and teaches HMHV 301, Health Economics, Politics, and Policy for the BAMD program. Dr. van der Goes brings his interdisciplinary research experience with health care providers to the classroom to provide "real-world" context to the material. He has worked on research projects funded by American Academy of Neurology, the Robert Wood Johnson Foundation, the National Institutes of Health, the Centers for Medicare & Medicaid Services (CMS), and more. His collaborators at UNM HSC include Internal Medicine, Neurosurgery, Pharmacy, and Orthopedics, amongst others. He has worked with NM HSD and NM DOH on health care policy in NM, including serving as an investigator for the CMS funded State Innovation Model.

Recent publications

- **van der Goes DN**, Edwardson N, Rayamajhee V, Hollis C, Hunter D. An iron triangle ROI model for health care. *Clinicoecon Outcomes Res*. 2019;11:335-348. Published 2019 May 10. doi:10.2147/CEOR.S130623
- Whetten J, **van der Goes DN**, Tran H, Moffett M, Semper C, Yonas H. Cost-effectiveness of Access to Critical Cerebral Emergency Support Services (ACCESS): a neuro-emergent telemedicine consultation program. J Med Econ. 2018 Apr;21(4):398-405. doi: 10.1080/13696998.2018.1426591. Epub 2018 Jan 19. PMID: 29316820
- Melissa H. Roberts, PhD; Douglas W. Mapel, MD, MPH; Matthew E. Borrego, PhD; Dennis W. Raisch, PhD; Larry Georgopoulos, PharmD; **David van der Goes, PhD**. "Severe COPD Exacerbation Risk and Long-Acting Bronchodilator Treatments: Comparison of Three Observational Data Analysis Methods." *Drugs - Real World Outcomes* 2(2) (2015).
- Kevin E Vowles, PhD; Mindy McEntee; Peter Julnes; Tessa Frohe; John Ney; **David van der Goes**. "Rates of Opioid Misuse, Abuse, and Addiction in Chronic Pain: A Systematic Review and Data Synthesis." *PAIN* 156(4) (2015): 569-76.
- Ney, John P., **David N. van der Goes**, Marc R. Nuwer, Lonnie Nelson, and Matthew A. Ecchers. "Continuous and routine EEG in intensive care: Utilizations and outcomes, United States 2005-2009." *Neurology* 81 (2013): 2002-2008.

Owen Whooley is currently an Associate Professor of Sociology and Senior Fellow at the Robert Wood Johnson Foundation Center for Health Policy at the University of New Mexico. His research focuses on medical professionals, specifically the history of professionalization in the United States, the nature of professional politics, and the influence of medical professions on policy outcomes. Since the last APR in 2014, he has continued to publish research in the sociology of health & illness. He has published a book with the University of Chicago Press, on the history of psychiatric ignorance titled, On the Heels of Ignorance (2019). This book won a national book award from the American Sociological Association, Section on Science, Knowledge and Technology in 2020. In addition to the book, he has published 5 peer-reviewed articles in top-tier sociological journals and 3 book chapters. Currently, he is working on his third book project which examines the experience of individuals working in the fractured community mental health system in Albuquerque.

6B: Research Expenditures *If applicable, include a summary of the unit's research related expenditures, including international, national, local, and private grants/funding. How is faculty-generated revenue utilized to support the goals of the unit?*

N/A

6C: Research Involvement *Give an overview of the unit's involvement with any research labs, organizations, institutes, or other such centers for scholarly/creative endeavors (i.e. formal partnerships with Sandia Labs, CHTM, community organizations, local media, etc.).*

No formal partnerships exist with the BA/MD Program as a whole, however, individual faculty have collaborations as listed below.

Kate Cartwright was a senior fellow of the UNM Robert Wood Johnson Foundation Center for Health Policy at UNM from 2015-2018, an ongoing faculty affiliate and co-investigator of an administrative supplement grant of the UNM Transdisciplinary Research, Equity and Engagement (TREE) Center for Advancing Behavioral Health a NIMHD funded research center of excellence, and a faculty affiliate, summer program coordinator, and mentor with the University of Texas at El Paso Building Infrastructure Leading to Diversity: Southwest Consortium of Health-Oriented education Leaders and Research Scholars (Building Scholars) program from 2016-2019. She is a co-investigator of an ongoing research project with a team of scholars at the UNM Health Sciences Center funded by New Mexico IDeA Network of Biomedical Research Excellence.

Claudia Diaz Fuentes has been working with the UNM Evaluation Lab to build evaluation capacity with non-profit organizations in New Mexico. The work involves mentoring graduate students to support evaluation projects that are developed and executed along with the partnering non-profits. There are 4 to 5 teams and each of them produces an evaluation that she reviews and edits throughout the academic year. Perhaps the most rewarding results for her are to see organizations implementing meaningful evaluation strategies that serve their mission, and students realizing the impact of their work as the projects evolve.

Tamar Ginossar is Adjunct Professor at the UNM HSC Prevention Research Center.

Summer Hayek was a contracted textbook content creator with Bedford, Freeman & Worth Publishing Group in 2015. She was intimately involved in research in Dr. Karlett Parra's laboratory (UNM BMB) and Dr. Samuel Lee's laboratory (UNM & ABQ VA) as a research assistant professor from 2016-2018. As a lecturer, she has collaborated with other scientists across the country as part of the MCC, or Malate Dehydrogenase (MDH) Cure Community, spearheaded by a group at the University of San Diego. The MCC is an NSF-funded organization that works to use MDH as a model system to create curriculum-based undergraduate research experiences (CUREs) for students. In this project, she worked to switch UNM's BIOC 448L lab curriculum from a traditional "follow the protocol to learn a bunch of unrelated lab techniques" to a semester-long research project where students ask a question and pose a hypothesis about MDH kinetics and then use the usual techniques as a means to test their hypothesis. She will be starting as an MCC hub coordinator and trainer for the southwest portion of the USA within the next year.

Yangsun Hong is a founder and director of research lab called the Digital Media and Communication Research Group (http://cjdept.unm.edu/research/research-groups/dmc.html). She is an affiliated faculty for the Institute for the Study of 'Race' and Social Justice and the Feminist Research Institute at UNM. She volunteered to serve a research team for a white paper about 'COVID-19 vaccine in South Korea' by the People's Health Institute.

Ann Murphy is a core faculty member in the Certificate Program for Clinical Ethics at the UNM Health Sciences Center. This is a nine-month long course in various issues regarding clinical ethics which met bi-weekly from October 2020-June 2021.

Richard Santos is affiliated with the Southwest Hispanic Research Institute at the University of New Mexico. He was selected to attend the Teaching Poverty 101 Workshop, Institute for Research on Poverty, University of Wisconsin, Madison (Summer 2018). This workshop on poverty served as a springboard for incorporating more poverty issues and health disparities in the health economic classes. His economic class on poverty and discrimination meets the global diversity and inclusion course content requirement for students graduating from the University of New Mexico. He is currently serving as a faculty mentor in the Health Policy Research Scholars, RWJF Program which serves to bring underrepresented scholars to the health policy field.

Diana Torrez is a member of Center for Hispanic-Latino Health Equity (CHLHE), Institute for the Study of Race and Social Justice, and Gerontological Society of America

Lisa Whalen developed and co-taught a medicinal chemistry/pharmacology study abroad program in Germany taught to 14 UNM students in 2017 (7 of whom were in the BA/MD program) and 12 UNM students in 2019 (3 BA/MD). In 2017 this was done with the UNM International Studies Institute. Completed Online Fundamentals and Course Design Institute training in Summer 2020 with the UNM Center for Teaching Excellence. Received certification for completing Evidence-Based Practices for Teaching Online in March 2021.

Owen Whooley is a Senior Faculty Fellow for the Center for Health Policy at UNM. In the discipline of sociology, he has served on the editorial board of two journals, Contemporary Sociology and Qualitative Sociology. He has also served on two national book award committees through the American Sociological Association.

6D: Student Opportunities *Describe the opportunities for undergraduate and graduate students to be involved in research/creative works through curricular and extracurricular activities.*

Douglas Binder works with three different groups of learners at UNM: BA-MD undergraduate students, medical students at the School of Medicine, and Emergency Medicine residents. He teaches in a variety of different venues and spends a considerable amount of time with mentoring and professional development.

Kate Cartwright helps facilitate the rural health practicum for UNM Combined BA/MD students. She teaches the class that prepares them to do a month-long rural health practicum in rural New Mexican communities. Due to COVID-19, the rural practicum was canceled for summer 2020 and summer 2021. This meant that the program needed to develop a project that would allow students to continue to learn about rural health, but in a safe way for them and our rural community partners. On very short notice, Dr. Cartwright developed a qualitative research project as an alternative. In 2020 and 2021, she led a research experience for two subsequent BA/MD cohorts, where each class worked together to build qualitative skills, gather literature, develop competencies in designing research for IRB approval, recruit participants, and to conduct interviews. Dr. Cartwright and two cohorts of Combined BA/MD students conducted over 70 interviews (16 interviews in 2020 and 55 in 2021). These interviews give insight into the challenges, assets, and concerns that rural communities have had during this pandemic. The results of this research identify factors which influenced the experiences of rural communities during the

pandemic and highlights why some well-intentioned policies failed rural communities. Some thematic updates based on the 2020 interviews and current pandemic context include vaccine hesitancy, rebuilding health infrastructure, and supporting families. The first manuscript from this project, "'We're Such a Small Community': A Qualitative Study of COVID-19 Pandemic Experiences in Rural New Mexico," is co-authored with two students from the Combined BA/MD program and a graduate assistant (who served as the TA for HMHV 398 in Spring 2021) and is forthcoming in the *Health and Health Care Inequities, Infectious Diseases and Social Factors* issue of the *Research in the Sociology of Health Care* book series. These students also presented this project at the 2021 New Mexico Public Health Association Meeting. This project is still on going and additional Combined BA/MD students are working on analyzing the 2021 interviews which will also develop into presentations and publications.

Tamar Ginossar assigns a research project as a final assignment in all her courses. She has mentored dozens of BAMD students on research. Some as part of her regular teaching, when she provided students with the option to work with her on analysis of her data, such as transcript and analyze research interviews and analyzing vaccine-relation tweets. Ten of these students asked her to be their mentor on their Med School research project. Dr. Ginossar also hired or provided independent study to about 10 more students from the HMHV courses over the years.

Summer Hayek has mentored two BA/MD undergraduate students as teaching assistants for BIOC 423 in the last three years. Their duties included helping with team-based learning during class, running help sessions, answering emails, and grading. However, they also periodically had more creative duties, including helping to design clicker-based case-studies and helping write practice exam questions.

Yangsun Hong requires her students in HMHV 310 (Health and Cultural Diversity) to write a research paper as their final project. The goal is to analyze health inequalities of a certain group of people and propose communication theory-based ideas to improve health of the people. She offers the top groups, the opportunity to submit their final papers to communication conference to present and guided their paper submission. In 2019, three students submitted their project to the annual conference of the Western Communication Association.

Christopher Johnston has worked with Five BA/MD students in his research lab as part of BIOL 499: Undergraduate Problems. This course provides students the opportunity for one or more semesters of laboratory experience and training, where they learn many standard techniques in molecular biology as well as experience scientific research first hand.

Richard Santos' research creates various opportunities for BA/MD students, economics undergraduate/graduate students, and medical students to get involved in research. In Spring 2020, a BA/MD student presented our co-work on obesity at the American Medical Student Association and the previous year at the New Mexico Public Health Association. Graduate students whose dissertation work on health disparities is being supervised by Professor Santos are given the opportunity to highlight their findings in class to BAMD students. Professor Santos's work on poverty issues is an essential component of the health economic class taught to BAMD students and other students.

Diana Torrez invites speakers to class who can provide students with opportunities to engage in the community such Dr. Flegg's "National Health Initiative" "Running Medicine" and "Healers of Tomorrow".

Lisa Whalen created the Medicinal Chemistry in Germany Study Abroad Program referenced earlier. Students complete some contact hours at UNM for the second half of the spring semester, then finish the class in Germany with presentations given abroad and field trips to sites related to the course material.

Helen Wearing has mentored several BA/MD students on research projects in her upper-level Introductory Mathematical Biology class (Biol 492), which some students take as part of their degree electives. She has also co-supervised a BA/MD student, Zachary Gillooly, on his medical student research project, "Mathematical modeling of pertussis cocooning: the effect of prenatal vaccination on disease dynamics", during 2013-2016.

6E: Community Service *Describe faculty members' service to the UNM community and beyond (local, national, global). Examples include community engagement practices, volunteering on committees, professional organization membership/leadership, etc.*

All faculty serve on the BA/MD Committee on Curriculum and Student Progress (CCSP), and either the Basic Science and Math sub-group or the HMHV sub-group. In addition, two serve on the Eligibility and Professionalism Subcommittee of the CCSP.

Douglas Binder has been a member of the Nobel Prize winning organization Physicians for Social Responsibility for over 25 years. He regularly interacts and contributes to Healthcare for the Homeless, and works with this population at his clinic, Care One.

Kate Cartwright's service work aligns with her larger professional goals of improving the health and wellbeing of others and advancing health equity. In addition to serving on the CCSP and the HMHV committees, she also serves on the assessment committee and assisted with the revision and facilitation of the HMHV assessment plan for the BA/MD program. *University Service:* From 2015-2021, she served on the School of Public Administration MHA Committee, which guided all decisions for the program, including admissions, curriculum, and assessment, as well as a shorter-term workload policy committee. As of Fall 2021, to better integrate the goals of the School of Public Administration for both the MHA and MPA programs, the committees were restructured, and now she now chairs the SPA admissions committee and serves as a member on the assessment and workload policy committees. As a senior fellow with the RWJ Center for Health Policy, Dr. Cartwright served as a faculty mentor for graduate and undergraduate students, sat on the RWJF Student Pilot Research Grant Proposal selection committee, and served as a co-coordinator and mentor for the NIH-funded BUILDing SCHOLARS (Building Infrastructure Leading to Diversity: Southwest Consortium of Health-Oriented Education Leaders and Research Scholars) program. Dr. Cartwright was a faculty advisor to the Affordable Care Act team at the Community Engagement Center. In this capacity, she supported team of undergraduate students who served as ACA educators and enrollers for the UNM, CNM, & APS communities. She helped draft and secure a McCune Foundation grant for $15,000 to support student stipends for this work. She served on the Mellon Mays Undergraduate Fellowship Advisory Board for 3 years and currently serves as a member of the UNM Truman Committee. *Service to the Field of Health Administration:* Dr. Cartwright is involved in shaping the field of health administration at the state and national level as well. She is a member of the Programs, Products, and Services Committee for the American College of Health Executives (ACHE), which guides all the educational programming for the year. Since 2020, she has been a board member of the ACHE state-affiliate, the New Mexico Health

Executives (NMHE). She has been a member of the ACHE Regents Advisory Council and the NMHE Diversity, Equity, and Inclusion committee since 2018, and since 2020 serves as the committee co-chair. She has also been active with the Health Administration Section of the American Public Health Association since 2017, including two terms as secretary from 2019-2021 and is entering her second term as the program planning co-chair.

Tamar Ginossar served as an Interim Department Chair, Chair of the Health Communication Group at the American Public Health Association and on the UNM College of LAS T&P committee 2018-2020. She has served as Associate Dept Chair 2016-present. She serves on UNMH literacy task force. She is a member of the National Communication Association, International Communication Association and the American Public Health Association. She is also a member of the HMHV CCSP subgroup and has served as a faculty mentor to 1st year BA/MD students.

Summer Hayek engaged in national service as part of the MCC, or Malate Dehydrogenase (MDH) Cure Community, spearheaded by a group at the University of San Diego. She has served as the Undergraduate Program Director for UNM's Department of Biochemistry & Molecular Biology (BMB) since summer 2019. This entails keeping the undergraduate program running smoothly, including course scheduling, programmatic changes (like new course design and catalog updates), new student orientation, student advisement, graduation, and assessment. As part of her program director duties, she liaises with the American Society for Biochemistry & Molecular Biology (ASBMB), the national accrediting body, particularly concerning their annual certification exam and accreditation requirements. As a BA/MD program faculty, she serves on the Basic Science and Math CCSP subgroup. She also served as a mentor to a recently hired BMB faculty member and has participated in the BA/MD first-year mentorship program during the 2021 and 2022 academic years. She has served on two BMB hiring committees (once as chair), and have served for (3) years on UNM's Goldwater Scholarship selection committee. In 2017, she served as an oral presentation judge for UNM's Cardiovascular and Metabolic Disease Program research day and for the South/Central Medical Mycology annual meeting (this is a regional meeting of fungal researchers). Finally, she served on a M.S. thesis committee in 2016 and has recently been asked to serve on a Ph.D. thesis committee through UNM's BSGP.

Yangsun Hong is a member of the HMHV CCSP subgroup. She served as a mentor of the Undergraduate Pipeline Network (UPN) Summer Research Experience, in summer 2020. She mentored two students who are interested in studying health and media. She also served as a mentor for a group of UNM graduate students who run for UNM Graduate Student Team Research Competition, in Spring 2021 and they were selected finalists. She is a faculty member of the Steering Committee for the UNM APACC (Asian Pacific American Culture Center) since Fall 2020. She is a member of several academic organizations such as International Communication Association (ICA), National Communication Association (NCA), Western States Communication Association (WSCA), People’s Health Institute and others.

Christopher Johnston has served on the BA/MD science and math subgroup since 2013. He served as a faculty mentor in 2020/2021. In the Department of Biology, he has served on 5 hiring committees, 6 graduate student committees, faculty annual review committee, and the library liaison committee. He is currently serving on the faculty senate.

Sushilla Knottenbelt serves as Science Lead for the UNM Student Experience Project (SEP) – a coalition of 6 universities and several learning partners addressing equity issues in higher education. Her role specifically involves supporting faculty involvement in implementing and measuring interventions and practices designed to improve social belonging and growth mindset in college classroom which can reduce or eliminate equity gaps in student experience and outcomes. She has presented on behalf of UNM at several SEP meetings and national conferences on this work. She is faculty liaison for the UNM Peer Learning Facilitator Program, part of the organizing team and is involved in active efforts to seek funding and institutionalize this Program.

Mark Morgan-Tracy has served as Chair of Introductory Physics and Astronomy Committee and Chair of hiring committee for new lecturer in the Department of Physics and Astronomy. Service related to BA/MD includes the Basic Sciences CCSP Subgroup and the CCSP Ethics and Professionalism subcommittee and service as a faculty mentor. He is also Chair of UNM Learning Environments Subcommittee on Learning Studio Classrooms.

Richard Santos is a founding member of the American Society of Hispanic Economists. He has organized and chaired session for the International Association of Applied Demographers (2019), Freedom and Justice Conference sponsored by the American Society of Hispanic Economists and National Economics Association (2019). He was a Panel Judge, MacArthur 100&Change Project: the goal is to elect 1 award of $100 million to solve a global social or economic problem (2016). He is a former faculty mentor with the Diversity Initiative for Tenure in Economics (DITE) funded by the National Science Foundation and Duke University (2013). Professor Santos is the director of undergraduate advising in the economics department and faculty advisor to the national economics honorary society chapter at the University of New Mexico

Diana Torrez is a member of the HMHV CCSP subgroup and volunteered at National Senior Games held in Albuquerque in 2019.

Helen Wearing has a joint appointment across the departments of Mathematics & Statistics and Biology. During 2018-2020, she was elected twice to the Executive Committee in the Department of Mathematics & Statistics as the representative of the Applied Math Group. For the Fall 2020 semester, she served as the Associate Chair in the Department of Mathematics & Statistics. In Biology, she has served on the Annual Review Committee for 3 years, which involved the development of new guidelines for annual faculty evaluations and the review of all tenure-track and lecturers in the department each year. She has also served on the Faculty Senate IT committee (2017-2019) and five different faculty hiring committees for three different departments. During Summer 2020, she provided COVID-19 projections to the VPR of UNM's HSC for a range of scenarios related to students living on campus. Professionally, Dr. Wearing became an Editorial Board Member for the Bulletin of Mathematical Biology (journal of the Society for Mathematical Biology) in 2017 and handles manuscripts within the subfields of mathematical epidemiology and ecology. She has served as a panelist for the National Science Foundation and been an ad hoc reviewer for the NSF and several international funding agencies, in addition to reviewing manuscripts for a wide range of journals in her discipline. Since 2017, she has been a member of The New Mexico Hepatitis C Elimination Collaborative, contributing to the development of their strategic plan.

Lisa Whalen has consistently served on C&CB undergraduate advisory, faculty advisory, faculty hire search (tenure-track and non-tenure track), facilities, academic program review, College of Arts and Sciences lecturer promotion and review, and BA/MD basic science and math subgroup committees.

Owen Whooley is currently serving as the Graduate Director for the UNM Sociology Department. In addition to this, he has served on the department's colloquium committee, executive committee, and graduate committee. For the BA/MD program, he is a member of the HMHV CCSP subgroup and has served as a faculty mentor (2020-2021).

Criterion 7. Peer Comparisons

The degree/certificate program(s) within the unit should be of sufficient quality compared to relevant peers.

7A: Analysis *Choose 3 peer departments from the Peer Comparison Template (Appendix E) to contrast with the unit. After completing the Template for these departments, provide an analysis of the comparison. Please describe aspects of your program that are unique compared to these peers.*

▪ *The unit may choose to select an alternative peer institution designated by a relevant regional, national, and/or professional agency.*

There are more than 50 US Medical Schools that sponsor Combined BA/MD Degree Programs. The stated missions of the majority of programs include decreasing the length of training, increasing the number of physician scientists (MD-PhD) and enriching pre-medical curriculum with a liberal arts education. The UNM Combined BA/MD Degree Program is one of very few with missions focused on increasing workforce diversity, and meeting the needs of underserved populations, promoting primary care careers and addressing physician shortages. A recent study[8] has analyzed the impact of all Combined BA/MD Degree Programs in terms of demographics of graduating medical students and their intent to practice in Primary Care or serve underserved populations.

Table 7A-1: Comparative Demographic and Practice information of Practicing BA/MD alumni with national survey of 4th year medical students

Characteristic	All Med. School graduates responding to AAMC survey 2010-2017 N = 105,846	All Med. School graduates responding to AAMC survey 2010-2017 in a combined program N = 3,182	UNM Combined BA/MD Degree Program practicing physicians N = 49 (This column represents physicians actually IN PRACTICE, compared to the other two columns indicating INTENT to practice)
Race/ethnicity			
Asian	21.5%	53.9%	16%
White	63.1%	35.4%	35%
URM*	13.9%	8.7%	52%
(Plan to) Practice primary care specialty #	43.5%	49.0%	74%
(Plan to) Care for underserved populations	29.0%	27.0%	70%
(Plan to) Practice in an underserved area	28.0%	25.0%	32%

**Students identifying as any of the following: Black or African American, Hispanic or Latino, American Indian or Alaskan Native, and Native Hawaiian or other Pacific Islander, were coded as a URM group member (including students who identified as multiracial).*

 # practice or Intention to practice in internal medicine, family medicine, obstetrics and gynecology, or pediatrics were coded as work in or intention to work in primary care.

[8] (Demographics and Career Intentions of Graduates of Combined Baccalaureate–MD Programs, 2010–2017: *An Analysis of AAMC Graduation Questionnaire Data*; Rory Merritt, MD, MEHP, Janette Baird, PhD, and Brian Clyne, MD, MHL, Academic Medicine, Vol. 96, No. 1 / January 2021),

Comparing the results of this study with alumni from the UNM Combined BA/MD Degree Program (Table 7A-1), our alumni who are **already IN PRACTICE** in New Mexico show considerably greater diversity; care for the underserved, and practice in an underserved area in much greater percentages than **the self-reported inten**t of graduating medical students including those in other combined BA/MD degree programs. It is important to note that the BA/MD alumni reported are actually practicing in primary care, serving in underserved areas and caring for underserved population at a significantly higher rate than those graduating from medical school or Combined BA/MD Degree Programs who ***report*** **intending to**. Note that the actual numbers who end up serving underserved populations or in underserved areas is likely to be less that the self-reported intention from a survey at the end of medical school.

It is difficult to compare characteristics of UNM's program with other schools since few schools have published data on the outcomes of their programs. We have selected two programs to provide a more detailed comparison based on similarity in missions and willingness and availability of Program Faculty to share information. These are: CUNY School of Medicine / Sophie Davis Biomedical Education Program (CUNY-SD) and the University of Colorado, Denver BA/BS-MD Program (UC-D). Similar to our Program, both of these Programs aim to recruit and provide educational opportunity to a diverse pool of students with the goal of expanding access to medical education to individuals from underserved communities, of limited financial resources and racial/ethnic backgrounds historically underrepresented in the medical profession. In addition, the UC-D Program also has the goal to better serve the health care needs of the state of Colorado. The CUNY-SD program was founded in 1973 and as such is a very well-established Program. The UC-D Program is much more recent – founded in 2010, just 4 years after the founding of the UNM Program. Table 7A-2 presents a comparison between the programs.

In summary, the UNM Combined BA/MD Program compares favorably with the two other comparison programs in terms of overall retention, student support structures and specialized curriculum. Although we match closely with the other two programs in terms of percentage of rural and underrepresented in medicine race/ethnicities, we admit fewer first-generation students (although since students are not required to provide this information, our records are incomplete). The UNM Program has been a leader nationally in holistic admissions and developing student support structures that support our mission. Both of these programs have consulted with our Program, the UC-D group for their initial implementation, and CUNY-SD for a curricular redesign several years ago. Also, in innovations such as our Merge Program, which has since been adopted by the University of Colorado.

Table 7A.2: Combined BA/MD Program Peer Comparison Metrics

	UNM BA/MD	CUNY-SD	UC-D
1. Founded	2006	1973	2010
2. Size of annual cohort	28	75-80	10
3. Demographics of admitted students	61% URiM in Medicine 67% rural 30% first generation (minimum number – some students choose not to disclose)	76% URiM in Fall 2021 cohort 76% first generation	60% of students are either rural, or URiM or from families with limited financial resources. 70% first generation
4. Admissions practices and requirements	Holistic review Desire to serve the underserved in the State of New Mexico. ACT Comp minimum of 23*	Holistic review, including: GPA, ACT/SAT, Volunteer and work experience, especially in health-related areas such as hospitals and/or • community settings • Evidence of leadership, initiative, responsibility and motivation to pursue a career in medicine	Desire to practice medicine in Colorado as a primary care physician. GPA > 3.5 Prioritize rural, or URiM, First Gen.
5. Length of Program	4 years UG 4 years Medical School	3 years UG with option for 4th 4 years Medical School	4 years UG 4 years Medical School
6. Conditions of Admission to Medical School	Minimum MCAT score for School of Medicine Minimum GPA requirement (>2.98) Meet professionalism standards	Students do not take the MCAT Automatic admission for students with GPA>3.2 and no professionalism infractions. Else interview and committee decision	Minimum MCAT score for School of Medicine Minimum GPA requirement >3.5 Meet professionalism standards
7. Mechanism to replace students lost?	Merge Program established in 2009	No mechanism in place	Merge Program established in 2020, modeled on UNM Program.
8. Specialized courses in addition to pre-med prerequisites?	HMHV seminar sequence, Summer bridge course prior to first year	Several classes relating to community health and social medicine and the first two years of a 4-year Practice of Medicine course sequence. https://med.catalog.cuny.edu/bsprogram/curriculum	1st year learning seminar.
9. Structure of pre-medical prerequisite classes	Small class sizes, active learning pedagogies, joint appointment faculty members	Most science classes taken in regular sections. Specially designed 1 semester General Chemistry and 1 semester Bioorganic Chemistry https://www.ccny.cuny.edu/csom/med-10200-principles-general-chemistry https://www.ccny.cuny.edu/csom/med-20300-bio-organic-chemistry	Require students to take existing honors sections of General and Organic Chemistry, and Cell Biology.

	UNM BA/MD	CUNY-SD	UC-D
10. Experiential Education Component	Summer after year 2: Practicum experience for 1 month in rural community. Community Engagement Project and shadowing.	Summer after year 2: Evaluation in Healthcare Settings course. Students are placed for 20 hours per week in a primary care clinic and carry out a research project 3rd UG year: Practice of Medicine course students begin the first sessions of a longitudinal clinical experience in a primary care setting. They return to the same clinic in the medical school years 1 and 2.	Longitudinal. Experiential. Curriculum. Structured experiences 1st and 2nd summer, incorporating service, research and shadowing.
11. Student support	1. Low advisor to student ratio with dedicated advisors. 2. Academic support through CAPS for pre-med courses. Tutors are often other BA/MD students 3. Summer bridge transition course 4. Last dollar scholarship 5. Living and learning community 6. Faculty mentor for first year 7. Wellness Program	1. Advisement support. 2. Academic support with learning specialists. 3. Limited number of scholarships available 4. Faculty mentoring in the first year. 5. Peer mentoring by upperclassmen.	1. Dedicated advising, 2. Academic support through tutors. Former BA/BS/MD students often serve as tutors. 3. Some financial support is available. 4. Shared housing.
12. Program success and retention information	Overall, retention rate for the UG part of the Program is 79%, with the most recent cohorts showing a 97% retention rate. 68% of MD graduates who have completed residency practice in New Mexico.	Overall retention rate is greater than 80%. 67% of graduates practice within New York State. 40% pursue careers in Primary Care.	All except 1 student has graduated with a UG degree. Because the Program is relatively young, it is only just starting to see its alumni complete training and begin practice. Many students who do not complete the BA in the Program go on to train in other health profession fields. The Program considers them a success for Colorado.

Criterion 8. Resources & Planning

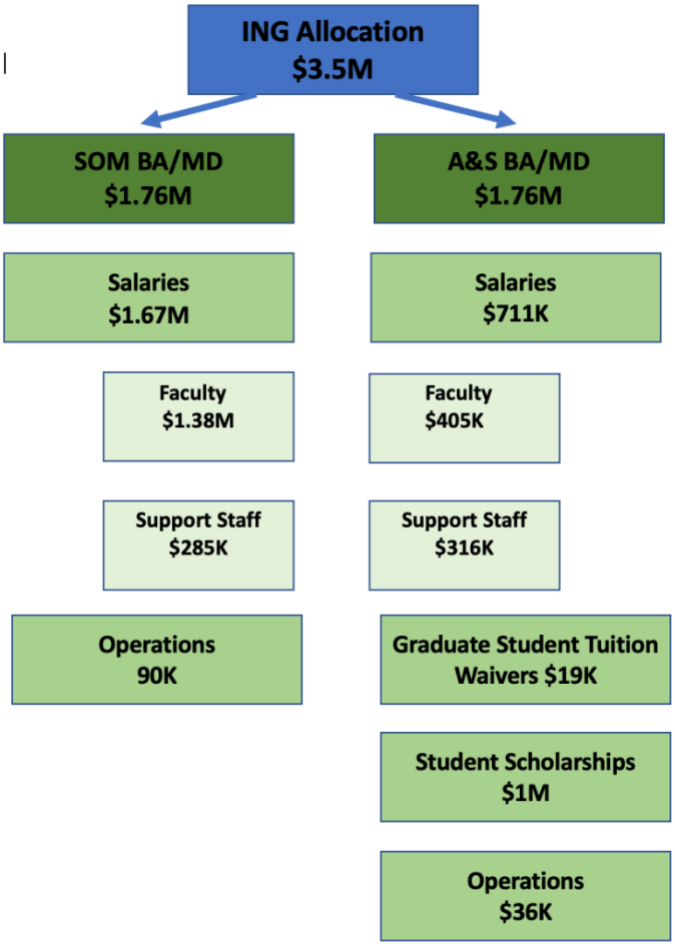
The unit should demonstrate effective use of resources and institutional support to carry out its mission and achieve its goals.

8A: Budget *Provide an analysis of the unit's budget, including support received from the institution and external funding sources.*

▪*Include a discussion of how alternative avenues (i.e., summer bridge programs, course fees, differential tuition, etc.) have been explored to generate additional revenue to maintain the quality of the unit's degree/certificate program(s) and courses.*

The BA/MD Program is funded solely by the NM State Legislature through an instruction and general (I&G) allocation. Figure 8A-1 provides a breakdown of the Program budget from a strategic lens. The Program budget is set and recurs annually. Although the UNM SOM is the fiscal agent, it is considered an A&S Program, where the A&S tuition differential is charged to each student, but this goes directly to A&S without direct return to BA/MD. This budget was set after the Program was established and has not changed significantly in subsequent years except for student scholarships, which have increased due to increases to the 'Basic Educational Cost' (BEC = tuition, fees, housing, book stipend).

Figure 8A-1: Combined BA/MD Degree Program budget overview



The Program has been able to cover these cost increases through surplus, but in the FY24 financial year, the surplus will be depleted and we have reached a fiscal cliff. As a result, a request is being prepared for an increase in funding from the State which will be presented at the next regular Legislative session. Because of the generous funding from the State, no additional revenue sources have been needed thus far. The Program welcomes input from reviewers and UNM leadership as to other sources of funding or in-kind support to sustain current levels of operation and expand in strategic areas (see Conclusion: Strategic Planning section of this report).

The model of faculty funding is fundamentally different between the two branches of BA/MD. Main campus faculty are compensated in direct proportion to the effort that they expend to teach specific BA/MD classes and serve on BA/MD committees. When students cross over to the School of Medicine, there are no specific BA/MD classes and so the faculty compensation is spread more widely over many more faculty teaching a class size increased by 28 students (33%) as a result of the expansion of the Medical School to accommodate the BA/MD students.

The main component of the Undergraduate expenditures is student scholarships. The Program provides a 'last dollar' scholarship for students which covers the full 'basic educational cost' (housing, meals, tuition and fees) of attending UNM. This cost has risen steadily over time, see Figures 8A-2 and 8A-3. $1.1 million of BA/MD funding was spent in 2020/2021 on 'last dollar' scholarships covering the full Basic Educational Cost (BEC) of each student after they receive all other scholarships. The fraction of the cost paid by BA/MD per student has also increased over time (Figure 8A-4). On average, BA/MD pays 45% of the BEC per student (Figure 8A-5, supporting documents). The guaranteed scholarship funding (along with conditional acceptance to SOM) provides an important incentive to attract highly competitive applicants from our State, and also much needed support for those with financial need. The reduced student debt may also result in more freedom to choose a primary care specialty.

In the 15 years since the start of the Program, the Basic Educational Cost per student has increased by 75% (Figure 8A-2), with the largest % increase in tuition and fees (Figure 8A.3). The average scholarship per student per academic year (Fall and Spring) has increased from $5,800 in 2006 to $9,800 in 2020 (Figure 8A-4). If cost increases continue at the current rate, the average scholarship in 2022 will be about $12,000 per student. Student scholarships for each academic year (Fall and Spring) cost the Program $176,000 more in FY20 than in FY10 (the first year we supported 4 full cohorts). In addition to increases in academic year scholarship costs, the Program has incurred increased student costs to summer programming in two areas: the Summer Bridge Program (prior to the start of freshman year) and the Summer Practicum (prior to the start of junior year). The former was introduced well after the initial budget for the Program (2013) to increase student support in response to attrition in early cohorts due to low Math/Science GPAs or MCAT scores. Along with several other changes to improve student support, undergraduate retention has improved over time. The Summer Practicum Program places students for a month in 9 different communities across the State to shadow and complete a community engagement project. Early experience of rural practice is one of the predictors of future rural practice, and as such this is a formative experience for our students. Although the Summer Practicum Program was part of the original Program budget, student costs for tuition, housing, meals and travel for this experience have risen by $47,000 from 2006 to 2019.

Figure 8A-2: Basic Education Cost (BEC) per student per semester at UNM has increased by 75% since 2006

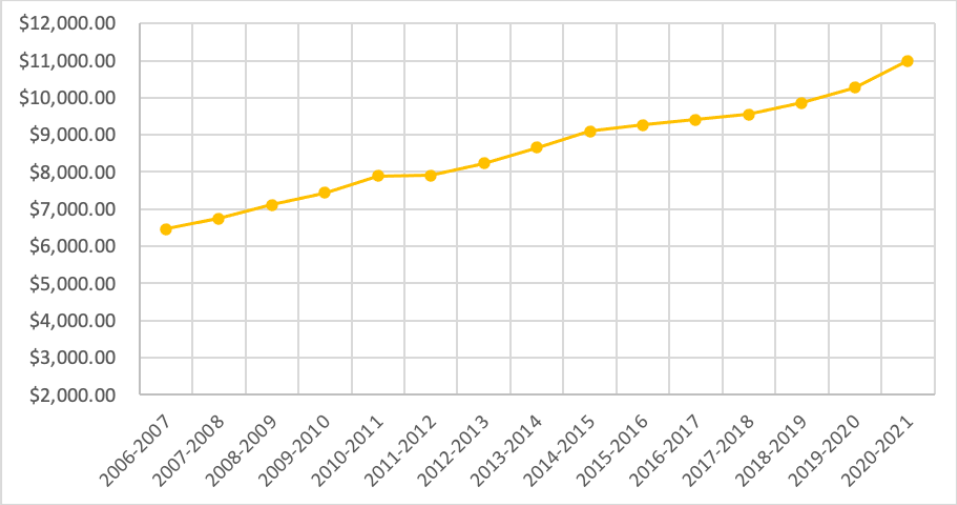
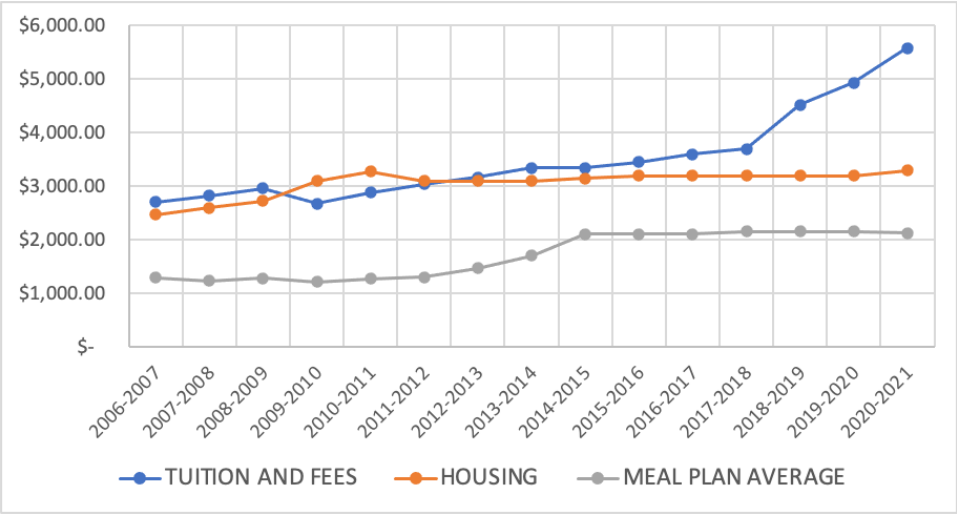


Figure 8A-3: Components of Basic Education Cost per student (Tuition, Student fees, Housing, Meal Plan) have all increased over time, with the largest increase coming from Tuition, which has doubled in this time frame. More cost increases will occur in 2021-2022 AY.



*Note that data points for the first 3 years are an estimated Basic Educational Cost due to a less consistent way of defining this parameter than was used in subsequent years.
Tuition and Fees – (fees = course fee, textbook stipend, IT fee, A&S differential tuition and upper division course premium*.)
***upper division course premium is an average cost per student and was introduced in 2018.

Figure 8A-4: Average BA/MD scholarship paid out per year shows an overall increase over time. Since the first year that the Program funded 4 complete cohorts (2009), the increase in total annual scholarships is $176,000.

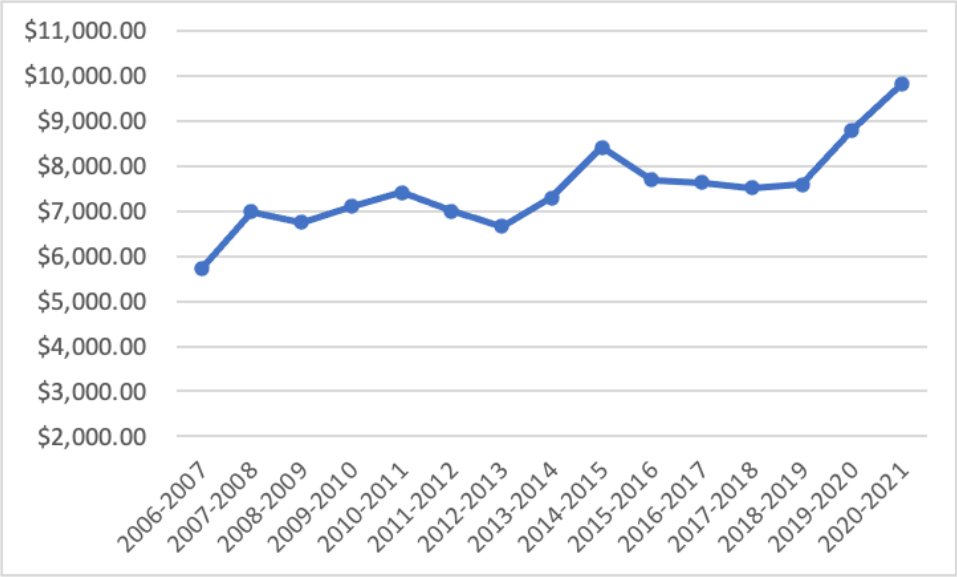
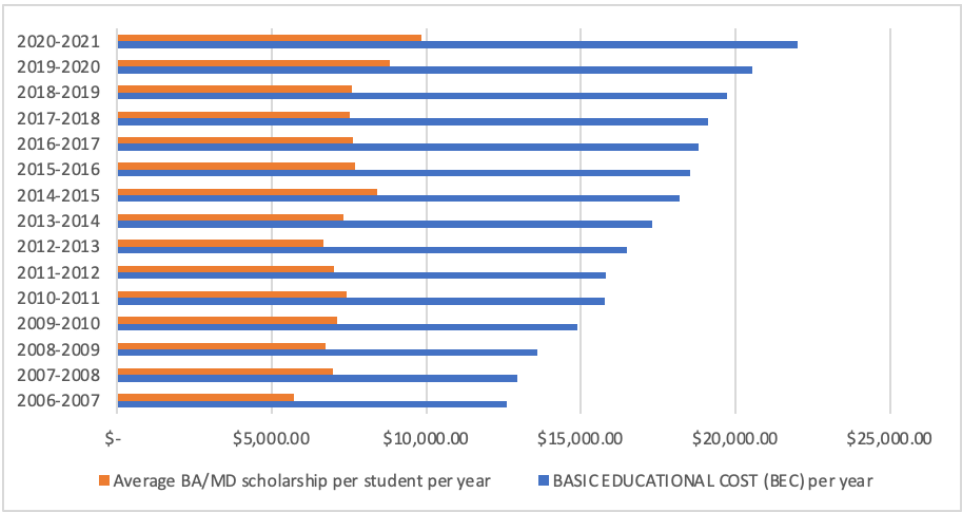


Figure 8A-5: Students bring in more than half of their BEC in other scholarships, and this varies from year to year. In 2020/2021, BA/MD scholarships paid for about 45% of the total cost per student. This number varies between 38-53% depending on the year.



8B: Staff *Discuss the unit staff and their responsibilities (including titles and FTE). Include an overall analysis of the adequacy and effectiveness of the staff composition in supporting the mission and vision of the unit.*

There are two office teams for the BA/MD Program. Each office team may include positions of the same university position title, yet their specific duties and responsibilities are specific to their areas of expertise. Our primary office is located at the UNM School of Medicine on the Health Sciences Center campus who specializes in recruitment, admissions, program reporting and representation and alumni connections. The undergraduate office is located at the College of Arts & Sciences advisement center on main campus which specializes in pre-medical curriculum, academic and scholarship advisement, and student support programming. Each position is essential support of the Program's mission of recruiting students committed to improving the health of New Mexicans.

ARTS & SCIENCES

Program Manager 1.0 FTE: Karen McGillvray
Under indirect supervision, oversees the operational planning, establishment, execution, and evaluation of a multifaceted program/project typically consisting of a set of closely related subprograms or associated activities funded through local- and/or state-level contracts/grants. Oversees fiscal, operational, administrative, and human resources management of the program(s). Seeks and develops outside funding sources and maintains responsibility of the appropriate use of programmatic funds within the parameters of the contract(s)/grant(s), up to approximately $1 million per fiscal year. Serves as principal point of representation and liaison with external constituencies on the local and state level on operational matters and provides day-to-day technical/professional guidance and leadership as appropriate to the area of expertise. The program/project is usually focused to a single purpose; may be scientific, research, education, and/or services oriented, and is usually funded through contract/grant provisions. This is typically a term position tied to the contract/grant funding period, which requires approval by Human Resources prior to use.

1. Manages and oversees the administrative and daily operations of a university program, ensuring compliance with university, state, and federal policies and regulations.
2. Oversees the supervision of personnel, which includes work allocation, training, promotion, enforcement of internal procedures and controls, and problem resolution; evaluates performance and makes recommendations for personnel actions; motivates employees to achieve peak productivity and performance.
3. Designs and develops or assists with design and development of program(s) or project(s).
4. Manages contract, grant, and/or state funding; approves and monitors budget expenditures; prepares budget revisions; provides interim status reports on all accounts; oversees, coordinates, and/or assists with proposal writing to develop additional funding.
5. Provides technical and/or professional coordination and leadership in the execution of day-to-day program/project activities, as appropriate to program objectives and area of expertise.
6. Participates in the development of annual operating budgets and provides fiscal direction to the unit.
7. Develops and implements systems and processes to establish and maintain records for the operating unit.
8. Oversees and/or coordinates the collection, compilation, and analysis of program activity data; develops, writes, and presents comprehensive statistical and narrative program reports.

9. Assists in producing, developing, advertising, and marketing project(s) and/or product(s) in various media such as print and video; may assist in developing teaching materials, handouts, news releases, pamphlets, and brochures.
10. Assists in establishing and implementing short- and long-range goals, objectives, policies, and operating procedures.
11. Collaborates with university departments, programs, projects, local and state school systems, and/or community organizations to consolidate resources and enhance programs.
12. Develops or assists with the development and implementation of policies and procedures consistent with those of the organization to ensure efficient operation of the program/project.
13. May serve as Campus Security Authority as outlined by the Clery Act.

Academic Advisement, Supervisor 1.0 FTE: **Bryn McCabe-Kelly**
In support of the University's enrollment, retention and graduation goals, supervises, and coordinates the day-to-day activities of a school/college's academic advisement unit. Provides guidance and direction to advisement personnel and resolves escalated issues related to academic advisement. Promotes the school/college's academic programs and offerings through the development of program materials and representation on various campus committees. May deputize for the advisement unit's manager and may conduct direct advisement sessions with students, as appropriate.

1. Serves as the first point-of-contact for lower-level advisors regarding complaints, complex issues, and questions related to routine advisement procedures; provides guidance and direction to advisement personnel and resolves escalated issues associated with academic advisement.
2. Supervises personnel which typically includes recommendations for hiring, firing, performance evaluation, training, work allocation, and problem resolution.
3. Schedules and coordinates the work of advisement staff and ensures quality of services provided within the school/college's advisement unit.
4. Writes, edits, and coordinates development of course catalogs, promotional materials, educational materials, training manuals, newsletters, and/or brochures, as appropriate to the program.
5. Participates in meetings with leaders of the school/college regarding the development of advisement, recruitment, and/or curricular programs.
6. Represents the school/college to the campus community; participates in task forces, special committees, and interdepartmental committees.
7. Deputizes for the school/college's respective advisement manager, as appropriate and/or in the individual's absence.
8. Conducts advisement sessions with students, as needed to support the school/college's student load.
9. Serves as Campus Security Authority as outlined by the Clery Act.

Senior Academic Advisor 1.0 FTE: Olivia McLendon
In support of the University's enrollment, retention and graduation goals, provides direct academic advisement to students within an academic school/college. Advises on the school/college's programs and offerings, individual student plans, and strategies for degree attainment. Connects students to resources and services that support individual student success. Monitors student progress and processes academic paperwork related to program completion. Supports academic school/college goals by providing input on academic programs, delivering presentations/workshops, and training lower-level advisors, where applicable.

1. Provides consultation, guidance and advisement to students within an academic school/college regarding academic plans and strategies; maintains appropriate records regarding student consultations.
2. Connects students to resources and services across the institution in support of individual student success and in partnership with student success personnel.
3. Processes, verifies, and/or approves academic paperwork and records; updates academic records, reviews external documents, certifies graduation, evaluates transfer work, and processes academic exceptions to curriculum requirements.
4. Monitors student progress to degree attainment and conducts degree checks to ensure compliance with degree program requirements.
5. Presents on standard advisement topics at large and small workshops and orientations.
6. Provides input to departmental leadership regarding the development of advisement, recruitment, and/or curricular programs offered by the school/college; may research information, compile statistics and gather and compute various data, as needed.
7. Provides training and functional guidance to lower-level advisors, where applicable.
8. May lead lower graded staff and/or supervise student employees; may participate in training and evaluative sessions and recommend methods to improve advisement activities.
9. Serves as Campus Security Authority as outlined by the Clery Act.

Program Coordinator 1.0 FTE: **Vacant (posting pending – previously occupied by Michelle Gallegos for all of this APR period)**

Plans and coordinates the day-to-day fiscal, administrative, and operational activities of a narrowly defined, contract or grant funded program/project or set of funded activities. The program/project is usually focused to a single purpose, may be scientific, research, educational, or service oriented, and may exist as a subset of an integrated, grant-funded program activity. Duties typically include assisting with grant planning and administration, fiscal, budgetary, and/or other associated transactions, program implementation and administration, internal and external operational/administrative liaison, program marketing, and reporting. This is typically a term position tied to the contract/grant funding period, which requires approval by Human Resources prior to use.

1. Provides specialized administrative support in the development, implementation, and marketing of program/project function.
2. Serves as a central point of contact between students, faculty, staff, other departments, and/or external constituencies on day-to-day programmatic, operational, and administrative matters; assists with seminars, meetings, special projects, and/or general problem resolution.
3. Coordinates activities of support staff, consultants, faculty, and/or volunteers engaged in implementation and administration of program objectives.
4. Monitors and administers program/project revenues and expenses; may develop or participate in the development of funding proposals for the program.
5. Writes, edits, and coordinates development of course catalogs, promotional materials, educational materials, training manuals, newsletters, and/or brochures, as appropriate to the program.
6. Maintains program/project records, research information and gathers and computes various data; prepares special and/or one-time reports, summaries, or replies to inquiries, selecting relevant data from a variety of sources.
7. Performs or delegates clerical and administrative support tasks, including creation, typing, and editing of program correspondence, purchasing documents, reports, program handbooks, and other publications.

8. May assist with grant and/or proposal writing as appropriate to the objectives and funding nature of the program; may participate in other fundraising activities.
9. May perform specialized activities of a programmatic nature in direct support of the accomplishment of program objectives and protocol.
10. May supervise student employees, volunteers and/or interns; may lead lower-graded staff.
11. May serve as Campus Security Authority as outlined by the Clery Act.

Administrative Assistant III 1.0 FTE: Larry Grobecker

Performs and/or oversees a variety of associated administrative, fiscal, staff support, and planning activities, some of which require advanced or specialized knowledge and skills, such as budget administration and control, equipment, facilities, and inventory management, specialized recordkeeping, and database management, and/or specified information-gathering projects and tasks. Coordinates and facilitates meetings, program functions, and/or special events, as appropriate. Trains and oversees lower graded staff and/or students. May coordinate specified administrative activities and reporting across multiple organizational units within a department.

1. Oversees and/or performs a range of diverse administrative activities for the department or organizational unit; serves as a central point of liaison with other departments and external constituencies in the resolution of a variety of day-to-day matters concerning the unit.
2. Utilizes knowledge and understanding of underlying operational issues to create, compose, and edit technical and/or administrative correspondence and documentation.
3. Assists in administrative problem solving, program/project planning, development, and execution of stated goals and objectives.
4. Researches information, compiles statistics, and gathers and computes various data; prepares special and/or one-time reports, summaries, or replies to inquiries, selecting relevant data from a variety of sources.
5. Monitors, reconciles, and assists with fiscal administration for the unit, including but not limited to budgets, funding, grants, contracts, payroll, employment, travel, and/or purchasing; may assist with fiscal planning, including participating in seeking alternate sources of funding.
6. Provides and/or oversees support activities for the unit such as answering telephones, assisting and resolving problems and inquiries of visitors, review and control of incoming and outgoing correspondence, and follow-up on operational commitments.
7. Provides administrative assistance with faculty and/or staff searches, as appropriate, to include logging employment applications; preparing applicant acknowledgements and interview documents, coordinating interview logistics, and coordinating search documentation.
8. Schedules appointments and maintains calendars; schedules, coordinates, and facilitates meetings, facilities usage, events, and/or travel arrangements, as required.
9. Establishes, updates, and maintains unit's files, inventories, and records; implements and maintains data management systems, as required.
10. Leads and guides the work of lower-level staff and supervises student employees as appropriate; may participate in hiring decisions and performance appraisal.
11. May serve as Campus Security Authority as outlined by the Clery Act.

SCHOOL OF MEDICINE

Program Manager 1.0 FTE: **Hillary Pineda**

Under indirect supervision, oversees the operational planning, establishment, execution, and evaluation of a multifaceted program/project typically consisting of a set of closely related subprograms or associated activities funded through local- and/or state-level contracts/grants. Oversees fiscal, operational, administrative, and human resources management of the program(s). Seeks and develops outside funding sources and maintains responsibility of the appropriate use of programmatic funds within the parameters of the contract(s)/grant(s), up to approximately $1 million per fiscal year. Serves as principal point of representation and liaison with external constituencies on the local and state level on operational matters and provides day-to-day technical/professional guidance and leadership as appropriate to the area of expertise. The program/project is usually focused to a single purpose; may be scientific, research, education, and/or services oriented, and is usually funded through contract/grant provisions. This is typically a term position tied to the contract/grant funding period, which requires approval by Human Resources prior to use.

1. Manages and oversees the administrative and daily operations of a university program, ensuring compliance with university, state, and federal policies and regulations.
2. Oversees the supervision of personnel, which includes work allocation, training, promotion, enforcement of internal procedures and controls, and problem resolution; evaluates performance and makes recommendations for personnel actions; motivates employees to achieve peak productivity and performance.
3. Designs and develops or assists with design and development of program(s) or project(s).
4. Manages contract, grant, and/or state funding; approves and monitors budget expenditures; prepares budget revisions; provides interim status reports on all accounts; oversees, coordinates, and/or assists with proposal writing to develop additional funding.
5. Provides technical and/or professional coordination and leadership in the execution of day-to-day program/project activities, as appropriate to program objectives and area of expertise.
6. Participates in the development of annual operating budgets and provides fiscal direction to the unit.
7. Develops and implements systems and processes to establish and maintain records for the operating unit.
8. Oversees and/or coordinates the collection, compilation, and analysis of program activity data; develops, writes, and presents comprehensive statistical and narrative program reports.
9. Assists in producing, developing, advertising, and marketing project(s) and/or product(s) in various media such as print and video; may assist in developing teaching materials, handouts, news releases, pamphlets, and brochures.
10. Assists in establishing and implementing short- and long-range goals, objectives, policies, and operating procedures.
11. Collaborates with university departments, programs, projects, local and state school systems, and/or community organizations to consolidate resources and enhance programs.
12. Develops or assists with the development and implementation of policies and procedures consistent with those of the organization to ensure efficient operation of the program/project.
13. May serve as Campus Security Authority as outlined by the Clery Act.

Student Recruiter 1.0 FTE: Jered Cervantes

Establishes and administers programs for targeting, recruitment, and retention of students in graduate or undergraduate programs. Develops programs and marketing materials. Visits schools and makes presentations to groups and individuals.

1. Provides career and academic counseling, planning, and advising to potential students; assists students in the development of testing strategies, writing skills, and completion of applications through seminars and workshops; coordinates applications for financial assistance.
2. Participates in the development of student recruitment and retention plans, strategies, and written materials.
3. Visits middle schools, high schools, and colleges, speaks to groups and individual students, and meets with school counselors to promote outreach activities; coordinates community workshops and retreats; arranges visits from prospective students and parents.
4. Serves as a liaison to develop partnerships between the university and local school systems throughout the state.
5. Creates a database of prospective and current students and/or potential degree candidates in the state.
6. Creates and distributes resource materials for student recruitment and retention programs; develops mentorship programs; analyzes trends in recruitment and retention programs; develops strategies for program evaluation.
7. Prepares reports and proposals, and responds to inquiries from students and minority agencies.
8. Develops operating goals and objectives for the unit; implements and administers methods and procedures to enhance operations, as appropriate to the unit.

Program Coordinator 1.0 FTE: **Alicia Lopez**

Plans and coordinates the day-to-day fiscal, administrative, and operational activities of a narrowly defined, contract or grant funded program/project or set of funded activities. The program/project is usually focused to a single purpose, may be scientific, research, educational, or service oriented, and may exist as a subset of an integrated, grant-funded program activity. Duties typically include assisting with grant planning and administration, fiscal, budgetary, and/or other associated transactions, program implementation and administration, internal and external operational/administrative liaison, program marketing, and reporting. This is typically a term position tied to the contract/grant funding period, which requires approval by Human Resources prior to use.

1. Provides specialized administrative support in the development, implementation, and marketing of program/project function.
2. Serves as a central point of contact between students, faculty, staff, other departments, and/or external constituencies on day-to-day programmatic, operational, and administrative matters; assists with seminars, meetings, special projects, and/or general problem resolution.
3. Coordinates activities of support staff, consultants, faculty, and/or volunteers engaged in implementation and administration of program objectives.
4. Monitors and administers program/project revenues and expenses; may develop or participate in the development of funding proposals for the program.
5. Writes, edits, and coordinates development of course catalogs, promotional materials, educational materials, training manuals, newsletters, and/or brochures, as appropriate to the program.
6. Maintains program/project records, research information and gathers and computes various data; prepares special and/or one-time reports, summaries, or replies to inquiries, selecting relevant data from a variety of sources.

7. Performs or delegates clerical and administrative support tasks, including creation, typing, and editing of program correspondence, purchasing documents, reports, program handbooks, and other publications.
8. May assist with grant and/or proposal writing as appropriate to the objectives and funding nature of the program; may participate in other fundraising activities.
9. May perform specialized activities of a programmatic nature in direct support of the accomplishment of program objectives and protocol.
10. May supervise student employees, volunteers and/or interns; may lead lower-graded staff.
11. May serve as Campus Security Authority as outlined by the Clery Act.

Administrative Assistant III 1.0 FTE (vacant – to be posted in February 2022)
Performs and/or oversees a variety of associated administrative, fiscal, staff support, and planning activities, some of which require advanced or specialized knowledge and skills, such as budget administration and control, equipment, facilities, and inventory management, specialized recordkeeping, and database management, and/or specified information-gathering projects and tasks. Coordinates and facilitates meetings, program functions, and/or special events, as appropriate. Trains and oversees lower graded staff and/or students. May coordinate specified administrative activities and reporting across multiple organizational units within a department.

1. Oversees and/or performs a range of diverse administrative activities for the department or organizational unit; serves as a central point of liaison with other departments and external constituencies in the resolution of a variety of day-to-day matters concerning the unit.
2. Utilizes knowledge and understanding of underlying operational issues to create, compose, and edit technical and/or administrative correspondence and documentation.
3. Assists in administrative problem solving, program/project planning, development, and execution of stated goals and objectives.
4. Researches information, compiles statistics, and gathers and computes various data; prepares special and/or one-time reports, summaries, or replies to inquiries, selecting relevant data from a variety of sources.
5. Monitors, reconciles, and assists with fiscal administration for the unit, including but not limited to budgets, funding, grants, contracts, payroll, employment, travel, and/or purchasing; may assist with fiscal planning, including participating in seeking alternate sources of funding.
6. Provides and/or oversees support activities for the unit such as answering telephones, assisting and resolving problems and inquiries of visitors, review and control of incoming and outgoing correspondence, and follow-up on operational commitments.
7. Provides administrative assistance with faculty and/or staff searches, as appropriate, to include logging employment applications; preparing applicant acknowledgements and interview documents, coordinating interview logistics, and coordinating search documentation.
8. Schedules appointments and maintains calendars; schedules, coordinates and facilitates meetings, facilities usage, events, and/or travel arrangements, as required.
9. Establishes, updates, and maintains unit's files, inventories, and records; implements and maintains data management systems, as required.
10. Leads and guides the work of lower level staff, and supervises student employees as appropriate; may participate in hiring decisions and performance appraisal.
11. May serve as Campus Security Authority as outlined by the Clery Act.

8C: Advisory Board *If the unit has an advisory board, describe the membership, their charge, and discuss how the board's recommendations are incorporated into decision-making.*

Thus far, the Program has not had a formal advisory board and has relied on feedback from leadership at UNM in the College of Arts and Sciences and at the School of Medicine. However, with the growing number of alumni, it has been suggested that an Advisory Board including alumni could be a very useful for the Program's future development.

Criterion 9. Facilities

The unit facilities should be adequately utilized to support student learning, as well as scholarly/research activities.

9A: Current Space *Provide an updated listing from UNM's current space management system of the spaces assigned to your unit (e.g., offices, conference rooms, classrooms, laboratories, computing facilities, research space, etc.). Discuss the unit's ability to meet academic requirements with current facilities.*

- *Explain if the unit has any spaces that are not documented in UNM's space management system.*
- *Explain the unit's unmet facility needs.*
- *If applicable, describe the facility issues that were raised or noted in the last APR. What were the results, if any?*

The **Arts & Sciences BA/MD Program office**, located in the University Advisement & Enrichment Center, building 85, partnered with the College of Arts & Sciences Advisement Center in suite 135, includes six offices and one three-quarter height walled office space. The six offices are occupied by the Program Coordinator (room 127), Academic Advisement Supervisor (room 132), Sr. Academic Advisor (room 134), Program Manager (room 134-A), Administrative Assistant III (room 136), A&S BA/MD Director (room 138). The open office space is occupied by a student employee in the spring semester to assist with Summer Practicum planning.

The **School of Medicine BA/MD offices** are located within the Health Sciences and Services Building, Suite 102 within the Office for Diversity, Equity, and Inclusion. The Program shares office space with the Office for Diversity, Equity, and Inclusion, UNM Medical Group, as well as faculty leadership from the College of Nursing and School of Medicine. The Program occupies five cubicles for Administrative Assistant III, Admissions Coordinator, Student Recruiter and Program Manager: and one office for the Executive Director. The Director and Assistant Director are housed in their respective departments' office spaces (Office for Diversity, Emergency Medicine and Anesthesiology).

9B: Future Space Needs *Discuss any future space management planning efforts related to the teaching, scholarly, and research activities of the unit. Include an explanation of any proposals that will require new or renovated facilities and how they align with UNM's strategic planning initiatives.*

The A&S and SOM BA/MD Program offices do not have future space management plans.

Conclusion. Strategic Planning: Discuss the unit's strategic planning efforts going forward to improve, strengthen, and/or sustain the quality of its degree programs (if applicable, differentiate between undergraduate and graduate). Address all criterion, including but not limited to: student learning outcomes, curriculum, assessment practices, recruitment, retention, graduation, success of students/faculty, research/scholarly activities, resource allocation, and facility improvement

Recruitment, retention, graduation and student success: Now in its 16th year, the Program has reached a mature phase in which changes to curriculum and student support have resulted in the improvements in student success as outlined in section 4D of this report. However, we anticipate that the pandemic will impact student paths in a number of ways. Due to the pandemic, the admissions process has had to undergo significant changes. In the 2020 application cycle, for equity reasons, the Program waived the ACT/SAT score requirement, and as such, accepted students with less information about previous academic success. Although this brings a higher risk of academic difficulty in college, it also had the positive outcome of a higher diversity of students from groups under-represented in medicine, a key goal of the Program. During the pandemic, students in K-12 education have had unprecedented disruptions in their education, homelife and communities, and these disruptions have not been equally experienced by all students. Given the disparate impact of COVID-19 on racial and ethnic minority groups and the related inequities in the social determinants of health, we anticipate that preexisting disparities in educational opportunity highlighted in this report will be exacerbated, and incoming students may need additional academic and socio-economic support to meet their goals. Another effect of the pandemic is related to mental health: an increasing challenge that many students need to navigate in order to be successful in their paths. Several components of our Program are well-placed to deal with these challenges but may have to be strengthened to support the additional needs. These include our wellness programming for all students and faculty mentoring of first year students. If the Program were able to secure additional funding, a priority would be mental health support for our students through a dedicated counsellor. Even prior to the pandemic, several of our most promising students with high motivation to serve their communities due to their own life experiences have struggled, often for the same reasons that contribute to their dedication to their paths. If these students are able to meet the challenges and complete their educational journey, these experiences will be assets to them in practice.

In recognition of the psychological factors that impact success, particularly for minoritized groups of students, the Program is committed to actively improving our environment relative to equity and inclusion. We are investigating what educational opportunities are available for our community with respect to anti-racism and LGBTQI+ inclusion. A key result of our data showed lower retention of American Indian students, and although that might be more due to the rural background of these students, it is important for us to consider what could make for a more inclusive and supportive environment. Some of our faculty have engaged as fellows in the Student Experience Project at UNM, an initiative to reduce achievement gaps in STEM classes through deployment of social/psychological interventions related to growth-mindset and belonging. These faculty have made initial presentations to the CCSP group to share their learning. Another initiative is in early stages at UNM to find funding for a peer-learning facilitator (PLF) program which aims to hire American Indian students who have been successful in introductory science classes to be hired as peer-mentors who return to the class to help facilitate active learning and extend student support. This has several advantages, providing role models for the next generation of students, but also providing on-campus employment in a job that will enhance skills for the PLFs themselves by providing content review, building confidence and important

transferrable skills. BA/MD is participating in the Program design and we anticipate that our students will be excellent candidates to be PLFs as well as benefit from PLFs in their own courses.

As the Program prepares for a return to a student population who might experience more academic difficulties due to the educational disruption of the pandemic, it will be important to revisit the Merge program which has been very successful at improving retention by replacing students who leave the Program in the first two years. Although in the past several years, few merge spots have been available, we may need to utilize this means of addressing attrition more in the future. The lack of availability of merge spots in the more recent years of the Program suggests an opportunity to expand the pool of strong applicants to the School of Medicine. Thus far, merge students have been very successful (having navigated 2 years of a pre-medical pathway with a high GPA without the support that the Program provides). As such, there are often several high achieving students who don't have the chance to merge into the Program, but represent a valuable pool of future doctors for New Mexico. The Program is considering options to support these students with preparation to apply to medical school and encouragement to apply to the UNM School of Medicine. If expanded funding was available, the Program could provide support services and possibly scholarships to these students for their final two years at UNM as a Merge-Potential group. Although not formally BAMD students, they could serve as an important additional pipeline to the SOM who have shown a desire to work as physicians in the State.

Student learning outcomes and assessment: Progress has been made in publicizing and assessing student learning outcomes. Fine-tuning of the basic sciences assessment will continue, and the assessment process will continue to help understand and impact areas of greatest challenge for students within our interdisciplinary Basic Science and Math CCSP subgroup. From an established starting point and first iteration of our assessment plan, the learning outcomes related to HMHV courses will be adapted to reflect the key skills that our students develop. In particular, we are interested in leveraging the experience of the Summer Practicum experience. The curriculum for Summer Practicum was developed early in the Program history, and in the light of changes over the years, we would like to assemble a team to review it and optimize it to take advantage of this key service-learning experience. The Summer Practicum experience is logistically complex, involving 9 different sites in the state, 9 different community coordinators and many faculty circuit riders who help facilitate the educational experience. The rich diversity of individuals who contribute provides many opportunities to increase the impact of this experience. At present, the Program Manager has responsibility for coordinating the Summer Practicum experience, and if additional resources become available, we would like to bring in a faculty member with Public Health experience as a consultant to advise on improvement and optimization of this particular curriculum.

Alumni and Program Effectiveness: The Program is proud of our 49 alumni who are in practice. Owing to the long timeline to become a practicing physician, and to the relatively high attrition for the first three cohorts, the Program has only recently started to see larger numbers of practicing physicians. Due to the Merge Program as well as systematic improvements in subsequent years, we expect these numbers to grow at a higher rate in the next few years. As more alumni complete their training, there is increased need for alumni tracking systems and ways to connect and involve the alumni in the Program. These positive role models would be a great asset in encouraging our students to persist when challenged and to see first-hand what fulfillment of the BA/MD mission looks like as they serve New Mexico's communities. In addition, there will be opportunity for us to understand the factors that affect alumni's choice of practice location, and information about this will be important in addressing the

physician shortage in the State, especially in rural areas. There is potential for the Program to assemble an advisory board consisting of BA/MD alumni to help shape the future direction of the Program.

Our data on alumni performance at the School of Medicine continues to show that our students have more academic difficulty than their non-BA/MD peers during the first two years of medical school**.** The gap closes by the second board exam, STEP 2, which is more based on clinical skills**.** *In context of any discussion of academic difficulty, it is important to center the assets of our students***.** Our holistic admissions process, which mirrors that of traditional applicants to the School of Medicine, delivers cohorts of students with a deep understanding of the needs and strengths of their communities, with cultural humility and linguistic competence, resilience and grit. These strengths can help them succeed in their educational journey, and really come into their own when they return to practice in their communities. The admissions process also considers the 'distance traveled' by applicants as a key aspect in evaluation. Honoring this aspect of the applicant is paramount in our program. The 'distance traveled' is a testament to our students' resilience which will ultimately serve them in their future medical endeavors, although it can often pose additional challenges to them during their academic journey. As BA/MD students are selected at a much earlier point in their academic career than traditional School of Medicine applicants, there is more uncertainty in their academic trajectory. The support and enriched curricular experiences during the undergraduate part of the program has helped several students persist and complete their premedical prerequisites, who may not have been able to complete these without it. As such, the program provides a more robust 'pipeline of future doctors to the School of Medicine than the traditional route without support. *It is notable that several of our alumni who were accepted into the Program based on their strengths and potential as future doctors for New Mexico despite low standardized test scores (ACT<25) , are now practicing physicians in New Mexico, fulfilling the Program's mission within their communities, even though their academic paths were not without challenge.* Many of these alumni who are now giving back to their communities in meaningful ways would not have even been considered for admission to many other national BA/MD Programs. That being said, the Program remains open to ideas as to how the undergraduate experience can be enriched in ways that will strengthen students to the challenges of medical school.

Despite the success of the Program, threats exist to its future. One particular threat is the opening of a new for-profit Osteopathic medical school in the state of NM. With a larger class size than UNM, this medical school challenges the limited resources of Community Faculty and Preceptors (who support our Summer Practicum Program as well as the Practical Immersion Experience (PIE) at the School of Medicine). This will force competition for these limited resources which are critical to giving our students the rural practice early experiences that build their commitment to return to practice in underserved communities. Additionally, the school has recently started a combined BA/DO program in collaboration with NM State University. This new pipeline program has the potential of drawing qualified applicants from our program as well as undergraduates who may otherwise be considered for our Merge Program.

Budget and Resource Allocation: In order for the Program to keep providing the high level of education and student support that it has developed and fine-tuned over the years, as well as the essential financial support in terms of student scholarships, an increase in funding is needed. The Program is pursuing Legislative support in the next Legislative session. In addition, the Program was approached to put in a funding request related to settlement of the Yazzie-Martinez lawsuit which seeks to improve educational outcomes for minoritized students in the State. If granted, this funding would allow for

additional resources for the Program to develop in some of the ways outlined above. Regardless of the success of these two initiatives, securing continuing funding is the top priority for the Program moving forward. The Program welcomes input from the reviewers and UNM leadership about possibilities for additional funding and/or support and partnership to sustain the Program at its current level as well as to expand in the strategic directions outlined above.

Appendices

Appendix A: UNM Combined BA/MD Degree Program Infographic

Appendix B: Assessment instruments and rubrics

- Basic Science and Math End of Program Assessment
- HMHV student learning outcomes rubric
- PEAR End of Program Evaluation given to 4th years annually in Spring
- Example of PEAR End of Semester Evaluation given to all cohorts at the end of each semester (example from 1st year evaluation given in Spring 2021)
- Learning and study strategies inventory (LASSI) subscales

Appendix C: Combined BA/MD Degree Program Admissions Report 2020

Appendix D: Combined Baccalaureate/ Medical Degree Students Match Into Family Medicine Residencies More Than Similar Peers: A Matched Case-Control Study Marlene P. Ballejos, PhD, MPA; Nancy Shane, PhD; Valerie Romero-Leggott, MD; Robert E. Sapién, MD, MMM. Family Medicine, 2019 vol 51 iss 10, 855-857

Appendix E: Faculty Credentials Template

*Note that Peer comparisons template is not applicable given the nature of the Program and the differences from Academic Departments. Please see the Peer Comparisons section for a detailed analysis.