

Date: 4/30/2021

To: University of Arizona Faculty Senate

Dear Senators,

We are writing to provide an update with regards to the proposal from the College of Medicine for a B.S. in Medicine. Unfortunately, despite our attempts to collaborate with representatives from the COM, no resolution has been reached. An email is attached at the end of this memo detailing the compromise plan that we proposed during our 4/14/21 meeting.

The majority of concerns raised by the Undergraduate Council and others during the discussion of this proposal have not been resolved. The purpose of the UGC is to carefully review new programs and policies regarding undergraduate education to determine if they are in the best interest of students and the university, making recommendations to the Faculty Senate. The UGC received an initial proposal which was shared by members with their colleges. Several faculty members responded with letters of objection, which were forwarded to the College of Medicine. Dr. Vanderah provided a written response to the UGC. The UGC carefully reviewed the proposal, letters of objection and Dr. Vanderah's response. They discussed these at length with Dr. Vanderah on 3/30. **At that time, the UGC voted against the proposal (5 Yea, 9 Nay, 5 Abstain).** All of these materials were provided to the Faculty Senate on 4/5. Since that time, the College of Medicine has made some changes to the proposal that are outlined for you in the latest memo from Dr. Vanderah. **We find that the revised proposal fails to address many concerns that have been raised by the UGC and faculty senators.**

Many have asked why a new pre-medical degree is needed at our university. This was an important point raised by the UGC. A large number of programs already serve this population. For example, 5814 College of Science students self-identify as "pre-health" and over 1,500 students are enrolled in the Physiology and Medical Sciences degree in the College of Medicine (most are pre-health). Since the medical school acceptance rate is about 7%, we question why the College of Medicine is proposing a new program for this purpose. The most recent changes to the proposal only serve to make it more similar to other programs on campus. **We anticipate that the primary outcome of the program would be to lower the number of students in established programs.**

We urge you to take these facts into consideration when you make your decision regarding this proposal. Below we have responded to Dr. Vanderah's most recent memo. Our response describes some of the issues that remain with the proposal.

1. I made changes to some of the required courses (added MCAT/Med School course requirements). I investigated 28 medical schools in the West to Midwest as well as the MCAT requirements on the Excel sheet [enclosed]. I also included the BS in Medicine courses and highlighted in yellow what may (or may not) be needed.

Our Response: The revised major does add requirements needed for medical school (9 required units and 10 units as options for major electives). However, the revised major would exceed 120 units and does not include any free electives, resulting in a very constrained 4-year plan. The revised proposal states that the major is 120 units but required foreign language courses (8 units) have been deleted from the original 4-year plan and are not accounted for them in the total units (as they are required to be even if a student "tests out"). The revised major also does not include the required 42 upper-division credits. Additionally, it appears that the mathematics strand is not properly mapped to the major.* Many students wanting to take this major will need to take introductory math classes before they will be able to take introductory chemistry, physics or statistics. Beginning students may need to take an additional 6-14 units of mathematics in order to satisfy this requirement. To account for this possibility,

other pre-health majors on campus provide space for free electives and a more flexible 4-year schedule. On top of this, to be competitive for professional school, students will need to participate in research and/or internships; there is not room in the proposed major for this type of activity. **These facts would make it difficult (or impossible) for the average UArizona pre-health major to complete the proposed degree in 4 years, especially those arriving from under-resourced schools.**

2. I worked intensely on looking up job qualifications using websites like Indeed.com, and investigated the US Bureau of Labor Statistics, etc. to find out what type of medical jobs require a BS/BS degree, qualifications, growth of these jobs and starting pay. I am continuing to build this as it will be useful for our students if the BS in Medicine is approved.

Our Response: It continues to be a concern what career paths students with the proposed degree will be prepared for. The major attempts to include multiple, diverse career paths, but unfortunately does not prepare students for many of the advertised careers. **(1)** Many careers advertised for the B.S. in Medicine (e.g. Dental Hygienist, Radiation Technologist, Physical Therapist Assistant) will require completion of an additional 2-year degree from an accredited program. Such programs require extensive technical coursework, typically through an Associate's degree (for example, a Radiation Technologist degree at Pima Community College <https://www.pima.edu/academics-programs/degrees-certificates/health-sciences/radiologic-technology/radiologic-tech-aas/index.html>). **Because this accreditation and coursework are not part of the proposed major, we must assume that students would need to pursue BOTH a B.S. and an Associate's degree (total time of 6 years) for a career that typically requires only a 2-year degree.** **(2)** After we objected that several listed careers require little or no formal training (e.g. Home Health Aides, Phlebotomist) these careers have been removed from the proposal. However, this left no careers in the category of "A BS in Medicine will allow students to directly enter the workforce including". To address this problem, proposers have now added new careers in this category (e.g. Health Care in Artificial Intelligence, Worldwide Healthcare Business Development, Health Care Sales Rep, etc.). **There is no evidence that coursework has been adapted to meet the educational needs for these newly added careers.** There is no indication that proposers have talked to other units (for example, the Department of Computer Science or the Eller College) who would presumably need to collaborate on such an effort.

3. I met with the majority of those who wrote letters of opposition to work on mitigating issues and in some cases came to resolution but in other cases, we were unable to come to a full agreement. For example, several faculty asked that we simply propose a minor (and not a BS degree) to see how well this would be accepted and offer "good working relationships with other programs". I have brought this idea to our team and administration and there was an overall vote of No - we would like to continue to pursue a BS in Medicine Program.

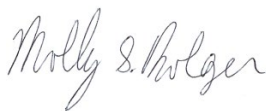
Our Response: Indeed, we did have a meeting with Dr. Vanderah in which several compromise solutions were discussed (see email below), but none of these suggestions were accepted by the College of Medicine. One of these suggestions was a Minor in Medicine. This would meet the goals of the proposed major – to allow students to interact with physicians and to provide them additional, specialized training for professional school. The minor would also avoid the problem of misleading students (especially international students) to assume that obtaining a "B.S. in Medicine" would prepare them to be a physician. Students could pursue the minor and obtain a B.S. degree through an existing program. This path would prepare students to enter science careers if they are not admitted to medical school (as most will not be given medical school admission rates). **A Minor in Medicine would be an asset to the university and would promote collaboration between units for the benefit of students.**

*4. I recruited a medical (physician) faculty member from our team — Dr. Paul Gordon — to be a spokesperson(s) for the BS in Medicine program. Practicing physicians are better able to explain the differences and advantages that the BS in Medicine Program can offer. **No response needed.***

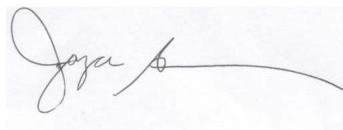
5. I requested changing the name of the program to Medical Science and this was voted down. I had Administration in the Provost's Office look into the Legalities of the CIP code and the name BS in Medicine as being a legal name for this program as well.

Our Response: The name of the proposed major has been raised by members of the Faculty Senate, members of the UGC, and others. It is unclear why the College of Medicine is unwilling to consider or discuss a name change. **The name "B.S. in Medicine" has significant potential to mislead students. (1)** International students may confuse the degree with different systems for preparing to practice medicine. This is of particular concern for UA Global students who start coursework abroad and intend to finish their degree in the US. It is common for institutions outside of the United States and Canada to award Bachelor's degrees in medicine—typically "Bachelor of Medicine" or "Bachelor of Medicine, Bachelor of Surgery" degrees—which are professional degrees conferred upon completion of a graduate-level medical program and considered equivalent to a Doctor of Medicine (M.D.) and/or Doctor of Osteopathic Medicine (D.O.) degree. **(2)** The title of the degree does not meet guidelines laid out by the US Department of Education and the NES under "Classification of Instructional Programs". Specifically, the revised proposal lists the code for "Health/Medical Preparatory Programs". A "Medicine" degree is a different code for "a program that prepares individuals for the independent professional practice of medicine...". The proposed Bachelor's-level program in Medicine does not confer a professional health or medical degree, nor will it prepare students to practice professional medicine independently upon graduation. **(3)** We are concerned that the degree name will be most likely to negatively impact the students who are the least able to make informed decisions about selecting a major upon arrival at university. First-generation and underrepresented minority students are very likely to arrive on campus with a strong interest in medicine, often viewing this as a way to give back to their community. These students are less likely to have parents or mentors who can guide them in selecting and navigating a major and would presumably be more likely to choose a major based on the name "medicine" without considering the specifics of the degree program. Given our concerns about the structure of the major, this seems like a particularly troublesome way to potentially mislead students.

Sincerely,



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Associate Professor
Molecular and Cellular Biology
College of Science



Joyce Schroeder
Professor and Head
Molecular and Cellular Biology
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Michael Worobey
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* The math strand determines which math courses/credits apply toward the 120-units required for a degree. Pre-med/pre-health programs typically set the bar at S-Strand because it indicates the degree can be completed in 4-years, assuming majors start at Calculus I (MATH 122A/B or 125); S-Strand also implies that math courses starting at Calculus I and beyond will count toward the 120-units of required coursework (though math courses prior to Calculus I will not count toward the 120-units). So the M-Strand used for the BS in Medicine degree is problematic (particularly for pre-med/pre-health students) because majors could end up needing anywhere from 6-14 units of math in addition to the 120-units required.

From: Vanderah, Todd W - (vanderah) <vanderah@arizona.edu>
Sent: Wednesday, April 14, 2021 12:21 PM
To: Bolger, Molly S - (mbolger) <mbolger@arizona.edu>; Schroeder, Joyce A - (joyces) <joyces@arizona.edu>; Worobey, Michael - (worobey) <worobey@arizona.edu>
Cc: Ghosh, Indraneel - (ghosh) <ghosh@arizona.edu>; Hingle, Melanie D - (hinglem) <hinglem@arizona.edu>
Subject: Re: BS in Medicine Discussion

Thanks Molly,

I agree and I will re-visit the idea of a Minor. I will discuss these suggestions with the Team and Leadership. I have also met with a few other faculty that had opposition to the proposal and have two more meetings next week. I am going to gather all the suggestions and concerns so that I can present to leadership and try and convince them that we need to work out a better solution.

Todd
Todd W. Vanderah
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From: Bolger, Molly S - (mbolger) <mbolger@arizona.edu>
Sent: Wednesday, April 14, 2021 12:07 PM
To: Vanderah, Todd W - (vanderah) <vanderah@arizona.edu>; Schroeder, Joyce A - (joyces) <joyces@arizona.edu>; Worobey, Michael - (worobey) <worobey@arizona.edu>
Cc: Ghosh, Indraneel - (ghosh) <ghosh@arizona.edu>; Hingle, Melanie D - (hinglem) <hinglem@arizona.edu>
Subject: BS in Medicine Discussion

Hi Todd,

Thanks again for a productive discussion today about the BS in Medicine Proposal. As promised, I have attached a copy of the suggestions we made.

Best,
Molly

Text from Attached Document:

Goals for the BS in Medicine seem to include:

1. Adding unique additional training for pre-med and other pre-health majors
2. Providing opportunities for those in less-well-paid health careers (for example respiratory therapist) to obtain a BS degree and possible career advancement.
3. Helping undergraduate students navigate between different options in health care.

As proposed, the BS in Medicine program does not meet these goals for students. In addition, the proposal creates unnecessary duplication of efforts and competition among university units.

In order to better meet the stated goals, we suggest that the COM do ALL of the following.

- 1. The College of Medicine offers a MINOR in Medicine. The focus would be on pre-medicine, pre-dentistry, pre-physical therapy, pre-pharmacy, pre-optometrist offering value-added courses that the COM thinks will give UArizona the edge in preparation for medical careers. The COS (and other pre-health programs) will help funnel thousands of pre-health students to the minor. This would allow programs that currently prepare pre-health majors to continue doing their job of getting students prepared with the coursework, science knowledge and science skills needed for a medical career.*
- 2. The College of Medicine offers a BS (or BA) in Healthcare (or similar name) that is targeted at those who want to advance within technical careers in health care (physical therapy assistant, respiratory therapist etc.). This major would be a collaboration with Pima Community College as a "2 +2". This would be a 2-year pathway for students already trained with technical skills (and an Associate's Degree) to come to the university to obtain their BS degree. This would prevent the COM from doing all of the necessary work to create a system for training students (required for accreditation for careers like this). The COM would work with SBS and COS to include any existing courses where relevant.*
- 3. The College of Medicine would not advertise careers for which no formal training is required (such as home health aid or massage therapist).*
- 4. The College of Science and the College of Medicine would strengthen their collaboration around the UArizona Prehealth Initiative with the shared purpose of helping students navigate their way through careers in health care.*