

**PROGRAM MODIFICATION PROPOSAL**

Name of Institution  
**Medical University of South Carolina College of Medicine**

Name of Program (include concentrations, options, and tracks)  
**Medicine (add new track: Accelerated Medical Pathway)**

Program Designation

- Associate's Degree                       Master's Degree  
 Bachelor's Degree: 4 Year             Specialist  
 Bachelor's Degree: 5 Year             Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)  
 Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes  
 No

Proposed Date of Implementation  
**Academic Year 2018-19**

CIP Code **51.1201**

Delivery Site(s)  
**Medical University of South Carolina  
AnMed Health Clinical Campus**

Delivery Mode

- Traditional/face-to-face\*             Distance Education  
\*select if less than 50% online             100% online  
 Blended (more than 50% online)  
 Other distance education

Program Contact Information (name, title, telephone number, and email address)

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Institutional Approvals and Dates of Approval

**College of Medicine Undergraduate Curriculum Committee January 12, 2018**  
**MUSC Education Advisory Council**  
**MUSC Provost's Council**

### **Background Information**

Provide a detailed description of the proposed modification, including its nature and purpose and centrality to institutional mission. (1500 characters)

The MUSC College of Medicine proposes to develop an Accelerated Medical Pathway Program which allows selected high-achieving students to meet requirements of the MD degree in an accelerated manner (3 years) and enter a conditional residency position at MUSC. The Accelerated Medical Pathway (AMP) reduces student debt and overall time in training without compromising program quality or student competency for select students who are capable of completing the requirements. AMP aligns with MUSC's mission of retaining trainees for the state's physician workforce. Decreasing overall time in training and increasing retention of stellar students in state as resident physician trainees increases the likelihood of retention of these individuals in state as they transition to practice.

All students in the MD program complete the same preclerkship phase curriculum on the same timeline. During this phase, students may apply for consideration for AMP. Eligibility is based on sustained demonstration of outstanding academic and professional performance in the preclerkship phase of the MD degree. Students eligible for AMP enter clerkship rotations and complete a clinical curriculum identical to the year 3 traditional path (44 weeks in core clerkships and 4 weeks in selectives). After completing 16 weeks of rotations, students apply for final selection for AMP which includes a competency review and interview with the residency program of interest. Students selected for residency positions complete all required advanced (year 4) rotations and fewer electives than the traditional pathway. Students who decide not to apply or are not selected for the AMP decelerate to the traditional four-year pathway. Robust academic advising activities support students.

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List the objectives of the modified program. (1500 characters)

The Accelerated Medical Pathway track was approved on February 23, 2016 as a separate curriculum track by the accrediting body for allopathic medical schools, the Liaison Committee on Medical Education.

As necessitated by the LCME education standards, the traditional MD degree and Accelerated Medical Pathway track must share the same program objectives and core competencies. MUSC College of Medicine's Institutional Learning Objectives are a comprehensive set of objectives and core competencies that drive curriculum content for all MD degree programs, including the AMP. The comprehensive list of objectives expected from all MD degree graduates are grouped under eight primary domains:

1. Medical Knowledge for Practice
2. Patient Care
3. Interpersonal and Communication Skills
4. Professionalism
5. Personal and Professional Development
6. Practice-Based Learning
7. Systems-Based Learning
8. Interprofessional Collaboration

All curriculum content is mapped and linked to these core Institutional Learning Objectives which were developed with broad faculty participation and approved by the curriculum committee. The COM Institutional Learning Objectives full document is submitted with this report for review (see Appendix Table 1).

The College of Medicine competency-based assessment plan and assessment tools that link to each competency domain ensure that each learner is assessed against the learning objectives. The Office of Assessment, Evaluation and Quality Improvement oversees the plan and the Student and Program Data Warehouse is where data are synthesized for analysis.

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### Assessment of Need

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable. (1500 characters)

The AMP track is one mechanism the MUSC COM will use to implement the well-accepted educational principle of competency-based medical education, in which students advance to the next phase of training after demonstration of core skills and competencies with allowance for time variability among students.

The Consortium of Accelerated Medical Pathway Programs is a national program founded in 2015 to facilitate the study, development, and dissemination of best practices across medical schools implementing these programs.<sup>1</sup> Eighteen participating institutions have implemented various models with examples including accelerated tracks embedded within a traditional degree program as at New York University to an entire regional campus implementing an accelerated track such as at Medical College of Wisconsin-Central Wisconsin campus.

This program modification also helps the College of Medicine address the LCME's accreditation standard regarding student indebtedness. Students who enter AMP will pay three years of tuition as opposed to four and will begin earning a salary in the workforce earlier.

Finally, this program modification addresses MUSC's mission to support the physician workforce in SC by providing a mechanism for MUSC's graduate medical education programs to retain stellar students in primary care and other medical subspecialties. Data supports that students who complete both undergraduate (medical school) and graduate medical education (residency) in South Carolina are more likely to practice in South Carolina.<sup>2</sup>

<sup>1</sup> Cangiarella, J., Fancher, T., Jones, B., Dodson, L., Leong, S. L., Hunsaker, M. Abramson, S. B. (2017). Three-Year MD Programs: Perspectives from the Consortium of Accelerated Medical Pathway Programs (CAMPP). *Academic Medicine*, 92(4), 483-490.

<sup>2</sup> South Carolina Office for Healthcare Workforce. "Residency Training Choices of SC Medical School Seniors: 2016 and 2017". URL: <https://www.scohw.org/docs/2017/SC-Match-Data-2016-2017.pdf>

Will the proposed modification impact any existing programs and services at the institution?

Yes

No

If yes, explain. (1000 characters)

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**List of Similar Programs in South Carolina\***

<b>Program Name</b>	<b>Institution</b>	<b>Similarities</b>	<b>Differences</b>
None			

**\*No other time-variable, accelerated programs for the MD degree exist in South Carolina.**

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**Description of the Program**

<b>Projected New Enrollment*</b>						
<b>Year</b>	<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2018-2019*	2		0			
2019-2020*	2		0			
2020-2021**	2		10			
2021-2022**	0		10			
2022-2023**	0		10			

\*In our current preclerkship curriculum model, AMP students will enter the AMP program in the fall of year 4.

\*\*With curriculum changes in the traditional preclerkship curriculum (implementation in the fall 2018 of the COM FLEX Curriculum) and introduction of FLEX phase of scholarly concentrations (spring 2019), AMP students will then be entering the accelerated pathway in spring of the year 3 (beginning in the spring of 2021).

All students will continue to enter the College of Medicine only through the traditional MD degree pathway and then apply for the AMP pathway during the preclerkship phase (year 2).

**Curriculum**

Attach a curriculum sheet identifying the courses required for the program.  
**See Appendix Table 2. Courses Required for the AMP**

**Curriculum Changes**

**Note: Complete this table only if there are changes to the curriculum.**

<b>Courses Eliminated from Program</b>	<b>Courses Added to Program</b>
<b>4 four-week electives will be eliminated from the curriculum</b>	
<b>Students will not participate in the FLEX Phase intersession (between preclerkship and clerkship curriculum) which is a scholarly concentration elective phase that follows the preclerkship curriculum.</b>	

**See Appendix for AMP Curriculum Schematic.**

All academic degree requirements are the same in the traditional MD degree pathway and the accelerated MD degree pathway with respect to core courses and examinations:

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- Satisfactory completion of all of the **Preclerkship Phase** foundations and organ-system blocks.
- Satisfactory completion of all of the **Immersion Phase** (core clerkship rotations) with passing of all clinical performance evaluations and NBME subject exams.
- Passing USMLE Step 1, 2CK, 2CS, CCX

Students in AMP complete (3 vs. 7) electives in the **Enrichment Phase** and do not participate in the **Flex Phase** of scholarly concentration electives after the preclerkship phase.

### Faculty

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program modification. (1000 characters)

The Accelerated Medical Pathway will not require any institutional changes in faculty. The College of Medicine Dean's Office existing administrative units will oversee the program. The current administrative structure will support the program. The Office of Students Affairs, the Associate Dean for Student Affairs and Career Planning, in collaboration with the Associate Dean for Curriculum-Clinical Sciences will oversee implementation of the structured advising plan including academic advising, career advising and program application preparation.

### Resources

Identify any new library/learning resources, new instructional equipment, and new facilities or modifications to existing facilities needed to support the modified program. (2000 characters)

The Accelerated Medical Pathway is well-supported by existing institutional resources utilized in the traditional MD Degree pathway.

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**Financial Support**

<b>Estimated New Costs by Year</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Program Administration						
Faculty and Staff Salaries						
Graduate Assistants						
Equipment						
Facilities						
Supplies and Materials						
Library Resources						
Other*						
<b>Total</b>						
<b>Sources of Financing</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Tuition Funding	See explanation below					
Program-Specific Fees						
State Funding (i.e., Special State Appropriation)*						
Reallocation of Existing Funds*						
Federal Funding*						
Other Funding*						
<b>Total</b>						
<b>Net Total</b> (i.e., Sources of Financing Minus Estimated New Costs)						

\*Provide an explanation for these costs and sources of financing in the budget justification.



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### Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

**Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.**

The financial impact on the institution for the Accelerated Medical Pathway (AMP) will be the loss of the year 4 tuition (\$34,000) for these students who complete the program in 3 years. The lost revenue for 10 students accepted into the pathway is \$340,000. The loss will be offset by the planned increase in enrollment in the 2019-2020 academic year by 6 students (from 180 to 186). There are no new costs associated with the program, including no new salary support for faculty or administrators.

### Evaluation and Assessment

Will any the proposed modification impact the way the program is evaluated and assessed?

Yes

No

If yes, explain. (1000 characters)

The MUSC College of Medicine Office of Assessment, Evaluation, and Quality Improvement (OAE-QI) has an established, robust system for assessing outcomes of the MD degree program. The OAE-QI oversees the collection of learner assessment, evaluation and competency-attainment data, and collates data into a student performance dashboard for progress and competency committee review and decision-making. The office will also implement the program evaluation for AMP which looks at program outcomes compared to the traditional pathway (i.e., intern and residency director surveys, student completion rates, student and intern wellness) in order to determine program success and facilitate program improvements.

Will the proposed modification affect or result in program-specific accreditation?

Yes

No

If yes, explain; if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

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MUSC College of Medicine MD Degree Program is fully accredited by the LCME, the accrediting body for US allopathic medical schools. The Accelerated Medical Pathway outlined in this program modification proposal has been approved as a separate track by LCME (February 23, 2016). No additional program-specific accreditation is required.

Will the proposed modification affect or lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

Both the traditional (4 year) pathway and the AMP (3 year) pathway to the MD degree at MUSC require the successful completion of all three USMLE Step exams (Step 1, Step 2CK, Step 2CS). Passing all three exams is also necessary for obtaining state board licensure.

**Teacher or School Professional Preparation Programs**

Is the proposed modified program a teacher or school professional preparation program?

Yes

No

If yes, complete the following components.

Area of Certification

Attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.

## APPENDIX

**Table 1. MUSC COM General Competencies and Institutional Learning Objectives**

The faculty of the MUSC College of Medicine defined the medical education program objectives in outcome-based terms that allow the assessment of medical students' progress in *developing the competencies that the profession and the public expect of a physician.*

<b>General Competency</b>	<b>Medical Education Program Objective(s)</b>
<p><b>Medical Knowledge for Practice:</b> Students must demonstrate knowledge about established and evolving basic, clinical, and cognate (i.e., epidemiological and social-behavioral) sciences and the application of this knowledge to the practice of medicine.</p>	<p>MK 1 Describe the normal structure and function (morphology and physiology) of the human body and of each of its major organ systems across the life span.</p> <p>MK 2 Describe how molecular, biochemical, cellular and genetic mechanisms affect human development and maintain the body's homeostasis across the life span.</p> <p>MK 3 Explain various causes of major diseases and conditions (genetic, developmental, metabolic/nutritional, toxic, microbiologic, immunologic, inflammatory, neoplastic, degenerative, traumatic and behavioral) and the ways in which they operate on the body (pathogenesis) in individuals and in populations.</p> <p>MK 4 Describe how altered structure and function (pathology and pathophysiology) of the body and its major organ systems are exhibited through various diseases and conditions, and as a result of aging.</p> <p>MK 5 Describe the scientific principles underlying diagnostic methods, including laboratory and radiologic testing, and treatment approaches (pharmacologic and non-pharmacologic) that may be applied to major diseases and conditions.</p> <p>MK 6 Demonstrate knowledge of physical and functional principles of normal and altered human behavior throughout the life cycle, including scientific basis for diagnostic and treatment approaches applied to these conditions.</p> <p>MK 7 Explain how social determinants, health behaviors and preventive measures affect disease, illness, and health in individuals and across populations regionally, nationally, and globally.</p> <p>MK 8 Demonstrate knowledge of the scientific method in establishing causation of health and disease, the utility of diagnostic modalities, and the efficacy of therapies (traditional and non-traditional), through critical evaluation of current basic and clinical scientific knowledge.</p>

<p><b>Patient Care:</b> Students must be prepared to provide patient-centered care that is compassionate, appropriate, safe and effective, responsive to the personhood of the patient inclusive of culture, race, ethnicity, spirituality, gender, sexual orientation, age, disabilities, chronic medical conditions, socioeconomic status, family-context and other aspects of personal and health beliefs, practices and decisions.</p>	<p>PC 1 Obtain essential, accurate, and age-appropriate information about patients through history-taking, physical examination, and the use of laboratory data, imaging, and other tests.</p> <p>PC 2 Formulate an accurate and comprehensive differential diagnosis through interpretation and synthesis of relevant patient data.</p> <p>PC 3 Develop and implement with supervision appropriate evaluation and management plans in the inpatient and outpatient setting utilizing individual patient information and preferences, evidence-based medicine and clinical judgment for diverse populations.</p> <p>PC 4 Provide appropriate referral of patients including ensuring continuity of care throughout transitions between providers or settings and following up on patient progress and outcomes.</p> <p>PC 5 Counsel, educate, and partner with patients, families, and the community to promote health and prevent health problems using accurate, current evidence-based information.</p> <p>PC 6 Organize and prioritize responsibilities to provide care that is safe, effective, and efficient.</p> <p>PC 7 Perform routine procedures safely and correctly with appropriate supervision.</p>
<p><b>Interpersonal and Communication Skills:</b> Students must demonstrate interpersonal and communication skills that facilitate effective exchange of information and collaboration with patients, their families and health professionals.</p>	<p>CS 1 Communicate effectively with patients, families, colleagues, and the public through the use of active listening and appropriate verbal, nonverbal and written skills.</p> <p>CS 2 Foster therapeutic and ethically sound relationships with patients across a broad range of socioeconomic and cultural backgrounds with respect, empathy and support of emotions.</p> <p>CS 3 Demonstrate sensitivity, honesty, and compassion in difficult conversations, including those about death, end of life, adverse events, bad news, disclosure of errors, and other sensitive topics.</p> <p>CS 4 Act in a consultative role to other health professionals.</p> <p>CS 5 Maintain accurate, comprehensive, timely, and legible medical records.</p>

<p><b>Professionalism:</b> Students must demonstrate a commitment to professional and personal excellence in all settings, including adherence to ethical principles and sensitivity to a diverse patient population.</p>	<p>PR 1 Demonstrate honesty, integrity, respect, and compassion in all interactions with patients, peers, faculty, staff, and other health care professionals in all settings.</p> <p>PR 2 Demonstrate ethical, patient-centered decision-making, informed consent, and respect for autonomy and confidentiality of patient information in all settings (i.e., clinical, academic, electronic or web-based.)</p> <p>PR 3 Demonstrate sensitivity and responsiveness to the personhood of the patient inclusive of culture, race, ethnicity, spirituality, gender, sexual orientation, age, physical characteristics, medical condition, disabilities, socioeconomic status, family-context and other aspects of personal and health beliefs, practices and decisions.</p> <p>PR 4 Demonstrate accountability for academic, patient care and professional responsibilities including concern for societal needs.</p> <p>PR 5 Demonstrate responsiveness to patient needs that supersedes self-interest.</p>
<p><b>Personal and Professional Development:</b> Students must demonstrate the qualities required to sustain lifelong personal and professional growth.</p>	<p>PD 1 Acknowledge personal limitations and mistakes openly and honestly, seek and respond to feedback in a positive way, and demonstrate flexibility and maturity in adjusting one's behavior.</p> <p>PD 2 Demonstrate strategies for analyzing, identifying and improving personal deficiencies in knowledge and skills by setting learning and improvement goals.</p> <p>PD 3 Demonstrate a commitment to personal health and well-being, and recognize and address personal attributes, attitudes, and behaviors that may adversely influence one's effectiveness as a physician.</p> <p>PD 4 Define professional impairment and describe the role and responsibility of health care professionals in addressing impairment and unprofessional behavior in colleagues and in the profession.</p> <p>PD 5 Use self-awareness and assessment data of one's knowledge, skills and attributes to identify appropriate career options.</p> <p>PD 6 Recognize that ambiguity is part of clinical health care and respond by utilizing appropriate resources in dealing with uncertainty.</p>

<p><b>Practice-Based Learning:</b> Students must investigate and assess their academic and clinical performance and appraise and assimilate scientific evidence in order to continuously improve their care of patients and populations.</p>	<p>PL 1 Apply foundational principles of service-learning with reflection on outcomes for patients and populations.</p> <p>PL 2 Demonstrate the use of technology in optimizing learning and improving patient care outcomes.</p> <p>PL 3 Retrieve, critically appraise, and integrate current, evidence-based biomedical information into patient care, clinical decision-making, and scholarly work.</p> <p>PL 4 Apply principles of medical informatics, patient safety and quality improvement to enhance patient care.</p> <p>PL 5 Apply the foundational principles of basic, clinical and translational research to patient care.</p> <p>PL 6 Describe and apply principles of public health and population health improvement for specific populations with attention to access, cost and patient-centered clinical outcomes.</p>
<p><b>Systems-Based Learning:</b> Students must demonstrate an awareness of and responsiveness to the larger context and systems of health care, including barriers and drivers of health and health care access.</p>	<p>SL 1 Describe various approaches to the organization, financing, and delivery of health care locally, nationally and internationally.</p> <p>SL 2 Advocate for quality, cost effective patient care and describe strategies for coordinating care within complex systems.</p> <p>SL 3 Describe the role and responsibility of physicians in developing and implementing health policy.</p> <p>SL 4 Describe health disparities and health care disparities, how they affect patient and system outcomes, and identify ways to effectively address disparities.</p>
<p><b>Interprofessional Collaboration:</b> Students must demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care.</p>	<p>IP 1 Define the roles and responsibilities of various health professionals in the healthcare team.</p> <p>IP 2 Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust.</p> <p>IP 3 Communicate effectively and respectfully with other health professionals in a responsive and responsible manner.</p> <p>IP 4 Collaborate with other health professionals and health care teams to deliver quality patient care and improve system performance.</p>

## AMP Curriculum Schematic

MD Degree - Accelerated Medical Pathway (AMP)													
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
1	Preclerkship Organ System Curriculum												
2	Preclerkship Organ System Curriculum						USMLE Step 1 Prep and Exam	Clinical Skills Education	Medicine Clerkship (8 weeks)	Surgery Clerkship (6 weeks)	Selectives (4 weeks)		
3	ObGyn Clerkship (6 weeks)	Psychiatry Clerkship (6 weeks)	Pediatrics Clerkship (6 weeks)	Neuro Rehab Clerkship (6 weeks)	Family Med Clerkship (6 weeks)	CCX* Step 2CK 2CS	Advanced Surgery Elective (4 weeks)	Senior Medicine Core (4 weeks)	Extern-Ship (4 weeks)	Intern 101	Clinical Elective (4 weeks)		

\*CCX is the College of Medicine comprehensive Clinical Competency Exam.

<b>Table 2. MD Degree Program: Courses Required Accelerated Medical Pathway</b>		
<b>Preclerkship Phase</b>	<b>Fall I (3 Courses)</b> 16 weeks	Foundations of Biomedical Science 1 Block
		Foundations of Biomedical Science 2 Block
		Cardiovascular and Pulmonary Block
	<b>Spring I (3 Courses)</b> 15 weeks	Renal & Acid/Base Block
		Gastrointestinal Block
		Urogenital Reproductive Block
	<b>Summer I (3 Courses)</b> 12 weeks	Women health and Clinical Immersion Block
		Children’s health and Clinical Immersion Block
		Autoimmune & Hematologic Diseases Block
	<b>Fall II (3 Courses)</b> 16 weeks	Musculoskeletal System Block
		Cognition & Psychiatric Diseases Block
		Multi-system Disease Block
<b>Immersion Phase</b>	<b>Spring II (3 Courses)</b> 15 weeks	Clinical Skills Education (1 week)
		Medicine Clerkship (8 weeks)
		Surgery Clerkship (6 weeks)
	<b>Summer II (3 Courses)</b> 16 weeks	Selectives (4 weeks)
		Obstetrics and Gynecology Clerkship (6 weeks)
		Psychiatry Clerkship (6 weeks)
	<b>Fall III (3 Courses)</b> 18 weeks	Pediatrics Clerkship (6 weeks)
		Neuro Rehab Clerkship (6 weeks)
		Family Med Clerkship (6 weeks)



Enrichment Phase	<b>Spring III</b> <b>(5 courses)</b> 18 weeks	Advanced Surgery Elective (4 weeks)
		Senior Medicine Core (4 weeks)
		Internship 101 (2 weeks)
		Externship (4 weeks)
		Clinical Elective (4 weeks)