



M*A*S*H

Medical Applications of Science for Health

Preparing Arkansas students today for careers in healthcare tomorrow



Summer 2017 Report

UAMS

University of Arkansas for Medical Sciences



Medical Applications of Science for Health

Introduction

Every summer since 1988, hundreds of high school students in Arkansas have donned surgical scrubs or lab coats at UAMS Regional Centers, community hospitals, and college campuses across the state in order to learn more about health careers. With a special emphasis on rural youth, the Medical Applications of Science for Health (M*A*S*H) program has exposed more than 8,000 Arkansas high school students to careers available in the fields of medicine, nursing, pharmacy, dentistry, and allied health.



The M*A*S*H Program was first developed and piloted in 1988 by UAMS South Central in Pine Bluff, and this popular program soon spread statewide, and was also replicated in several other states. The program encourages young people to explore the application of scientific theories and concepts to real life health care fields and scenarios. Students interact with various health care practitioners such as physicians, nurses, physician assistants, medical and radiologic technologists, respiratory therapists, pharmacists, and dietitians. Emphasis is placed on how the different professions function both individually and as part of an interdisciplinary team.

During this two-week summer day-camp program, students complete certification in Basic First Aid and CPR and they learn the importance of healthy lifestyle habits. Reinforcement of the connection between basic science concepts and medical diagnoses and treatment occurs through lectures, labs, clinical interaction and shadowing. Students learn to identify various disciplines, what they do, how they relate to one another, and how the fundamentals of anatomy, biology, pharmacology, and physiology apply to each discipline. Partnerships with organizations such as Arkansas State Police, Morgan Nick Foundation, Arkansas Regional Organ Recovery Agency and the American Foundation for Suicide Prevention provide the opportunity to discuss issues relevant to the M*A*S*H students' demographic.



For students from rural areas, M*A*S*H demonstrates that challenging career opportunities can be pursued in non-metropolitan communities. Students sometimes perceive that highly technical equipment and professional opportunities may only be available in larger, urban areas. By participating in M*A*S*H programs in their own, or similar communities, rural students can observe the availability of various types of medical resources and the need for appropriately trained professionals in their own towns.



UAMS Regional Programs employs Health Professions Recruiters in each of their 8 regional centers. These recruiters play a key role by connecting with students in M*A*S*H and then providing ongoing support through their high school and college years with academic advising, MCAT prep, writing skills, mock interviews, mentoring and volunteer opportunities, and other referrals, as needed.



Why is M*A*S*H Important?

Although M*A*S*H encourages students to consider ALL health careers, specific emphasis is placed on an urgent need for family physicians. This is due to the fact that a national shortage of 35,000 primary care physicians is expected by 2025. In addition, over a third of all family physicians now practicing in Arkansas will be retiring soon. These things combined, mean Arkansas is facing an imminent crisis.

Research shows that 81% of physicians, who come from Arkansas, attend medical school in Arkansas, and complete residency training in Arkansas remain and practice in Arkansas. Those who come from rural areas are far more likely to return to rural areas to practice.

For the last 15 years, the UAMS College of Medicine has received fewer than 350 applications per year from **Arkansas** students for its 174 first-year medical school slots.

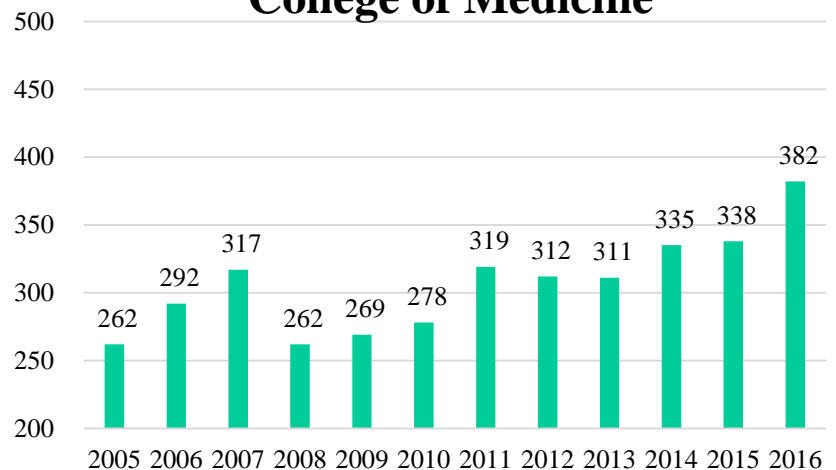
However, in 2016, the UAMS College of Medicine saw the highest number of Arkansas applicants since 1997.

The numbers began to increase in 2014 (see graph below), which was the first year that M*A*S*H students our regional recruiters had worked with in high school began applying to UAMS.

We must maintain this momentum because:

- Two new osteopathic medical schools have added an additional 265 first-year medical student slots, bringing the total to 439.
- If the pool of qualified Arkansas applicants does not increase, many of these new medical school slots will have to be filled by out-of-state applicants, who are less likely to stay in Arkansas to practice.

Arkansas Applicants to UAMS College of Medicine



**The health careers pipeline is a long-term investment.
Producing enough doctors to care for Arkansans in future years will depend on how effectively we recruit and train promising students from within Arkansas NOW!**



Program Objectives

Academic Year: Summer 2017

All sites follow common objectives, including procedure training, information, hands-on activities, and shadowing of different health professionals. Students also tour local health care settings, such as hospital rehabilitation centers, nursing homes, community health centers, fitness centers, veterinary clinics, and the UAMS campus in Little Rock.

Upon completion of this two-week program, students are able to:

1. Appreciate the importance and applications of basic science theories in relation to medical diagnosis and treatment.
2. Describe the roles of various participating health care team members in the care of a patient.
3. Understand the importance of primary care, such as a Family Medicine physician, nurse practitioner, or physician assistant as a career.
4. Understand the challenges that rural and medically underserved populations face due to economic, cultural, language or geographic barriers to healthcare.
5. Describe the roles of each health care team member in a patient-centered medical home (PCMH) model.
6. Demonstrate a better understanding of basic medical terminology.
7. Demonstrate basic First Aid in order to administer aid to accident victims, including bandaging, control of bleeding, splinting, and spinal immobilization.
8. Complete a course in Basic Life Support/Cardiopulmonary Resuscitation (CPR).
9. Demonstrate an increased awareness of teenage health-related issues, enabling each participant to make better informed decisions and, potentially, become a peer advocate for healthier lifestyles.

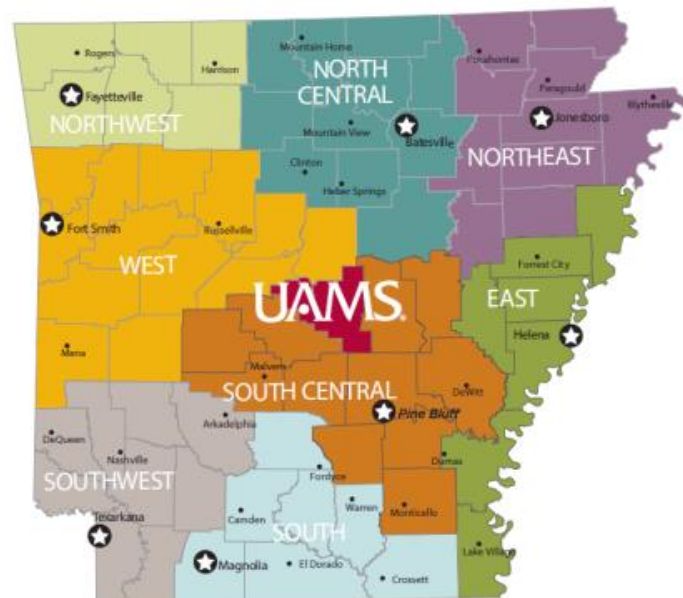




Program Locations

Academic Year: Summer 2017

Arkadelphia	Baptist Health Medical Center
Batesville	UAMS North Central Campus
Blytheville	Arkansas Northeastern College
Camden	Ouachita County Medical Center
Clinton	Ozark Health Medical Center
Crossett	Ashley County Medical Center
DeWitt	DeWitt Hospital and Nursing Home
Dumas	Delta Memorial Hospital
El Dorado	Medical Center of South Arkansas & Southark Community College
Fayetteville	UAMS Northwest Campus
Fordyce	Dallas County Medical Center
Forrest City	St. Francis County Farm Bureau
Ft. Smith	Mercy Medical Center
Ft. Smith	Sparks Regional Medical Center
Harrison	North Arkansas Regional Medical Center
Heber Springs	Baptist Health Medical Center
Helena	UAMS East Campus
Jonesboro	UAMS Northeast Campus
Lake Village	Chicot Memorial
Magnolia	UAMS South Campus/ Magnolia Regional Medical Center
Malvern	Baptist Health- Malvern
Mena	Mena Regional Health System
Monticello	Drew Memorial
Mountain Home	ASU Mountain Home
Mountain View	Stone County Medical Center
Nashville	Howard Memorial Hospital
Paragould	Arkansas Methodist
Pine Bluff	UAMS South Central Campus
Pocahontas	Black River Technical College
Rogers	Mercy Medical Center
Russellville	St. Mary's Regional Medical Center
Texarkana	UAMS Southwest Campus
Warren	Bradley County Medical Center





Program Changes

Academic Year: Summer 2017

M*A*S*H 2017 brought the establishment of 3 new program sites: DeWitt Hospital and Nursing Home in DeWitt, Drew Memorial Hospital in Monticello, and Baptist Health in Malvern.



Several changes were implemented this summer in the UAMS tours to ensure similar experiences for all students and to align the program with current healthcare training environments.

To accommodate the large number of M*A*S*H participants more efficiently, the format of the UAMS tours was changed to a four-block schedule, which included Compounding (Pharmacy), Simulation Education, Research, and Skills Teaching. Pharmacy students and faculty interacted with M*A*S*H students during the Compounding block to answer questions about Pharmacy School.

Interprofessional education was formally introduced for the first time at the pre-health level through simulations and student panels. M*A*S*H students observed and participated in an interprofessional simulation alongside UAMS students and standardized participants. M*A*S*H students were also able to interact with a panel of UAMS students from various degree programs during lunch.

The research block included a lecture given by a UAMS researcher and a tour of a research lab. M*A*S*H students were able to see how research is an important component of healthcare. Students also learned about the undergraduate summer research opportunities at UAMS.

The skills teaching block activities included eye exams with Ophthalmic Medical Technology students, cranial nerve exams in the Clinical Skills Center, and heart anatomy with UAMS College of Medicine Professor Dr. David Davies.

Proposed Changes for 2018

- **UAMS Regional Campuses will partner with the UAMS Office of Interprofessional Education to have UAMS students create clinical scenarios for M*A*S*H UAMS Tours as part of their Triple AIM Project graduation requirement.**
- **M*A*S*H coordinators will revisit the consent forms with UAMS legal counsel to add verbiage on sharing student contact information.**
- **M*A*S*H coordinators will work with UAMS legal counsel to create a liability waiver for medical students serving as M*A*S*H assistants.**
- **Arkansas Farm Bureau has now established a 501(c)(3) for M*A*S*H funding.**
- **M*A*S*H will celebrate 30 years in 2018. You will receive more information on events related to the 30th anniversary.**



2017 Fast Facts

Academic Year: Summer 2017

- **453 participants**
- **33 M*A*S*H program locations**
- **3 New Programs:**
 - **DeWitt Hospital, DeWitt**
 - **Baptist Health, Malvern**
 - **Drew Memorial, Monticello**
- **23% of participants were minorities.**
- **60% of participants were from rural hometowns.**



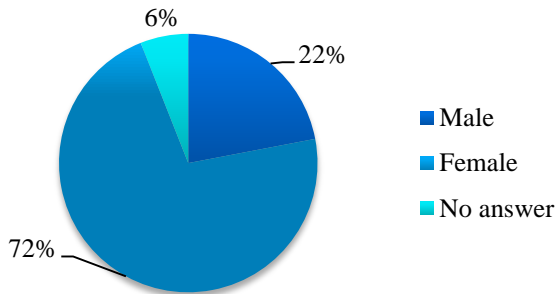
2017 Survey Responses	Pre	Post
Intent to pursue health career	84%	88%
Intent to pursue primary care	42%	44%
Intent to practice among medically underserved populations	40%	57%
Intent to practice in a rural area	37%	47%



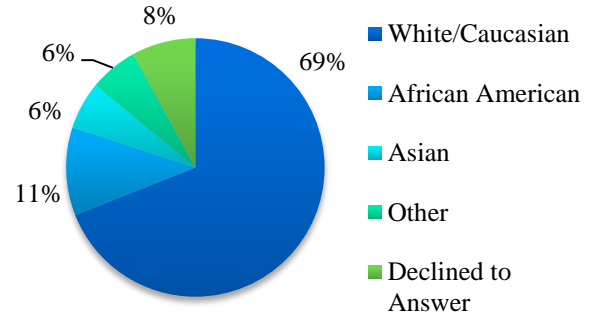
Demographics of Participants

Academic Year: Summer 2017

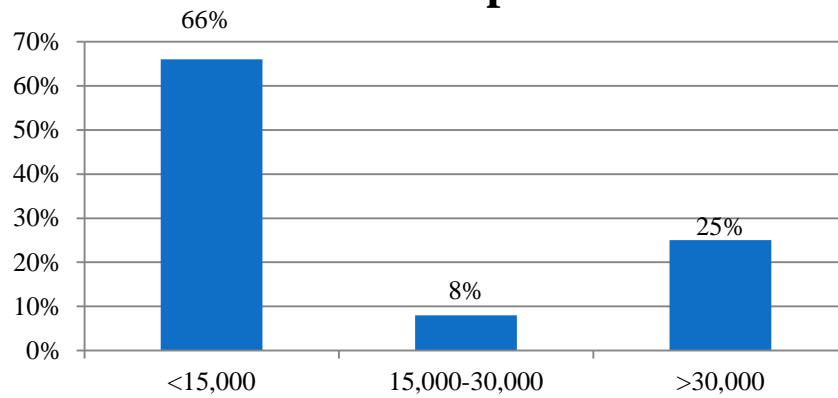
Gender



Race



Hometown Populations





Summary

Academic Year: Summer 2017

Medical Applications of Science for Health has shown to be an effective early pipeline program, with participants having higher rates of college enrollment and graduation than both the state and national averages. Survey responses indicate that the program improves health career knowledge and increases students' intent to pursue a degree in health care, work in primary care, work among medically underserved populations, and practice in rural areas.



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Acknowledgment

Academic Year: Summer 2017

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- UAMS College of Medicine: Dr. David Davies, Dr. Jeanne Mclachlin, Maggie Jones, and Hannah Smashey-Lewis
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- UAMS College of Nursing: Jeannine Hamilton
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- DeWitt Hospital and Nursing Home, DeWitt: Theresa Lock
- Delta Memorial Hospital, Dumas: Laura Potter
- Medical Center of South Arkansas, El Dorado
- Southark Community College, El Dorado
- Dallas County Medical Center, Fordyce: Dana Smith
- St. Francis County Farm Bureau, Forrest City: Holly Loewer
- Mercy Medical Center, Ft. Smith
- Sparks Regional Medical Center, Ft. Smith
- North Arkansas Regional Medical Center, Harrison: Kim Morris
- Baptist Health Medical Center, Heber Springs: Charmaine Allen and Tamara Mckee
- Chicot Memorial Hospital, Lake Village
- Kelli Hopkins, Malvern
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- Mena Regional Health System, Mena: Pam Posey
- Drew Memorial Hospital, Monticello: Kristen Smith
- Arkansas State University, Mountain Home: Dr. Julia Gist
- Stone County Medical Center, Mountain View: Heather McClanahan
- Howard Memorial Hospital, Nashville: Gayla Lacefield and Dee Starr
- Arkansas Methodist, Paragould: Shannon Walton
- Jefferson Regional Medical Center, Pine Bluff
- Black River Technical College, Pochontas: Angie French
- Mercy Medical Center, Rogers: Michele Villines
- St. Mary's Regional Medical Center, Russellville: Carrie Pelfrey
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