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Outreach and the Medical School:

A Case Study of Institutional Logics of the University of Arizona College of Medicine

By

Nima Sekhadia

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Entrepreneurship

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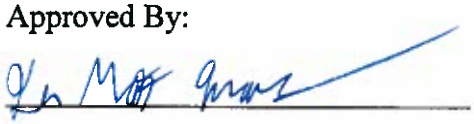

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Abstract

Recent literature in the medical education field identifies the unique opportunities through which medical colleges can provide community outreach. However, other concerns and interests of the medical college have the potential to overwhelm these opportunities. The current study uses the framework of institutional logics to explore the decision-making and actions of the University of Arizona College of Medicine over a ten-year period from 1992 to 2002, with special emphasis on community-oriented influences. The logics from the ten-year period were then compared with their current counterparts. Analysis revealed three dominant logics: academic, citizenship and professional. Importantly, medical students emerged as a novel source of bolstering and inspiring community-oriented logics at the College of Medicine. In addition, current trends suggest evidence of a potential blending of these distinct logics to form a dominant community logic.

Introduction

The healthcare situation in the United States is becoming more and more complicated and less able to meet the needs of lower income and historically marginalized populations. In the state of Arizona alone, for example, in 2008, 37% of people earning between 100 and 300 percent of the Federal Poverty Level were uninsured. In other words, 764,400 people earned too much to qualify for state-funded Arizona Healthcare Cost Containment System (AHCCCS) cut-offs, and too little to be able to afford private insurance premiums (Kaiser Foundation, 2008). Most people in this bracket rarely seek regular or preventive medical care, which results in their medical problems worsening to the point of requiring excessively expensive care – usually in the form of emergency care from hospitals. When patients or their families cannot pay their hospital

bills, the hospital has to compensate for lost revenue by increasing fees to private insurance agencies and premium rates paid by consumers of private insurance. Furthermore, government reimbursement is often lacking, which hospitals must also absorb (AZHHA, 2008). This is only one of many healthcare problems that exist in Arizona and across the United States.

Issues such as these warrant the consideration of alternative sources of medical care for individuals and communities that do not have ready access to quality care (e.g., uninsured and rural populations). Medical colleges have been one such source, providing care through a variety of means that often combine medical education and community outreach. For example, service-learning programs for students at medical colleges have been used to tackle issues "ranging from homelessness to elder abuse by partnering with community-based entities such as public schools, neighborhood health centers, housing authorities and community-development corporations" (Seifer, 1998; pg. 273). The positive effects of such outreach activities extend beyond the communities that are served. Continuing the example of student-centered outreach, Dornan et.al (2006) conducted studies with medical students who had the opportunity to supplement their medical education with community-based experience during the first two years of their medical school careers. Later in their medical student training, these students were characterized as being more empathetic, self-aware and better able to handle stress in clinical settings. "[Experience] strengthens and contextualizes students' learning and helps them learn about people, how they live and how clinicians and the healthcare system can look after them" (Dornan et.al, 2006; p. 15).

Extensive technological and environmental changes over the past century have pushed dramatic restructuring in the fields of medicine and medical education. For example, S.W. Bloom (1989) argued that the surge in biomedical research and science at the start of the

twentieth century altered the composition of medical education, which shifted from an emphasis on primary care to more specialized fields. He stated, "To prepare doctors to serve the changing health needs of society is repeatedly asserted as the main objective of medical education, but…this manifest ideology of humanistic medicine is little more than a screen for the research mission that is the major thrust of the institution's social structure" (Bloom, 1989: p. 230). The boom in research and specialization in medical schools has contributed to the decline in interest among medical students in primary care, which historically has been the most affordable and convenient source of medical care for most patients (Moore & Showstack, 2003). Another aspect of the decline of interest in primary care resides in the salary discrepancies between specialty care professions and primary care professions. Internal medicine and family care doctors are consistently on the lower end of the spectrum in terms of salary, with differences between these professions and specialty care professions often exceeding $100,000 and higher as more specific skills are required (AMGA, 2006). Moreover, the attitudes of medical students at large have been shown to potentially undergo dramatic changes throughout their medical school experience. Mohammadreza Hojat et.al (2004) contended that medical students are likely to experience a general decline in empathy as they advance in their professional training. Paul Haidet et.al (2002) found that senior medical students have a tendency to exhibit less patient-centered attitudes – characterized by "taking into account patients' preferences, concerns and emotions" – and more doctor-centered attitudes towards the doctor-patient relationship (p. 568). Under conditions such as these, the potential for the medical school to serve as an adequate source of medical care to the community is likely to be stunted.

The concept of institutional logics "generally refers to broader cultural beliefs and rules that structure cognition and guide decision making in a field" (Lounsbury, 2007; p. 290). They

are based on the values that define an organization, and refer specifically to the principles that govern the actions and decisions of organizational actors, taking into account the range of influences stemming from varying organizational levels, as well as external forces that exert influence over the institution (Thornton & Ocasio, 2008). The theory of institutional logics has its origins in the organizational and management science literature, where it has been used to explore principles and track changes in a number of subfields. The applications of the institutional logic framework range from the examination of traditional and cultural concepts of Japanese corporate networks (Bhappu, 2000) to the professionalization process of jobs in the finance sector (Lounsbury, 2002).

In recent years, though, many researchers have applied the institutional logic framework to non-management fields as a means of exploring the principles behind the decision-making styles within organizations not directly in the business realm. Institutional logics have been used to explore a wide range of subjects, from the logics guiding the aesthetic representation of a symphony orchestra in Atlanta, Georgia as represented by critics during a pre-strike and post-strike era (Glynn & Lounsbury, 2005) to those directing state wildlife agencies during a period of notable external pressures (Decker & Jacobson, 2006). In addition, Bastedo (2009) used an institutional logic framework to examine the implications of activist agendas of the governing board of universities on the structures and actions of the Massachusetts public higher education system. More central to the medical education field, institutional logics have been used to explore the changing dynamics of the American healthcare field over the past century, observing how the interplay between individual logics and external pressures has affected the field (Scott, Ruef, Mendel & Caronna, 2000). Building on these foundations, the current study utilizes the institutional logic framework to explore a public medical school and reveal the logics that govern

general decision-making, as well as the implications of such decision-making on the values and activities central to community outreach and service. The institutional logics of the medical school have a profound influence on the professional development and identities of the medical students at the school. Therefore, the degree to which an institutional logic informing community outreach actions is affirmed at a medical school can be an indicator of the community-oriented mindset found in its students.

The current study will explore the institutional logics of the University of Arizona's College of Medicine. According to the Carnegie Classification System, the University of Arizona is a very high-activity research university, with two medical campuses, one in Phoenix and the other in Tucson (Carnegie Foundation, 2010). The College of Medicine at Tucson was established at the University of Arizona in 1967, and currently has an annual first-year enrollment of 115 students. Using annual reports and strategic plans, I employ a content analysis strategy to track the changing logics of the College of Medicine over a period from 1992 to 2002 and compare them to the logics potentially present in 2010, and specifically examine the degree of emphasis on placed on community initiatives. Also, I consider the degree to which the medical college encourages its students to practice with a community-oriented mindset.

Methods

The University of Arizona College of Medicine was purposefully selected as the research site in this study due to the diverse profile of the College. Research activity is fairly high at the College of Medicine, as it ranked 71 out of 146 medical colleges in terms of research rankings, which are determined by research grant funds and assessments by faculty and residents across the medical college field (US News, 2011). The College of Medicine is also a member of the

umbrella organization Arizona Health Sciences Center, which includes other health-related colleges at the University of Arizona – the Colleges of Pharmacy, Nursing and Public Health. The linkage between the College of Medicine and these distinct colleges through the Arizona Health Sciences Center extends this study's exploratory scope. In addition, the UA College of Medicine is uniquely situated in terms of its surrounding community, having diverse populations to which outreach efforts may be directed. One such group is the immigrant population. Studies conducted in other cities such as San Diego have found that the legal status of undocumented Mexican immigrants, for example, were primary deterrents to accessing healthcare services, which often leads them to forego basic preventative care services (Chavez, Cornelius and Jones, 1985; Perez-Escamilla, 2010). It is reasonable to assume these issues are applicable to the undocumented population of Arizona as well, which is estimated to be around 450,000 (Hoefer, Rytina and Baker, 2010). The undocumented population, in addition to other at-risk groups such as Native Americans, provides a wide range of opportunities to target community outreach.

The data sources used to illuminate the institutional logics of the UA College of Medicine include the annual reports authored by the College of Medicine from the years 1992 to 2002, as well as a strategic plan for the Arizona Health Sciences Center set out in 2010 and various pieces from the College of Medicine's media outlets, such as informational pages on the College's programs. The initial analysis of the preceding materials was conducted using an open-ended coding scheme designed to identify the general themes that were present during the period of focus (Miles and Huberman, 1994). This scheme was developed by identifying dominant keywords and ideas observed across the data sources. Consistent with the recommendations of Miles and Huberman, the data sources were then analyzed according to the identified themes at a more detailed level, narrowing the content and refining themes according to emergent properties.

Finally, a selective coding scheme was employed to formalize and tangibly demonstrate dominant themes. These themes were determined to be trustworthy indicators of the institutional logics of the College of Medicine.

Limitations

There are two primary limitations to the methodology of this study that must be clarified. The first limitation concerns the scope of the study. Due to the fact that this study is based upon the analysis of the institutional logics of a single medical school, it is not possible to generalize the findings of the study across the entire medical education field. Each medical college operates within a unique and diverse setting in terms of the interplay between the outside world and the medical college. Consequently, it is not possible to apply the logics gained from this single-case, qualitative analysis to all the medical colleges in the United States.

The second limitation is that the data sources used in the logics framework have a high potential for bias. The annual reports and strategic plans used in this study were authored by higher-ranking administrative officials of the medical college. As a result, the attitudes, values and agendas expressed in these sources reflect the unique perspective of the senior leadership and administration of the medical college. In addition, these documents were also intended to be viewed by parties outside of the medical college, including the general public and government agencies associated with the medical college. Therefore, it is difficult to accurately determine whether the logics gleaned from the annual reports and strategic plans are truly the logics guiding the actions of the medical education field, or whether they represent a distinct image that the medical college wishes to portray to the outside.

Findings

Academic Logic

Research consistently is one of the primary missions of the University of Arizona's College of Medicine as revealed through the analysis. The value of research at the College of Medicine helped to inform an academic logic that centered on the maintenance and development of the research mission. Over the ten years of annual reports examined in this study, research grants received by the College of Medicine consistently constituted around a third of the total funds allocated to research at the University of Arizona. The following attributes were important in the constitution of the academic logic: expansion of research space and facilities; allocation of adequate time and funds to allow faculty members to commit to research projects; and expansion of research projects as a means of providing care and treatment to patients.

The expansion of research space was consistent in the organizational goal expressed in the annual college reports. The reports documented the plans and acquisition of many new research facilities over the ten-year period examined. For example, the 49,000 sq. ft Children's Research Center was dedicated in 1992, while ten years later in 2002, the Virginia G. Piper Cancer Center Research Pavilion was completed in Scottsdale. The concern over adequate physical research space was high in the early years of annual reports studied, while in later years priorities shifted to the expansion of research capacities through partnerships with other organizations such as the University Medical Center. In short, the expansion plans were indicative of the College's continued goal of increasing their research capacity.

In addition to expanding the physical capacity of the research enterprise of the College of Medicine, the annual reports also showed a deep concern from faculty and administration relating to a decrease in faculty ability to conduct research. In nine out of the ten annual reports

studied, faculty reported that non-research concerns were hindering the amount of time that faculty members could devote to research. These concerns often had ramifications at multiple levels, as seen during the loss of a large insurance contract in the early 1990s, which led to a powerful ripple effect throughout the College of Medicine. The contract was with the state-funded insurance program, Arizona Health Care Cost Containment System (AHCCCS). At the most critical level was the financial blow to the College as a result of losing the reimbursement for treating patients from AHCCCS that once came to the College of Medicine and University Medical Center. In addition, though, the cuts to salaries that accompanied the contract loss forced faculty to have to spend more time doing clinical hours in the hospital to make up for cuts to their salaries. In 1996, the College of Medicine introduced a means for faculty to be able to increase their time spent doing research by applying for a research-oriented grant – the Physician Scientist Career Development Award – that would constitute a certain percentage of the faculty member's salary. Two awards of $50,000 were established by the Research Council of the Dean of the College of Medicine that allowed faculty researchers to spend at least fifty percent of their time doing research. In 1998, the number of awards offered was increased to eight. The establishment of the award during a time of financial crisis underlined the value of research at the College of Medicine. More importantly, though, the College's actions also helped to bolster and reaffirm the presence of the academic logic.

In the annual reports, there was little information on the impact of research projects on the community. Much of the coverage on the academic mission was devoted to research funding and expansion plans. In the later years of the annual reports, there were some indications of taking a more community-oriented perspective of research, such as a translational research model mentioned but not fully outlined in the annual report for the year 2002. This research

model involved partnering with University Medical Center to use patients at UMC in clinical trials for the research being conducted at the College of Medicine. However, the angle on the academic logic taken in the 2010 strategic plan focused much more on the benefit of research to patients. One particular innovation led by the entire Arizona Health Sciences Center has been to increase the scope of clinical trials to include populations not located within the most immediate surrounding areas. By broadening the scope of clinical trials to include medically underserved populations, the Arizona Health Sciences Center aimed to apply the cutting-edge research and treatments to the healthcare needs of the broader Southern Arizona community. The basic research value that was seen in the annual reports was still being perpetuated in the strategic plan, through urging research facilities to maintain the status of the Arizona Health Sciences Center – and thereby the College of Medicine – as a national leader in research. However, the focus was shifted more towards the ultimate benefit of that research to the community, such as through the adoption of the translational research model mentioned in the annual report from 2002, in which a research project would be conceptualized from the actual research portion of the project to the utilization of that research in the general community. The sharper divides that were seen in the annual reports between research, community efforts and other missions appeared to be smoothed into a much more integrative effort when presented through the lens of the Arizona Health Sciences Center. This integration trend suggests the possibility of a blending of logics.

Citizenship Logic

The citizenship logics of the medical school encompass the outreach and community missions of the College of Medicine. It is termed such to address the College of Medicine's

commitment to serving the Tucson community, as both an organization supported by the community and as a medical institution. Specifically, the College's citizenship logic has centered on establishing and developing mandates set forth by the Arizona State Legislature. The major themes that define this logic included the following: addressing new programs mandated by the Legislature and further developing programs that have already been established.

The Arizona Legislature placed many important mandates on the University of Arizona College of Medicine. The first involved the development of a program at the College of Medicine specifically geared towards engendering medical student interest in rural health. The College was required to have forty percent of its graduates complete a rural rotation. This mandate was strengthened by the passing of another mandate in 1995, House Bill 2301, which established the Rural Health Professions Program. In this program, a yearly quota of 15 students was sent to complete rural clinical rotations. In addition, the bill established quotas for the number of Post-Graduate Year 1 residencies of the College of Medicine in both primary care and family medicine. Over half of all residencies were to be primary-care oriented, which appeared to have influenced the formation of the College's goal the following year of "[providing] educational experiences which promote career decisions for practicing in a primary care specialty." Primary care is arguably the most community-based of all of the specialties offered by the College of Medicine, due to the fact that primary care physicians are the first line of care that most members of the community encounter in the medical system. The rural health specialty is particularly community-oriented as well, in that it is tailored to a group of people that can otherwise be overlooked by the medical system as a result of distance and lack of mutual communication and outreach. The Legislature also mandated the inception of a Telemedicine Program at the University of Arizona's College of Medicine. The Telemedicine Program was

intended to take advantage of advances in technology to share the medical expertise of the College with rural health professionals. Consistent with research that demonstrates the effects of external pressure on the logics of organizations, state legislation pushed the UA College of Medicine toward a more community-oriented logic.

Most of the mandates established by the Legislature for the College of Medicine were still in place and being carried out at the end of the 2002 annual report. The College continued to meet the quotas for Post-Graduate Year One residencies in primary care, in addition to nearly meeting its goals for encouraging rural rotations. The Telemedicine Program in particular blossomed beyond the parameters of the mandate provided by the state over the ten-year period examined, growing steadily to include more and more communities and tap into more of the intellectual and clinical resources of the College of Medicine to offer to rural communities. In addition, a major community-oriented initiative at the College of Medicine, the Commitment to Underserved Populations Program (CUP), has also continued to flourish. CUP is a student-centered service program founded in 1979 by a faculty member and several students, giving medical students the chance to reach out to medically-underserved populations of Tucson and the surrounding area while gaining practical experience in patient care and clinical settings. CUP is unique in that it was a student-driven initiative, born of the desire of medical students to use their medical training to reach out to these underserved populations. At one point in 1996, 75 percent of all students at the College of Medicine were or had been involved in CUP. In subsequent years, at least ninety-percent of the College of Medicine's first year medical student class consistently participated in CUP. CUP expanded to include a wide range of programs to reach out to the people of Tucson, from an art initiative to a women's health unit. The success and

endurance of CUP is paralleled by the development of the Rural Health Professions Program as well, which also continues on at the College of Medicine.

The citizenship logic found at the College of Medicine was also present in the 2010 strategic plan. The plan was centered on providing an ultimate good for the Southern Arizona community, and therefore introduced many new initiatives aimed at addressing community needs. Some direct outreach activities included connecting with other healthcare providers in the Southern Arizona area, such as Indian Health Services, to begin to address how to reduce healthcare gaps in the population.

Professional Logic

The professional logic of the College of Medicine helps guide the education of medical students and the considerations that address what and how medical students will be taught. The professional logic informs the traditional purpose of the medical school – to train and educate future medical professionals. The specific attributes of this professional logic focused on in this study include the following: curriculum and educational goal structuring, and the College's effort to encourage students to engage in community outreach.

The College of Medicine has utilized a strategy of constant refinement and progressive structuring of curricular models to ensure the delivery of high-quality, comprehensive medical education and training. In the ten years of annual reports studied, there were consistently a few new changes to the educational process nearly every year. A review process of the College's curriculum was initiated in 1993, in which a few departments and courses were reviewed each year by a Curriculum Committee up until 2002. In 1998, a new curriculum was implemented, titled the Longitudinal Clinical Curriculum, which emphasized the importance of the clinical

aspect of the basic science training that students were receiving through partnerships with clinical preceptors. The Longitudinal Clinical Curriculum was replaced in 2006 by the ArizonaMed curriculum, which featured a digitally accessed system and more group-based learning techniques, such as a Societies program in which students learn basic medical skills as a group as opposed to individualized training.

In addition to the curriculum, structuring was also seen in the development of educational objectives in 1996. The educational objectives were a set of skills and knowledge that medical students were supposed to be proficient in before graduating from the College. These educational objectives included the following: Problem Solving and Critical Thinking; Clinical Skills; Use of Information; Communications and Professional Behavior; Social and Community Contexts of Health Care; and Self-Knowledge and Lifelong Learning. The development of these objectives was done before the implementation of the Longitudinal Clinical Curriculum, but the objectives were carried through the establishment of that curriculum. The current ArizonaMed curriculum's educational objectives have built on these objectives and now include: Medical Knowledge; Patient Care; Practice-Based Learning and Improvement; Interpersonal and Communication Skills; Professionalism; and Systems-Based Practice and Population Health. The structuring and constant evolution of the medical education speaks for the presence of the professional logic, as well as the maintenance of the underlying value of providing a comprehensive and effective medical education.

The increasing utilization of students to address community concerns was also observed throughout the analysis. Students were central actors in many of the mandated programs that were previously mentioned as indicators of the citizenship logic. Specifically, these programs were structured so that medical students could apply the skills learned in the medical school in a

real-world setting, such as the Rural Health Professions Program. Another example is the aforementioned Commitment to Underserved Populations Program, offering medical students the chance to gain practical experience by attending to the needs of vulnerable populations such as American Indians and abuse victims. A significant percentage of the students in the first year class participated in the program during the ten-year annual report period, and participation in the program is now being accepted as credit in the medical school curriculum. The College of Medicine also encouraged student interest in primary and rural healthcare practices. From 1994 to 1996, the College cut many residency positions that were offered in specialty departments, such as surgery. Concurrently, the College also introduced more primary care residency positions, which provided an incentive for graduates to choose primary-care residency positions during their first year after graduation.

In 2010, the strategic plan for the Arizona Health Sciences Center provided evidence of a professional logic as well. The vision put forth in the plan is a more integrated educational system, in which students from all the Arizona Health Sciences Center member colleges begin to receive training together in what the plan calls "interprofessional teams." The rationale for this methodology is mainly to improve patient treatment, especially in the case of "chronically ill patients with complex, multiple problems" (Crist and Schloss, 2010, p. 8). This team-based model was designed to prepare students on how to best utilize their skills to care for a patient while understanding importance of cooperation and integrated efforts utilizing the full circle of professionals in a patient's care team. The professional logic here shares the value of comprehensive education that was seen in the annual reports of the College of Medicine. But in light of the logic informing the actions of the Arizona Health Sciences Center, which includes more than just the College of Medicine, the logic pushes for a more comprehensive action, as

opposed to the detailed actions taken by the College of Medicine when refining the medical curriculum.

Discussion

The institutional logics of the College of Medicine have thus far been presented as separate entities, but now it is vital to consider the broader picture these logics presented over the years studied, as well as exploring the general strength of each logic and its underlying values. First, the academic and professional logics appeared to be generally internally-driven, with the academic logic more so than the professional logic. That is to say, the actions taken under the influence of these logics were the product of organizational actors within the College of Medicine, as opposed to external influences. The administration of the College has shown to be actively involved in strengthening and reaffirming the values underlying both these logics. In the case of the academic logic, the crisis created by the loss of the AHCCCS contract and the decrease in available time for faculty to conduct meaningful research led the College of Medicine to act in a way that would reinforce the value of research. Despite the fact that the loss of the contract signifies an external pressure, the important thing to consider here is that the actions carried out by the College of Medicine ensured that its research interest was protected in addition to addressing the consequences of the contract loss. By allowing faculty researchers to 'buy' research time, the College managed to emphasize the importance of the academic mission of their institution while still continuing to work towards accounting for lost revenue. In doing so, the administration was able to stabilize its academic logic during a time where its continued influence could have been seriously threatened.

In terms of the professional logic, in one sense, it could be argued that the function and purpose of the medical school lends itself to the continued presence of the logic. As an institution meant to train future medical professionals, a medical school will always have a professional logic to inform its actions with regards to its students. Two important external influences on this logic are the accreditation and professional standards that are set across the entire medical education field, which govern a great deal of the curriculum taught at the UA College of Medicine. Having acknowledged that external influence, the internal drive seen in the case of the College of Medicine at the University of Arizona specifically was seen in how the professional logic was periodically bolstered and refined over the ten years of annual reports, in addition to the vision presented in the strategic plan. The establishment of educational expectations, for example, allowed the College of Medicine to tailor and structure its educational system to better serve its students. With regards to encouraging community-oriented care amongst its students, however, the perspective given in the annual reports suggests that the College, rather than providing an internally-driven motivation, were more likely responding to pressure from external influences, which is shared between the professional and citizenship logics. Here again, as was previously noted in the findings regarding the academic logic, there appears to be more support for the potentiality of the blending of these logics.

Based on the information in the annual reports, the citizenship logic appears to be far more externally-controlled rather than internally-driven. The mandates placed on the College by the Arizona Legislature were consistently met or nearly met in the years after they were issued. From this, it can reasonably be inferred that the College of Medicine was promoting rural health and primary care amongst its students. The fact that the College cut specialty residency positions and introduced more primary-care residencies supports this finding. As the curriculum of the

medical school is the most direct interface between the administration and the medical students, perhaps a reasonable proposition is that the College specifically altered or expanded its curriculum to include a greater emphasis on primary and rural care. In addition, the fact that many of the mandated programs at the College of Medicine are still in place gives evidence to a potential institutionalization of the citizenship logic, such that it may no longer be as externally controlled as before. However, an important point to consider here is these actions are still likely the product of external, rather than internal, influence. Many of the outreach initiatives that have lasted at the College of Medicine have been the products of government mandates. The elimination of specialty residencies, while promoting primary care, also came at the same time that the government mandate on the number of primary care residencies was established; hence, it would not be unreasonable to assume that in cutting specialty residencies, the College was not really acting, but rather responding to the external pressure of the government mandate. This lends itself to the notion that perhaps without the external influence of governmental agencies, the influence of the citizenship logic on the actions of the College could be greatly weakened.

There is, however, one important exception that contradicts the proffered argument– the Commitment to Underserved Populations Program. CUP, unlike the other major community-oriented outreach programs at the College of Medicine, was an internally-driven idea, sparked by the interest of medical students in reaching out to medically underserved groups. This grassroots-type of phenomenon has blossomed at the College of Medicine, as the program has since grown to the point where it became integrated into the curriculum of the College of Medicine. The fact that this program began through the efforts of medical students, and was able to influence the actions of the senior administration in accepting the program into the curriculum, opens up a new avenue for the citizenship logic to become strengthened and reaffirmed.

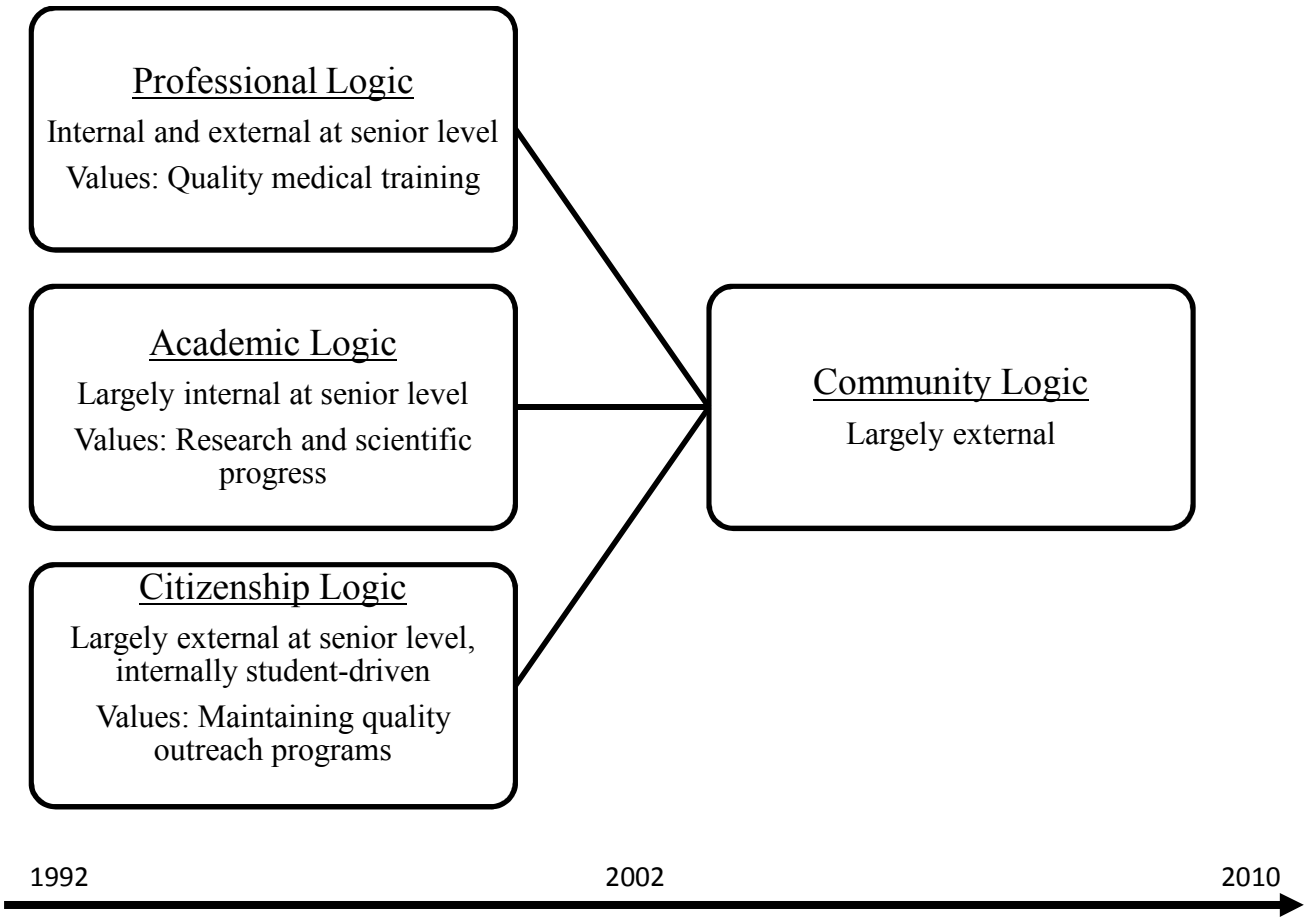

Figure 1: A representation of the timeline of logics at the UA College of Medicine. The diagram shows the potential logic blending that could lead to the development of the community logic. The influences and sources of action of the individual logics are listed under each. As the community logic is still a novel development, it is difficult to definitely classify the values that inform the logic, as well as determining the degree to which each individual logic has an influence on the community logic.

At the same time, judging by the trends put forth by the Arizona Health Sciences Center's strategic plan, it appears that a much more blended and internally-driven version of these three logics may be on the horizon for the College of Medicine (See Figure 1). Based on the attitudes put forth in 2010, there may be evidence for the development of an actual community logic, which informs the overall actions of the Arizona Health Sciences Center, and could begin to more strongly influence the actions of the College Medicine. This community logic, as opposed to the citizenship logic, is not as directly focused on the traditional notion of outreach. Instead

the actions influenced by the community logic are characterized by having an ultimate benefit for the community. The direct outcome of teams of interprofessional students, for example, is a more well-rounded educational and training experience for the students – the indirect benefit is the care that the patients of those students will receive in the future. The direct benefit of the translational research model is expanding the capacity and the funding of the Arizona Health Science Center and the College of Medicine to conduct research, while the ultimate, indirect benefit is to the community in which the research will be disseminated. It is important to keep in mind that the evidence for this community logic is found only in one document thus far, which makes it difficult to concretely say that the logic exists. In order to further clarify this finding, more research into the current perspective of the College of Medicine would be needed. Also, it must be kept in mind that the strategic plan is indicative of the entire Arizona Health Sciences Center and not just the College of Medicine alone. As the College of Medicine is a member of the Arizona Health Sciences Center, it is reasonable to assume that the logics that would govern the Arizona Health Sciences Center would also influence the logics at work at the College of Medicine. However, further research into the specific attitude of the College of Medicine is needed to verify these findings.

In addition, as mentioned above, the bias in the data sources used in this study make it difficult to obtain a comprehensive view of the governing principles of the College of Medicine. The annual reports are drafted for the public eye, including government agencies that have a stake in the College's actions. Therefore, for example, it would be more important for the College to assiduously report the involvement of its students in primary care and rural health initiatives as opposed to reporting, perhaps, on the research interests of its students. In order to evaluate the findings explored in this study, further studies would need to find a way to obtain

the perspectives of the organizational actors of the College of Medicine. In particular, to assess the potential for medical students to serve as sources of innovation in bolstering the citizenship logic and meeting community needs, it would be vital to gain an understanding of the attitudes and values of the medical students themselves. Perhaps with the knowledge gained from these insights and the development of this new community logic over time at the College of Medicine, the potential for new and innovative ways to address community health concerns can begin to be explored and utilized.

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