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A Lens With Multiple Perspectives: The Transformative Power of Higher Education in Health Promotion

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Abstract

According to the Centers for Disease Control and Prevention, chronic conditions represent the largest risk to America's health (Centers for Disease Control and Prevention [CDC], 2013). Approximately 50% of adults are affected by at least one chronic disease and 25% of adults are affected by more than two (CDC, 2013). As this health crisis expands, those who have the power to create change must utilize it to their highest capacity. While the complexities of the current state of health are challenging, higher education provides a powerful platform wherein those intricacies can be fully examined and resolutions sought through multiple lenses. This essay provides an example of how both individual and collaborative endeavors have been fostered at the University of Mississippi to generate local, national, and global transformations in health.

Chronic health conditions such as diabetes and heart disease have significantly increased in the United States over the past thirty years (Perrin, Bloom, & Gortmaker, 2007). Onset by obesity, these conditions are among the leading cause of mortality and disability around the world (World Health Organization, 2016). The Centers for Disease Control and Prevention (CDC) identify obesity as a serious health concern (CDC, 2013). Data from the 2011-2014 National Health and Nutrition Examination indicated that the prevalence of obesity in adults was 36% and 17% for youth (Ogden, Carroll, Fryar, & Flegal, 2015). Chronic diseases are the most prevalent health problems for all age groups in the state of Mississippi (Short, 2014). Compounding this health epidemic, those with chronic conditions are the most frequent users of health care, accounting for 81% of all hospital admissions, 91% of all prescriptions filled and 76% of all physician visits (Partnership for Solutions, 2007). Thus,

the vast majority of health care spending — approximately 75% — in the United States is utilized to treat preventable chronic conditions (CDC, 2013). It is estimated that by 2025 nearly half of the population in the United States will be affected by a chronic disease (Partnership for Solutions, 2007).

As the amount of people with chronic health conditions exponentially increases, it is imperative that solutions to counter these preventable diseases are arduously sought. Higher education has the potential to be a far-reaching change agent and plays a vital role in positively transforming the current trajectory of health. To prompt this shift, leaders in higher education with expertise in health must develop and implement effective programs in teaching, research, and service. Thus, creating an ideal springboard that has the capacity to influence a process of 'co-ordinated action' across campuses. Outlined below are ways

in which departments across the University of Mississippi (UM) are harnessing their powers individually and collaboratively to initiate changes in health.

Transforming Health Through Teaching

Accruing knowledge alongside corresponding learning experiences is an essential component to stimulating change. Effective learning experiences occur when a purposeful curriculum is developed and taught for meaning making, transfer, and acquisition. Providing students with opportunities that translate classroom knowledge into their future profession is empowering, as it enables them to have small-scale impacts on the health of individuals, communities, and the world.

To encourage health promotion in public elementary schools, the Department of Teacher Education (TE) offers an endorsement in wellness and physical activity for undergraduate elementary education majors. This endorsement is inclusive of four sequential courses (EDWP 340, EDWP 341, EDWP 342, EDWP 343) that teach students how to integrate essential concepts of wellness and physical activity into all aspects of K-6 learning environments. As part of the coursework, students develop a 10-day unit that integrates all academic subjects as well as health and physical education standards simultaneously. Students then teach the integrated unit in their practicum to attain real-world experience. During Spring, 2017, the first cohort of wellness and physical activity endorsement graduates will implement their 10-day integrated units into elementary classrooms across north Mississippi. This methodology enables pre-service teachers to have a far-reaching impact on the health

of the students they currently teach and the thousands of students they will teach in their future profession.

The Department of Nutrition and Hospitality Management (NHM) houses undergraduate and graduate degrees in Dietetics and Nutrition and in Hospitality Management. In Community Nutrition, NHM 417, students perform a service-learning project and apply their nutrition background to their service-learning sites. They accumulate 15 hours of service with their service-learning partner and present needs assessment findings and a proposed intervention for the population they have been working with. This is presented through a poster session to which the service-learning partners are invited to attend. The goal for this component of the course is to provide students with real-world applications for their nutrition education and create a feeling of connection between the University and the surrounding community.

Within the Meek School of Journalism and New Media, an interdisciplinary health communication course is offered (IMC 585), in which students develop local health promotion campaigns and multimedia features. Additionally, faculty has recently developed a three-course health communication specialization. This 9-hour specialization allows students majoring in journalism and integrated marketing communications to gain expertise in risk and health communication theory, information campaign design, multimedia production, and medical knowledge in an area of interest.

The Department of Health, Exercise Science and Recreation Management's (HERSM) Master of Science in Health Promotion (MSHP)

program, offers a course in health program planning (HP 605). During Fall, 2016, students from this course partnered with the Campus Recreation's Office of Health Promotion to plan and successfully implement three health related programs; World AIDS Day, The Great American Smokeout, and No Shave November. Students conducted needs assessments for all three programs to find out what the student population wanted in regards to venue and materials. No Shave November was the largest of the three events and included Mustache Mondays, a social media campaign to raise awareness of men's health conditions, such as testicular cancer. Other events included Broga (Male Yoga class) and a social media beard competition throughout the month. The month long events ended with the UM staff vs. students Battle of the Beards Basketball game. The game was open to the local and university community. Collaborators for this project included several on-campus departments and programs, two regional non-profit organizations, and Mississippi's State Comprehensive Cancer Control Program. Students from this course were able to utilize weekly material introduced in class and immediately apply it within their programs. They learned proper needs assessment techniques, how to use program-planning models, and finally how to evaluate their self-developed programs.

Transforming Health Through Research

Discovering new information that contributes to generalizable knowledge is a critical component to the advancement of any cause. Departments across UM employ research platforms from different health perspectives everyday. With parallel goals, these research perspectives

seek to improve the current state of health through individual, student-led, and collaborative research agendas.

Research in teacher education has the unique ability to aid in shaping the health of our future generation through the lens of classroom pedagogy. Methodologies should aim to enhance both the academics and health of young children. One age group often overlooked in regards to health research in schools is adolescents. However, research indicates that obesity rates for adolescents have significantly increased from 5% in 1980 to approximately 21% in 2012 (Ogden et al., 2012). Thus, two faculty members in the department of TE created a wellness and writing unit that secondary classroom teachers could utilize to increase academic achievement and overall physical wellness of adolescents (Stapp & Parker, 2015). Research suggests that students in integrated programs demonstrate academic performance equal to, or better than, students in discipline-based programs (Miller, 2011). Teacher education faculty has also examined the impact of physically active units on elementary students' wellness and academic achievement. Through interviews, one study found that second grade students were able to retain and transfer information quicker when they learned academic content through physical activity (Stapp, Chessin, & Deason, 2016). Students in the study also noted that physical activity made the lesson more enjoyable and easier to remember. This research suggests that embedding physical activity into academic content improves cognition and increases healthy habits in young children.

Faculty in the department of NHM have been involved in several research investigations that resulted in benefits to

the local community. One program, *Eating Good...and Moving Like We Should*, is a school-based nutrition and physical activity education program for the Mississippi Delta and north Mississippi regions. Funded by Delta Health Alliance and the W. K. Kellogg Foundation, the project aimed to prevent student obesity and create healthier school environments by aiding schools in the adoption of healthy practices. The program assisted in the delivery of nutrition education, supported the establishment and maintenance of school gardens, and provided increased opportunities for physical activity. Fitness rooms for teachers and staff, gardening for children, and training for teachers on the Mississippi State Department of Education's *Move to Learn* campaign were three supports provided through the grant. In addition, each school had regular visits from a registered dietitian and online access to the UM nutrition clinic for medical nutrition therapy for weight loss, diabetes, and other medical conditions. Key findings showed lower BMIs in six primarily African-American schools, indicating that 27% of the students had some decrease in BMI from 2011 to 2014 (Knight, Cole, Dodd, Oakley, & Aloia, 2015; Knight, Cole, Dodd, & Oakley, 2016).

Nutrition and Hospitality Management faculty have also conducted research to evaluate participation in a corporate wellness programming and investigated the results of participation on risk factors for metabolic syndrome (Roseman, Patrick, & Valliant, 2011; Valliant, Roseman, Patrick, & Wenzel, 2011; Patrick, Valliant, & Roseman, 2011). Three graduate students served as health coaches to employees of all three shifts at a manufacturing plant in Batesville, MS. After completion of a

health screening and needs assessments, students and their faculty mentor developed nutrition and fitness programs for employees. Data from program participants was collected in January 2011 and July 2013 and compared to data from non-participants collected during the same times. Data evaluated included Body Mass Index (BMI), waist circumference (WC), blood glucose (BG), triglycerides (TG), high density lipoprotein cholesterol (HDL), low density lipoprotein (LDL) and blood pressure (BP). Data comparisons resulted in a statistically significant improvement ($p < 0.001$) in BMI, WC, LDL and ($p < 0.01$) in BG, HDL, TG of participants ($n=86$) (individual coaching and group fitness) compared to non-participants ($n=92$) ($p = 0.26$). Further evaluation of participation revealed that those who attended individual coaching sessions more frequently showed the greatest improvement in the analyzed biometrics (correlation 0.88) compared to group fitness participation (0.71). However, those who participated in both showed the greatest improvement and strongest correlation (0.90). Additionally, 71 (83%) of participants reduced their metabolic syndrome risk factors whereas, 9 (10%) of non-participants had a decrease in one or more risk factors for metabolic syndrome.

In the Meek School of Journalism and New Media, faculty has conducted experimental research examining body image in fiction, mortality salience effects, and risk perceptions of pharmaceutical ads. For a recent U.S. Department of Transportation grant, faculty explored health and environmental impacts of U.S. toxic freight spills reflected in media coverage of 5,555 spills over a decade (Swain, 2016). Newspaper coverage of the spills appeared in less than 3% of all coverage. The few spills that did receive

attention were more likely to appear when journalists had more access to authoritative sources, when the perceived risk to citizens was higher, when someone was blamed, or when the spill involved an unusual chemical or situation. However, news coverage was not linked to seriousness or severity of accidents; instead, it was often connected to public fears including perceived industrial risk, potentially fatal outcomes, invisible risks such as a gas leak, and involuntary exposure. Surveys of journalists and transportation officials revealed that media access to spill reports is often extremely limited.

Health Promotion's faculty and students have research interests spanning across various populations and interest areas. Studies on weight management, physical activity, and osteoporosis preventive behaviors are among the department's most recent community health studies. Ford, Haskins, & Nahar (2017) and Ford, Haskins, & Wade (2014) were research projects from collaborative multi-year UM campus weight loss programs focusing on students and employees, respectively. Results from both the 2017 and 2014 research revealed that Motivational Interviewing (MI) and counseling improves adherence to weight loss among college students and employees alike. Nooe, Morgan, Ford and Loprinzi (2016) examined Deep South health care workers, exercise science students, and the general population's perception of The American College of Sports Medicine's (ACSM) Exercise is Medicine (EiM) Initiative. Findings revealed that all subpopulations have low levels of knowledge or were misguided on this important exercise initiative.

Recent research projects from UM's Bone Density Laboratory on risk factors of osteoporosis among African American (Johnson, Ford, Jones, Nahar, & Hallam, 2015) and Asian Indians populations (Nahar et al., 2016) provided valuable osteoporosis related information for local health care practitioners, health educators, and health promotion professionals. Historically, young college age women (African American, Asian, and Indian) were not thought to be at an increased risk for osteoporosis. However, Johnson et al. (2015) found that nearly 40% of the studied population had osteopenic spinal scores. In addition, the limited previous research among African American women noted that when compared to their white counterparts, African American bone density measurements were significantly higher. However, findings from Johnson et al. (2015) did not agree with this previous literature. There was no significant difference between race among college age women. Based on this data and a study by Janz et al. (2015), who recommends more bone density research on young African American women should be conducted, research in the UM Bone Mineral Density laboratory is underway investigating college age African American women to ascertain any biological and genetic differences between African American and Caucasian mother daughter pairs.

Synergistic research. Through a collaborative project, the Departments of NHM and TE submitted a proposal to the Mississippi Center for Obesity Research (MCOR) - *Fuel to Learn*. The goal of *Fuel to Learn* is to prevent and reduce rates of childhood obesity in Mississippi by developing a sustainable nutrition

education classroom program for pre-K-6th grade using strategic partnerships in education, research, and university athletics. A university-led team was assembled that can provide Mississippi schools with an engaging, culturally sensitive, nutrition education program, and utilize the state's university student athletes to increase reach and effectiveness. Working closely with the UM Center for Health and Sport Performance, the Mississippi Department of Education Office of Healthy Schools, and the MCOR at the University of Mississippi Medical Center, this program will insure that a clear evidence-based message is being sent to Mississippi children and the adults in their sphere.

Transforming Health Through Outreach

In addition to teaching and research, higher education has the unique opportunity to improve its local community and beyond. For this to occur, a University's faculty must align its activities and curricula with community engagement on multiple levels. Through the articulation of purposeful community engagement, individual lives and even entire communities can be positively affected. Even though health concerns are far-reaching, departments at UM have developed proactive projects in Mississippi, across the United States, and beyond to aid in producing change in health.

The Department of TE offers EDWP 341, a wellness integration course for pre-service elementary classroom teachers. Students enrolled in this course engage in service learning that encompasses health education at schools across northwest Mississippi. Each year, students create health-integrated lessons

for National Food Day and teach those self-created lessons in local elementary classrooms. In addition, parents and the community are involved in the National Food Day event by way of assignments sent home that invite families to explore healthy foods throughout their community, including farmer's markets and grocery stores. Furthermore, students participate in the development of school gardens at public schools through a local organization, volunteer for food tastings at schools and are also involved in developing and leading extra curricular clubs and organizations within K-12 schools that focus on promoting and developing healthy lifestyle habits in children.

The Department of NHM has collaborated with the Calhoun County, MS, community to improve produce intake of community members, with the intent to improve health and well-being. A six-week produce intervention program targeted youth and families in Calhoun County. In collaboration with the school district and a local supermarket, with the support of a food and agriculture company, fresh produce was introduced at area elementary schools and then sent home to improve both produce intake and food insecurity of the home. Another example program, funded by a Mississippi foundation and in collaboration with area chambers of commerce, sought to both improve produce intake of households and the economic situation of the county. The 12-week intervention was conducted at two farmer's markets and provided monetary incentives to shop at the markets, as well as nutrition education and cooking demonstrations.

Faculty in the Meek School of Journalism and New Media helped develop the UM's Society and Health

minor, the first UM-UMCC Research Day, and numerous health-related broader impact activities for engineering and pharmacy federal grant proposals. In addition, four adjunct instructors in the Meek School of Journalism and New Media contribute significant time outside the classroom in promoting health through the following regional healthcare organizations: 1. Fundraising volunteer - North Mississippi Healthcare Foundation and the Sanctuary Hospice House in Tupelo 2. Community relations director - North Mississippi State Hospital 3. Public information officer and director of marketing - Baptist Memorial Hospital-DeSoto 4. Executive board member - Hospital Association's American College of Health Care.

In the doctoral level evaluation class (HP 685), students were given the opportunity to participate in community health needs assessments in the Mississippi Delta. These assessments enabled the UM's HP students to participate in an area of Mississippi unlike many areas in our country. Several years ago, an HP faculty member led several study abroad trips to South Africa and Australia, introducing students to an international approach of community health needs. While important for students to participate in study abroad trips, it is also important for students to know that there are significant public health needs less than 60 miles from Oxford, Mississippi. Sarah Ball, Doctoral Candidate in Health Promotion and Behavior stated that "Conducting these community health focus groups opened my eyes to not only the needs of the Mississippi Delta, but helped me focus my dissertation around the impact of volunteerism on community health."

Currently, students have the opportunity to complete internships, research projects, and volunteer in many of the counties where they conducted community health needs assessments.

Conclusion

Higher education has the distinct power to position itself as a key stakeholder in resolving one of the most pressing issues in our country today. By bringing together multiple disciplines in one geographic location who are working towards congruent goals, there is undeniable potential to have a profound effect on the current trajectory of health. As revealed in this essay, solutions leading to long-term change for the imminent state of health cannot be accomplished without symbiotic efforts. Thus, higher education has a great responsibility in ensuring that their power is capitalized on to aid in reversing the current health epidemic for the betterment of lives, communities, and the world.

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