

## *Addressing Health Disparities in Cancer through Service-Learning*

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In 1970, cancer was the second leading cause of death in the U.S. and the American people sought answers. In response, at the 1971 State of the Union address Richard Nixon asserted that he would, “Ask for an appropriation of an extra \$100 million to launch an intensive campaign to find a cure for cancer, and I will ask later for whatever additional funds can effectively be used. The time has come in America when the same kind of concentrated effort that split the atom and took man to the moon should be turned toward conquering this dread disease. Let us make a total national commitment to achieve this goal” (DeVita). Almost a full year later, in December 1971, Nixon signed the National Cancer Act, which was popularized as “The War on Cancer.” This act allotted \$1.5 billion dollars for cancer research over the next three years.

Today, the war is still being fought, great advances have been made, but, disquietingly, a significant portion of Americans are not benefitting from these advances. In 2008, it was estimated that 130,000 cancer deaths were prevented in the U.S. but an additional 200,000 deaths were avoidable (Brawley 2011). This is because a sizable amount of individuals in America have less than optimal preventive health care and many receive less than adequate treatment when they receive a cancer diagnosis (Cancer Health Disparities 2008). The research findings, diagnostic technologies, and awareness of cancer prevention would be put to better use by increasing availability to the entire population. Investments in research and novel cancer diagnostics, while important, are not the only way to fight this war; increasing the availability of standard of care practice to underserved populations would be an equally valid investment (Brawley 2011). Socioeconomic factors, including both race and class, play an important role in both access to care and stage of diagnosis. Rising costs of novel customized and genetically fine-tuned approaches to cancer diagnosis and treatment continues to widen an already pronounced health disparity gap. Through identifying the root causes of health disparities, students can take that knowledge into service-learning based classes. Voices to advocate for the underserved are urgently needed and may come from students exposed to cancer health disparities through service learning.

The U.S. Department of Health and Human Services defines a health disparity as “a particular type of health difference that is closely linked with social or economic disadvantage” (American Cancer Society 2014). These include, but are not limited to, race and social class. Socio-economic factors can lead to unequal access to quality of healthcare, information, or programs. In the United States and the United Kingdom there have been documented socio-economic and ethnic disparities in diseases, including cancer. Cancer has an enormous impact on human lives and is a growing threat to countries that are classified as low to middle income (John 2010). The American Cancer Society and Livestrong joined together to research the economic cost of deaths around the world. The research further asserted that cancer has the most overwhelming economic impact adding up to \$895 billion in 2008 (John 2010). The severity of these economic impacts could lead to greater global issues; without a global response and initiative the cost of cancer can undermine economic development efforts.

Socio-economic status is an important prognostic factor for cancer diagnosis, especially in the United States. The stage of cancer at diagnosis often leads to different rates of

survival. Regular screening tests lead to earlier diagnosis and higher chances of treatment success. Individuals who are employed with access to healthcare coverage are more likely to undergo regular screenings. Lee-Feldstein et al (2000) demonstrated how patients who are uninsured or have public insurance are more likely to have a later stage breast cancer diagnosis and higher rates of mortality compared to individuals who are privately insured. The diagnostic stage of cancer is one of the most predictive prognostic factors; the earlier a cancer is diagnosed the better the treatment options. There is evidence suggesting that patients in varying socio-economic levels will have different methods of treatment. Cancer screening tests can be very expensive, especially for those without insurance, and people may bypass what should be a yearly screening because they cannot afford it (Woods 2005). Ensuring equal access to treatment could lead to decreasing differences in survival rates that are due to economic hardships. Despite the economic inequity, there are many tools available for the detection and treatment of many forms of cancer. However, these treatments have not begun to eradicate cancer and a new breed of therapy is presenting new challenges for equity in both testing and access.

Despite the advancements that have been made in radiology, surgery, radiation, and oncology, cancer is still deadly and can be very aggressive in nature. In cancer therapy, chemotherapy and radiation have been the standard of treatment, but there have been advancements in research that have provided remarkable new techniques with more precision. There has been a recent shift away from focusing on “slash and burn” techniques that kill normal cells and towards therapies that target only the cancer cells such as immunotherapy, nanoparticles, angiogenesis inhibitors, and apoptosis inducers to name a few. Research for new treatments and procedures will typically start by focusing on the molecular level and then progress to animal testing and potentially clinical trials if everything goes well. A clinical study uses human participants to ensure the effectiveness and safety of a potential drug. The participants receive drugs, devices, or procedures that are dependent upon a research plan that was drawn up by investigators. Often, it is not known whether the intervention will be harmful or beneficial or have any affect at all (Halabi 2010). These trials are important because they have the ability to find ways to prevent disease development, determine risk factors or new methods of classification, and improve the patients’ quality of life. Clinical trials are vital in learning about medicine and therapeutic advancements and are the best way to determine what works best in treatment. However, it is widely recognized that minorities are underrepresented in clinical trials (Ford 2007). The lack of diversity in trial participants reduces the chance of uncovering effects that could be relevant to underrepresented populations. This also contributes to an unequal distribution of the risks and benefits associated with groups participating in trials. There are specific barriers that exist limiting clinical trial enrollment. The biggest barrier is the opportunity to participate. Clinical trials are often not covered by insurance and this discourages low-income individuals from participating. This leads to different plans of treatment and although a clinical trial may show promise for an individual, the cost can become a deterrent.

One treatment that has shown significant promise is genetic screening. While this is a promising preventative measure, its costs can be prohibitive. The identification of specific gene mutations that are linked to treatment response allows for individualized treatment plans. The out of pocket costs and financial burden placed on the families can make this an unrealistic method of treatment and patients may fail to seek care. Medical care expenses have been reported as the primary reason for bankruptcies, specifically those associated with cancer (Yabroff et al. 2012). Even if insurance companies will cover the cost of the drug, the copay can still be too expensive and individuals must weigh the survival gains against the economic burden. Over the course of

the last decade, the average monthly cost of cancer treatment has risen to \$10,000 and a few treatments cost upwards of \$100,000 per patient (American Society of Clinical Oncology 2015). Despite the advancements made in care, cost is a major hindrance to new therapies. Financial problems are long-term, continuing after active therapy has been stopped, and lead to survivorship burdens. When presented with expenses that rival the cost of the home, many patients begin to question the efficacy and necessity of the best treatments. The value of life saving measures can become obscured. Even when wealthy patients are presented with astronomical expenditures, cost-benefit analysis becomes a natural reaction. However, these treatments are still in the realm of reality. Low-income patients simply cannot consider these treatments as an option, as there is no reasonable way to afford them.

In Delaware, a group of researchers tried to reduce disparities related to colon cancer at the state level. They hoped to increase the early detection of colon cancer via frequent screenings and quality treatment. Before the plan was applied, blacks were less likely to take part in screenings, resulting in higher rates of late-stage diagnosis and death compared to whites). After seven years the rate between blacks and whites for screening, diagnoses, and death were almost equal. This model is promising for reducing health disparities in mortality rates related to colon cancer for the nation (American Cancer Society 2014). In order to combat the issue of health disparities, action needs to be taken from several different approaches, such as: medicine, social science, public health, and education. An important stepping-stone towards addressing health disparities is improving delivery of basic preventive care measures, especially to communities that may not have equal access (American Society of Clinical Oncology 2006). The United States has been criticized due to the lack of universal health care for its citizens. The recent application of the Affordable Care Act (ACA) in 2010 aims to reduce disparities by providing more access to cancer screening for preventative measures to individuals who have historically poor access to health care. The ACA will extend access to basic necessities such as health insurance to millions of individuals and reduce the inequalities in regards to care access. With greater access to preventative and treatment services, there should be improved health outcomes for everyone. The broad provisions of the ACA provide a sense of optimism that legislation will contribute to decreasing racial/ethnic disparities in cancer mortality (Keefe 2015). The Center for Disease Control recommends that in order to decrease disparities, health agencies, providers, and communities must form a partnership and have a national effort towards improving early detection via routine screening, community interventions for risk behaviors, encourage minorities to participate in clinical trials, and use the media to share cancer information (Centers for Disease Control and Prevention 2012). There needs to be equal access to good quality cancer care and clinical trials need to be widened to provide the same care and technology access to everyone in all socio-economic groups. It is the future that looks brightest for progressive health measures. It takes a populace of well-educated and invested individuals to enact the sweeping changes needed for healthcare equality. The experience that service-learning gives to aspiring students creates these types of young, enthusiastic minds.

College is about more than academics. Academic achievement and student learning is commonly measured through grade point averages and standardized tests, but recently a new model of learning has emerged. Service-learning strives to provide another method to help students better understand the course material. This unique type of learning focuses on the combination of community service and academic instruction with reflection time and civic duties. By adding in service-learning it can bring in passion and stimulation as well as benefit society by creating active citizens who will work towards improving their communities. It helps

students recognize the distinction between the lectures and the application of knowledge. It provides opportunities for emerging health professionals to become involved in community projects and insight into the “social, economic, and political contexts of health” (Sabo et al. 2015). Service-learning helps produce well-rounded individuals who will contribute something to society. Students are provided with opportunities to seek out and pursue different careers and academic goals, all while learning cultural competence. Service-learning student involvement in the community helps raise their awareness of the current state of affairs around them and helps them see where progress can be made. Teachers can provide us with all the book knowledge in the world, but we must know how to apply it. The core public health value of social justice is intertwined with service-learning and strengthens community alliances. The key part of having an effective service-learning course is reflecting on the community service, connecting the service to the bigger picture. During reflections, a student has the opportunity to link academic lecture material with service and broader levels of thinking, which enhances cultural humility and increases civic engagement. By providing students with opportunities to engage with individuals from different socio-economic backgrounds affected by health disparities, it will allow them to learn about current health and social policies. After participating in a service learning course students have more cultural sensitivity, leadership experience, and ability to connect policies to vulnerable populations. Through the reinforcement of learning about issues with health disparities in the classroom and in the community students should learn and act on social/health disparities. Service-learning creates a space that allows for the co-analysis of social determinants of health and solutions that are centered on the community.

Service-learning courses should be geared toward engaging student’s interest. Problems that are germane to the present, promote curiosity, and promote development within students are most likely to pique students’ interest. These courses go beyond sitting in an auditorium listening to a teacher read from a PowerPoint, instead bringing the courses into a community. This is when reflection begins. Reflection serves as a bridge connecting experience and theory. Personal experiences along with community service provide meaning to theory when reflection serves as an analytical and critical examination of the instance (Bringle 1999). Reflection should be done regularly and involve examining a situation from several different perspectives while giving it serious consideration. Critical thought has the potential to make an experience a source of education. It can instill deeper meaning that promotes individual growth and informed actions. If reflection activities force the student to confront ambiguities and re-examine existing beliefs it leads to informed actions. Writing is a wonderful form of reflection, where experiences can be organized and developed and meaning can be created. Writing promotes problem solving and examining relationships between “past learning, current experiences, and future action” (Bringle 1999). Writing can be traced through journals that are shared with the professor, other students, or community agency personnel. Class presentations serve as a way for students to publicly display and celebrate their work and collaborate with other students in their class. Reflection is a vital part of an effective service-learning course and can lead students to participate in future action.

The goal of a service-learning course centered around health disparities is to diminish the disparities experienced by racial and socioeconomic groups. This can be done through engaging students with partnerships within their community, state agencies, and policy makers. Schools of any level can start addressing health disparities in the classroom. Students can become involved in service-learning courses within any discipline. In regards to health disparities associated with cancer care it would be best suited for biology classes, policy and politics classes, and

community researchers. Students that are in pre-health fields and those interested in public health would benefit the most from it. However, upper-level educational institutions such as schools of medicine could also benefit by implementing a course dedicated to this issue. Physicians commonly participate in community service projects but remain out of touch with health disparities on the national and community level. Often medical students are so overwhelmed with their work they lose context of the larger problems plaguing the healthcare system. Students can become very isolated in the classroom listening to a teacher lecture about physiology or microbiology and it's possible to forget what's happening in the world outside of campus. Service-learning reminds students what's really important about medicine, serving patients, and allows the tailoring of education to better serve those populations that need it most.

In upper-level education, either college seniors or post-bachelor's degree, students could pursue an independent community-based research project such as the differences rural and urban populations might face with access to health care. Community-based research can be used to intertwine education with social action in the hopes of improving health and reducing disparities. Community-based research can be seen as an outreach program but it is also representative of "a systematic effort to incorporate community participation and decision making, local theories of etiology and change, and community practices into the research effort." Change will ultimately come from a collective organized political action. Policy change that uses community research data depends on the organizations that represent a community's vision (Simonds et al. 2013). With all the advantages service-learning provides to students, it seems appropriate that graduate programs should require service hours for students to complete before graduation. For health science programs in particular, service-learning dedicated to working in free clinics would be highly beneficial. Courses could offer short-term, intensive, field based trips that travel to other areas to become completely immersed in a vulnerable community that is facing health disparities. Service-learning courses centered on health disparities can benefit a wide variety of students and provide an opportunity for the university to show its commitment to involvement and in its surrounding community. Colleges are in charge of teaching the next generation and if they can engage students and get them committed to reducing health disparities, there would be change.

This type of program can be useful to undergraduate policy programs, law programs, public health programs, English programs, and health sciences programs. An incremental approach must be taken that depends on the level of the student, the class, and the depth of work that can be accomplished. In the lower-level undergraduate courses, students should be required to complete a certain number of service hours from approved companies and organizations that directly relate to health disparities. Possible partners that individuals could work with include: hospice care, free care clinics, Planned Parenthood, the Veterans Affairs, Centers for Disease Control, American Cancer Society, government officials and policy makers, and lobbyists. Students in English programs and those interested in pursuing a career in policy can write advocacy letters to their legislators.

First Year seminars serve to aide in freshmen transitioning into college life. They typically cover a wide range of disciplines and interdisciplinary programs to provide intellectual enrichment, critical thinking skills, and writing skills. It would be beneficial for universities to offer a first year seminar focusing on health disparities. This course could introduce the biological, psychological, and sociological reasonings that contribute to health disparities. It could discuss the ethics that surround them and the impact of action and inaction. Students could hold debates about whether health care is considered a "right" and if each individual should have

the same access and how disparities can be reduced from societal and individual actions. It is not uncommon for first-year seminars to integrate service-learning and a course focusing on health disparities would be a great opportunity to incorporate it. This would be an effective pedagogy and enrich the experience of the students and the teachers. Readings should be provided by the instructor that center around conceptualizing ethnicity, race, and culture and the historical foundations of them. They could also address health literacy, disparities associated with cancer care, and the use of interpreters within healthcare. Once students have discussed these concepts in class, the service-learning component of the course should be implemented. Teachers should provide structured opportunities for reflection time and emphasize writing in journals. Students enrolled in these courses should be required to complete a minimum number of service hours with approved volunteering centers in the community. An example of a project is developing informational brochures and power points for clinic waiting rooms. Offering courses to freshmen students when they first start their college career could impact their career and major choices; they may choose to address health disparities.

Community colleges can also contribute to diminishing health disparities via service-learning projects that address community outreach, education programs, health seminars, and encouraging preventative care. These groups have the unique opportunity to forge relationships with underserved populations in their own community. These activities can be a bridge for delivering knowledge to those who face linguistic, economic, and social roadblocks. When the focus is placed on a specific community, the activities can be planned around existing disparities and be responsive to their needs. They can mobilize the community students around health promoting activities, such as running clubs, and use National Health Observances to raise awareness. To explain, October is National Breast Cancer Awareness so programs could be held to promote knowledge about self-exams, the importance of regular mammograms, etc. Furthermore, programs and health fairs can be held at elementary and middle schools to engage kids early on. Students that are in remediation can practice their reading by studying health literature and then present their findings to middle and high school students in lower socio-economic neighborhoods.

The population of immigrants to the United States has increased (United States Census Bureau 2013) and so has the necessity for health care providers speaking multiple languages. The English-as-a-second-language (ESL) programs can be used to address health literacy disparities in these hard to reach populations. ESL students can become involved in initiatives that promote health and the health care system at a variety of levels of English proficiency. The ESL program participants can use their language skills to communicate between healthcare professionals and the individuals they serve. They can assist in helping people understand written notes from doctors, prescription instructions, and general communication as well as improving their own English at the same time. The United States will remain a land with many cultures and languages and it is important that we, as a nation, provide everyone accessibility to healthcare. It is an investment into our future that our healthcare system undergoes a transformation to effectively deliver care that bypasses barriers caused by language.

Today, cancer is the second leading cause of death. Economics have become the driving force behind treatment choice for patients. The disparities issue underlies every effort put forth towards cancer research. Years of investing in research has led to the development of medical technologies that have improved our capability to detect and treat forms of cancer. The advancements in treatment have helped save and extend lives. However, it is unfortunate to learn that everyone does not share these benefits. In the United States, marginalized racial/ethnic

groups and those without health insurance do not receive appropriate, quality care. Everyone is aware of the suffering and loss caused by cancer to individuals and families. In the war on cancer avoidable deaths are forgotten. There needs to be a joint effort to get all people the quality health care that they deserve. Service-learning provides a means to educate future health professionals and students in higher education about health disparities present in their communities. With this knowledge these informed citizens can work towards equitable healthcare delivery in this country.

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