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Using a Biopsychosocial Approach to Address Health Disparities —One Person's Vision

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This paper will present one person's vision of how best to address health disparities. A vision that transported Dr. Lovell A. Jones from the safe confines of a research laboratory in the Department of Obstetrics, Gynecology & Reproductive Sciences at the University of California San Francisco Medical School in 1980, to the area of health policy and community-based participatory research, and ultimately into health disparities research. These efforts began with the Biennial Symposium on Minorities & Cancer in 1987, followed by the Intercultural Cancer Council (ICC) in 1995, and ultimately the establishment of the Center for Research on Minority Health (CRMH) in 1999.

The goal of this paper is to share those experiences in addressing health disparities in America. This paper will also touch on the problems of immigrants in the United States, their needs as human beings, the issue of access to education, job market, family, health care-related issues, as well as, other multicultural issues and how these problems should be addressed. We have not only taken a government and health systems approach, but focused on individual and community challenges and how creating approaches that address these challenges can facilitate societal adaptation and forward development. All of these became a part of the fabric that created the Biennial Symposium Series, the Intercultural Cancer Council and the Center for Research on Minority Health. The authorship of this paper is shared with some of those this journey has impacted.

There are important lessons learned from my experiences in creating the Biennial Symposium Series, the ICC and the first center mandated by the US Congress outside of Washington, DC. These lessons focus primarily on minority health and health disparities. The identified initiatives are independent, yet must be integrated to effectively address health disparities through political, national, community, and educational/research advocacy. It is our hope that you will understand why Dr. Jones has come to the conclusion that the scientific approaches used in the 20th century will not work in the 21st century.

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LESSON 1: NO ONE CENTER, INSTITUTION, OR PROFESSION WILL SOLVE THE PROBLEMS THAT WE FACE

We are currently living in a global society in which our ‘connectedness’ adds to the complexities of global health disparities. Both United States and global health disparities are complex issues. Thus disparities will not be eliminated by just one focused approach to a specific problem, but necessitates multidimensional approaches that bring individuals from diverse fields, communities, institutions and government. These individuals must then work together and most importantly, speak with one voice to employ an approach that involves many players from many fields and many institutions working collaboratively together. Franklin D. Roosevelt once said, “Today we are faced with the pre-eminent fact that, if civilization is to survive, we must cultivate the science of human relationships—the ability of all peoples, of all kinds, to live together and work together in the same world, at peace.” Every year since 2002, the course entitled, “Disparities in Health in America: Working Towards Social Justice” has been hosted by the center and HDEART Consortium. The course was an academic out growth of the Biennial Symposium Series and includes speakers and consists of a diverse group of individuals including, molecular biologists, social scientists, lawyers, health policy experts, economists, ethicists, politicians, and environmentalists. The course also rotates among four of our HYPERLINK

“<http://www.mdanderson.org/education-and-research/departments-programs-and-labs/programs-centers-institutes/center-for-research-on-minority-health/education/crmh-education-hdeart-consortium.html>” Health Disparities Education, Awareness, Research & Training [HDEART] Consortium members and is teleconferenced to the others.

LESSON 2: “IF YOU ALWAYS DO WHAT YOU HAVE ALWAYS DONE, YOU WILL ALWAYS GET WHAT YOU ALREADY HAVE.”

Gilbert Friedell provided Dr. Jones with this saying that has become the centerpiece of our efforts in the CRMH. Unfortunately, when we in the United States have approached efforts to deal with the lack of real progress in addressing issues that pertain to minorities and/or the underserved, we tend to fall back to what we have previously done. It may be under a different name or packaged in a different box, but ultimately it is the same strategy. The United States provided one of the first reports on health disparities in 1989. This was followed by Healthy People 2000 and then Healthy People 2010. Now Healthy People 2020 is in evolution.¹ While well intentioned, these efforts have consistently failed as evidenced by the ever-widening disparities gap. W. E. B. Dubois, clearly illustrated this in his statements made in 1899²:

- “One thing of course we must expect to find, and that is a much higher death rate at present among Negroes than among whites: this is one measure of the difference in their social advancement.”
- “Therefore, in considering the health statistics of the Negroes, we seek first to know their absolute condition rather than their relative status; we want to know what their death rate is, how it has varied and is varying and what its tendencies seem to be; with these facts fixed we must then ask, “What is the meaning of a death rate like that of the Negroes of Philadelphia?”
- “Finally we must compare the death rate of the Negro with that of the communities in which they live, and thus roughly measure the social difference between these neighboring groups.

If the word Negro was changed to Black and the city from Philadelphia, Pennsylvania to Houston, Texas and presented as study questions in the 21st century, what would change in the statements? Additionally, what does it say about our ability to address health disparities?

Several years ago, Dr. Jones was asked to identify the best example of a health disparity in the United States. His selection was infant mortality. He could have pointed to a number of other chronic diseases and disparities among various ethnic populations. However, there has been no real change in the black/white ratio regarding infant mortality for over 80 years. In fact, the most recent data suggests that the infant mortality ratio is increasing instead of decreasing (William Jenkins, PhD, personal communication, 2003).³ A myriad of major efforts to reduce infant mortality have been launched and volumes of papers published; yet the problem continues to worsen. This brings us to lesson 3.

LESSON 3: WHAT IS PUBLISHABLE MAY NOT BE RELEVANT, BUT WHAT IS RELEVANT CAN ALWAYS BE MADE PUBLISHABLE

This has been one of the most difficult lessons to convey in the United States, in large part due to the requisite 21st century paradigm shift needed to understand and correctly interpret it. Yet understanding this concept is crucial if the silos that exist in multicultural societies and continue to feed disparities are to be dismantled. In academic environments, we have entered into the arena of quantity rather than quality of publications. This practice dictates that individuals need a set number of publications to be hired and promoted. We encourage a shift of thinking when examining publications and publishable materials to truly incorporate the relevance and generalizability of research findings.

LESSON 4: A TRUE CHANGE IN THE PARADIGM IS NEEDED

The current research paradigm evokes a top-down approach in which researchers have traditionally only involved members of the community when they need study enrollment or information from them for a particular survey. Yes, they may contact them prior to submitting a grant to get funds for the study, but generally only to get letters of collaboration (Figure 1).

The National Institutes of Health (NIH)⁴ implemented a new model for research that moves the community from the periphery to the center of the research process. This model has been directly linked to funding for university graduate and research program/project funding thus compelling investigators and institutions to shift their paradigm to the conduct and translation of research into the community. There is a sharing of the funding and communication at the beginning, the middle, yet the end of the study, demonstrating a true partnership and respect for what is valued on both sides (Figure 2).

Over the past 30 years, we have come to realize that partnership and trust are essential to addressing the unequal burden of diseases that impacts people of color, as well as rural and poor Americans. These elements are not unique to the United States, yet must be developed and applied globally. Yet this can only be accomplished through collaborative and coordinated efforts. There is a true need to educate the populous about the problem. Education will lead to a change in health policy that leads to a change in the research done and the way we approach the problem. Let us be clear, the US is not a melting pot, but a salad, and in some cases, not a well-tossed salad (Figure 3). Since 9/11, national and international dialogue has gone from anti-immigration to forced assimilation. This is truly counter-productive, for it highlights our differences and does not expand on our similarities, while respecting the differences.

CRMH'S Approach to Health Disparities

In April 1987, the first Biennial Symposium on Minorities & Cancer, now the Biennial Symposium Series on Minorities, the Medically Underserved & Cancer, was held during the first National Minority Cancer Awareness Week. When asked who was the target audience, the response was Americans. When asked the question a second time, the response was the same. We were told that we could not have a meeting that was not targeted to a specific group.

Twenty years later, Tenth Biennial Symposium Series on Minorities, the Medically Underserved and Cancer is a meeting of all people trying to duplicate in a holistic approach ways to address disparities.

In 1995, the Intercultural Cancer Council (ICC) was formed to provide the health policy arm to address health disparities. Each individual approached to join the ICC was asked whether or not he or she could put aside their own personal interest or that of their organization for the interest of the whole. If they hesitated or did not provide a positive answer, they were not invited to join. Launched at the 5th Biennial, it has become the largest multicultural health policy group in America, with its membership extending from the Pacific territories to the hills of Appalachia, to the Northern Peninsula of Michigan, and to the black belt of Alabama. It represents the fabric of America. The strength of the Biennial Symposium on Minorities, the Medically Underserved & Cancer and the Intercultural Cancer Council is the recognition that we have more in common than we have in terms of differences. We may be from different races, religious groups, and philosophies, but together speaking with one voice, we can solve even the greatest problem. The proof is in the results we have obtained, which are achievements that even some of our oldest and most prestigious organizations have not been able to achieve.

So What Is a Biopsychosocial Approach and/or a Holistic Approach?

A biopsychological holistic approach takes into account other factors that influence the perceived need for health care and the attention to health concerns: *Knowledge, Attitudes, and Practices*. The key word in this is *perceived*, the perceived need. There is a critical need for direct involvement of those individuals and/or populations whose needs you are attempting to address, irrespective of whether you are looking at their health, educational, job, or housing needs, or whatever need you are attempting to address.

LESSON 5: A PERSON'S PERCEPTION IS A PERSON'S REALITY WHETHER REAL OR NOT

Although one may be working with a set of principles that has been thoroughly researched, one must also understand the issue of perception and value. Perceptions can be true barriers to addressing issues in a multicultural environment. If a person perceives that they cannot get care, an education or a job from an institution, whether barriers exist or not, they will not seek care, an education, and/or a job from that institution. If a person perceives that clinical trials are not useful for them or the issues of trust arise, then they may be less likely to participate in a clinical trial. One can say that these perceptions are not factual, but for the person who believes them they are. Ignoring prevalent perceptions only derails your attempt to address the issue.

LESSON 6: IF THE PROBLEMS ARE IN THE COMMUNITY, THEN THE COMMUNITY MUST BE INVOLVED IN DETERMINING THE SOLUTIONS

How have we addressed the issue of multiculturalism in the United States? In the mid-nineties, Dr. Jones was involved in writing the section of the Institute of Medicine's report on environmental justice. He took those guidelines that were written for environment justice and applied them to addressing disparities.⁵

They are as follows:

- A coordinated effort is needed to improve the collection and coordination of health information and to better link this data to specific populations and communities of color.

- Research related to health disparities should engender 3 principles: improve the science base, involve the affected populations, and communicate the findings to all stake-holders. In instances in which the science is incomplete with respect to health disparity issues, it is urged that those involved in such research exercise caution on behalf of the affected communities,
- particularly those that have the least access to medical, political, and economic resources, by taking reasonable precaution to safeguard against or minimize adverse health outcomes.

In following these guidelines, we acknowledge all possible influences that might affect health and quality of life, both positive and negative. This highlights our understanding that health cannot be addressed as a single issue. It must include other factors, such as housing, education, economics, comorbidities, and access or lack of access to health care, that influence the perceived need for health care and attention to health concerns. The United States Centers for Disease Control and Prevention has adopted a similar view and termed it *Syndemics*. What is a syndemic? It is a set of linked problems involving two or more afflictions, interacting synergistically, and contributing to an excess burden of disease (Figure 4).

LESSON 7: IF YOU ATTEMPT TO ADDRESS THE DISPARITIES ISSUE AS A SINGLE PROBLEM OF JUST ONE DISEASE, WITHOUT TAKING INTO ACCOUNT OTHER FACTORS, YOU HAVE ALREADY FAILED TO ADDRESS THE PROBLEM AT THE BEGINNING

To address these issues, the Center for Research on Minority Health (CRMH) is built around 6 core units: Research, Education, Clinical, Biostatistical/Data Management, and Administrative, all revolving around the Community Relations core. This latter core for other centers maybe referred to as the Community Outreach core or Dissemination cores. However, we have termed it community relations on input from the communities we are attempting to address. The cores collectively employ a multifaceted, multidimensional approach to health disparities. Each of the 4 populations focused on have community relations representatives whose philosophy is to base the activities in the community and not just place them there. The community stressed the need for an “in reach” core for the CRMH to address academic institutional problems that severely hinder the development of seamlessly integrated, community-institutional partnerships.

Therefore our model is based on the concept that community-based research should be *based in the community* and not just placed in the community. The results of our studies have proven us to be on the right path. For example, our Tri-Ethnic Study and Companaras Sanas (Healthy Friends) studies resulted in our Women Healthy Eating and Living (WHEL) Study site having 50% of all the African Americans, 33% of all of the Hispanic/Latinas, and 33% of all the Asian Americans/Pacific Islanders enrolled in the national trial. These study results led the National Cancer Institute (NCI) to recommend that this approach for minority recruitment and retention into clinical trials be used to study groups across the country. A detailed description of the CRMH is beyond the scope of this paper. However, a fairly recent review of our Center of Excellence Grant from the National Institutes of Health stated: “*One cannot help but imagine that this is exactly the model of a cutting edge health disparities center of excellence. It is hard to imagine that there is an aspect of body, mind, or culture that is not under consideration with the present investigator’s holistic approach. The combination of the caliber and experience of the leadership team, along with the scope of activities and the level of collaboration, within and across institutions, makes this an outstanding application. The integration of the goals of Project EXPORT and the CRMH, which forms the basis of the present application, promises to make significant contributions to our understanding and treatment of cancer and other*

diseases in minority populations and the medically underserved.” As illustrated in the overall structure, the CRMH strives to integrate *Research, Education, Prevention, and Service* (Figure 5).

LESSON 8: THE SOLUTION TO THE PROBLEM REVOLVES AROUND 6 KEY WORDS: TRUST, RESPECT, PARTNERSHIP, COMMUNICATION, FLEXIBILITY, AND KNOWLEDGE

These 6 qualities form the cornerstone of any successful approach to addressing health disparities. The key to using them lies in understanding that all must be developed in parallel as a unit, lest the foundation will crumble. Finally, we will discuss our educational efforts. This CRMH core is involved with education from kindergarten to the postgraduate level. The overall goals of the Education Core are to

- Increase the cadre of minority and underrepresented students in the health sciences by creating a “pipeline” from the elementary/middle/high school levels leading to undergraduate, graduate, and postgraduate level programs.
- Enhance the quality of science education through special training for teachers in public schools.
- Develop a model that also raises the science education level of the general populations.

It is this latter component that is so critical to our model because education leads to changes in health policy which, in turn, leads to changes in the research paradigm.

In 1996, The Association of American Medical Colleges “Project 3000 by 2000” Year Four Progress Report stated, “... the primary cause of minority under representation in medicine, other health professions and health-related academic fields is essentially the same—the scarcity of minority applicants who are both interested in and academically prepared for the rigors of health professional and graduate schools. This scarcity does not stem from a lack of interest in health careers. Rather, it is based primarily in educational disadvantages that disproportionately affect the same minority communities that have borne the brunt of prejudicial treatment throughout most of American history.”⁶

Elementary School Program

In the United States, we know from numerous reports that the greatest loss of interest in science in children occurs before middle school.⁷ Yet, we as a nation fail to focus on that critical age. We are fully aware in our efforts that not every child we touch in our program will enter into medicine or other health-related professions or public health academic fields, but they will understand what science is about and become an informed electorate.

Our PIPELINE Scientific Training Program (PSTP) links training from elementary school to postgraduate programs by addressing the need for more minority research professionals through a multifaceted plan that utilizes peer counseling, summer programs, and hands-on training. We are not reinventing the wheel, but creating seamless bridges that span from elementary to graduate school and postgraduate training. As part of the elementary program, Science Centers were built to equip classrooms with all the necessary materials needed to teach elementary school science. We started the first year of the program in the Fall of 2005 with all of the kindergarten classes at a selected elementary school. The following year we followed the children to first grade, while starting a new kindergarten program. We have now trained and are tracking 20 children. All of the elements of the elementary school program incorporate 5th grade Texas Essential Knowledge and Skills (TEKS) and promote health and medical science careers. Ultimately, we will prepare students for 6th grade in middle school.

Middle School Program

Starting in the 6th grade, career exploration is promoted and students are expected to engage in more advanced hands-on math and science activities. We also begin to increase students' awareness and interest in science and potential science careers while simultaneously beginning the 8th graders' transition into high school. As part of the bridging program, middle school students, especially 6th graders, mentor elementary school students by working with 5th graders on their science fair projects. Students who are truly interested in pursuing a science career are encouraged to apply to a local Science Academy Program. A Medical Science Academy already exists within the high school that we are collaborating with. We have developed an Urban Ecology course for those students who are interested in science rather than medicine as a career. Students in both programs are encouraged to mentor middle school students, as well as to assist with their transition into high school. High school juniors and seniors are offered summer internship opportunities, working at the CRMH or other HDEART Consortium institutions.

One of the most important parts of this pipeline and one often forgotten is the teachers, particularly at the elementary level. One can't really effect long-term change at this level without addressing the needs of the teacher. It is important to remember that "One cannot disseminate a level of education higher than that which he or she themselves possesses" (Thelma Hurd, MD, personal communication, 1997).⁸ Few elementary school teachers in the United States have a science background, and many are apprehensive about teaching science. To address this, we have also created a teacher-training program that utilizes and integrates existing professional development programs.

Prior to starting our program at the targeted elementary school, we selected one master kindergarten teacher to help to develop the program. We provided the teacher with a summer stipend and brought her into the research environment of the CRMH. She enrolled in the Summer Institute for K-12 teachers and the Environmental Health Science Summer Institute. She was also offered the opportunity to earn a Masters in Science Education. Most importantly, she offered our team the opportunity to collaboratively develop educational materials designed to teach science at the Kindergarten and 1st grade level. The teacher also assisted with implementation of the project.

The High School and Advanced Degree Programs

We have developed collaborative training programs, specifically targeting junior and senior high school students. A number of these students began mentoring other high school students in their freshman and sophomore years. These students are now eligible for summer internship at the CRMH and/or HDEART member institutions (Figure 6). As mentioned above, some of our college graduates, who have elected to attend HDEART Consortium graduate schools, are already participating in research and training programs with undergraduate and high school students. Additionally, some students are doing research with faculty from the CRMH. All of these efforts, as well as others, have kept them involved and prevented them from being lost to follow up. The final leg in this pipeline is postgraduate training of scientists who will utilize a biopsychosocial or holistic approach to addressing disparities in the 21st Century. The Kellogg Health Disparities Scholars undertake research projects that are primarily community-based research projects that may or may not involve basic and/or clinical research.

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“Traditional” Model Research Design

FIGURE 1.

“New” Model for Research Design

FIGURE 2.

FIGURE 3.

FIGURE 4.

FIGURE 5.

FIGURE 6.