

HEALTH LITERACY

as a
Social Determinant of Health



UNIVERSITY OF MARYLAND
STRATEGIC PARTNERSHIP
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Values and Mission Statement

Promoting social justice and health is an important focus of the 2017-2021 strategic plan for the University of Maryland, Baltimore (UMB, 2018). From this perspective, UMB's commitment to these values was clear when it tasked a team of nine students, representing the seven professional schools at UMB and the University of Maryland at College Park (UMCP), with examining health literacy as a social determinant of health. The appointed students developed a list of recommendations for UMB to address health literacy as a social determinant of health and use an empathetic, interprofessional approach to meet the campus' and surrounding communities' health literacy needs. The mission of this paper is to establish health literacy as an important public health issue at UMB, UMCP, and in local communities.

Health literacy is defined as both a personal and organizational issue, according to Healthy People 2030. Personal health literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (United States Department of Health and Human Services [DHHS], 2020b). Organizational health literacy is "the degree to which institutions promote patient understanding of health information to make informed decisions about their health" (DHHS, 2020b). The ability to use information to make good health decisions is not an individual, but a societal, responsibility. Healthy People 2030 states that health literacy occurs "when a society provides accurate health information and services that people can easily

find, understand, and use to inform their decisions and actions." Health literacy intersects with a multitude of other social determinants of health, including educational attainment, household income, and racism. Health literacy is a social justice issue as well as a social determinant of health. Social determinants of health are the conditions in a person's external environment that can significantly impact their health (World Health Organization [WHO], 2020). Social determinants of health have been linked to shortages of opportunities as well as resources to protect, improve, and maintain the health of vulnerable populations, such as racial minorities, indigenous peoples, persons for whom English is a second language, adults 65 and over, and persons with disabilities. A combination of social determinants of health is thought to be largely responsible for the health inequities that manifest in these vulnerable populations.

At no greater time has the ability to use information to support health been more important for the University of Maryland system institutions than during the COVID-19 pandemic. Misinformation and disparities in new infection and mortality rates emerged as urgent issues concerned with health literacy. Since UMB sits in West Baltimore, which has historically experienced health disparities and social justice inequities, the UMB campus has a vested interest in addressing the communities' health literacy needs. Health literacy can impact a variety of professions. This ranges from law students addressing informed consent with their clients in health related legal cases to social workers assisting clients in translating instructions



University of Maryland, College Park
Photo by John T. Consoli/University of Maryland

for treatment. As students develop into professionals in their respective fields, they are poised to deliver quality care and services by incorporating best health literacy practices into their professional work. Students and the campus community are health-care consumers themselves, and also benefit from understanding health information and health services. Health literacy is a basic human right of universal importance. With this understanding, the President's Fellows were charged with the mission of promoting health literacy across both the university and its surrounding community.

The authors of this white paper have prepared to meet this charge in several ways. To better understand health literacy as a social determinant of health, seven of the nine President's Fellows participated in a summer research program where they met with health literacy experts and examined health literacy's role in each of our disciplines. They also reviewed the educational literature to capture if and how health literacy was taught in our various professions nationally. Over the summer, they interviewed deans, faculty, and staff at our eight respective schools to establish the current state of teaching health literacy at UMB and UMCP as part of our role as MPower scholars. The University of Maryland Strategic Partnership: *MPowering the State* (MPower) is a partnership between the UMB and UMCP campuses to further encourage research and collaboration, and sponsor student scholastic work every year. This research continued into the fall as part of the President's Symposium and White Paper Project with an additional

two students joining our interprofessional team. The President's Symposium and White Paper Project is a collaborative initiative of the President's Office and Intercultural Leadership and Engagement to create year-long student engagement on a topic of interest to the University community (in this case, health literacy) and deliver a white paper recommendation on the topic. The 2020-2021 white paper is unique in addressing both UMB and UMCP, as prior white papers have focused on the UMB campus alone. This paper serves as the culmination of that work, outlining our recommendations for the UMB and UMCP faculty and institutions.

To address health literacy and the complex ways it intersects with different professions, the 2020-2021 President's Fellows focused on incorporating interprofessional education into the recommendations. Interprofessional education (IPE) is a collaborative effort from different professions to deliver safe, quality, and accessible health outcomes (Interprofessional Education Collaborative, 2020). Interprofessional education can positively impact professional practice through mutual respect and shared vision. Through utilizing the knowledge of each participating fellow and applying relationship-building values to support all team members, the President's Fellows sought to understand how an interprofessional method can enrich the way UMB and UMCP address health literacy.

Background

Health is defined as “the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2021a). Health is a practical concept that identifies the personal and social resources as well as physical capacities necessary for everyday life. Health literacy affects how people apply health information in important ways, and health literacy levels dramatically impact patient outcomes. In the United States, low health literacy is associated with higher rates of hospitalization and emergency care use, greater health-care costs, lower utilization of preventive services such as screenings and vaccinations, inadequate medication use, and greater morbidity and mortality (Berkman, et al., 2011; Eichler, et al., 2008; Groene & Rudd, 2001; Ku & Matani, 2001).



**36% OF U.S. ADULTS
HAVE BASIC OR BELOW-BASIC
HEALTH LITERACY LEVELS**

Unfortunately, low health literacy is common in our society, with 36 percent of U.S. adults having basic or below-basic health literacy levels based on national surveys (National Center for Education Statistics, 2003). Additionally, low health literacy levels do not occur randomly, but in the context of risk factors that cause health disparities. Individuals at increased risk for low health literacy levels include the following: adults over the age of 65, persons with limited English proficiency, individuals of racial and ethnic minority groups, Medicaid/Medicare beneficiaries, persons with a lower level of completed education, and persons living in poverty. In older adults, low health literacy levels are associated with decreased functional activity, poorer mental health status, pain, and altered physical and hearing function (DHHS, 2020a).

The groups at increased risk for low health literacy are also at greater risk for health disparities due to other social determinants of health. Social determinants of health are the conditions in a person’s external environment that can have a significant impact on their health. Social determinants of health have been linked to shortages of opportunities as well as

resources to protect, improve, and maintain health. A combination of these factors is largely responsible for health inequities (WHO, 2013). Addressing health literacy is a means to reduce some of these disparities by empowering patient decision making and improving health outcomes in vulnerable populations.

Health Literacy as a National Priority Area

Health literacy has been identified as a priority area for national action. The DHHS has consistently identified health literacy-related objectives as important for improving patient outcomes in its Healthy People initiative. Healthy People is a roadmap released every decade by the HHS to direct public attention towards priority areas in the realm of public health. The 2010 Healthy People report outlined objectives and goals as a part of a national agenda to eliminate health disparities, and health literacy was identified for the first time as one of the areas for improvement (DHHS, 2000). The initial version of the report focused on health literacy as an area for improvement on the level of the individual. More recent versions of the initiative, however, shifted focus to a more systemic approach to improving health literacy.

The 2003 Institute of Medicine report “Health Literacy: A Prescription to End Confusion” established the importance of addressing limited health literacy to improve population health outcomes. They also identified the role health care providers play in implementing public health interventions to improve awareness and provider-patient communication (Institute of Medicine, 2004). The 2010 National Action Plan to Improve Health Literacy was introduced by the U.S. Department of Health and Human Services to target multi-sector approaches to addressing health literacy. The plan outlined seven goals for improving health literacy, including:

1. Disseminate accurate and accessible health information
2. Promote systemic changes in health care that improve patient-provider communication, patient decision-making, and access to health services
3. Integrate health literacy techniques within university curricula
4. Support local efforts to provide linguistically appropriate health information in communities

5. Build interprofessional partnerships and advocate for policy change
6. Support basic and clinical research on health literacy
7. Increase the use of evidence-based health literacy practices and interventions (ODPHP, 2010).

A Systems Approach

The Institute of Medicine (IOM), the Agency for Healthcare Research and Quality (AHRQ), Quality and Safety Education for Nurses (QSEN), and the United States Department of Health and Human Services (DHHS) have identified health literacy as a high priority due to the impact it has on the health outcomes and the health care delivery system. As part of this prioritization of health information needs, the Healthy People 2030 objectives include promotion of health literacy principles.

Healthy People 2030 has identified wide-ranging objectives organized under 62 different topics. These objectives were developed to reflect important public health issues in the U.S. Over the course of the next decade, various data sources will be used to track the progress made towards each objective (DHHS, 2021). Healthy People 2030 has also developed ambitious and wide-ranging goals. One of the five overarching goals of Healthy People 2030 is to “eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all” (DHHS, 2021). According to Healthy People 2030, the responsibility of achieving a health literate society has shifted from individual patients to organizations that deliver health information and services.

National Costs and Local Opportunities

Health literacy is a systems failure with significant impacts not only on individual health but also national expenditures, as demonstrated by its \$215.1 billion annual cost in the United States (Rasu et al., 2015). Empirical research has identified low health literacy as the cause of 7 - 17 percent of all health expenditures, or an estimated \$612 billion in 2015 (Haun et al., 2015). Research demonstrates a correlation between low health literacy and high health care utilization and cost. Those with low or basic health literacy have more physician, nonphysician, and Emergency Department (ED) visits annually compared to those

with above basic health literacy. The highest health care expenditure for those with low or basic health literacy is prescription drugs, with individuals spending \$1,862 annually for their prescriptions compared to \$1,027 spent by those with above basic health literacy. Office visits and ED visits also cost more money for individuals with low or basic health literacy compared to those with higher health literacy (\$996 vs. \$76 and \$124 vs. \$105, respectively) (Rasu et al., 2015). These cost discrepancies persist even after controlling for other factors such as different insurance types. Thus, addressing health literacy on a population level affords financial opportunities for health financing systems and the institutions that work within them. Although it is typically challenging to evaluate a return on investment for population-level interventions (Stepnek et al., 2017), Maryland’s unique Total Cost of Care Program allows participating institutions to “earn what they do not spend” on care. The state’s funding infrastructures creates financial incentives for the University of Maryland to become a leader in this space.

Health Literacy as a Social Determinant of Health

Understanding why health literacy is important to health outcomes starts with classifying health literacy as a social determinant of health. WHO summarizes the social determinants of health as social factors that impact health outcomes, and is defined as “the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life” (2020). A large body of literature supports health literacy as one of these social factors that affect health (Sorenson, et al., 2015; Sorenson, et al., 2013). The strong relationship between health literacy and health outcomes provides evidence that health literacy serves as an independent determinant of health (Nutbeam & Lloyd, 2021). Since health literacy is strongly linked to health equity, viewing it as a social determinant of health is important to combat disparities (Rudd, 2017).

The evidence also indicates that health literacy does not function independently, but can rather be an explanatory factor that connects social disadvantages, health outcomes, and health disparities (Schillinger, 2020). Pelikan, et al. (2018) suggest that health literacy is linked with other social determinants, such as self-assessed health and age, to affect health outcomes.

Stormaq, et al. (2019) supports this conclusion, finding health literacy to affect and be impacted by social determinants of health.

Challenges

Low health literacy rates pose challenges for health care consumers in comprehending health-related materials, following treatment regimens to obtain optimal health outcomes, and communicating effectively with their providers (DHHS, 2020a). Poor health outcomes can be attributed to high verbal fluency masking low health literacy in patients. In other words, patients may be able to repeat the information provided to them without fully comprehending that information. Many different factors influence an individual's health literacy, including socioeconomic status, age, disability, and race and ethnicity (DHHS, 2020a). As previously discussed, the risk of low health literacy is highest in specific groups such as non-native English speakers, ethnic minorities, and older adults. A person's culture can also impact the relationship they share with a given health care provider (DHHS, 2020a). The multitude of factors that contribute to and interact with health literacy makes addressing and improving it particularly challenging.

Methodology

From May to August of 2020, seven of the nine President's Fellows participated in the *MPowering the State (MPower) UM Scholars Program*. The focus of the summer research program was "Applying Health Literacy Research to Communicating with and Engaging Patients Using an Interprofessional Team Approach." To analyze how health literacy is taught across professional schools in the United States, a literature review of health literacy education studies across seven disciplines was conducted in PubMed, CINAHL Complete, Lexis Advance and Public Health Proquest. The literature review provided an overview of the current health literacy educational landscape and what challenges may be associated with the implementation of interventions in each discipline's curriculum. This interfaced with interactive lectures from faculty who teach health literacy at other institutions and who provided their own perspectives on implementing health literacy educational

interventions.

To understand how UMB and UMCP currently address health literacy as a social determinant of health, the nine students conducted individual interviews with administrators, faculty, and staff from July to December 2020. The faculty members responded to qualitative six-item questionnaires developed by the students in consultation with health literacy research experts at the Horowitz Center for Health Literacy at the UMCP School of Public Health. The students generated a master qualitative coding sheet, which compiled the extracted data from the interview transcripts, recordings, notes, and emails.

Using the questionnaires in conjunction with content such as syllabi, website information, and course catalogs, the nine students documented existing courses and other educational interventions such as clinical experiences, clerkships, simulations, and lab experiences available to the disciplines. The students also conducted unstructured conversations with community organizations and students to identify other opportunities, such as service-learning or volunteer experiences, that may train students to use health literacy practices. The students also gained new insights on educational interventions and health literacy as a social determinant of health through the President's Symposiums, which were university-funded public presentations from experts across the globe.

Analysis

UMCP houses the Horowitz Center for Health Literacy and the School of Public Health. UMB is a public health, law, and human services university with six professional schools and a Graduate School. The mission UMB is to better the human condition of Maryland and society at large through education, research, clinical care, and service. Similarly, the mission of the UMCP School of Public Health is to promote and protect the health and well-being of the diverse communities throughout Maryland through leadership, research, and collaboration. The President's Fellows have considered the missions and values of both universities by exploring health literacy as a social determinant of health. In particular, the research of the President's Fellows focuses on the education of future professionals dedicated to improving the human condition through health and well-being.

The Analysis section of the White Paper begins with key findings from the faculty questionnaire, followed by an analysis of the current curriculum across the seven schools. After exploring faculty perspectives on health literacy education, the President's Fellows distributed a survey to a wide sample of the student population across all seven schools. The results are presented anonymously in Likert format.

However, health literacy and the social determinants of health are not limited to the formal educational setting. Many students from the seven schools participate in service-learning opportunities. In these interprofessional settings, they practice the principles of patient-centered care and promote health equity. It is likely that health literacy and social determinants of health are informally introduced and practiced in these settings.

Faculty Questionnaire

See page 8 for key results and core questions.

Current Curriculum

Based on current educational practices at UMB and UMCP, the seven schools discuss health literacy and/or social determinants of health to varying degrees, but the current curricula provide limited dedicated or real-world training. There are no standardized educational components and requirements. In addition, national accreditation requirements for professional degrees rarely include health literacy performance outcomes. Only two of the seven disciplines (Dentistry, Pharmacy) designate specific terminal outcomes of health literacy education.

Some schools require health literacy in the core curricula, but in a limited quantity. For example, the School of Dentistry integrates health literacy in the curriculum through its "Perspectives on Oral Health Care Services" course for first year students. The course is a 1-credit course, which includes one mandatory lecture on health literacy as well as one mandatory lecture on the social determinants of health. The course evaluation method comprises two multiple choice exams to assess students on their understanding of course materials.

A pattern identified across the schools was that the curricula introduce students to the social determinants of health as relevant to their practice areas, but do not introduce the formal concept of "health literacy" as a social determinant of health. However, certain health literacy practices are taught informally without being discussed or identified as "health literacy." Examples of these practices include using teach-back principles in didactic laboratory settings and introducing plain language in patient-provider interactions.

Due to the unique structure, timeline, and focus of each discipline, there are difficulties in implementing standardized health literacy educational practices. For instance, the Social Work program is a two-year course of study with a pre-specialization and post-specialization phase. The Law program is a three-year course of primarily didactic learning not specific to health care practice. Although the Dentistry, Medicine, and Pharmacy programs are all four-year programs, there are different divisions between didactic learning and clinical rotations (i.e., 2+2, 1.5+2.5, and 3+1, respectively).

Faculty Questionnaire

Key Results

- Interprofessional education needed
- No standardized definition of health literacy among the UMB community
- Lack of integration and reinforcement of health literacy practices throughout both the preclinical and specialized years

Figure 1. Q1: What education pertaining to health literacy does the School of _____ have in place? This might include:

Q1	Dentistry	Law	Medicine	Nursing	Pharmacy	Public Health	Social Work
Dedicated course	✓					✓	✓
Clinical experiences or rotation			✓	✓	✓		✓
Simulations or rotations				✓	✓		
Service learning or volunteer			✓	✓	✓	✓	
None		✓					

Figure 2. Q2: in what manner does the health literacy education in the School of _____ occur?

Q2	Dentistry	Law	Medicine	Nursing	Pharmacy	Public Health	Social Work
Stand-alone education (guest or single lecture)	✓				✓	✓	✓
Episodic learning experiences (series of several modules or classes)				✓	✓	✓	✓
Integrated learning (all throughout the course or program)	✓			✓	✓		✓

Figure 3. Q3: Is the health literacy education in the School of _____'s curriculum:

Q3	Dentistry	Law	Medicine	Nursing	Pharmacy	Public Health	Social Work
Selective (offered only to a subset of students)				✓		✓	✓
Elective (can be taken by any student by choice)				✓	✓	✓	✓
Mandatory (required as part of core curriculum)	✓			✓	✓		

Student Survey

In the 2020-2021 year, the President's Fellows initially distributed an online five-item survey to University Student Government Association (USGA) Senators, then distributed the survey to the entire student population through various digital platforms (e.g., email listserv, GroupMe). The goal was to explore a sample of student perspectives on the inclusion of health literacy and social determinants of health in their respective school curriculum. The survey questions were presented in a Likert scale format with no personal identifiers to maintain anonymity and promote open and honest responses. On the following statements, students were instructed to indicate their levels of agreement, from *strongly agree* to *strongly disagree*.

- *I understand what health literacy is.*
- *Health literacy is important to my profession.*
- *To succeed in my profession, it is important to be health literate.*

- *I experienced health literacy education in my program at UMB.*
- *I believe UMB provides adequate health literacy opportunities in my school.*

The survey results suggested that students believe that health literacy and social determinants of health principles are not adequately addressed at either the graduate or undergraduate levels (see below). 96 percent (242 of 252 responses) of the total students surveyed strongly agreed or agreed that health literacy is essential to their respective professions, and 94 percent (236 of 251 responses) strongly agreed or agreed that health literacy education is necessary to succeed in their professions. However, 30 percent (76 of 251 responses) did not believe that UMB provided them with adequate health literacy education opportunities. The gap between the perceived importance of health literacy and the lack of curricular inclusion points to a need for further attention to this topic at UMB.

Health Literacy UMB Student Survey

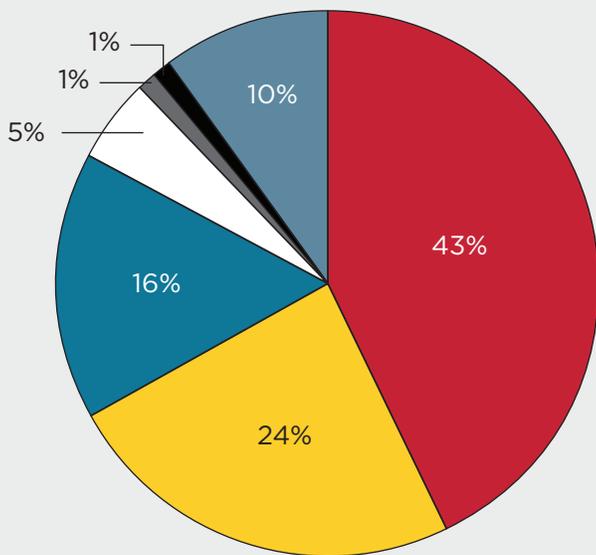


Figure 4. Respondents by UMB School (255)

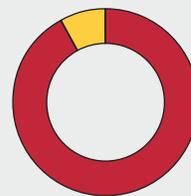


Figure 5. I know what Health Literacy is without looking up the definition (n = 253)

Agree, 92% (n = 232)
Disagree, 8% (n = 21)

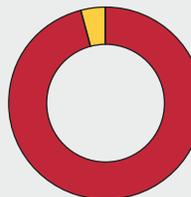


Figure 6. Health Literacy is important to my profession (n = 252)

Agree, 96% (n = 242)
Disagree, 4% (n = 10)

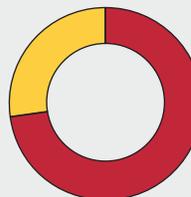


Figure 7. I learned about Health Literacy in my program (n = 252)

Agree, 73% (n = 185)
Disagree, 27% (n = 67)



Figure 8. I received adequate Health Literacy education in my program (n = 251)

Agree, 70% (n = 175)
Disagree, 30% (n = 76)

Of the undergraduate UMCP public health students polled, 100 percent (70 of 70 responses) agreed that health literacy is important to their profession and 98 percent (69 of 70 responses) agreed that competency in health literacy principles is needed to succeed in their future professions. However, 30 percent (21 of 70) did not believe that UMCP provides them with adequate health literacy opportunities in their programs. The survey results from UMB and UMCP echoed similar sentiments of a gap in the provision

of health literacy education. Thus, integrating the concepts of health literacy and the social determinants of health into curricula on both campuses is a priority area for students and serves as a White Paper recommendation.

Health Literacy UMCP School of Public Health Student Survey

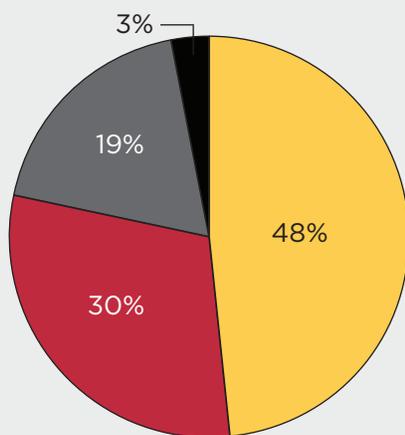


Figure 9. Respondents by Major (70)

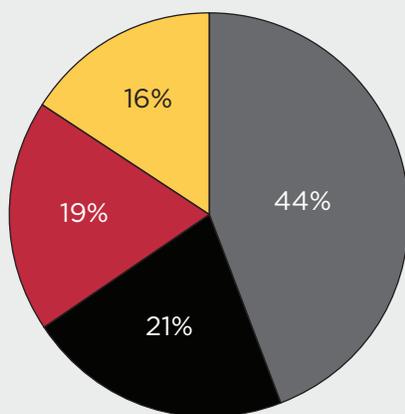


Figure 10. Respondents by Current Year (70)

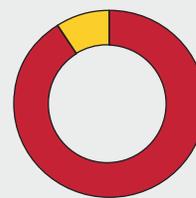


Figure 11. I know what Health Literacy is (n = 70)

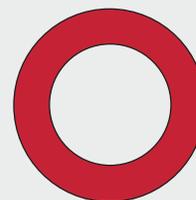


Figure 12. Health Literacy is important to my profession (n = 70)

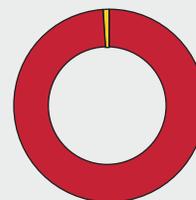
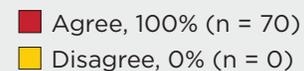


Figure 13. To succeed in my profession, it is important to be health literate (n = 70)

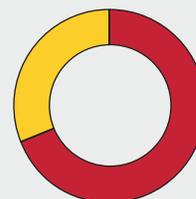
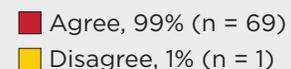


Figure 14. I experienced health literacy education in my program at UMCP (n = 70)

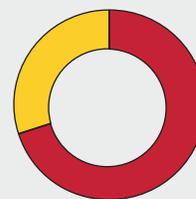


Figure 15. I believe UMCP provides adequate health literacy opportunities in my school (n = 70)



Current Environment

The President's Fellows identified examples of best practices related to health literacy and the social determinants of health currently in place at UMB and UMCP through involvement with community organizations. Community-based organizations (CBOs) are defined as service oriented agencies that are generally non-profit and support the needs of community members in a variety of ways, depending on the particular mission and structure of the organization. These CBO's offer opportunities for students at UMB and UMCP to participate, volunteer, serve, or learn within the Baltimore and Prince George's communities. These opportunities are often interprofessional and allow for student engagement with the social determinants of health outside of didactic and clinical requirements. The President's Fellows compiled a collaborative list of known opportunities based on summer research experiences, the Symposia, and discussions with faculty. The opportunities for service-learning are not all described in this section of the White Paper, but a few examples were selected and categorized into 1) service learning with patient-focused organizations and 2) providing health literate resources.

1. Patient-focused organizations involve patient care and the provider role, often in a team-based setting. The services may be provided on a longitudinal basis over the course of the year or as a one-time occurrence (i.e., on a day of service). Students have the opportunity to practice their future professional roles in a team-based setting with other disciplines such as through the following organizations. These are a few of the specific examples available:

- **President's Clinic:** UMB co-founded and led by Jay A. Perman, MD and Elsie Stines, DNP, CRNP is an ambulatory interprofessional healthcare education and practice that provides a platform to teach UMB students about team-based care. Faculty from medicine, nursing, social work, and pharmacy and students from each discipline, come together to learn with, from, and about each other. The primary goal of President's Clinic is to cultivate a collaborative practice and provide patient-centered care.
- **Mid-Maryland Mission of Mercy:** UMCP Public Health's Center for Health Equity, Catholic

Charities, and UMB School of Dentistry among many partners, sponsor a two-day Mission of Mercy and Health Equity festival bi-annually. The University of Maryland College Park basketball arena transforms into a two-day dental mobile clinic to provide \$1 million of free dental care to 1,000 adults who are without access and have low oral health literacy (University of Maryland School of Public Health, n.d.). An interprofessional team of student volunteers, licensed dentists, hygienists, dental assistants perform anything from root canals to providing oral hygiene education.

- **Paul's Place/UMB Teaching Partnership:** The mission of Paul's Place is to improve the quality of life by increasing access to quality health care, housing and employment resources for families and communities within Southwest Baltimore. The UMB School of Nursing has an official partnership with Paul's Place, however medical students have the opportunity to work with nursing students and faculty to provide health and wellness education and emotional support to adolescents and their families (Paul's Place, 2021).
 - **UMB Health Alliance:** An IPE collaboration of Medical, Law, Nursing, Social Work, Dentistry and Physical Therapy students running a free education resource center that provides health services, legal aid, social services resources to individuals and families in West Baltimore (USGA, 2021).
 - **PATIENTS Program:** A patient-centered interprofessional partnership of community partners and researchers within the UMB School of Pharmacy that listens and empowers patients to transform research to improve quality of life and health equity within West Baltimore (University of Maryland School of Pharmacy, n.d.).
2. Students also have the opportunity to participate in educational opportunities focused on providing health literate resources to community members. Described below are two such opportunities:
- **Social Determinants of Health Task Force:** With the signing of Maryland Senate Bill 444, Governor Larry Hogan established the Task

Force on the Social Determinants of Health (SDOH) in Baltimore City (UMB, n.d.) The Taskforce is directed by Yolanda Ogbolu, PhD, CRNP, FNAP, FAAN and the task force accepts student participants. The Task Force is committed to the improvement of the social, economic, and physical environments in which people live, work and play with the ultimate goal of increasing health-related quality of life. The Task Force envisions leveraging community resources to drive this improvement. There are five subcommittees (health, housing, education, social justice and workforce development), which collaborate with policymakers, health care facilities, academic institutions, faith-based institutions, local government stakeholders, non-profit organizations, and community leaders and organizations. For example, the Health and Human Services sub-committee partnered with Simmons Memorial Baptist church to create a community COVID-19 screening and testing center (UMB, n.d.). In addition, the taskforce helped create a telehealth COVID-19 support center where community health workers, physicians, and nurses volunteered to provide free information and services.

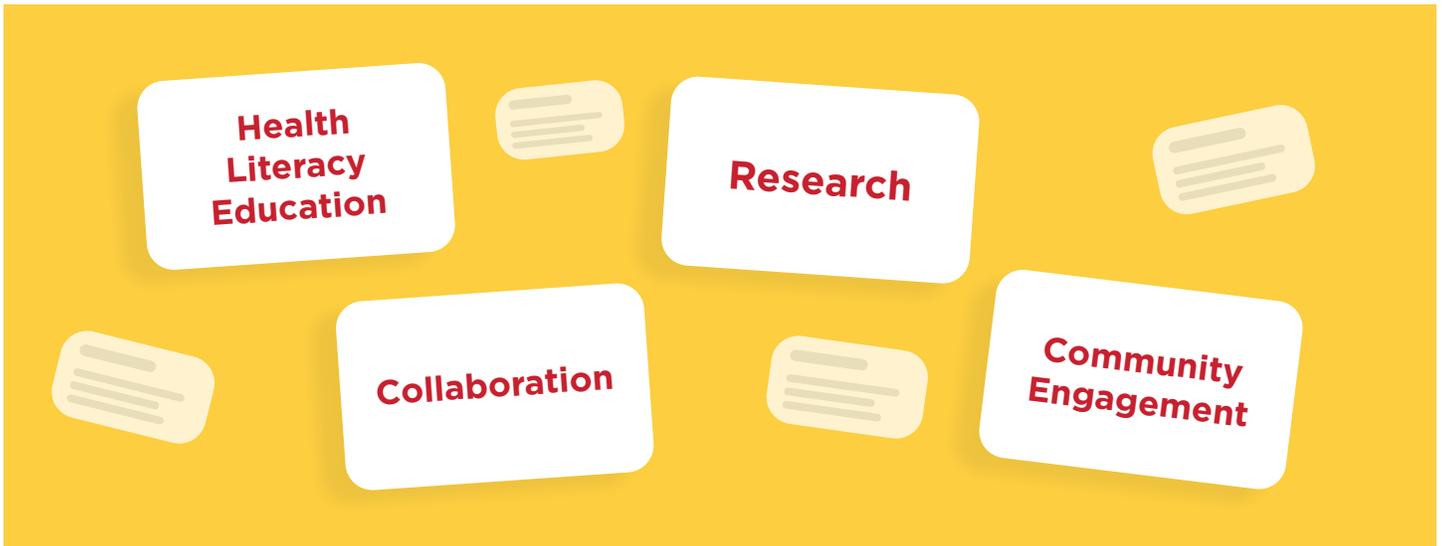
- The Horowitz Center for Health Literacy:** The Center is a part of the Dean’s Office within the School of Public Health at UMCP. It is the first academic Center for Health Literacy in the United States and was established alongside the School of Public Health in 2007 (University of Maryland, School of Public Health, 2018). The Center’s mission is to conduct research, evaluate findings, educate, and develop programs to improve health literacy within the state of Maryland. The Center acts as a resource and guide for health professionals, policymakers, and patients within Maryland and nationwide. It offers undergraduate internships, graduate internships, and graduate assistantships (qualitative and quantitative research in family health, oral health and disease prevention and promotion) for public health students, in addition to service-learning projects, independent studies, and research available to all students.

Students have many more opportunities to engage in health-related service-learning activities with the surrounding environments in Baltimore City and Prince George’s County. These opportunities are more often connected to a specific social determinant, such as housing access or food insecurity and related principles, rather than health literacy. Some of these may offer students the opportunity to practice health literacy principles, but they may not be explicitly defined as health literacy initiatives. In addition, these service-learning activities are not tied to curricula in formal education and may or may not be interprofessional. Student participation is selective, unstructured, and unstandardized.



Cynthia Baur, PhD, MA leads a workshop on health literacy materials at the Horowitz Center for Health Literacy at the University of Maryland School of Public Health in College Park, MD.

Recommendations



UMB and UMCP are entwined in the social fabric of the diverse communities that they serve. UMB's professional schools of Dentistry, Law, Medicine, Nursing, Pharmacy, Social Work, and the Graduate School are committed to championing initiatives that aim to improve the health and wellness of the surrounding West Baltimore community and the State of Maryland. Similarly, UMCP promotes the well-being of its Prince George's County community. Informed by evidence-based research, analysis of health literacy best practices, and system-wide observations including direct interviews of UMB and UMCP faculty, the 2020-2021 President's Fellows developed recommendations that echo the core principles of health literacy: (1) everyone has the right to health information that helps them make informed decisions and (2) health services are delivered in ways that are understandable and beneficial to health, longevity, and quality of life (DHHS, 2013). The recommendations focus globally on UMB and UMCP as two universities with shared interests in the health of the public and delve into specific examples for each school to acknowledge each program's distinct attributes and opportunities. The recommendations center around the major themes of Education, Research, Community Engagement, and Collaboration and are intended to serve as seeds planted within each school, ideas to be nurtured and customized as needed within each discipline.

Health Literacy Education

As health care continuously evolves and becomes increasingly complex, new models of care continue to emerge. UMCP and UMB professional graduates must be competent in core areas of health care, including health literacy as a social determinant of health. They need to be proficient in a diverse range of competencies to adequately address health literacy problems and in essential skills required for effective communication to improve patients' understanding, autonomy, and self-management abilities. Interviews with academic deans and faculty across UMB and UMCP and curriculum analysis between the seven schools identified significant gaps in health literacy education.

Therefore, the President's Fellows recommend the six UMB professional schools and the Graduate school and UMCP School of Public Health integrate health literacy as a social determinant of health in the content and evaluation of the existing curriculum of each individual school at all educational levels. Students should receive adequate general health education and health literacy training that empowers them to adopt, practice, and maintain knowledge, attitudes, and skills needed to facilitate understanding and address limited functional, interactive, and critical health literacy skills. The pedagogical intervention should employ a multipronged approach inclusive of students, faculty, staff, and UMB leadership.

Wide-spread Curriculum Enhancement

UMB stakeholders, including academic deans, course directors, faculty, and members of curriculum committees across the university, may lead this initiative and conduct university-wide curriculum enhancements. In both undergraduate and graduate schools, principles of health literacy as a social determinant of health, health literacy, clear health communication, and cultural competency should be explicitly incorporated into all professional schools' core curricula, learning activities, and competencies to address the problem of health disparities and inequities in health care.

Considerations: To enhance the teaching-learning experience, faculty need to assess and address educational resources' availability to help learners reach their learning goals. For health literacy education, essential learning resources include time, learning space, instructional materials, and human capacity (staffing). For instance, the School of Public Health faculty can help UMB educators identify optimal learning approaches and activities that support and challenge student learners. The Horowitz Center for Health Literacy, already established and working at the College Park campus, could lead and facilitate these initiatives and facilitate the integration of health literacy educational material across the curriculum.

Assess University Health Literacy Learning Needs and Priorities

UMB and UMCP cannot address their health literacy issues if unaware of the current status of health literacy education. The results of the survey distributed to UMB students by the President's Fellows indicate that 96 percent of students across all seven UMB schools believe that health literacy is important to their profession. Yet, nearly one-third of students did not feel that UMB currently provides adequate health literacy education opportunities (see Analysis section). However, this survey reached a relatively small number of students (n = 253), and is not a comprehensive assessment of the University's needs. Therefore, before integrating health literacy into current curricula, UMB and UMCP faculty should conduct a learning needs assessment to identify learning priorities on health literacy education for both students and faculty. This would ensure that new systems of education and training address specific learning outcomes and optimize the cost-effectiveness of organizational

resources. In this context, a combination of structured interviews, questionnaires, tests, and observations are ideal for conducting student health literacy learning needs assessment and priorities.

Early and Systemic Integration of Health Literacy Principles

Health literacy education and training should be implemented early in the education progression across UMB schools and majors within the School of Public Health at UMCP. Elements of health literacy, health literacy as a social determinant of health, health communication, plain language, cultural diversity, and social justice and health should be threaded into entry-level courses (didactic and clinical) and integrated at all levels sequentially through the final year. Faculty across UMB and UMCP should collaborate with the Horowitz Center for Health Literacy to develop curricula that focus on strengthening skills necessary for health literacy but not limited to health-enhancing behaviors such as accessing information, analyzing influences, interpersonal communication, decision-making, goal-setting, self-management, and patient advocacy.

Utilize Innovative Teaching Strategies

To enrich health literacy training and facilitate real world experiences to health literacy issues, faculty should implement innovative teaching strategies such as Problem-Based Learning (PBL) methods, role playing, simulation, and standardized patient experiences within health literacy education. As cited by Jane Kirschling, PhD, RN, FAAN "Health literacy as a social determinant of health in a simulation makes a lot of sense. It actually would be very interesting to think about integrating the notion of health literacy into the School of Nursing poverty situations." Such strategies engage both the lower learning levels within Bloom's taxonomy (knowledge and comprehension) and the higher levels (application and synthesis) and promotes critical thinking. Due to the COVID-19 pandemic, in-person educational activities have transitioned to an online platform. Thus, faculty can implement PBL and health literacy scenarios virtually to engage students in the health literacy learning process.

Develop competency measures in health literacy as a social determinant of health

Tailored to course objectives and education level, professional programs should explore and develop metrics to assess student health literacy competencies in health literacy as a social determinant of health: knowledge, attitude, confidence, and health literacy communication skills across all seven schools in students and faculty. Each school should establish valid and reliable measures to determine appropriate student learning outcomes. Regardless of the specific method used, faculty must assess students' ability to understand and apply health literacy concepts and provide constructive feedback based on evidence.

Advocate for accreditation changes

UMB has a very active cycle and culture of accreditation, and UMCP's SPH is accredited as well. Each professional school has a specialty accrediting body that assesses its school against internationally recognized standards to demonstrate competence, impartiality, and performance capability. For example, the Joint Commission is one of five accreditation bodies for hospitals and health care systems. Recently they embedded the concept of health literacy into their *Provision of Care Standard*. They now require hospitals to incorporate health literacy issues, such as:



- providing information in a manner that the patient can understand
- patients using the information to make care decisions
- providing written information in plain language
- patient engagement
- participation in care discussions

Following this construct, UMB and UMCP should advocate for the inclusion of health literacy principles into academic accreditation standards. As pioneers, the University can lead the change by including health literacy and SDOH in the UMB Strategic Plan under the *Health, Justice, and Social Impact* domain. UMCP School of Public Health Strategic Plan states the school's core values of achieving health equity, eliminating health disparities, and attaining of

health literacy (University of Maryland, School of Public Health, n.d). UMCP can lead the change by incorporating health literacy into the curricula under the first goal of *Developing and Mentoring the Next Generation of Public Health Leaders*. UMB should create a Health Literacy Task Force where UMB and UMCP health experts collaborate to identify and develop guidance materials to support health literacy development and inclusion in skills-based health education instruction. The taskforce should collaborate with the UMB Office of Institutional Effectiveness, Strategic Planning, and the Best Practices in Assessment Group (*associate and assistant deans of academic and student affairs from each of the schools, school-based program directors, and Accreditation and Assessment Unit members*). Collectively, they can develop comprehensive health literacy education standards for each professional school and advocate these standards be included as a mandatory accreditation requirement for higher-level institutions nationwide.

Establish professional development for faculty

"Health literacy is a relatively new concept in dentistry. Today, we teach our practitioners to use clear, understandable explanations and instructions with their patients so that everyone, regardless of their English language skills, can use the information to make informed health care decisions." - Mark D. Macek, DDS, DrPH (School of Dentistry)

UMB and UMCP leadership should organize multidisciplinary faculty development programs to enhance faculty and health professionals' knowledge, skills, and attitudes in health literacy-related concepts, including health disparities, health communication, and determinants of health. Faculty must have a strong theoretical foundation in health promotion, illness prevention, and maintenance of a person's (individual, family, community) function in health and wellness. Faculty should engage students on issues of implicit bias, inequity, and historical to present day social injustices and inequality and how they contribute to disparate health outcomes. Such opportunity empowers them to take an active role in health literacy practices and policies needed at UMB and UMCP to improve health literacy competencies at the individual and organizational levels. Additionally, faculty training is critical in establishing knowledge that can then be taught to students. According to Jane Kirschling,

PhD, RN, FAAN (School of Nursing Dean), "faculty development could be a useful piece, and it might be something that could take place across the disciplines, so it doesn't necessarily have to be nursing health literacy or medicine health literacy." The UMB Faculty Center for Teaching and Learning, in conjunction with the new satellite office of the Horowitz Center for Health Literacy proposed below, could lead such an initiative on the Baltimore campus. These centers can collaborate with the Health Science and Human Services Library for resources and consult with health literacy/public health experts to develop evidence-based experiential workshops that are current, comprehensive, informed by research, and reflective of best practice.

Expand opportunities for real-world practice

As discussed in the Analysis section, more than 30 percent of UMB students and a convenience sample of UMCP SPH undergraduate students surveyed felt that they were not provided with adequate health literacy education opportunities (see page 10). Although knowledge of health literacy and health literacy communication principles is important for students, such knowledge cannot be fully translated to professional skill without dedicated practice. Though experiential learning is valuable, the majority of health literacy interventions are didactic in nature. UMB currently houses multiple examples of real-world practice that serve as excellent models and opportunities for further expansion and growth.

For example, the UMSOM hosts an annual Mini-Med School program designed to deliver health-related information to the general public. Efforts from other institutions have shown that mini-med schools increase health literacy in the community (Shatenko, 2020). In addition, mini-med schools also provide student and faculty awareness of health literacy and the opportunity to exercise best practices in health literacy and communication.

At present, the UMSOM Mini-Med program is a highly impactful yet relatively small effort in the scheme of the UMB campus, with only a select few students participating in a volunteer capacity each year. The program operates under the guidance of E. Albert Reece, MD, PhD, MBA, Dean of UMSOM, whose goal is to use education as a means of patient empowerment. "An educated consumer is our best customer," states

Dean Reece. "My goal is to educate the public – the more I educate someone about diseases, the more she will become engaged in her own health and the better she will do." The program has the potential to become an even more powerful experience, and should be expanded to include more students, including students of additional disciplines. Similar programs exist in other schools such as Nursing and Dentistry, and combining them would allow for a more impactful experience. Pharmacy students could deliver a session on common medication issues, dental students could engage in discussions about oral hygiene, and social work students could help connect participants with community resources, to name a few examples.

The University of Maryland Baltimore Health Alliance (UMBHA) is an additional platform for the practice of health literacy skills. The UMBHA is a student-run organization comprised of volunteers from the UMB professional schools. Its goal is to provide free education and health services to members of the West Baltimore community, and it offers a unique opportunity for students to serve our neighbors and relay health information. As such, it is a promising potential outlet for practice of health literacy principles in an interdisciplinary setting (see IPE recommendations below). All students participating in the UMBHA should be trained in health literacy and communication skills before working with community members. A training module delivered at orientation, for example, could be developed to serve this purpose.

Finally, education on health literacy principles should be applied to clinical rotations for applicable programs. Information sheets with fundamental health literacy principles including teach-back, avoidance of jargon, chunk and check methods, and others, could be made available to clinical preceptors and clerkship directors. Students could apply these principles when interacting with patients, such as during hospital discharge. Student-patient communication could be further emphasized with skills-based interventions, such as a discharge workshop focused on health literacy-sensitive communication skills.

Student-centered Learning Opportunities

Education on health literacy as a social determinant of health should go beyond the classroom. Faculty should develop service-learning opportunities, academic-practice partnerships, and innovative academic offerings across interdisciplinary health care

teams and with community partners. For example, the UMB Francis King Carey School of Law currently collaborates with the School of Social Work in the Law and Social Work Services Program Initiative. The program fosters interdisciplinary collaboration between future social workers and attorneys and operates on an integrated service model that provides holistic services to clients in the community. Thus, the UMCP SPH faculty should redesign and expand introductory IPE courses (SPHL100 and SPHL600) to include other disciplines of nursing, law, social work, dentistry, medicine, and pharmacy. These initiatives can leverage collaboration and synergy between UMB and UMCP and expand interprofessional education and health literacy education for health, law, and human services students. For instance, UMB has served Paul's Place community outreach center in Southwest Baltimore for more than three decades. The SPH can provide meaningful experiential learning opportunities at such community settings to improve student relationships with community partners, improve patient-centered communication skills, and translate evidence-based interventions for health literacy problems into practice. The newly funded SPH Office of Public Health Practice could be one place to advance this approach.

Increase the dissemination of evidence-based health literacy practices across the UMB community

An effort to improve the health literacy of the West Baltimore community, which UMB serves, must start with strategies to improve health-literate communication within our own ranks. One way to do this would be to incorporate health literacy education within existing systems to bolster professional development for faculty and staff, such as Continuing Education (CE) credits. Lessons on the importance of delivering health-literate care, as well as examples of best practices could be incorporated into Grand Rounds, or as part of the existing Dean Lecture and speaker series. By building on existing educational opportunities, UMB can conserve resources and increase access to health literacy education.

Similarly, health literacy training could be incorporated into Chancellor Jay A. Perman's, MD President's Clinic to promote team-based health care to students of medicine, nursing, dentistry, pharmacy, social work, and law. This experiential learning opportunity exposes students to patient care early in their education, and

models best practices for comprehensive and equitable care for patients within West Baltimore. Because the President's Clinic addresses social determinants of health, it is an ideal platform for the integration of health literacy practices.

Finally, UMB's Health and Human Services Library offers six modules centered around health literacy practices in patient care, cultural competency, and plain language communication. Expansion of these courses should be funded, and courses should be better advertised to students across schools. Faculty and staff could additionally be encouraged to incorporate these modules into their coursework.

Research

Establish research opportunities and funding for students and faculty to develop, implement, and evaluate interventions to improve health literacy.

Investing in health literacy-focused research is a crucial step in ensuring longitudinal commitment to health literacy at UMB. This can be done by designating funds specific to research in the field, and advertising research opportunities to students. The School of Medicine, as an example, supplies students with a list of mentors and projects as options for fulfilling the mandated research requirement. This list, as well as similar lists made available by other UMB schools, should include opportunities for health literacy research. Research initiatives that allow for collaboration across schools and disciplines are of particular importance. This collaboration should be further expanded to include both the UMB and UMCP campuses, which as previously mentioned partnered this summer through the MPower initiative to generate health literacy research. The two campuses should continue to prioritize a unified approach to health literacy research, as doing so allows for optimization of resources, opportunities, and quality of generated research. Specifically, UMB could develop a grant seed fund through the Health Literacy Satellite Center proposed below in the Collaboration section.

Establish a health literacy standard for research consent forms and study recruitment.

Incorporating health literacy principles into existing research initiatives is another key priority. UMB should develop a team tasked with analyzing research consent forms and promoting their readability, and training research staff in administering them in a way that facilitates comprehension. This team should include IRB team members, advisory council members, champion clinicians participating in clinical research, legal team members, and social workers. The Health Sciences and Human Services Library houses an existing service for reviewing consent forms and suggesting edits to improve readability. Additional staff could be added to deliver this service.

The university should additionally continue to prioritize campaigns to gain community members' trust in research participation. The School of Pharmacy's Pharmaceutical Health Services Research (PHSR) department is internationally renowned for work in patient-centered health outcomes, comparative effectiveness research, and resource utilization. Also based in the School of Pharmacy, the existing PATIENTS program works to build patient trust in patient-centered research on the UMB campus. This initiative should be expanded to other areas of research, and an emphasis should be placed on health literacy. Social workers can assist in this effort by conducting community assessments to understand community members' gaps in knowledge, beliefs and attitudes concerning their participation in research. The assessment results can be used to create digestible, accessible and inclusive content that addresses the information gaps. This can empower community members to become active in supporting and engaging in research by establishing a commitment to an equitable relationship between UMB and the community.

Community Engagement

Foster a trusting and understanding relationship between the community and the UMB campus.

Building trust with the community is a foundational step in creating a true commitment to health literacy, particularly in West Baltimore and Prince George's

County. Health literacy partnerships between clients/patients and professionals/providers require mutual understanding, empathy, and trust. The ten attributes of a health literate organization include meeting the needs of all and targeting high-risk populations (Brach et al., 2012). Thus, UMB and UMCP are responsible for meeting the needs of their communities.

For UMB to serve as a health literacy-conscious presence in Baltimore, the university must invest in ensuring that its students, faculty, and employees can relate to community members and demonstrate dedication to meeting their health needs. The university should provide an "Introduction to Baltimore" packet for all incoming UMB students to increase understanding of and investment in the community. Several faculty members on the campus have previously invested significant efforts in creating resources that align with this effort. Lori Edwards DrPH, RN, CNS-PCH, of the School of Nursing conducted extensive research to develop a video about the Baltimore community with the goal of dissemination across the UMB campus. Now outdated but still a valuable resource, this video is worth revisiting for use across UMB. Funding a student task force charged with assisting Dr. Edwards in revitalizing the video, compiling new resources, and working to integrate the content for all students at UMB would be a valuable asset to the university. The orientation packet could include not only the aforementioned video, but also a list of online resources or readings, and a book exploring the history of Baltimore, such as *Not in My Neighborhood* by Antero Pietila. This would not only help to provide students with an understanding and appreciation of the history of their city, but also show the community that they are invested in learning about and serving their neighbors. The overarching goal of this recommendation is to acclimate students to UMB's core values and our shared responsibility to address the health literacy needs of our community.

Within the School of Public Health (SPH) on the College Park campus, greater commitment could be shown to increasing the translation of health literacy principles to the community setting. An existing introduction to the history of the campus' surrounding community introduces the need for graduating health literate practitioners. The Fellows recommend expanding this within the SPH orientation, as well as in introductory courses such as SPHL100 and SPHL600. Like UMB, UMCP should provide an

“Introduction to Prince George’s County” packet and seminar for all incoming Public Health Students and pre-health students in an effort to understand local needs, build trust within the community, and engrain a commitment to partnership with the community. The faculty of the SPH have already leveraged community partnerships and resources to host an event called Mid-Maryland Missions of Mercy. This event promotes oral health literacy and health equity for residents of Prince George’s County and beyond who do not have access to dental care services, and allows students to volunteer through SPH. Also, many faculty members conduct research and service-learning projects within Prince George’s and other Maryland counties to improve community health literacy. While these are exemplary examples of existing work, more education and opportunities need to be developed and promoted so that all students understand the systemic and systematic determinants that affect health and health literacy within their community.

Establish a community platform through which locals may voice their health literacy needs.



MATTHEW "DAG" DAGOSTINO

UMB's Community Engagement Center (CEC) in Poppleton.

An important piece of community partnership is providing an outlet for voicing needs. As expressed by Bill McLennan of Paul’s Place, “true collaboration = shared values + shared vision + shared resources + trust.” To better understand the values of our community, UMB and UMCP must allow community members to share their thoughts and concerns. This can be done by appointing a spokesperson or champion to serve as a liaison between the community and the university. As noted by President’s White

Paper Symposium speaker Wilma Alvarado-Little, MA, MSW trusted individuals who can act as a bridge for relaying health information and receiving questions should be used to meet this need.

Promotion of a health literate environment at UMB and more broadly within the West Baltimore community requires the engagement of individuals in conversations about their health and wellness, treatment modalities, and general health needs. As discovered by the Community Engagement Center (CEC), knowing what exactly the community values is key. “A lot of our community events are about building trusting relationships with our neighbors so that they feel comfortable talking to us about their health,” notes Ashley Valis, MSW, of the CEC. The CEC facilitates an advisory board composed of West Baltimore community members who serve as champions in communicating concerns and needs. UMB should continue to strengthen these relationships and utilize the information obtained from this advisory group in further community engagement and health literacy initiatives.

Promotion of a health literate environment at UMCP and Prince George’s (PG) community requires the partnership and collaboration of community members and requires conversation about overall health and wellbeing. The Horowitz Center and SPH faculty are a part of the PG County Health Coalition. The PG County Health Coalition is composed of PG county residents and employees at healthcare groups that serve PG county. The coalition has different workgroups that tackle health equity and health literacy. Also, UMCP SPH has a Community Advisory Council that connects the school to the PG community. This is a diverse council of health officers, community representatives, presidents of local health organizations that creates a space for members to express their needs and concerns and foster a direct collaborative relationship. UMCP should continue to foster and strengthen these relationships, and amplify these opportunities to collaborate with the PG county community members to its students.

Improve accessibility and readability of health information within both the UMB and UMCP campuses and their relative communities.

Health information is often communicated to the community via written materials. When patients are

not comfortable reading that material, either because of different language preferences or limited reading skills, these handouts may not adequately meet their health needs. Thus, these handouts should be written in plain language, employ easy-to-understand graphics, address alternate language preferences, and present information that is comprehensible to the general population. Although resources currently exist at UMB and UMCP for addressing some of these issues, more resources could be dedicated to improving and expanding them.

Emphasize best health literacy practices in the ongoing COVID-19 vaccination campaign.



MATTHEW "DAG" DAGOSTINO

The vaccination clinic in the SMC Campus Center.

The COVID-19 pandemic provides a particularly timely opportunity to exercise health literacy principles in promoting community health. The presence of misinformation, disinformation, and information beyond the scope of many individuals' knowledge base has resulted in public confusion, suboptimal adherence to recommendations, and resistance to preventative measures such as mask-wearing and vaccination. Times such as these illuminate false beliefs, fears, and the often well-founded hesitance to place trust in scientific and authoritative figures. Because of historic exploitation and mistreatment in the realm of medicine, black and brown groups are particularly cautious to engage in what many consider experimental endeavors. This strengthens the need for trusted, reputable sources of information regarding the pandemic. Although a COVID-19 vaccination campaign is already underway in the state, this effort should be analyzed through the lens of health literacy principles.

Information distributed to community members should be reviewed to ensure its readability and

accessibility. Dissemination of accurate information about COVID-19 and vaccination is integral to fighting misinformation and fear. Media campaigns should use trusted community messengers who can engage with members of vulnerable groups. Patient concerns should be voiced, recognized, and acknowledged. Webinars and town halls hosted by UMB and UMCP should include esteemed members of the community in positions of public prominence, such as community physicians, pastors, and barbers. The SPH Maryland Center for Health Equity has hosted multiple town halls exemplifying this model. Investing in teaching prominent community members key information that they can spread to others is essential. The university should invest in funding and training these lay health educators to communicate health principles to their communities. The Mini-Med School referenced in the Education section above could serve as a potential home for such training.

Collaboration

Expand interprofessional learning opportunities to promote an interdisciplinary approach to health literacy education.



MATTHEW "DAG" DAGOSTINO

Eighth annual IPE Day (2020) at UMB.

An effort to improve health literacy education across the UMB community and to graduate competent, compassionate professionals across the university's professional programs could be facilitated by an interdisciplinary approach to health literacy education. The MPower initiative and this white paper project demonstrate how UMB and UMCP faculty and students can coalesce around common interests and model interprofessionalism. Jane Kirschling, Ph.D., RN, FAAN, Dean of the University of Maryland School of Nursing (UMSON), is the Director of Interprofessional Education (IPE) at UMB. She encourages UMB faculty and students to participate in IPE activities that improve health literacy skills to optimize patient care. According to Dean Kirschling: "We know that

team-based care doesn't exist in every health care encounter. And you have to take the cost and complexity of the health care situation into account. The more cost and complexity, the more likely you've got multiple providers, who ideally are working together to try to manage circumstances. So, we're really interested in team-based care and in providing opportunities for our students to come together."

First-year students across the schools of Medicine, Pharmacy, Dentistry, Nursing and Social Work already participate in four 3-hour IPE workshops meant to foster a supportive and collaborative environment that will improve patient care. Health literacy education could be incorporated into this program throughout the year. For example, after an initial introduction to health literacy, student teams could be assigned a patient to follow throughout the year and be asked to anticipate health literacy-related challenges that the patient could encounter when seeking care. These groups could additionally engage in activities that promote patient health literacy on a larger scale, such as developing instructional videos for patients to reference after discharge. IPE offers an opportunity for students from multiple disciplines to collaborate to improve patient care. Incorporating health literacy into IPE at UMB will increase exposure to health literacy principles across programs.

As previously mentioned, the UMB Health Alliance (UMBHA) serves as another platform upon which the interdisciplinary practice of health literacy principles and skills could be expanded. Each of the UMB schools could create a mandatory IPE experience through the UMBHA. Additional learning opportunities could be established for students to promote health literacy principles, including student-taught health-focused adult learning classes for the lay public. This would again be an opportunity for interdisciplinary collaboration across schools.

Expand the Use of Interdisciplinary Health Literacy Resources.

The UMB library team has compiled a comprehensive list of health literacy resources, including courses related to communicating in a way that is sensitive to varying levels of health literacy. These resources, in addition to being broadly applicable, also focus on particularly vulnerable groups such as non-native English speakers and individuals with special needs. Although these resources are available to every member of the UMB community, it would be more

beneficial to expand their use. The UMB Library and the Horowitz Center could share and cross-promote resources to faculty and students. Monthly email campaigns, akin to the "COVID Recovery Recap" emails that have been circulating in recent months, could increase awareness of these resources and educate the UMB community about their value.

Promote collaboration between UMB and UMCP Campuses.

The interprofessional collaboration between UMB and School of Public Health at UMCP during this white paper project highlighted the value of having complementary academic programs on health literacy for the two campuses. This interdisciplinary collaboration allowed both faculty and students from the health professions, law and social work to learn with, from, and about other professions through the cultivation of ideas and diverse perspectives on health literacy and IPE.

The UMCP and UMB campuses have existing academic and service centers that can sustain and further health literacy and IPE. The UMCP School of Public Health hosts the Horowitz Center for Health Literacy, a dedicated center that conducts interdisciplinary research in health communication and health literacy. The Horowitz Center, directed by Cynthia Baur, Ph.D., M.A., translates interdisciplinary research into education, policy recommendations, and community action. The President's Fellows recommend that the university administration support the expansion of the Horowitz Center to UMB by creating a satellite center. This Satellite center can house classes, host guest lectures, and serve as a dedicated space for efforts to integrate health literacy across the UMB campus. The center could also facilitate enrollment of UMB students in UMCP health literacy courses, such as HLTH688: Health Literacy. The satellite center would provide UMB students with access to professors, researchers, and resources at the Horowitz Center.

UMB should appoint a director for this satellite center in charge of advocating for the inclusion of health literacy across UMB/UMCP as a whole and orchestrating efforts to do so. This figure should also oversee the curricular enhancements mentioned in the Education section above, and integrate health literacy principles into IPE. Dr. Baur's expertise and success in overseeing the Horowitz Center for Health Literacy in College Park makes her a highly qualified candidate for this position.

Summary

Each of the recommendations listed above serves as a stepping stone on the path to a campus and a system that champions health literacy. Though bringing all of the recommendations to fruition immediately would be a noble effort, this may not be feasible. The following table depicts the highest-yield actions in order of priority as collectively determined by the President’s Fellows with faculty input. This may serve as a guide for determining allocations of energy and funding in the months to come.

Priority	Recommendation
1	Establish professional development for UMB faculty.
2	Establish a satellite campus of the Horowitz Center for Health Literacy on the UMB campus.
3	Hire a Director of health literacy initiatives to lead the satellite campus and promote collaboration between UMB and UMCP campuses.
4	Emphasize best health literacy practices in the ongoing COVID-19 vaccination campaign.
5	Advocate for accreditation changes.
6	Ensure early and systemic integration of health literacy principles in student education.
7	Expand opportunities for real-world practice.
8	Establish research opportunities and funding for students and faculty to develop, implement, and evaluate evidence-based interventions to improve health literacy.
9	Develop a UMB Student Orientation inclusive of health literacy and the social determinants of health.
10	Promote an interdisciplinary approach to health literacy education.

Promoting a health-literate society requires a system-wide approach. Similarly, becoming a health-literate institution requires a systems-level effort inclusive of each and every one of the seven schools at UMB and SPH at UMCP. Alash’le Abimiku, Ph.D., one of the presenters for the President’s Symposium speaker series, spoke of her four cardinal principles for supporting health literacy: improving the availability and use of health information, optimizing the use of health services, improving individuals’ knowledge to make decisions, and advocating for literacy. Many of these principles serve as the foundation for the above recommendations. In following these recommendations, UMB and UMCP invest in the future of health care through the professionals they develop, in the communities they serve, and in advocacy for optimal health literacy for all.

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Meet the Fellows



KELSIE CHALLENGER
She/her/hers
University of Maryland,
College Park

Kelsie Challenger is a senior, undergraduate student majoring in Community Health on the pre-medicine track at the

University of Maryland, College Park. Kelsie joined the 2020-2021 President's Fellows team to gain an interprofessional approach to health literacy as a key determinant in eliminating health disparities, improving quality of life, and increasing access to quality healthcare for all. Kelsie has found this experience to be career enriching and influencing how she communicates with patients and advocates on their behalf. She is excited about the structural and policy changes we recommend for UMB and UMCP to train future health professionals to improve the way they champion, communicate and care for their own patients and communities.



SONIA GALVAN, MSN, RN
She/her/hers
University of Maryland
School of Nursing

Sonia Galvan, MSN, RN is a second-year DNP student at the School of Nursing. She received her Bachelor of Science and Master of

Science degrees in nursing from Towson University. Sonia is interested in improving Maryland patient outcomes through understanding health literacy. Sonia is also both a bedside nurse and an associate professor at Harford Community College, where she works with undergraduate students to improve patient outcomes through educating new nurses. She hopes to use her knowledge of health literacy gained through this work to inspire her students and improve the quality of their community health and interpersonal communication learning. In her work with both patients and nursing students, she has been constantly reminded of the importance

of approaching patient care through a holistic and humanistic lens, with close attention to cultural competence and the social determinants of health.



DOMINIQUE GELMANN
She/her/hers
University of Maryland
School of Medicine

Dominique is a fourth-year student at the School of Medicine. She received her undergraduate degree in Physiology and

Neurobiology from the University of Maryland College Park in 2017. She is particularly interested in patient-centered care, health equity, and assessment of each of the variables that can impact well-being, including social determinants of health and health literacy. She is passionate about addressing the many factors that can influence an individual's ability to maximize health and participate in care, including environmental safety, access to resources, and patient-provider communication. She is also involved in Emergency Medicine and Critical Care research. Dominique enjoyed engaging in an interprofessional approach to promoting health literacy education as a President's Fellow, and is excited to translate what she learned to patient care as an Emergency Medicine physician.



ELISABETH FASSAS
She/her/hers
University of Maryland
School of Medicine

Elisabeth is a rising second-year medical student at the University of Maryland School of Medicine. She graduated

from the Johns Hopkins University with a major in Molecular and Cellular Biology and a minor in Social Policy in 2017, and received a MSc. in International Health Policy from the London School of Economics in 2018. She is particularly interested in the intersection between health policy, patient care, and the financial incentives in place for practitioners to deliver that care. Elisabeth joined the UMD Presidential Scholars team because she is passionate about determining how the University of Maryland can better serve the health of its neighboring Baltimore community. She is also the author of *Making Pre-Med Count: Everything I Wish I'd Known Before Applying (Successfully!) to Medical School*.



HENRY E. INEGBENOSUN, BSN, RN, CCRN
He/him/his
University of Maryland
School of Nursing

Henry E. Inegbenosun, BSN, RN, CCRN, is a fourth-year Doctor of Nursing Practice, Family

Nurse Practitioner student at the School of Nursing. He graduated magna cum laude from the University of Maryland School of Nursing with his Bachelor of Science in Nursing degree in 2015. He also received a professional certificate in Nursing/Health Professions Education and Care Coordination in 2020. Beyond textbook knowledge, Henry is aware of the negative implications of limited health literacy and the multiple determinants of health. His upbringing in Lagos, Nigeria, and Emergency Nursing experience give him a unique perspective on the topic and its disproportionate impact on economically and socially disadvantaged groups.

Henry believes basic health literacy is fundamental to every patient/family interaction across all disciplines. Thus, he is privileged to be a part of this collaborative initiative to foster upstream strategies that address health literacy as a social determinant of health.



KAREN JUNG
She/her/hers
University of Maryland
School of Dentistry

Karen is a second-year student at the School of Dentistry. She received her BS and MS in Electrical and Computer

Engineering at Carnegie Mellon University in 2016. Karen joined the 2020-2021 President's Fellow team in hopes of finding new ways UMB can tap technology as a communication channel for people with varied health literacy. In her previous research, she studied how common platforms like social media could be used to passively engage patients in their health. She also has worked on the use of artificial intelligence and machine learning algorithms for clinical care.

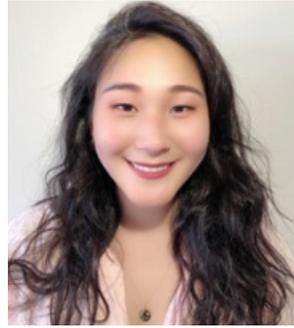


SAKIERA MALONE

She/her/hers
University of Maryland
School of Social Work

Sakiera Malone is a second-year student at the School of Social Work, where she's a Substance Use Disorder Intervention

Fellow (SUDIF). She graduated with her BS degree from St. John's University and MA degree from the University of Baltimore College of Public Affairs. She's completing her MSW degree with a clinical concentration and specialization in behavior health. Sakiera applied for the fellowship program to get an interprofessional perspective on how we can improve health literacy among underserved communities. Sakiera believes that health literacy is a predictor of overall health, and she's interested in exploring what can be done specifically in the social work profession to improve access to information and resources. Sakiera has worked as a virtual student federal service intern with the Indian Health Services, where she wrote about health literacy and developed communication material on vaping and tobacco usage targeting American Indian and Alaska Native adolescents.

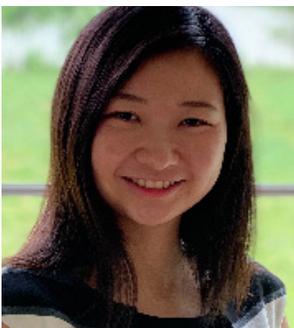


JOCELYN WANG

She/her/hers
University of Maryland
Francis King Carey School
of Law

Jocelyn is a second-year student at the Francis King Carey School of Law. She graduated from the

University of Washington with a BA in Economics and Political Science in 2019. She decided to apply for this program because it would provide her the opportunity to apply her undergraduate research in underlying causes of social issues as well as her brief foray into the health care field in her first two years of college. Jocelyn has limited experience in health literacy being a social determinant of health, but her knowledge of health literacy was influenced by her personal experiences along with her internship in hospitals as a COPE Health Scholar. In her previous research, Jocelyn studied how the presence of afterschool activities affected discipline rates in public schools in Washington.



ALICE Y. LU

She/her/hers
University of Maryland
School of Pharmacy

Alice is a fourth-year student at the School of Pharmacy. She received her BA in English Language and Literature

and BS in Biological Sciences from the University of Maryland, College Park in 2017. Alice joined the 2020-2021 President's Fellow team in hopes of learning from her interdisciplinary peers' thoughts on health literacy as a social determinant of health. She is especially interested in public health, scientific communications, and the intersection between health literacy and meaningful patient engagement. Upon graduation, she will begin her career in the biopharmaceutical industry.



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