The role of Social Determinant of Health (SDoH) and Health Related Social Needs (HrSN) data in addressing Cancer health Disparities (CHD) Think Global act local through Project No One Left Alone

Kashyap Patel; Zara Ward; Hirangi Mukhi; Maharshi Patel; Emma Gilespie; Ashima Kodali; Powers Thaddeus Norrell; Resha Kodali; Seeley Spaulding; Ola Jane Gulledge; Sandra Nixon; Dhwani Mehta; Asutosh Gor; Niyati Nathwani; Viral Rabara; ; Avni Kodali; Anjana Patel; Carson Gallo; Zoe Gobeille, Lovelle Smith; Joseph Desimone, Priya Mathur

Background: According to the NCI, Cancer health disparities (CHD) are defined as adverse differences between certain population groups in cancer measures, such as: incidence (new cases), prevalence (all existing cases), morbidity (cancer-related health complications), mortality (deaths), survivorship and quality of life after cancer treatment, burden of cancer or ... (NCI)1

Cancer disparities reflect the interplay among many factors, including social determinants of health (SDoH)2, behavior, biology, and genetics—all of which can have profound effects on health, including cancer risk and outcomes. (NCI)1

Despite understanding and knowing about CHD for over five decades since the establishment of SEER3 in early part of 1970s, the progress has been slow in addressing the factors and impact of CHD on disadvantaged and marginalized population groups. In the monumental inaugural report, AACR Cancer Disparities Progress Report 20204 Steering Committee and the AACR Minorities in Cancer Research Council (representing the collective effort of a number of the world's foremost thought leaders in cancer health disparities research provided a comprehensive baseline understanding of the progress that's been made toward recognizing and eliminating cancer health disparities from the standpoint of biological factors, clinical management, population science, public policy and workforce diversity. The COVID-19 pandemic has exacerbated existing cancer health disparities because of the disproportionate impact of COVID-19 on racial and ethnic minorities and other underserved populations.

Covid 19 associated Global Public health Emergency (GPHE) has brought to surface many public and population health issues. The most glaring issue it brought was the vulnerability of humanity to an unknown biological factor that can bring down the entire human race to a screeching halt. More glaring was disparities and difference in susceptibility of different ethnicities not only to virus and infection but also massive disparities in prevalence, biology, prognosis and outcomes of cancer based on socio economic background and social determinants of health (SDoH). CHD has been debated and discussed at several levels beginning from multiple local counties to congressional and senate level as well as CMS. However outside of debates and recommendations, a clear path forward is difficult to carve out due to complexities of the factors involved in leading to disparities that include but not limited to access to care due to financial reasons, biological and genetic factors, access to screening, access to NGS testing, access to clinical trials and impact of SDoH.

At the CBCCA, our team decided to study issue in depth and bring solutions of one step at a time under the broader umbrella of No One Left Alone (NOLA) Project. A comprehensive approach (after very detailed analysis of multiple factors leading to CHD) was developed and as a part of stepwise implementation plan was created. This included attending to each factor leading to CHD at a local level with development and Implementation of Innovative Interventions under to project "No One Left Alone" to identify and address Cancer Health Disparities (CHD) for Medically Underserved Communities in the counties of York, Chester, Kershaw, Chesterfield and Lancaster in the South Carolina, regardless of ability to pay, in accessing all things related to cancer – screening, diagnostics, treatment, resources, insurance options, as well as emotional, social and spiritual support – in an effort to reduce preventable mortality - early mortality and significant individual and community financial burden.

Contributing factors

Factors contributing to these disparities are complex and multifactorial. In addition to systemic level factors inherent to multiple complex healthcare administrative and coverage structure,

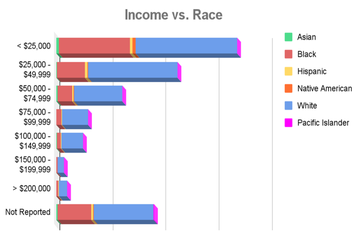
At the health Care delivery level

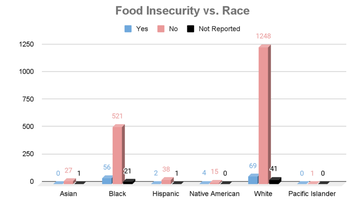
- Access to care in underserved area
- Access to screening
- Precision Medicine Related: Access to testing
- Lack of big data – leading to ineffective drugs
- Economic factors, out of pocket cost
- Access to clinical trials
- Implicit and Explicit biases from providers and healthcare teams

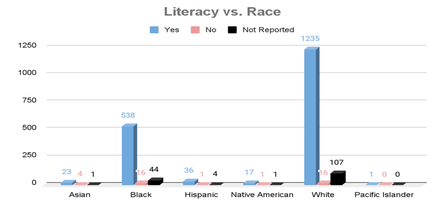
Systemic Factors leading to disparities

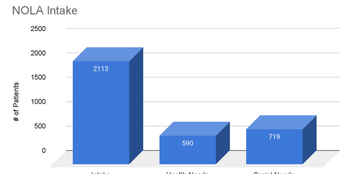
- Structural racism
- Disparities in health care access,
- Insurance status,
- Socioeconomic status,
- Education and health literacy
- Cultural and lifestyle
- Providers' implicit bias harmacogenomic
- SDoH

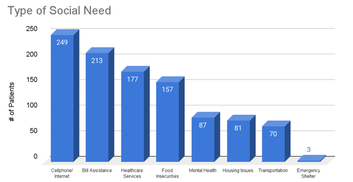
Results:

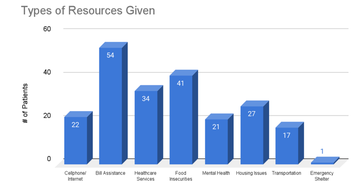


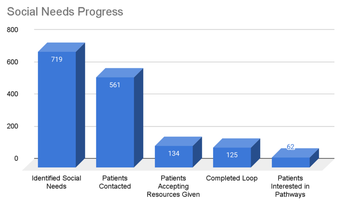


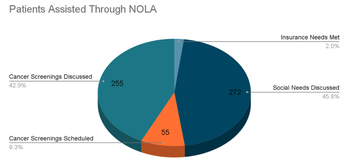


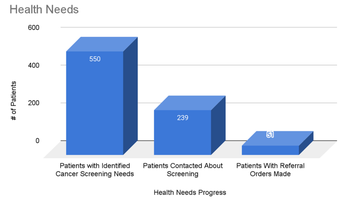


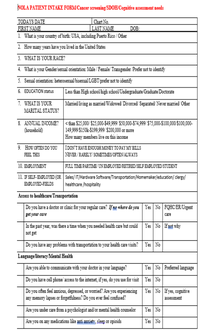


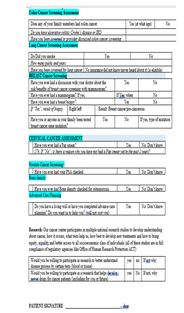


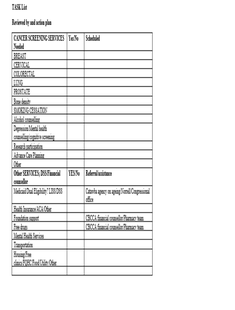


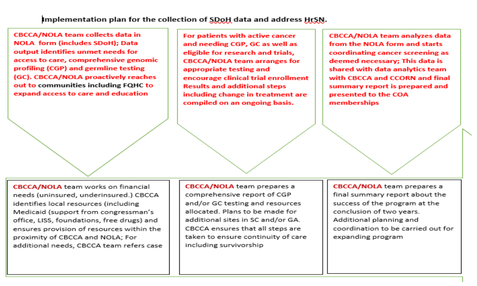












No Insurance	Identify if patient qualifies for any state or federal program (i.e., Medicare, Medicaid, etc.); **ACA fund**	Help complete all forms for program. Create path for facilitation. Legislative assistance to navigate including **legal funds (NOLA)**
Medicaid Program	Verify benefits; when not covered, make a legit case for **LISS, dual eligible (CBCCA/NOLA)**	Verify prescribed tests/medication(s) are approved/indicated for diagnosis;
Medicare: Eligible (63; disabled)	Verify eligibility; benefits: if not, guide patients about how to enroll; seek **assistance for part B premium**	Verify if patient is retiring soon; If so and has Part A only, provide guidance for part B and medigap; **look at dual eligibility-NOLA/CBCCA**
Medicare: Part A / B	Identify if patient is dual eligible for Medicaid or Medicare Secondary Payer plan. If so, provide resources.	If not eligible, look at Medicare supplemental plan with a short waiting period (3 months max). **Foundations for medigap payment;**
Medicare: Age 65 and retired with a Medigap	Generally, all services are covered; ensure benefits verification and Eligibility	Identify if patient is eligible for Medicaid or a Medicare Supplemental Payer plan. If so, help patient complete and submit applicable form; add plan D or LISS
Medicare: Advantage Plan	Go over insurance plan with patient; identify where they can save dollars (i.e., changing insurance, if applicable). Open enrollment	If changing back to Medicare, add a Part D plan and supplemental plan. If changing Advantage Plan, facilitate appropriate plan
Commercial and Ex-changes	Verify prescribed medication(s) are approved/indicated for diagnosis/place in therapy and submit pre-determination or prior authorization if necessary	Identify if free medication(s) is available, when necessary; complete and submit applicable form(s). Identify patient's responsibility for prescribed medication(s).
All eligible cancer patients from counties	**CBCCA/NOLA team will proactively reach out to local community free clinics, FQHC to create culturally appropriate educational material regarding NOLA pilot (access to care, CGP, GC testing and screening) to ensure access to care on a continuous bases; appropriate referrals will be made to for case management, psychosocial needs and other financial needs. Once treatment is completed, seamless transition for survivorship care with PCP and other referring MDs**	will carry out need assessment for supplemental resources including financial assistance; counseling, support groups and other available resources

Discussions: Importance and relevance of Social Determinants of Health in addressing CHD: Social determinants of health (SDOH) — including level of education, occupation, income, sex, race, ethnicity, place of residence, access to food as well as access to health maintenance resources and social support presence, among others — have been strongly linked to cancer prevalence, outcomes, and rates of morbidity, mortality, and survivorship. Less favorable SDOH have also been shown to impact access to care, representation in clinical trials, and the ability to fully participate in health care decision making and treatment financing. Ethnically diverse populations suffer from multiple factors that cumulative result in the lack of access to adequate measures interfering with cancer diagnosis and treatment. This includes reduced screening rates and staging at diagnosis along with the financial challenges people often face following a diagnosis of cancer. Our unique approach of identifying multiple factors limiting access to care, transportation, food insecurity (and other similar factors) and addressing them by connecting patients to local philanthropic organization is a feasible option and perhaps can fill the gap in unmet HrSN. There is a need to study the impact of social determinants of health (SDoH) and address them appropriately as a very important step in bringing Failure to address these will lead to drug development processes lacking demographic diversity in clinical trials.

References:
https://www.cancer.gov/about-cancer/understanding/disparities. Accessed June 6 2021
https://health.gov/healthypeople/objectives-and-data/social-determinants-health. Accessed June 6, 2021
https://seer.cancer.gov/ Accessed June 6, 2021
https://cancerprogressreport.aacr.org/disparities/ Accessed June 6, 2021
An assessment of progress in cancer control; Siegel RL, Jemal A, Wender RC, Gansler T, Ma J, Brawley OW; CA Cancer J Clin 2018; 68:329–39.
American Cancer Society Cancer Action Network. Cancer Disparities: A Chartbook. Washington, D.C.; American Cancer Society Cancer Action Network, Inc.; 2018.