

Architecture of the Chicago Cancer Health Equity Collaborative – A Partnership Delivering Transformative Cancer Health Equity Research, Education and Community Engagement

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ABSTRACT: Reducing cancer health inequities requires transformation of longstanding structures, including ways of 'doing business' and other deeply rooted traditions that perpetuate social injustice. We posit that moving the needle toward cancer health equity requires the building of large-scale partnerships with the infrastructure and reach to reshape the architecture defining how education, training, and research are conducted. It is with this vision that the Chicago Cancer Health Equity Collaborative (ChicagoCHEC) was conceived in response to a call for proposals by the National Cancer Institute (NCI) in 2015 that sought applications for a partnership across a NCI designated comprehensive cancer center and up to two institutions serving underserved health disparity populations and underrepresented students. ChicagoCHEC was conceived as a tri-institutional partnership comprised of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University, a NCI-designated Comprehensive Cancer Center which serves a diverse nine county catchment area, Northeastern Illinois University, a minority-serving institution known for its connection to minority students, and the University of Illinois Cancer Center at the University of Illinois at Chicago (UIC), a minority-serving institution and leader in community-focused cancer care and disparities research. Established in 2016, ChicagoCHEC is comprised of four functionally distinct cores that together serve the mission of advancing cancer health equity through meaningful scientific discovery, education, training, and community engagement. The successful functioning of ChicagoCHEC is evident from the fruits borne by the partnership in research, education, and community engagement toward the goal of eradicating cancer health inequities. **KEYWORDS:** cancer health equity; cancer health disparities;

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Reducing cancer health inequities requires transformation of longstanding structures, including ways of 'doing business' and other deeply rooted traditions that perpetuate social injustice. We posit that moving the needle toward cancer health equity cannot be done in isolation but rather requires the building of large-scale partnerships with the infrastructure and reach to reshape the architecture defining how education, training, and research are conducted. Key to success is the forging of authentic partnerships, rather than mere top-down relationships, between scientists and educators at academic institutions, representatives of community organizations, and other stakeholders.

It is with this vision that the Chicago Cancer Health Equity Collaborative (ChicagoCHEC) was conceived in response to a call for proposals by the National Institutes of Health (NIH)/ National Cancer Institute (NCI) in 2015 (National_Cancer_Institute, 2015). The funding announcement, PAR-15-103, sought applications for a partnership across a NCI designated comprehensive cancer center (CC) and up to two institutions serving underserved health disparity populations and underrepresented students (ISUPs). It was envisioned in the program announcement that the partnership would be mutually beneficial to the CC and the ISUPs, bringing increased diversity among the students, faculty and investigators conducting cancer research as well as increased emphasis on cancer health equity, with a focus on inclusion at the CC and provision of the ISUPs with an elevated national profile and access to the expertise and cutting edge technology at the CC.

We immediately recognized the importance of forging such a partnership that could fortify cancer

health equity research, education, and community engagement in the Chicago area. Chicago is one of the most segregated cities in the US with numerous pockets of impoverished and resource poor areas (US_Census_Bureau, 2018), and it is rife with cancer health inequities. The majority of residents in Chicago are underrepresented minorities – approximately a third are African American and a third are Hispanic (US_Census_Bureau, 2018). Compared to whites, racial/ethnic minorities in Chicago experience health disparities in major cancers (e.g., breast, cervical, prostate, lung, and colorectal cancer), despite the presence of five major medical centers in the metropolitan area; observed cancer health disparities include increased rates of cancer incidence and mortality, and later stage of diagnosis (Center_to_Reduce_Cancer_Health_Disparities, 2004; Chicago_Department-of_Public_Health, 2017; Formigoni et al., 2017; Garner and Shen, 2018; Pallok et al., 2019).

ChicagoCHEC was conceived in response to the PAR-15-103 funding announcement as a tri-institutional partnership comprised of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University (NU), a NCI-designated Comprehensive Cancer Center which serves a diverse nine county catchment area, Northeastern Illinois University (NEIU), a minority-serving institution known for its connection to minority students, and the University of Illinois Cancer Center (UICC) at the University of Illinois at Chicago (UIC), a minority-serving institution (MSI) and leader in community-focused cancer care and disparities research. Established in 2016, the organizational structure of ChicagoCHEC is comprised of 4 functionally distinct cores that together serve the mission of advancing cancer health equity through meaningful scientific

discovery, education, training, and community engagement. In brief, the *Research Education Core* functions to build a pipeline of summer student fellows focused on reducing and eliminating cancer health disparities; the *Community Engagement Core* serves to enhance community engagement, cancer education, and survivorship support, and helps to build the research capacity of our community partners; the *Planning and Evaluation Core* initiates and monitors new and ongoing projects, monitors the progress of our Early Stage Investigators (ESIs), and evaluates ChicagoCHEC's progress toward realizing the goals of its mission; and the *Administrative Core* provides the overall leadership, administrative management, and program coordination of ChicagoCHEC.

In the governance model operative in ChicagoCHEC, guidance is provided to the cores by the NCI and three distinct steering bodies. The *Program Steering Committee* (PSC) is the external evaluating board for ChicagoCHEC partnership activities and accomplishments toward realizing the goals of its mission; the *Internal Advisory Committee* (IAC) is an internal evaluating board that is structured to ensure that the goals and objectives of the ChicagoCHEC partnership are met; and the *Community Steering Committee* (CSC) is a body with representation from more than 30 community organizations serving vulnerable populations in the Chicago area that functions to ensure that community engagement activities are done in true partnership with those engaged.

The successful functioning of the governance model and organizational structure of ChicagoCHEC is evident from the fruits borne by the partnership in research, education, and

community engagement toward the goal of eradicating cancer health inequities. The vibrant collaborative relationships forged amongst NU, NEIU, and UIC by ChicagoCHEC have increased the cancer research capacity at the ISUPs and reinforced the commitment of the CC at NU to the mission of eradicating cancer health disparities. Innovations in community engaged research advanced by ChicagoCHEC are exemplified by the recruitment of African American men as citizen scientists to validate a biomarker for prostate cancer (Watson et al., 2019), adaption of a smoking cessation program to increase participation by LGBTQ smokers (Matthews et al., 2019), and development of an mHealth tool for persons with disabilities and cancer (Magasi et al., 2019). Innovations in education and training include the ChicagoCHEC Research Fellows Program which contrasts with traditional healthcare career STEM pipeline programs insofar as, rather than being paired individually with one mentor, the Research Fellows advance through the summer as one cohort with exposure to a wide array of transdisciplinary researchers. Strengths of this model include exposure of fellows to a variety of healthcare career options, facilitation and support of the beginning of mentor-mentee relationships, and social and professional network development between fellows and program lecturers and leaders (Taylor et al., 2019). Following this broader summer experience, the fellows have a subsequent opportunity to have a dry or wet lab immersion experience where they are paired with an individual mentor. Finally, community engagement is at the heart of the cancer health equity mission of ChicagoCHEC, and the Community Engagement Core purposefully fosters group dynamics that break with tradition with the goal of leveling the playing field amongst

academic institutions, researchers, community residents and leaders, health care providers, and community organizations so that all voices are heard and counted (Giachello et al., 2019).

In summary, we applaud the wisdom of initiatives such as NCI's Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) that seek to break with traditional models by supporting large scale partnerships with the scale that allows the establishment of new architectural elements designed to drive the eradication of health inequities. We are gratified that we have been afforded the opportunity to realize this vision in a metropolitan area with steep cancer health inequities through the establishment and continued development of ChicagoCHEC, a thriving partnership model wherein representatives of academic institutions, researchers, community residents and leaders, health care providers, and community organizations give voice to their concerns and priorities and collectively engage in research and education initiatives squarely aimed at reducing health disparities.

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Conflict of interest

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Authors' contributions

.All authors are affiliated with ChicagoCHEC, and each substantially contributed to the writing and editing of the manuscript.

REFERENCES

- Center_to_Reduce_Cancer_Health_Disparities (2004). Economic Costs of Cancer Health Disparities. <https://nciphub.org/resources/434/download/NCLeconomiccosts.pdf> Accessed on June 20, 2019.
- Chicago_Department-of_Public_Health (2017). Chicago Health Atlas. <https://www.chicagohealthatlas.org/> Accessed on June 20, 2019.
- Formigoni, L., Koch, L., Garner, K., and Bostwick, J. (2017). Cancer in Illinois 2017. Springfield, IL: Illinois Department of Public Health. <http://www.dph.illinois.gov/sites/default/files/publications/cancer-illinois-2017-102417.pdf> Accessed on June 20, 2019.
- Garner, K., and Shen, T. (2018). Illinois County Cancer Statistics Review Incidence, 2011-2015 Springfield, IL: Illinois Department of Public Health. <http://www.dph.illinois.gov/sites/default/files/publications/ers18-04-county-cancer-statistics-review-2011-2015-091018.pdf> Accessed on June 20, 2019.
- Giachello, A., Watson, K., Stuart, M., Barcelo, H., Glenn, J., Wang, S., Navas-Nacher, E., Nava, M., McKoy, J., De la Riva, E., et al. (2019). Community-Academic Partnerships to Reduce Cancer Inequities: The ChicagoCHEC Community Engagement Core. *Prog Community Health Partnersh*, in press
- Magasi, S., Banas, J., Horowitz, B., Panko Reis, J., The, K., Wilson, T., and Victorson, D. (2019). WeCanConnect: Development of a community informed mHealth tool for people with disabilities and cancer. *Prog Community Health Partnersh*, in press.
- Matthews, A., Breen, E., Veluz-Wilkins, A., Ciecierski, C., Simon, M.A., Burrell, D.I., and Hitsman, B. (2019). Adaptation of a proactive smoking cessation intervention to increase Tobacco Quitline Use by LGBT smokers. *Prog Community Health Partnersh*, In press
- National_Cancer_Institute (2015). Comprehensive Partnerships to Advance Cancer Health Equity (CPACHE) (U54). <https://grants.nih.gov/grants/guide/pa-files/PAR-15-103.html>. Accessed on May 13, 2019.
- Pallok, K., De Maio, F., and Ansell, D.A. (2019). Structural Racism - A 60-Year-Old Black Woman with Breast

Cancer. *N Engl J Med* 380, 1489-1493 <https://www.ncbi.nlm.nih.gov/pubmed/30995369>

Taylor, S., Iacobelli, F., Luedke, T., Matthews, A., Monge, M., Cooper, J., Moreira, J., Grippo, P., Girotti, J., Molina, Y., *et al.* (2019). Improving Healthcare Career Pipeline Programs for Underrepresented Students: Program Design that Makes a Difference. *Prog Community Health Partnersh*, in press.

US_Census_Bureau (2018). 2013-2017 American Community Survey Five-year Estimates. <https://www.census.gov/newsroom/press-releases/2018/2013-2017-ac-5year.html>. Accessed on May 13,2019.

Watson, K.S., Henderson, V., Murray, M., Murphy, A.B., Ben Levi, J., McDowell, T., Holloway-Beth, A., Gogana, P., Dixon, M.A., Moore, L., *et al.* (2019). Engaging African American men as Citizen Scientists to Validate a Prostate Cancer Biomarker: Work-in-Progress. *Prog Community Health Partnersh*, in press.