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Institutional Alliances to Reduce Cancer Disparities in Chicago

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Abstract

A partnership formed between Northeastern Illinois University (NEIU) and the Robert H. Lurie Comprehensive Cancer Center of Northwestern University sought to address well-documented cancer health disparities in Chicago by developing a collaborative research, training, and educational infrastructure between a minority-serving institution and a National Cancer Institute

designated comprehensive cancer center. With a critical examination of partnership documentation and outputs, we describe the partnership's community-engaged approaches, challenges, and lessons learned. Northeastern Illinois University and the Lurie Cancer Center engaged in a yearlong partnership-building phase, identified interdisciplinary research teams, formed a governance structure, and identified collective aims. Partnership outcomes included funded inter-institutional research projects, new curriculum, and an annual research trainee program. Significant challenges faced included uncertain fiscal climate, widespread turnover, and dissimilar institutional demands. Lessons learned from this minority serving institution and comprehensive cancer center partnership may be useful for bridging distinct academic communities in the pursuit of ameliorating health disparities.

Keywords

Cancer disparities; institutions; partnerships; training; education

Despite major strides in cancer research over the past three decades, racial and ethnic minorities in the U.S. still have disproportionately higher incidence and mortality rates for some cancers than non-Hispanic White populations.^{1,2} Complex factors contribute to health disparities and there has been a gradual shift toward approaching these complexities with transdisciplinary research, education and training collaborations.^{3,4} In an effort to address cancer health disparities, the National Cancer Institute (NCI) offers funding mechanisms that support collaborations between Minority Serving Institutions (MSIs) and NCI-designated Cancer Centers (NCI-CCs).³ The Feasibility Studies for Collaborative Interaction for Minority Institution/Cancer Center Partnership (P20) grants are one of the mechanisms offered. P20 partnership awards act as incubators for MSI/NCI-CC collaborations, with targeted aims to enhance cancer-related research, training, career development, education, and/or outreach.⁴⁻⁶

Minority Serving Institution/NCI-designated Cancer Center collaborations have produced a wealth of transdisciplinary research and training opportunities.⁵⁻⁷ Initiatives such as these however, have also been subject to critique; collaborative research programs have been described as labor-intensive, conflict-prone, and highly dependent on contextual circumstances for success.⁸ As these types of collaborations continue to flourish, additional examination of the processes of forging partnerships—especially between *academic institutions that have distinct communities, cultures, and missions*—is warranted to illuminate the conditions that may foster or hinder the effectiveness of inter-organizational interdisciplinary partnerships. Partnerships through P20 MSI/NCI-CC have the potential to embrace collaborative approaches that equitably involve all partners in the research process, recognize the unique strengths that each institution brings, and combine knowledge with action toward the elimination of health disparities.⁹ Such was the target in 2010, when Northeastern Illinois University (NEIU) embarked on its first P20 partnership with the Robert H. Lurie Comprehensive Cancer Center of Northwestern University (Lurie Cancer Center) to form the NU-Northeastern Illinois Guild for Health Behavior Oncology Research & Science (NU-NEIGHBORS).

This manuscript describes approaches in organizational collaboration and stakeholder engagement to develop a collective research, training, and educational infrastructure between a public, minority-serving teaching-intensive university (NEIU) and an NCI-designated comprehensive cancer center nested within a private research-intensive institution (Lurie Cancer Center). Here, we critically examine our collaborative processes, outcomes, and challenges in forging this MSI/NCI-CC partnership, and share lessons learned for bridging distinct academic communities in the pursuit of ameliorating health disparities in Chicago.^{9–10}

Methods

NU-NEIGHBORS partnership

The NU-NEIGHBORS partnership leverages the strengths and cancer expertise of the private research-intensive institution (Lurie Cancer Center) with those of the public teaching-intensive institution (NEIU) (Box 1). The individual strengths of the partnering institutions set the foundation for a unique cancer research, education, training, and outreach infrastructure.

Box 1

INSTITUTIONAL ATTRIBUTES

Robert H. Lurie Comprehensive Cancer Center of Northwestern University	Northeastern Illinois University
<ul style="list-style-type: none"> • 1 of only 41 NCI comprehensive cancer centers in the country • Over 250 faculty members who engage in a broad range of basic, translational, clinical, and population science research • World class research in cancer prevention and control, epidemiology, chemoprevention, behavioral science, costs and patterns of oncology-related treatment, measuring, analyzing, and interpreting quality of life, palliative care & rehabilitation • Office of Health Disparities and Special Populations Initiatives coordinates efforts to address cancer disparities • Access to thirteen shared resource facilities that support research activities • Affiliations with teaching hospitals across Chicago • Over \$158 million dollars in annual extramural funding 	<ul style="list-style-type: none"> • Ranked the most ethnically diverse university in the Midwest, <i>U.S. News & World Reports</i> • Among the most affordable public universities in Illinois with full-time tuition cost of approximately \$3,746 per semester for Illinois residents • 32% of full-time faculty are racial/ethnic minorities • English is not the first language of more than half of NEIU's students • NEIU's various departments and equal opportunity office have several links to community organizations representing a wide range of sectors of society (e.g., human services, health, public policy organizations) • Main campus and two satellite campuses located in ethnically diverse Chicago neighborhoods • More than 40 undergraduate majors

Northeastern Illinois University (NEIU)—Northeastern Illinois University is a public institution that provides affordable education to a diverse student body and has strong relationships with community organizations and public schools throughout Chicago. The

public university has a strong history of educating educators, and until very recently, was the only recognized four-year Hispanic Serving Institution in the Midwest.¹¹ Northeastern Illinois University ranked sixth in the U.S. for Best Investment in *Newsweek's* College Rankings 2012.¹² It offers over 80 undergraduate and graduate programs on five campuses to a diverse student body, of which 31.2% are Hispanic, 10.1% are African American, 8.8% are Asian, and 4.2% are international students. Its mission to “prepare a diverse community of students for leadership and service in our region and in a dynamic multicultural world” and vision to “be a leader among metropolitan universities, known for its dedication to its urban mission, for the quality of its programs, for the success of its graduates, and for the diversity of its learning environment,”¹³ [www.neiu.edu/about/mission-vision] reflect NEIU’s core values.

Lurie Cancer Center—Located in downtown Chicago, the Lurie Cancer Center is one of 41 NCI-designated “comprehensive” cancer centers in the nation.¹⁴ The cancer center conducts basic, translational, and clinical research, while providing a full range of cancer services to patients that include prevention, early detection, treatment, rehabilitation, and palliative care. The Lurie Cancer Center is affiliated with four teaching hospitals in Chicago. With its dedication to “scientific discovery, advancing medical knowledge, providing compassionate state-of-the-art cancer care, and training the next generation of clinicians and scientists,”¹⁵ [cancer.northwestern.edu/aboutus/mission.cfm] the Lurie Cancer Center is the focus of cancer research, treatment and education at Northwestern University (NU).

Community setting: Chicago—Northeastern Illinois University and the Lurie Cancer Center are located 8.5 miles apart in the city of Chicago. The third most populated city in the U.S.,^{16,17} the U.S. Census estimated that 57% of Chicago’s population consists of racial and ethnic minorities and 21% were foreign-born, of which nearly half (47%) report their specific origin as Mexico.^{17,18} Chicago is subdivided into 77 diverse community areas, some of which face striking disadvantages in health and available health services and resources. For example, the south and southwest regions of Chicago exhibit high breast cancer mortality rates, but few breast health services such as mammography sites exist for women in these areas.¹⁷ Notably, breast cancer mortality rates for African American women in Chicago are double the rate for non-Hispanic White women.¹⁹ With five major academic research-intensive institutions in the city, there has been a conscious effort to conduct research in the field of cancer. Nevertheless, Chicago faces persistent cancer disparities, suggesting the need to redesign the traditional paradigm of how institutions collaborate to reduce such long-standing disparities.

Data sources

Our reflection of the partnership’s collaborative processes, outcomes, challenges, and lessons learned stemmed from critical examination of primary source documents and project outputs (i.e., meeting agendas and minutes, partnership e-mail communications, progress reports, workgroup summaries). These data sources were documents and records generated between 2010–2014 in the partnership-formation phase, up through the third year of the P20. Two authors (MS—principal investigator and EM—project manager, both from NU) and a research staff member unaffiliated with the P20 partnership reviewed source documents

using a data abstraction guide that categorized relevant textual information into three domains: (1) partnership development and stakeholder engagement activities; (2) accomplishments and milestones with respect to the partnership's shared aims; and (3) challenges and lessons learned. Data included in the first domain were synthesized to assemble a timeline of the partnership's early stage development, governance model formation, shared aims, and communications/interactions. Progress toward the shared aims with respect to the second domain was quantified when possible. Challenges and lessons learned were grouped into higher order themes that were then discussed and refined by all authors in a series of partnership meetings, conference calls, and email communications until consensus was reached on the main points for inclusion in this manuscript.

Results

Early stage development

When NCI released the P20 funding announcement, senior leadership within the Lurie Cancer Center reached out to its senior and junior level investigators who had interests in health disparities research. Also at this time, Lurie Cancer Center's Office of Health Equity reached out to NEIU's Office of Research and Sponsored Projects, who in turn contacted NEIU deans and faculty they deemed might be interested in exploring the potential of submitting a joint application. The cancer center recognized the importance of collaborating with a MSI as a key tenant to engaging a wide variety of communities and NEIU deans recognized the value added in building their institution's research capacity.

After a series of initial meetings, four principal investigators were identified to lead the P20 application process, whereby faculty members from both NU and NEIU were encouraged to complete a match matrix based on their interests and strengths within the area of cancer disparities research. Faculty from NEIU and NU matched during this process submitted pilot project proposals to the lead principal investigator team. Proposals were required to be on topics relevant to social science research and cancer disparities and to introduce new project ideas, designed for the purpose of obtaining preliminary data that would support an eventual R01, R21, or R25 grant application. The lead principal investigator team selected three pairs of inter-institutional faculty members to pursue P20 grant research pilot projects based on the following criteria: 1) quality of research question and design; 2) adherence to programs goals; 3) potential for leading to external funding; and 4) degree of capacity building among NEIU/Lurie Cancer Center faculty.

To foster a partnership-building phase, the Lurie Cancer Center provided a year of seed funding to each of the inter-organizational interdisciplinary pilot projects and a series of meetings were held between the lead principal investigator team and the pilot project teams to create an overarching strategy for the grant application and vision for a formal partnership. This partnership-building period was intended to build team trust and strengthen the working relationship across core team members; it set the tone and laid the foundation for a productive partnership as this group moved forward and enabled a competitive joint proposal.

In addition to the faculty members collectively writing and submitting the P20 application, it was also essential that the Offices of Sponsored Research at Lurie Cancer Center and NEIU work together to build a budget with equanimity across institutions.

Establishing a minority institution/cancer center partnership governance model

The partnership was structured to proceed with maximum efficiency following the receipt of the P20 award. In particular, multi-organizational governance networks have been known to increase capacity for teams to address complex problems.²⁰ Therefore, and with the goal of assuring trust, shared decision-making, expectations and communication, a shared governance model was established between NEIU and Lurie Cancer Center collectively to create shared policies, procedures, and partnership evaluation. This governance structure included an Internal Advisory Committee (IAC) and Community Steering Committee (CSC) that met quarterly to guide the institutions through the partnership process (see Figure 1).

The IAC consisted of the four lead principal investigators and four additional senior leaders, with equal number of principal investigators and senior leaders from each institution. The senior leaders for the IAC were chosen to pair with, and mentor, junior and mid-career level investigators. They were also chosen with respect to rounding out the strengths and balancing the interests and missions across the two institutions. At NEIU, the Dean of the College of Education and the Dean of the College of Arts and Sciences provided natural alignment for this committee, and were advantageously positioned to support faculty in navigating the complexities of integrating research into a full teaching load and researching a topic less commonly taught and studied at NEIU. The Lurie Cancer Center Director was selected as an IAC member because of his ongoing support and championship for the partnership during the partnership-building phase and for his ability to help leverage philanthropic resources. The Associate Dean for Faculty Recruitment and Professional Development of the NU Feinberg School of Medicine was also selected to serve as an IAC member because of his expertise in faculty development and mentorship. Collectively the IAC was responsible for ensuring that the goals and objectives of the partnership are being met, reviewing the mentoring goals of faculty members, and reviewing each pilot project and its contribution to the overarching goals.

While the IAC advises the collaboration in creating aims and objectives that are meaningful to each institution, the CSC advises the collaboration in creating research and educational ventures that were meaningful to the Chicago community. To establish the NU-NEIGHBORS CSC, each institution first identified potential community partners whose mission, vision and goals aligned with those of the collaborative. Four community members from this list were then selected by the partnership to form the initial CSC responsible for setting the community health priorities for the partnership, establishing mechanisms for incorporating community engagement in the pilot projects, and creating mechanisms for reporting the partnership's findings to the community. Community Steering Committee members included a cancer survivor, a community health professional, an administrator of a Hispanic health organization, and a representative of a local cancer-focused community organization. The CSC started small so there would be room for future expansion upon receipt of larger funding mechanisms.

Shared aims

In alignment with NCI's goal for the P20 awards, the NU-NEIGHBORS partnership collectively identified three specific aims for reducing cancer health disparities. These were: (1) to build capacity for inter-institutional cancer disparities research projects; (2) to facilitate and foster opportunities for skills training, education, and mentorship among faculty and students; and (3) to build a pipeline of students from underrepresented minority (URM) backgrounds interested in pursuing education, research, and careers in health care fields and professions.

The overall goal of the partnership was to apply for a NCI U54 mechanism, which supports the activities of MSIs/NCI-CCs that have already conducted considerable prior planning and evaluation and are ready to implement full inter-institutional cancer research projects, cancer training, outreach, and education. The NU-NEIGHBORS process and outcomes evaluations of the overall partnership focused on filling gaps related to cancer health disparities in bidirectional curricula and programming as well as faculty career development while the NU-NEIGHBORS pilot projects were assessed by their abilities to secure competitive funding and publish novel findings.

Communications/interactions

Regular meetings were held between administrative staff, lead principal investigators, and pilot research teams to maintain clear and formal communication. The lead principal investigators and each pilot teams were responsible for holding their own monthly meetings, while the IAC and CSC met on a quarterly basis. The entire NU NEIGHBORS partnership, including all members of the governance bodies, met in person twice a year to review the pilot project refunding applications and to discuss the overall goals and outcomes of the partnership.

Outcomes

The NU-NEIGHBORS partnership has accomplished much over four years toward its aims in building capacity for inter-institutional research, fostering opportunities for student and faculty training, education, and mentorship, and building the pipeline of URM students interested in health care fields and professions (see Figure 2 for process map overview of aims and outcomes). Below, we describe the partnership's most significant developments in each of these areas, as well as the challenges we experienced in forging this MSI/NCI-CC.

Inter-institutional research—The first pilot project, MAESTRA (mHealth Applications to Education & Support Treatment Readiness & Aftereffects), integrates cultural tailoring with health behavior and health economics theories to develop and pilot test a Spanish language mHealth tool to facilitate greater peer-to-peer support around treatment decision-making and symptom management, both of which can help reduce unnecessary symptoms and health inequities among Hispanic cancer patients. Led by an NEIU co-PI in the field of health education and an NU co-PI in the field of health psychology, the research team has conducted a comprehensive review of the literature on mHealth applications and interventions among Latinos, and has conducted focus groups with Latino cancer patients at community health organizations throughout Chicago. This tool has the potential to increase

patient engagement, self-efficacy, and access to supportive care and health promotion. This work by the NEIU and Lurie Cancer Center co-PIs has resulted in a peer-reviewed publication²¹ as well as an NIH R21 grant submission.

The second funded pilot project focuses on understanding the complex interrelationships among cancer-risk behaviors (tobacco and alcohol use, low fruit and vegetable intake, physical inactivity) in college students and the extent to which cancer-risk behaviors cluster by race, ethnicity and socioeconomic status. The team has used data from the American College Health Association's National College Health Assessment. The interdisciplinary team consists of investigators with expertise in economics (NEIU), psychology (NU), mathematics (NEIU), and biostatistics (NU). An important part of their research aims to identify campus and environmental-level contextual factors that explain disparities in cancer risk behaviors among students. For example, the team has developed an agent-based model that will illuminate the impact of underlying dynamic structure and social behavior of students on the coevolution of alcohol and tobacco use by the NEIU campus community over time, and in doing so examine mechanisms specific to NEIU's campus such as resilience to initiation, peer influences, and collegiate contexts. Other cancer health risk behaviors will be incorporated in the modeling framework and their collective temporal and spatial patterns will be studied among the NEIU student population. The pilot team has offered two smoking cessation workshops to NEIU's students, staff, and faculty and has influenced smoking policies on NEIU's campus. The team expects that their findings will help them obtain independent federal grant funding for campus-and individual-based interventions that address multiple cancer-risk behaviors and that are tailored to different racial/ethnic minority groups. The NEIU and NU pilot project team have a publication²² and an NIH R21 grant submission resulting from this work.

Training, education, and mentorship—Multiple opportunities were created for training and building the pipeline of URM students interested in health care fields and professions. The partnership has assisted the NEIU's Bachelor of Arts in Community Health and Wellness Program in seeking external accreditation as a public health degree program and is collaborating with the program to incorporate health disparities and research topics throughout existing and new course content. Since the inception of NU-NEIGHBORS, two full courses have been created at NEIU: Applications in Health Research and Policy (Department of Economics) and Health Disparities: Individuals, Communities, and Systems (Department of Community Health). The partnership has sponsored campus-wide programs, including the Immortal Life and Ethics bioethics panel and a NU-NEIGHBORS Minority Health Workshop. Northeastern Illinois University students and faculty were also trained in quantitative methods through the newly designed Mathematical and Statistical Modeling of Complex Systems with Applications in Social, Behavioral and Health Sciences workshop at NEIU. Northwestern University's Clinical and Translational Sciences Institute (NUCATS)—a member of the National Clinical and Translational Science Award (CTSA) Consortium—held community-engaged research colloquia to which NU-NEIGHBORS faculty attended.

The partnership also hosts an annual competitive Cancer Health Disparities Research trainee program that is offered during the summer to NEIU undergraduate students interested in pursuing academic and professional careers in health care. Students participate in an eight-

week long research-intensive experience at an NU lab that is enhanced by mentoring, weekly professional development seminars, journal clubs in conjunction with other medical and science pipeline programs at NU, and lectures from NU-NEIGHBORS affiliated faculty.

Pipeline of URM students—Over the course of 2011–2014, the partnership has provided research experience opportunities for 21 undergraduate students and three graduate students. These students were all from underrepresented backgrounds—100% were first generation college students, 80% were Latino, 10% were African American, and two-thirds were female. Although tracking of students' trajectories is still ongoing, students mentored under NU-NEIGHBORS partnership research opportunities have thus far, gone on to graduate from NEIU, enter graduate school, and/or receive subsequent scholarships, internships, and research positions (including at NU).

Challenges

The success of the NU-NEIGHBORS partnership did not come without overcoming significant challenges. Factors that constrained the partnership's effectiveness included the uncertain fiscal climate, widespread turnover, and dissimilar institutional demands.

Uncertain fiscal climate—The foremost obstacle encountered was the uncertainty and instability of future funding, stemming from a fiscally challenging climate. The NU-NEIGHBORS partnership was initially conceived as a stepping-stone for the U54 mechanism. NCI's cooperative agreement (U54) awards foster and support Comprehensive Partnerships between institutions serving communities with cancer health disparities and NCI-designated cancer centers. These awards are intensively competitive and successful applications require rigorous preparation and infrastructure. Accordingly, the NU-NEIGHBORS grant application and first year of meetings centered on growing the P20 partnership towards a U54 center grant application. However, learning that P20 partnerships were no longer eligible to submit U54 applications introduced ambiguity to the shared goals and undermined the partnership's ability to plan for its future. In response, the partnership diverted a significant amount of additional energy and resources toward seeking other ways to proceed with the aims and making alternative plans for sustaining their collaborative future.

Turnover—A second key challenge was the turnover of members on every level of the NU-NEIGHBORS governance, including project coordinators, grant administrators, a principal investigator, a community steering committee member, and an internal advisory committee member. Some of these changes were anticipated but many were unanticipated. For example, NEIU turnover included one of the four main principal investigators of the grant moving to another institution out of state, and the Office of Sponsored Research underwent major restructuring, which resulted in the turnover of three different grant administrators and three different project coordinators involved on the grant. As a result, NU-NEIGHBORS experienced delays in the partnership's processes, procedures, projects, and overall productivity.

Competing institutional demands—Moreover, existing differences in culture, missions, and demands at NEIU and the Lurie Cancer Center challenged the workflow of the overall partnership and pilot projects. For instance, collaborators at NU initially did not fully understand the time commitments of NEIU collaborators whose institution emphasized student teaching. Vice versa—collaborators whose professional careers focused on programming and teaching initially did not fully understand the extensive manuscript writing and grant procurement demands expected at a research-intensive institution such as the Lurie Cancer Center. For example, there needed to be an increased diligence in structuring the funding to protect teaching time for NEIU faculty. Northeastern Illinois University investigators sought and secured course release time (with grant funds) to work on research projects while NU investigators realigned the timing of their research efforts to leverage the academic calendar and availability of their NEIU colleagues. The research administrative team from the Lurie Cancer Center also worked very closely with the NEIU Office of Sponsored research to field questions and to provide tools and templates for the grant and budget management. A major milestone of the second year was the development of NEIU's IRB to accommodate a wider range of human subjects research on cancer through cross collaboration and training.

Discussion

In its successes and challenges, the NU-NEIGHBORS partnership has identified invaluable lessons learned for bridging distinct academic communities for cancer disparities research, training, and outreach. As we will discuss, this includes: (1) being malleable and creative in maintaining and sustaining funding for the partnership; (2) strategically creating a shared governance model; (3) anticipating and planning for personnel turnover; and (4) identifying and respecting cultural differences across institutions.

Uncertainty about funding and sustainability of a team's long-term relationship and ventures is understood in the field of team science as a common constraining factor in collaborative initiatives.^{4,9,23} Indeed, critics of transdisciplinary teams cite that a cross-disciplinary team's productivity and sustainability relies too heavily on transdisciplinary-specific funding.^{24–26} Prior research suggests that team members' abilities to adapt to changing circumstances increases the effectiveness of transdisciplinary teams;⁸ this ability of stakeholders to adapt may thus be key in counterbalancing the effects of an uncertain fiscal climate. One lesson learned in our experience forging the NU-NEIGHBORS partnership is that community-engaged cross-institutional collaborations must have the ability to be malleable and creative in their approaches to challenging fiscal climates.

After learning that it was no longer eligible to apply for a larger U54 center grant, the NU-NEIGHBORS partnership actively sought other funding mechanisms. In addition to applying for other NIH grant mechanisms (e.g. R21, R03 and R25) to maintain the collaboration's overall goals, philanthropic funding sources and pilot funds offered at each institution were sought. Seeking alternative funding sources has seen some success. Annual stipends for the summer internship program were secured from the Lurie Cancer Center and one of the pilot projects applied and received a small community grant offered through

NEIU. All future endeavors from the NU-NEIGHBORS partnership will be encouraged to continue to apply for further funding to sustain the important work of the collaboration.

It would be prudent for cross-institutional collaborations to explore different funding streams from the onset—including philanthropic sources of funding. However, we have learned that creative approaches to challenging fiscal climates also include leveraging available resources. NU-NEIGHBORS partnership affiliates attended colloquia hosted by NU's CTSA, relied on the Lurie Cancer Center's shared resources (e.g., the Biostatistics Core Facility, the Outcomes Measurement and Survey Core Facility), and utilized free meeting space and curriculum development resources from NEIU's Center for College Access and Success (formerly the Chicago Teachers' Center).

A second lesson learned is the centrality of having a strategically developed shared governance model to facilitate the effectiveness of the NU-NEIGHBORS partnership, which corroborates research highlighting the importance of leadership characteristics in the effectiveness of transdisciplinary science initiatives.^{4,8} In particular, the NU-NEIGHBORS partnership found great value in having top institutional leaders and administrators serve as IAC members. These influential NEIU and NU members played a key role in making the partnership's efforts known and prioritized at each institution. With these strategic IAC members involved, the partnership was able to secure course release time for faculty members at NEIU, advertise and communicate their efforts at both institutions, and secure the seed funding necessary for achieving the original P20 application and the support of the summer research trainee program. We also found value in having a relatively small governance team, a strategy that aligns with evidence suggesting that participant-governance models are most efficient when the team is relatively small and trust is widely shared throughout the members.²⁰ Although small, the governance team was diverse across gender, race/ethnicity, academic discipline, and degrees. The NU-NEIGHBORS governance model was not without limitations however. Its inclusivity at times resulted in more complicated and lengthier decision-making processes—for example, more discussion needed in order to arrive at mutual understanding. Nevertheless, longer discussions and deliberations among the diverse NU-NEIGHBORS governance team proved valuable for increasing the applicability of the partnership's research, education, and outreach programs to broader audiences; exploring endeavors in new communities and additional institutions; and encouraging voicing of opinions.

We believe the NU-NEIGHBORS organizational structure and shared governance model that carved specific roles for top institutional leaders also promoted mentoring of junior faculty by increasing direct interactions and communications between junior faculty and senior leaders such as deans and cancer center directors. Mentoring has been shown to have an important influence on faculty personal development and success—including research productivity with publications and grants.²⁷ However, mentoring can become challenging in light of high clinical, research, and administrative demands.^{28, 29} Nurtured by the NU-NEIGHBORS organizational structure, regular interactions between junior faculty and senior leaders created collegial working relationships, which has been posited as one aspect of informal mentoring.³⁰

A third important lesson learned from the NU-NEIGHBORS partnership is to anticipate turnover throughout a long-term partnership, and to cross train and mentor staff and faculty members both vertically and horizontally throughout the organizational structure in order to maintain the productivity of a multi-year grant. Creating succession plans and developing staff internally with the potential to fill leadership positions within the partnership during these transitions can potentially increase the availability of experienced and capable individuals who are prepared to step up to various projects and responsibilities. Otherwise, personnel turnover can be destabilizing to a team's organizational learning and productivity³¹—a challenge for many research center grants.^{25,26} Field research on teams has found that team members who are familiar with each other and have social cohesiveness are more effective and productive,^{5,32,33} so widespread turnover and the constant unfamiliarity associated with it may jeopardize cohesiveness without the stabilizing force of succession planning. In addition, evidence suggests that teams that have members participate in setting defined goals and communicate on a regular basis are more efficient and innovative,^{5-7,34-36} which further supports the importance of developing staff internally who have already taken part in defining the goals from the beginning and have been involved in regular team communications.

From recognizing differences in institutional cultures and programmatic priorities, a fourth lesson learned is the importance of both identifying and respecting cultural and mission differences to enable institutions to embrace and elevate one another's strengths to reach the aims of the partnership, versus viewing these differences as hindrances. Egalitarian values and mutual respect are two facilitating factors of collaborative effectiveness in team research.⁴ For example, among NU-NEIGHBORS investigators, those at NU are required to secure independent research funding and to publish in peer-reviewed journals, yet many do not have the curriculum and program development expertise of their NEIU counterparts. In leveraging their unique strengths, including the multiple disciplinary perspectives, NEIU investigators led the partnership's programs, course, and curriculum development, while NU investigators led the collaborative teams in grant applications and manuscript preparation and submissions.

Based on our analysis of primary source documents and project outputs, we describe the collaborative processes, outcomes, and challenges in forging the NU-NEIGHBORS partnership and identified lessons learned. One limitation of our approach is the potential for missing data, such as informal communications that may have taken place between individual NU-NEIGHBORS faculty and staff. However, we believe our analysis of official meeting agendas and minutes, partnership e-mail communications, progress reports, and workgroup summaries enable us to balance perspectives between NEIU and NU partners, as these documents were generated collaboratively while also providing perspectives from members of the partnership who have since moved on.

While care is needed when generalizing our lessons learned to other contexts, other collaborative initiatives such as NCI P20s, U56s, and U54s have raised related partnership challenges. These include adhering to academic calendars,³⁷ departure of faculty,³⁹ geographic distance between institutions,³⁷ and the persistent effort and the extent of working relationships required to achieve success.³⁹ Program sustainability, including

sustaining infrastructure and staff to become competitive for major infrastructure and center grants is another challenge.⁴⁰ Published lessons learned from similar partnerships have included communication approaches,^{37,41} respect for each institution's mission;³⁷ mentoring strategies;³⁷ support from organizational leaders;³⁷ and different metrics for evaluating partnership success.⁴⁰ Academic partnerships between unique institutions—such as a minority serving institution and a cancer center—have the potential to address health disparities with innovative approaches. As collaborative ventures continue to be a focus of funding in cancer health disparities research, it is important to examine their collaborative processes and identify conditions and factors that may facilitate the effectiveness of these types of partnerships. In describing the NU-NEIGHBORS collaborative processes, outcomes, and challenges in forging this minority institution/cancer center partnership, we identify lessons learned that include being adaptive to the financial climate, strategically inviting leaders from each institution to form a shared governance structure, anticipating turnover by training vertically and horizontally throughout the partnership's governance, and identifying and respecting the cultural and programmatic differences across institutions. Many of the strategies and lessons outlined by the NU NEIGHBORS partnership are similar to those found in CBPR and team science literature. Our partnership and similar collaborations could benefit from utilizing the various tools developed for conducting CBPR and team science research, and collaborative research could benefit from creating tools that specifically focus on processes and evaluations for inter-institutional collaborations amongst distinct academic communities aiming to redress health disparities in their community.

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Figure 1.
NU-NEIGHBORS partnership governance structure.

Figure 2.
Overview of NU-NEIGHBORS partnership shared aims, outcomes, and roles.