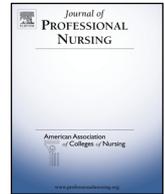




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Development of an academic practice partnership to improve maternal child health

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ABSTRACT

This manuscript describes one nursing school's innovative community-based partnership with community organizations and Nurse-Family Partnership (NFP), an established nurse home visiting program for first-time, low income mothers and infants. The aim of this academic nursing endeavor with the community and NFP is to improve the health and well-being of low-income, first time mothers and their children while also providing comprehensive, population-based nursing experiences for students and service leadership and scholarship opportunities for faculty. The academic-practice community partnership described here makes a case for utilizing the expertise and capacity of a nursing school to implement and administer an NFP program and serves as an exemplar for the recommendations described in the *New Era for Academic Nursing* report (AACN, 2016). The value of forming partnerships between a public health department, the philanthropic community and an academic nursing institution is highlighted. In this case, the three organizations partnering together around a common purpose of improving birth outcomes enabled the partnership to accomplish more than any individual organization could have accomplished alone.

Introduction

Academic-practice partnerships, as envisioned by the American Association of Colleges of Nursing (AACN), develop between nursing education programs, and care settings and align nursing education, research and practice across those settings (AACN, 2016). The *AACN Report: Advancing healthcare transformation: A new era for academic nursing* (2016) suggests that schools of nursing in partnership with hospitals and community-based practice organizations can potentially contribute to integrated systems of care, improved health outcomes for patients and populations, and can foster new models of innovation. Such partnerships also strengthen nursing practice and position nurses to lead practice transformation efforts (AACN, 2016). This manuscript describes one nursing school's innovative community-based partnership with community organizations and Nurse-Family Partnership (NFP), an established nurse home visiting program for first-time, low income mothers and infants. The aim of this academic nursing endeavor with the community and NFP is to improve the health and well-being of low-income, first time mothers and their children while also providing comprehensive, population-based nursing experiences for faculty and

students through opportunities for faculty practice, leadership, scholarship, and research.

The NFP program, begun in the 1970s, was developed by Dr. David Olds, a sociologist, and Dr. Harriet Kitzman, a nurse, at the University of Rochester after testing a model for nurse home visits using baccalaureate prepared nurses in a rural community in New York. Since then, the program has undergone rigorous testing through a series of randomized controlled trials in Elmira, New York, Memphis, Tennessee, and Denver, Colorado with impressive outcomes (Eckenrode et al., 2000; Eckenrode et al., 2010; Eckenrode et al., 2017; Kitzman et al., 1997; Kitzman et al., 2000; Olds et al., 1998; Thorland, Currie, Wiegand, Walsh, & Mader, 2017). The program now extends to 42 states and the U.S. Virgin Islands. While the value of nurse home visits is well established, a review of the literature found no published descriptions of NFP programs affiliated with baccalaureate programs in nursing schools. According to the NFP National Service Office, however, five schools of nursing have affiliations with NFP programs nationwide. These include:

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- Texas Tech University Health Sciences Center
- University of Alabama at Birmingham
- University of Colorado, Colorado Springs
- University of Texas Permian Basin

This manuscript describes the NFP program administered by the (blinded for review) School of Nursing in partnership with the Jefferson County Department of Health (JCDH) and several community-based philanthropic organizations. The background that led to establishing this academic-practice partnership is described, as is a description of the community need and rationale for establishing the initial program and its subsequent growth. Benefits and lessons learned are presented for other nursing schools who may wish to replicate similar academic-practice partnership programs.

Background

Premature birth and the complications surrounding it are the primary cause of infant mortality, or death during the first year of life. According to the Centers for Disease Control and Prevention (CDC), about 1 in 10 infants born in the United States (U.S.) in 2016 was born prematurely, at less than 37 weeks of completed gestation (Centers for Disease Control and Prevention, 2019). The March of Dimes' annual Premature Birth Report Card assigns grades of A through F to states based on their preterm birth rate compared to the March of Dimes goal of 8.1% by 2020 (March of Dimes, 2018). Grades in the southeastern U.S. are the poorest in the nation. Alabama's "F" grade in 2017 for a preterm birth rate of 12.0% is among the poorest of the poor; only Mississippi and Louisiana have worse rates at 13.6% and 12.6%, respectively (March of Dimes, 2018). Sadly, Alabama's preterm birth rate has consistently remained poor as evidenced by Figure 1. During the past 10 years, the state's preterm birth rate has ranged from a high of 13.0% in 2007 to its lowest rate of 11.7% in 2014 and 2015. Significant racial disparities also exist with the preterm birth rate among black women averaging 15.4% versus a 10.3% rate for white women in Alabama (March of Dimes, 2018).

Infant mortality is a benchmark of the health of communities. Preconception and interconception health and timely prenatal care are important in achieving healthy pregnancies and decreasing infant mortality. In Alabama, more than half of all births (52.6%) are covered by Medicaid and due to a lengthy and complicated approval process,

some pregnant women are well into their second trimester before receiving prenatal care (AL.com, May 7, 2017). According to the Alabama Department of Public Health (ADPH), 74.3% of pregnant women in 2017 received adequate prenatal care, a percentage that has remained essentially unchanged for the past 10 years (ADPH, 2018). Also, as a state with significant obesity, diabetes, and hypertension (United Health Foundation, 2018), more women in Alabama with one or more chronic conditions are becoming pregnant, increasing the risk status of those pregnancies.

The top three causes of infant mortality nationally and in Alabama are: 1) congenital malformations, deformities, and chromosomal abnormalities; 2) disorders related to short gestation and low birth weight; and 3) sudden infant death syndrome (ADPH Press Release, November 15, 2018). Alabama had the second highest infant mortality rate in the country in 2016 at 9.1 deaths per 1000 live births and well above the average of 5.9 per 1000 (Alabama Infant Mortality, Montgomery Advertiser, Sept 14, 2018). Racial disparities also existed with black babies dying at more than double the rate of white babies, 15.1 versus 6.5 deaths per 1000, respectively (Alabama Infant Mortality, Montgomery Advertiser, Sept 14, 2018). Recently, however, the state's 2017 infant mortality data were released, and the results are encouraging. The 2017 infant mortality rate of 7.4 deaths per 1000 live births is the lowest the state has seen and while the racial disparity persists, it has dramatically improved to 11.2 for black babies and 5.5 for white babies (ADPH Press Release, November 15, 2018). Interestingly, despite the dramatic improvement in infant mortality in 2017 in Alabama, the preterm birth rate remained unchanged at 12.0% (ADPH, 2018).

The March of Dimes also assigns Premature Birth Report Card grades to counties. Jefferson County, Alabama, which houses the largest city in the state, Birmingham, also received an "F" in 2017 for a preterm birth rate of 12.0% (March of Dimes, 2018). According to the March of Dimes, in an average week in Jefferson County, 172 babies are born, 20 are born premature, 19 are low birth weight, and 2 die before their first birthday (March of Dimes, 2016). Significant racial disparities also exist with the preterm rate for black women 51% higher than the rate for all other women in Jefferson County (March of Dimes, 2018).

Development of an academic-practice community partnership

During 2015, the University of Alabama at Birmingham (UAB)

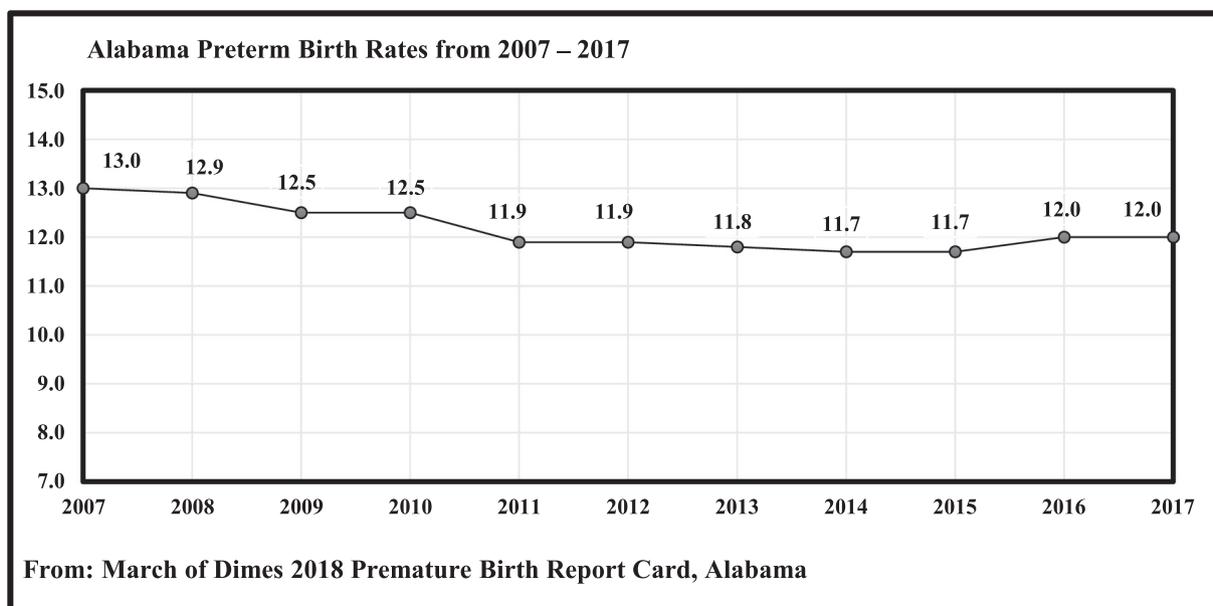


Fig. 1. Alabama preterm birth rates from 2007 to 2017.

School of Nursing began working with the community to improve birth outcomes in Jefferson County. The school has a history of partnering with community organizations to improve the health and quality of life for vulnerable populations. Tackling the dire preterm birth and infant mortality statistics in the county seemed a natural fit and an appropriate extension of the partnership work already happening. The school's Office of Clinical and Global Partnerships began researching NFP, a national, evidence-based program that uses bachelor's prepared registered nurses (RNs) to conduct home visits with first-time, low income expectant mothers. In this program, nurses visit mothers in their homes every 1 to 2 weeks and provide assessment, education, support, and connection with needed resources. Data collected during the more than 40 years of NFP implementation and three randomized controlled trials demonstrate that mothers who participate in NFP have 18% fewer preterm births, are 21% more likely to be breastfeeding at 6 months, and their babies are more likely to be fully immunized (Thorland et al., 2017). Other long-term impacts have been shown, including reduction in child abuse, neglect, and health care encounters for injury (Kitzman et al., 1997) as well as improvement in school readiness (Kitzman et al., 2010). Research also shows that women participating in NFP have reduced use of government assistance, greater employment, longer intervals between pregnancies, and increased partner stability and father presence in the home (Amato, 2005; Olds et al., 2010).

Convinced that an NFP program would benefit the Birmingham community, faculty members met with two potential community partners to explore possibilities: the Jefferson County Department of Health (JCDH) and the Mike & Gillian Goodrich Foundation, a local philanthropic foundation. The JCDH and Goodrich Foundation had been discussing NFP for the past two years, wanting to bring the program to Jefferson County, but unable to identify an entity to administer the program. The JCDH had identified "improved birth outcomes" as a strategic priority and had earmarked local tax revenue to help fund the program; however, the JCDH had concerns about its ability to recruit qualified nurses and administer the program. Likewise, the Goodrich Foundation had resources available to help fund the program, but was not in a position to administer it. With access to nursing faculty, students, and alumni in the area, as well as an Office of Development that could assist with securing needed philanthropic funding to launch and help sustain the program, (blinded for review) School of Nursing quickly offered to step into the role of administrator. A collaborative partnership between the three organizations was then developed to launch Nurse-Family Partnership of Central Alabama.

Through 2016 and early 2017, UAB School of Nursing administrators met with representatives of the NFP National Service Office and our assigned Regional Nurse Consultant to learn more about the NFP model and its requirements and how to become an NFP implementing agency (NFP's name for the agency that administers the NFP program). As evidence of the school's commitment, the school's Office of Development created an overall funding proposal and led targeted efforts to secure sufficient philanthropic commitments to initiate a 3-year pilot project, as required by NFP. With help from the JCDH and the Goodrich Foundation, other prospective philanthropic donors were identified and solicited. Ultimately, five funding partners interested in improving access to care and optimizing birth outcomes came together to bring Nurse-Family Partnership of Central Alabama to Jefferson County. These philanthropic partners include Jefferson County Department of Health through their JCDH Public Health Advised Fund, the Community Foundation of Greater Birmingham, the Mike & Gillian Goodrich Foundation, the Daniel Foundation of Alabama, and Blue Cross and Blue Shield of Alabama/The Caring Foundation. Together, this group pledged more than \$1.76 million over three years to the UAB School of Nursing. The school administers all of these donations, which are held in a gift account specifically designated to supporting the NFP initiative. These funds also support the nurse home visitors (NHVs), administrator, and faculty director effort. Additionally, the school's Office of Development provides personalized stewardship reports to

each of the funders on an annual basis.

Implementation of NFP of Central Alabama

Once funding was in place and the required implementation plan was approved by the NFP National Service Office, the school chose a faculty member with extensive experience in maternal child health to direct and build the program; another faculty member was selected as the NFP administrator. The program director initially had 50% effort devoted to NFP, but this quickly increased to 75% within the first nine months as the program grew. The program administrator who is prepared with a master's degree in business administration and is not a nurse, initially devoted 30% effort to NFP as the program was preparing to launch and now spends 20% of her time on the program. Once identified, the PhD prepared faculty program director and program administrator began the search for NHVs. The program was initially funded to hire four full-time NHVs, each of whom could carry a caseload of 25 clients. Within the first two months, two NHVs were hired, attended the required NFP training, and began enrolling clients. Three months later, the remaining two NHVs were hired and trained.

One of the keys to early success with the NFP program has been the partnerships developed with other community agencies. During the first several months of implementation, the program director, administrator, and NHVs met with other agencies that support mothers, children, and families to introduce the NFP model, seek client referrals, establish relationships, and network. The local NFP administrative nursing team met with obstetric health care providers, school counselors, law enforcement agencies, transportation providers, shelter and housing agencies, family violence support services, mental health providers, childcare agencies, and other home visiting agencies. These conversations laid the groundwork for relationship building and trust to develop a steady stream of client referrals and a growing network of related services to support client needs. Because NFP is not the only home visiting program to serve pregnant and parenting mothers and their children in the county, it was important to communicate to the other home visiting organizations that NFP specifically targets high risk, first time mothers and families so that programs would not be competing to enroll the same clients. Home visiting agencies in Jefferson County that serve pregnant and parenting families now collaborate and refer clients to each other when they are a better fit for another agency.

Another key component to the early success of the program has been the establishment and engagement of a Community Advisory Board, a required element of the NFP model. The Community Advisory Board typically comprises representatives from funding agencies and community agencies that support women, children, and families, as well as key community stakeholders. The NFP of Central Alabama Community Advisory Board includes 18 individuals who represent the county health department, the community funders, a local home visiting agency, law enforcement, the judicial system, obstetric and pediatric providers, a domestic violence resource center, mental health, local schools, and others. When available, a current client attends the meeting to talk about her experience. Following the first cohort graduation from the program, there are plans to identify and invite a client to serve on the board. The Community Advisory Board extends the work of the NHVs by making community connections, helping guide decision making, promoting the work of NFP in the community, and, importantly, identifying potential funding sources to sustain the program and garner support locally and statewide.

Community benefits of NFP

The community response to the implementation of the NFP of Central Alabama has been overwhelmingly positive. In fact, there was such a need and desire for families to enroll that our program reached capacity before completion of the first year. Fortunately, the JCDH was able to provide resources to hire two more NHVs, for a current total of 6

full time NHVs in Jefferson County. To date, 22 months after enrolling the first client, 148 babies have been born (125 black, 14 white, 6 multiracial, 2 unknown, and 1 American Indian/Alaskan Native). The preterm birth rate among singleton pregnancies is 8.5%. There have also been 3 twin gestations, all of which delivered preterm, prior to 37 weeks gestation. This preterm birth rate is lower than the 2017 U.S. rate of 9.9% and represents a tremendous improvement over the current state and county rate of 12% (March of Dimes, 2018). Currently, 84% of NFP of Central Alabama clients report their race as African American/Black, which makes the findings of prematurity even more impressive considering the Jefferson County preterm birth rate among black women was 14.6% and the state rate for black women was 15.4% in 2016 (March of Dimes, 2018). Given the vulnerable, high risk population the program serves and the short amount of time the program has been operational, the preterm birth rate is all the more remarkable. Unfortunately, out of 148 births there has been one case of infant mortality related to extreme prematurity and history of recurrent pregnancy loss and 2 cases of fetal demise related to medical complications.

Another benefit to the community is the access to a certified lactation consultant. During the initial year of implementation, the breastfeeding initiation rate among clients was 79%, slightly better than the statewide rate of 77.8% (Annie E. Casey Foundation, 2018). After adding the lactation consultant to the team, the breastfeeding initiation rate increased to 82%.

Among the most prevalent health issues in this population are depression and anxiety. According to CDC Pregnancy Risk Assessment Monitoring System (PRAMS) data for Alabama (2018), 16.3% of all mothers reported postpartum depression in 2015. America's Health Rankings also found that 12.8% of Alabama mothers were diagnosed with postpartum depression in 2018. However, our high-risk subset of NFP mothers experience mental health issues such as depression and anxiety at a much higher rate. During the first year, 35% of clients screened positive for depression and 34% for anxiety. This made mental and emotional health a top priority for the NHVs and their clients. To provide further support and intervention for these clients, the JCDH earmarked additional funding for a psychiatric mental health nurse practitioner faculty member from the School of Nursing to conduct home visits with clients for whom mental health is a concern. Often, the depression and anxiety in this client population is highly correlated with poverty.

Another particularly helpful benefit to the clients and community is the resources and assistance provided in employment and education attainment. The NHVs routinely provide families with job listings and information about training and education programs and help the mothers complete related applications. Upon enrollment in the program, 45% of mothers were working; currently, at 6 or 12 months following birth, 98% of mothers are employed or enrolled in school. Fig. 2 compares the percentage of preterm births, breastfeeding initiation, and employment or school enrollment for mothers in NFP of Central Alabama (NFPACA), against 2016 Jefferson County and the state of Alabama data.

The rapid growth and early success of NFP of Central Alabama was also noticed by the Alabama Department of Early Childhood Education (DECE), the entity that distributes the federal Maternal Infant Early Childhood Home Visiting (MIECHV) budget. DECE invited UAB School of Nursing to apply for expansion funding and both MIECHV funds and state DECE funds were awarded to begin an NFP program with one NHV in Walker County, a neighboring rural and underserved county.

School of nursing benefits of NFP

The benefits of the NFP academic-practice partnership to the School of Nursing fall within the realm of faculty practice and the scholarship of integration and application (AACN, 2016; Boyer, 1997). Faculty practice at the UAB School of Nursing is highly valued and benefits the

institution by providing opportunities for student learning and for faculty to maintain currency with evidence-based practice and advanced specialty certification. Furthermore, faculty practice translates clinical experiences into relevant curriculum that advances student learning and fosters development of clinical scholarship (research and publications). Through practice, faculty are able to incorporate research, test innovative nursing models, evaluate service delivery, implement quality improvement initiatives, and create new knowledge (University of Alabama at Birmingham School of Nursing, 2016). Scholarship is integral to the school's appointment, promotion, and tenure process (University of Alabama at Birmingham School of Nursing, 2019) and encompasses sustained dissemination of publications through peer-reviewed journals and sustained extramural funding including federal, state, and philanthropic funding. Scholarly productivity and student mentoring is an expectation of faculty practice.

Faculty practice

Providing faculty with opportunities to develop innovative practice and new models of care enhances teaching, develops, generates, and tests contemporary nursing science, and provides faculty with real world clinical experiences for creative scholarly work to lead and improve gaps in healthcare delivery. The NFP faculty practice is structured to collect, analyze, and publish research data to demonstrate the effectiveness of the NFP model of population-based care, to contribute to maternal child health knowledge about high risk mothers and children, and to lead and contribute to the development of state and national maternal child health policy. The faculty program director leads this population based care model through program development, research, grant writing, funding, reports, publication of outcomes and lessons learned in peer reviewed journals and media. As the program leader, she also serves as a role model for students and faculty in the baccalaureate, masters, and doctoral programs, sits in an advocacy role at policy tables, and develops research studies to expand maternal child health nursing knowledge. When a gap in behavioral healthcare was identified for these mothers and children, a psychiatric mental health nurse practitioner faculty member was added to the team, providing further opportunity for faculty practice and clinical mentoring for baccalaureate and graduate nursing students. The NFP program faculty benefit by participating in a practice that informs their teaching and scholarship. They draw upon their experiences with clients to translate theory and evidence-based practice standards into real life examples that students can easily grasp.

The NFP faculty practice also provides opportunity for interprofessional scholarship and collaboration with peers from across the university and community, including social work, medicine, and public health. For instance, faculty from the UAB School of Public Health (SOPH) collaborate with nursing faculty on program evaluation that leads to joint publications and dissemination of program outcomes. This collaboration with the SOPH expands access to state data files and helps tailor clinical intervention to specific social determinants of health. This NFP faculty practice provides data driven research about factors influencing maternal child health disparities and creates multiple opportunities for peer reviewed publications and presentations at local, state, and national levels.

Grant writing for further funding is another avenue for faculty scholarship. As the need for program expansion increases, add-on services, and sustainability have grown, faculty have identified gaps and potential funding sources, and submitted grant applications to support these expanded efforts. These grants applications are developed around identified needs and gaps in care so faculty can develop and test new models of population-based care. The NFP program also provides faculty and students the opportunity to be involved in policy and systems change at both the local and state level. Faculty have been invited to join local and state maternal child health advocacy groups where they share the perspective of the vulnerable families they serve, and are part

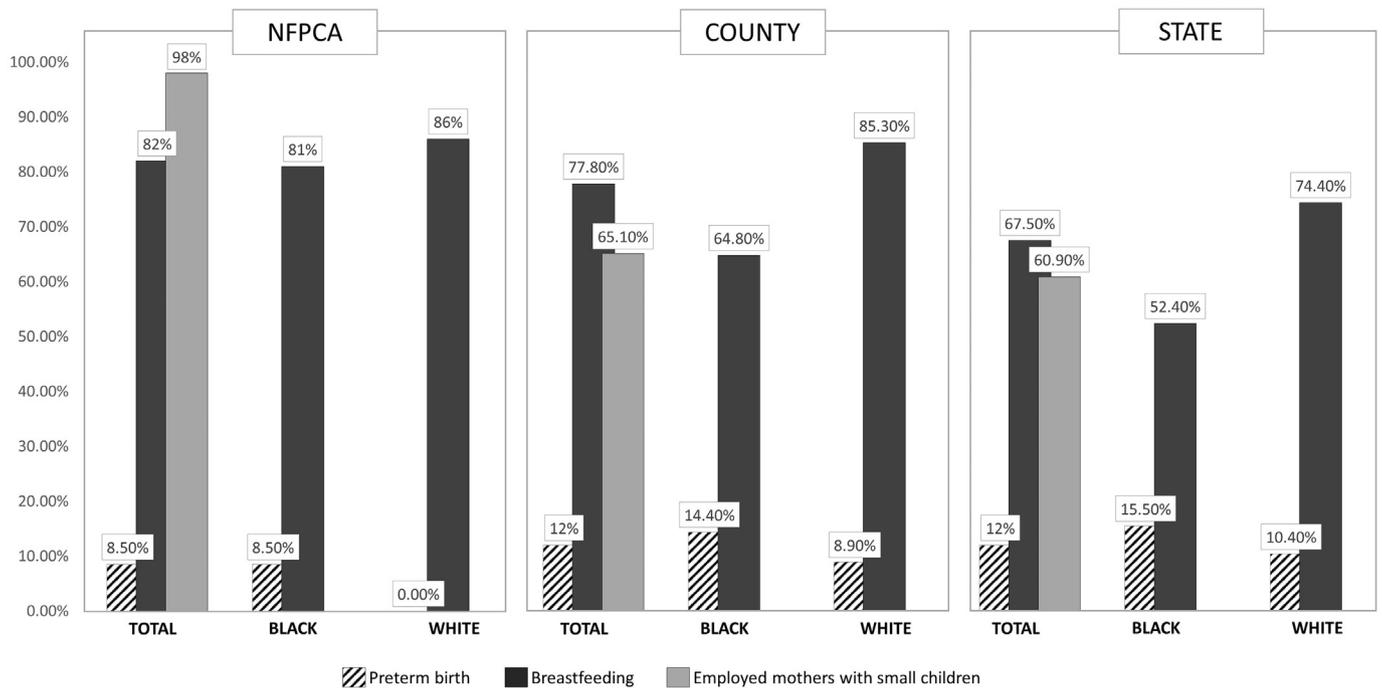


Fig. 2. Results of NFP of Central Alabama after 22 months of implementation.

of establishing new policy around maternal child health issues. This policy work demonstrates to students the importance of advocating for the needs of their clients.

Student clinical experiences

Identifying appropriate clinical experiences for baccalaureate nursing students in pediatrics and obstetrical care is often challenging for nursing schools. NFP community-based experiences with both pregnant women and their infants and young children are rich and comprehensive for students and provide corollary benefits for mothers and children. The NFP program provides nursing students as well as students from other health care disciplines an opportunity to see clients in their homes and communities. Visiting clients in their homes gives students a social justice context they will remember when making decisions in their future practice. This background helps students to understand that patients they may view as non-compliant might have psychosocial needs or a number of other barriers that prevent them from following health care provider instructions. Students also get to see first-hand how social determinants of health impact clients' daily lives. This experience has a profound impact on student learning. Furthermore, working side by side with a NHV showcases the role of the high functioning nurse in a community primary care setting and may influence new graduates to seek employment in primary and population based care, an area of growing need for baccalaureate prepared nurses (Berkowitz, 2016; Josiah Macy Jr. Foundation, 2016).

Nursing students not only get to practice assessment skills, they also benefit families by completing a client needs assessment that requires them to search for other community agencies that could fill a need for the client. Students often identify agencies or organizations, such as housing, food banks, and employment opportunities that the staff have yet to locate. Any new or updated community resources the students find are announced to the team and added to the NFP community resource directory for future use. The timing of undergraduate student clinical experiences with NFP is late in the nursing program so that students are prepared to recognize the complexity of maternal child health issues. More experience as a student improves the ability to formulate a plan of care that includes a range of interventions to

address not only the physical health of the mother and child, but also the social determinants of health that influence the lives of clients.

During the first year of operation, a total of 60 Accelerated Master's in Nursing Pathway (AMNP) students (prelicensure students with a bachelor's or higher degree in another field seeking a degree in nursing that culminates in a master's degree), 80 traditional BSN students, 8 medical students, and one graduate social work student have rotated with the NHVs. While all of the AMNP students shadow a NHV, due to the large number of BSN students, the NFP program accommodates 65% of those students and the remaining students attend another maternal child health focused community clinical experience. The home visit is with BSN prepared nurses, but doctoral clinical faculty manage the preparation and evaluation of student assignments and reflections associated with the visit.

The collaborative care that is required to meet the needs of vulnerable, high-risk pregnant and parenting mothers and their families is an ideal way to teach students the value of interprofessional teams working to improve maternal child health outcomes influenced by the social determinants of health. These rotations also provide students with real life maternal-child clinical experiences that demonstrate the impact of preventive and primary care on the lives of high-risk mothers and children. Table 1 outlines the early benefits to both the School of Nursing and community from the NFP academic-practice partnership.

Discussion and lessons learned

The need to improve the health and well-being of vulnerable, first time mothers and their infants in Jefferson County, Alabama was well established. The local health department and philanthropic community had a mutual desire to improve birth outcomes, foster optimal early childhood development and strengthen low-income families, and had been seeking to establish a NFP program in Jefferson County, but were in need of an organization well suited to administer it. Building on the University and School's strategic plan, UAB School of Nursing became the ideal administrator for this collaborative, nurse-driven model. First, the school was able to provide complementary resources that were needed to launch the program expeditiously. The school is also a leading producer of baccalaureate-prepared nurses in the state and had

Table 1
Early benefits of the NFP academic-practice partnership.

Benefits to school	Benefits to community
<ul style="list-style-type: none"> • Clinical experiences for baccalaureate and graduate nursing students • Interprofessional clinical interventions by baccalaureate nursing, advanced practice nursing, medicine, public health, and social work professionals • Faculty practice opportunities for nursing and advanced practice nurses • Nursing faculty leadership with maternal child health systems and policy change at the national, state, and local levels • Faculty opportunities to evaluate and disseminate research and scholarship. • Scholarly peer reviewed publications and extramural grants to support program and project outcomes 	<ul style="list-style-type: none"> • Partnering BSN students with BSN prepared home visiting nurses and vulnerable families • Increased nursing contact for vulnerable mothers and children • Decrease in preterm birth rate • Increase in breastfeeding initiation • Support for families in job and education attainment • Access to behavioral health care in a home setting for mothers and children • Public and population health prevention and interventions • Collaboration among nursing, public health, social service, foundations, and home visiting agencies • Demonstrated improved outcomes lead to better healthcare and increased health status and economic indicators • Program impact is evident in longitudinal research that demonstrates improvements in population health outcomes, social value and economic gains • Opportunity to impact health policy changes for an underserved population

the capacity to recruit excellent candidates for the NHV role. In fact, five of the seven NHVs hired are graduates of our School of Nursing. Second, the school has a proven scholarly record of successfully implementing community partnerships aimed at vulnerable populations and leveraging philanthropic support to attract federal and state funding. Third, the school's Office of Development was well equipped to solicit, receive, and manage donations from multiple philanthropic partners, an element needed to launch the pilot phase of the project. Finally, the school's ability to utilize experienced expert nursing faculty to direct and build the program and to expose nursing students to the NFP model is a win-win for both the academic and community partners as well as the clients and families. Further, this clinical experience helps inspire future nurses to consider a career in maternal child health in a community setting with the goal of developing a pipeline of well-prepared baccalaureate primary care nurses.

Challenges

During the first year of implementation, one of the challenges faced included launching a maternal child health nurse home visiting model among other community agencies with similar goals, but different methods within the same geographic region. In some cases, there was a fear of competition for clients and funding. The director and administrator met directly with other home visiting agencies that targeted the same population to discuss how our NFP program serves the highest risk clients who are pregnant with their first child, a highly specific segment of the population. Also, referring clients who did not meet eligibility criteria for NFP to other community agencies created trust with those agencies and fostered a collaborative relationship with them.

A second ongoing challenge is scarcity of resources for the most vulnerable clients. The NHVs have found that, in some cases, community resources they find online or by referral from other agencies are unable to serve clients due to long waiting lists or other barriers, such as required documents like paystubs or government issued ID. The nurses, director, and Community Advisory Board members continue to work to partner with other agencies who provide resources such as housing, utility bill assistance, job training, and many others to prioritize NFP clients who are actively seeking to improve their circumstances.

Academic partner lessons

A number of lessons have been learned during the NFP program planning phase and the initial 22 months of implementation. The most important lesson is the value of partnerships and the importance of identifying and building them. Collaborative partnerships are a strategic priority of UAB School of Nursing and this priority is led by an Office of Clinical and Global Partnerships charged with transforming

health, health policy, and health care delivery through partnerships. Administering NFP of Central Alabama has allowed the school to address several of its strategic priorities, including expanding nurse-led partnerships to improve health outcomes in underserved communities across the health system, partnering to develop a nursing workforce pipeline across all levels, and growing faculty practice opportunities with an emphasis on interprofessional collaborative models addressing the growing need for primary and population-based care. This initiative also helps faculty and students experience the power of practicing to the full extent of their education and training, as recommended by the Institute of Medicine's (IOM) *Future of Nursing* report (IOM, 2010), and provides additional education and training in community-based primary care for high risk mothers and infants. Finally, developing and advocating to sustain a population health program recognized through community, state, and federal funding exposes the faculty and students to significant health policy issues and health outcomes at the local, state, and federal levels (AACN, 2016).

Community partner lessons

From a community partner standpoint, the excitement of launching and building a successful NFP program with academic nursing has been eye-opening. Community partners have been actively involved in all aspects of program planning, funding, and implementation; they have begun to understand the work of nursing and the ability to mount this program expeditiously and effectively through collaboration with an academic nursing partner. Our community partners remain highly engaged, enthusiastic, and eager to continue to help. Through regular quarterly meetings and specialized updates, community partners hear about challenges and opportunities for growth, personal stories from the NHVs and the outcomes of the mothers and babies enrolled in the program. Community partners interested in making a difference in maternal child health in Jefferson County are seeing tangible results through the data and research on program outcomes, with the possibility of long-term impact for both mothers and babies. Honoring those initial partners through effective stewardship while also bringing new partners to the table has been an important aspect of growing the program. Regular updates and sharing metrics on program outcomes via quarterly Community Advisory Board meetings, while early and formative, provides evidence to the community of the value of clinically integrating faculty and students in the administration of these programs. The community has also begun to recognize the additive effect of the NHVs when accompanied by student learners. These regular updates have propelled the program forward as community partners have seen tangible results in the brief time the program has operated.

Conclusions

The academic-practice community partnership described herein makes a case for utilizing the expertise and capacity of a nursing school to implement and administer an NFP program and serves as an exemplar for the recommendations described in the *New Era for Academic Nursing* report (AACN, 2016). The value of forming partnerships between a public health department, the philanthropic community, and an academic nursing institution is highlighted. In this case, the three types of organizations partnering together around a common purpose of improving birth outcomes has enabled the partnership to accomplish more than any individual organization could have accomplished alone. Although this academic-practice partnership is still in the early stages, our findings have begun to show how a school of nursing, in partnership with community-based organizations, can potentially begin to transform population health outcomes by coordinating care for high-risk mothers and their children. Leveraging nursing school resources and utilizing a nursing model of care has allowed the partnership to improve maternal child health outcomes for this high-risk population while also providing opportunities for faculty and students to innovate care delivery in real time and in real world situations. Finally, the partnership has begun to strengthen baccalaureate nursing practice in our community, position nurses to lead practice transformation efforts, and provide much needed resources to the school to execute and administer this program. Community partners have assured the long-term sustainability of NFP of Central Alabama based on the demonstrated improvements in outcomes noted in our first 22 months of implementation. Schools of nursing committed to improving the health of communities are in an ideal position to build strong partnerships with community agencies that share the same vision. Faculty and community partners together have great potential to innovate in the clinical environment, thus transforming healthcare delivery and advancing health, especially for vulnerable, underserved populations.

References

- AL.com (May 7, 2017). Some Medicaid mothers must wait weeks, months before first doctor's visit. https://www.al.com/news/index.ssf/2017/05/alabama_medicaid_maternity_pre.html, Accessed date: 21 November 2018.
- Alabama Department of Public Health (2018). Infant mortality rate in Alabama is lowest ever in 2017; decreases seen in both black and white infant deaths. Press release. November 15, 2018 <http://www.alabamapublichealth.gov/news/2018/11/15.html>, Accessed date: 21 November 2018.
- Amato, P. R. (2005). The impact of family formation change on the cognitive, social, and emotional well-being of the next generation. *The Future of Children*, 15(2), 75–96.
- American Association of Colleges of Nursing (2016). Advancing healthcare transformation: A new era for academic nursing. Washington, DC. Available at <http://www.aacnursing.org/portals/42/publications/aacn-new-era-report.pdf>.
- Annie E. Casey Foundation (2018). Alabama kids count data book. Retrieved from https://alavoices.org/wp-content/uploads/2018/10/2018_DatabookComp_web_FNL.pdf.
- Berkowitz, B. (2016). Registered nurses in primary care: A value proposition. *Nursing Outlook*, 64, 525–526. <https://doi.org/10.1016/j.outlook.2016.09.006>.
- Boyer, E. L. (1997). Scholarship reconsidered: Priorities of the professoriate. *The Carnegie Foundation for the Advancement of Teaching*. San Francisco, CA: Jossey Bass, Pub.
- Centers for Disease Control and Prevention (2019). Preterm birth. <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm/>, Accessed date: 26 August 2019.
- Eckenrode, J., Campa, M., Luckey, D. W., Henderson, C. R., Cole, R., Kitzman, H., ... Olds, D. (2010). Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial. *Archiv Pediatr Adolesc Med*, 164(1), 9–15.
- Eckenrode, J., Ganzel, B., Henderson, C. R., Smith, E., Olds, D., Powers, J., ... Sidora, K. (2000). Preventing child abuse and neglect with a program of nurse home visitation: The limiting effects of domestic violence. *JAMA*, 284(11), 1385–1391.
- Eckenrode, J., Campa, M. I., Morris, P. A., Henderson, C. R., Jr., Bolger, K. E., Kitzman, H., & Olds, D. L. (2017). The Prevention of Child Maltreatment Through the Nurse Family Partnership Program: Mediating Effects in a Long-Term Follow-Up Study. *Child Maltreat*, 22(2), 92–99. <https://doi.org/10.1177/1077559516685185>.
- Institute of Medicine (2010). The future of nursing: Leading change, advancing health. Retrieved from www.iom.edu/nursing.
- Josiah Macy Jr. Foundation (2016). Registered nurses: Partners in transforming primary care. Recommendations from the Macy Foundation Conference on Preparing Registered Nurses for Enhanced Roles in Primary Care, June 15–18, 2016, Atlanta, GA. Available at http://macyfoundation.org/docs/macy_pubs/201609_Nursing_Conference_ExecutiveSummary_Final.pdf.
- Kitzman, H., Olds, D., Henderson, C. R., Hanks, C., Cole, R., Tatelbaum, R., McConnochie, K. M., ... Barnard, K. (1997). Effect of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing. A randomized controlled trial. *JAMA*, 278(8), 644–652.
- Kitzman, H., Olds, D., Sidora, K., Henderson, C. R., Hanks, C., Cole, R., Luckey, D. W., ... Glazner, J. (2000). Enduring effects of nurse home visitation on maternal life course: A 3-year follow-up of a randomized trial. *JAMA*, 283(15), 1983–1989.
- Kitzman, H. J., Olds, D., Cole, R. E., Hanks, C. A., Anson, E. A., Arcoleo, K. J., & Holmberg, J. R. (2010). Enduring effects of prenatal and infancy home visiting by nurses on children: Follow-up of a randomized trial among children at age 12 years. *Archives of Pediatrics & Adolescent Medicine*, 164(5), 412–418.
- March of Dimes (2016). 2016 premature birth report card: Alabama. <https://www.marchofdimes.org/materials/premature-birth-report-card-alabama.pdf>, Accessed date: 21 November 2018.
- March of Dimes (2018). 2018 premature birth report card: Alabama. <https://www.marchofdimes.org/peristats/tools/reportcard.aspx/>, Accessed date: 26 August 2019.
- Montgomery Advertiser (September 14, 2018). Alabama infant mortality: State groups, researchers search for answers to 'horrible' problem. <https://www.montgomeryadvertiser.com/story/news/2018/09/14/which-state-has-highest-infant-mortality-rate-alabama-tops-list-low-birthweight-racial-disparities/1292164002/>, Accessed date: 18 September 2018.
- Olds, D. L., Henderson, C. R., Cole, R., Eckenrode, J., Kitzman, H., Luckey, D., & Powers, J. (1998). Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial. *JAMA*, 280(14), 1238–1244.
- Olds, D. L., Kitzman, H., Cole, R., Hanks, C. A., Arcoleo, K. J., Anson, D. W., & Stevenson, A. J. (2010). Enduring effects of prenatal and infancy home visiting by nurses on maternal life course and government spending: Follow-up of a randomized trial among children at age 12 years. *Archives of Pediatrics & Adolescent Medicine*, 164(5), 419–424.
- Thorland, W., Currie, D., Wiegand, E. R., Walsh, J., & Mader, N. (2017). Status of breastfeeding and child immunization outcomes in clients of the nurse-family partnership. *Maternal and Child Health Journal*, 21(3), 439–445.
- United Health Foundation (2018). America's health rankings. <https://www.americashealthrankings.org/explore/annual/measure/Overall/state/AL>, Accessed date: 26 August 2019.
- University of Alabama at Birmingham School of Nursing (2016). *Faculty practice guidelines*. Birmingham, AL: Faculty Organization.
- University of Alabama at Birmingham School of Nursing (2019). *Faculty handbook*. Birmingham, AL: Faculty Organization.