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Case Report

Bridging the Gap of Access to Care: Impact of an Academic/Community Partnership on Primary Care and Psychiatric/Mental Health Care in Rural Northeast Texas -

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ABSTRACT

The aim of the INTUNE project is to create a network of academic-practice partnerships to provide primary care and mental health care services “in tune” with the needs of rural populations and in medically underserved areas (R/US) to help mitigate health equity concerns. Even while navigating unusual barriers associated with the COVID-19 pandemic, the project helps create synergy between existing primary care medical homes, and provides telehealth to optimize communication, provide awareness, encouragement, and guidance through a more easily navigated healthcare model. The infrastructure delivers immersive longitudinal clinical training experiences for primary care and psych/mental healthcare advanced practice nursing students within R/US populations and facilitates graduates’ employment in those settings.

Keywords: Mobile clinic; Rural; Medically underserved; Academic-practice partnership; Telehealth; COVID19

INTRODUCTION

When musicians and their instruments are “in tune”, they are in harmony with each other to create a pleasing musical sound. Similarly, the aim of the project known as INTUNE is to create a network of academic-practice partnerships to provide primary care and mental health care services “in tune” with the needs of rural areas and medically underserved populations (R/US). The INTUNE project network of clinical partnerships supports the provision of primary care and psychiatric/mental health care services to vulnerable populations that currently have limited access to consistent health care services in a medical home, often seeking medical care in local emergency departments. The partnership also facilitates the training of advanced practice nurses in primary care and psych/mental health care to offset the workforce deficit in Northeast Texas. A case study of the implementation of a HRSA grant-supported academic/clinical partnership project and management of associated caveats during the COVID-19 pandemic, and overall conclusions as to its impact are discussed.

Health disparities and barriers to access to care

Multiple issues affect the health of Texas citizens including poverty, limited access to care, limited or no ability to pay for healthcare, and a shortage of primary care and psych/mental healthcare providers. Texas leads the nation in annual population growth and has a projected 2018 population of over 28 million [1]. The region’s population increases with seasonal influxes of migrant agricultural workers during planting and harvesting seasons. Poverty rates by county in the INTUNE project service area range from 13.1% to 22.8% with a total of 16.5% of the service area’s population living in poverty. The poverty rate for Texas and the United States is 14.7% and 12.3% respectively. Poverty is a risk factor in poor health outcomes [2].

The COVID-19 pandemic in 2020 caused many disproportionate negative health effects among lower-income and minority populations and among the elderly, as evidenced by increases in hospitalizations and deaths in these groups [3,4]. Coupled with limited access to healthcare in general, many of these medically underserved populations experienced an increased need for COVID-19 testing sites as well as treatment options.

One of the major overall barriers to access to care is lack of health insurance coverage. The uninsured population rate of the United States in 2017 was 8.8%, while in Texas, the rate was 17.7% [5]. The median uninsured rate in the United States was 10.6% in 2017 [5]. Texas is one of 19 states that has not expanded its Medicaid program since passage of the Patient Protection and Affordable Care Act in 2010. The 2016 uninsured population rates by county for the INTUNE project service area range from 15.5% to 24.3% with a total of 19.3%

of the service area’s population being uninsured. The ability to pay for healthcare, including uninsured or under-insured populations is a primary factor in access to care.

Older adults are one of the vulnerable populations that require special attention in regard to access to medical care. Persons 65 years old and older make up 12.5% of the population of Texas and that proportion is expected to increase to 15.6% by 2028. Texas experienced the greatest population growth of all the United States between 2018-2019 [1]. The proportion of the population age 65 years old or older in the INTUNE project service area is 18.5% and is projected to increase to 21.7% by the year 2028.

The population of the 26 Texas counties that make up the Health Resources & Services Administration (HRSA) Advanced Nursing Education Workforce (ANEW) INTUNE project service area is 1,208,128 and is projected to increase by 2.72% in the next ten years to a 2028 population of 1,240,933 (Figure 1). The project service area includes a higher percentage of population in poverty and much higher percentage aged 65 years old and older than that of the Texas population in general. The percentage of the service area’s population that is uninsured is about the same as that of the population of Texas, which is the highest in the nation. The Robert Wood Johnson Foundation sponsors the County Health Rankings & Roadmaps program that ranks health outcomes based on length of

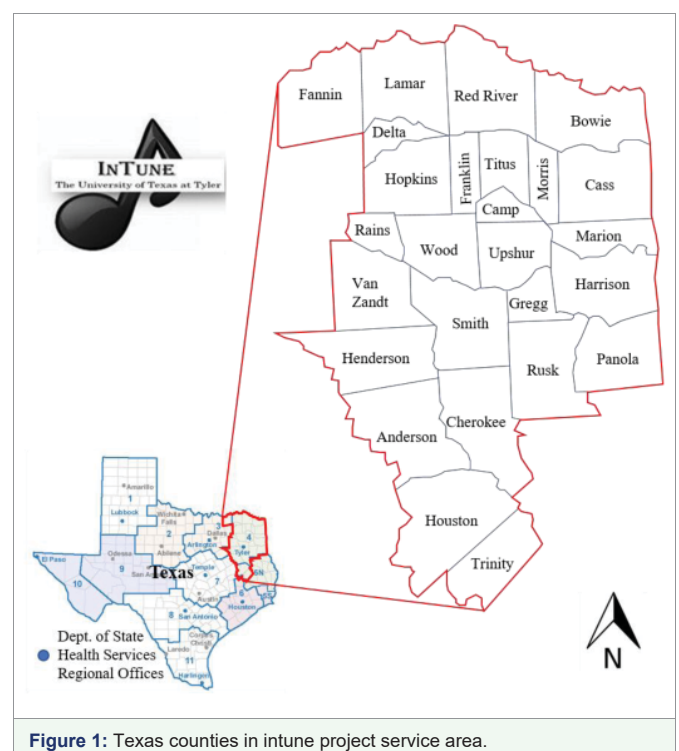


Figure 1: Texas counties in intune project service area.



life and quality of life. Fourteen of the 26 counties in the INTUNE project service area (53.8%) are ranked in the bottom third of Texas counties for health outcomes; nine counties (34.6%) are ranked in the middle third; and three counties (11.5%) are ranked in the top third. These characteristics indicate a project service area population that would benefit from better access to health care.

Every county in the INTUNE project service area has been designated as either rural or as a Health Provider Shortage Area (HPSA) for primary care or mental health care or as Medically-Underserved Area (MUA) by HRSA and all are designated in more than one category. Eighteen counties (69.2%) are designated rural, four more (15.4%) are designated partially rural [6]. Twenty counties (76.9%) are designated as MUAs, one more (Gregg County) is a Governor's Exception MUA, two more are partial MUAs, two more had no MUA data, and one county's MUA has been withdrawn.

Eighteen counties (69.2%) are designated HPSA for primary care, one more is a partial HPSA. The population to primary care physician ratio ranges from 1,000:1 to 10,160:1. Overall, the ratio is 3818:1 in the INTUNE project service area while the ratio is 1670:1 in Texas. Texas ranks 5th in the US for prevalence of any mental illness, while it ranks 49th in access to mental health care [7]. Alzheimer's mortality rates are higher in northeast Texas than in the U.S., and suicide rates are 43% higher than any other region of the state [8]. Yet, fifteen counties (57.7%) in the project service area are designated HPSA for mental health care providers. The population to mental health care provider ratio is 4100:1 in the INTUNE project service area while the ratio is 1012:1 in Texas.

Aim to bridging the gap to access to care

Recruiting and retaining qualified health care professionals in rural Texas is a priority [9]. The number of Advanced Practice Registered Nurses (APRNs) in rural areas of Texas is one of the lowest in the nation. In 2015, 5.4% of the APRN workforce in the nation were eligible for retirement, and in ten years, 21% of the APRN workforce will be at or past the retirement age [6]. There are less than 1,000 PMHNPs practicing in Texas. The current ratio of population to nurse practitioners in the INTUNE project service area is representative of the shortage of nurse practitioners in the state. Increasing the availability of health care professionals, facilities, services, and training sites are four broad strategies included in the 2018-2019 Texas State Health Plan to address gaps in access to care in Texas [9], and align with the INTUNE Mobile Clinic project's initiatives.

The COVID-19 pandemic in 2020 dramatically increased the burden of healthcare on existing practitioners and healthcare systems. The need for testing alone takes many practitioners away from their already overloaded duties in primary care and psych/mental health care. Although little is known about the individual psychological and mental health impact of the COVID-19 pandemic, a public health emergency of this magnitude can affect the resilience and mental health of even the most mentally healthy individuals [4], which magnifies the need for improved access to mental health care.

The University of Texas at Tyler (UT Tyler) Family Nurse Practitioner (FNP) program was established in 2007 and currently contracts with over 1000 facilities to provide clinical training for FNP students, 51% of which serve populations in R/US areas. As a result of supplemental grant funding in 2018 from HRSA, the university implemented a Psychiatric/Mental Health Nurse Practitioner (PMHNP) program, including a PMHNP certificate

program designed to help meet the need for primary care and mental health care providers in Texas, particularly in rural and medically underserved areas.

The addition of PMHNPs to the Northeast Texas healthcare workforce can dramatically improve the health and well-being of Texans of all ages and ethnicities. Because of a special partnership between UT Tyler and a Federally Qualified Health Center (FQHC) known as Special Health Resources (SHR), a mobile primary care and psychiatric healthcare unit is now available for service to rural and medically underserved areas of Northeast Texas, providing practitioners and the advanced practice students on board for clinical training with the ability to provide desperately needed care directly to communities who need it most.

The UT Tyler NP programs experienced a decrease in available preceptors and sites to accommodate students during April 2020 and through the summer months as did multiple other universities. This was partly due to the furlough of some practitioners due to COVID-19, and some clinic closures, particularly in R/US areas. To offset some of the decrease of available preceptors/facilities to help APRN students complete needed clinical hours, and to provide necessary COVID-19 testing services to the community, the INTUNE project team assisted the Northeast Texas Public Health District to create a Call Center Triage Hot Line. The phone lines were manned by UT Tyler undergraduate students to provide education and initial screening, but also, advanced practice nursing students who could answer health questions, triage patients, prescribe treatments, and refer to specialty care, as needed and with supervision by licensed university APRN faculty. This is an example of one activity that provided desperately needed patient health services during the COVID-19 public health crisis, while affording clinical hours to students.

METHOD OF CASE STUDY

The overarching aim of the INTUNE project is to establish and enhance clinical partnerships with facilities and preceptors to provide longitudinal immersive clinical training experiences for UT Tyler's FNP and PMHNP Nurse Practitioner students in R/US areas while improving access to medical and mental health care for rural populations in northeast Texas during project implementation, and after, when graduating students take employment in those areas. UT Tyler is centrally located in Smith County which is within the 26-county region making up the INTUNE project service area. Distance education opportunities, such as those offered by UT Tyler's FNP & PMHNP programs, allow nurses already living and working in rural communities to pursue advanced education without relocating or traveling long distances. Nurses are more likely to practice in rural areas when they have access to professional development and education programs [10].

The UT Tyler School of Nursing actively recruits diverse students through career fairs and other outreach events held at high schools, junior colleges, and hospitals within UT Tyler's predominately rural catchment area. When nurses acquire post-graduate education and become advanced practice registered nurses, including FNPs and PMHNPs, they can deliver many of the services traditionally provided by physicians, filling a gap in access to care for R/US populations [11]. The scope of practice for nurse practitioners supplement those of family physicians, general internists, and pediatricians and that has led to an increase in demand for nurse practitioners, particularly in R/US areas.

The UT Tyler Nurse Practitioner Programs provide the education and clinical training needed to give students the knowledge and experiences they need to work in R/US areas. Online didactics (49 semester hours for the dual-credit program) coupled with occasional on-campus “intensives” (several successive days of hands-on training in the nursing labs) form the knowledge base for subsequent clinical rotations comprised of 675 hours of field training in managing both acute and chronic disease. PMHNP students will take 24 additional specialized didactic hours and spend 500 additional hours in specialized clinical settings. Students who already have a Master’s degree in nursing may obtain the PMHNP certificate for 24 didactic hours and 500 specialized PMHNP clinical hours. A minimum of 50% of an FNP and/or PMHNP student’s clinical time is spent in underserved areas. Traineeships from the HRSA ANEW Traineeship grant are supporting more nurses to become advanced practice registered nurses serving in R/US areas. Research has demonstrated that many students who move away from a rural community to attend urban universities never return [12]. Therefore, priority grant support funding goes to students from R/US areas since students who live in these areas are more likely to return to work there after graduation. FNP and PMHNP graduates from UT Tyler that are most likely to remain and practice in rural communities are those who live in their home communities while completing their education.

Strength of the academic-practice partnership

The strengths of an academic-practice partnership between a school of nursing and a network of clinical sites include multiple influential factors that contribute to student success academically and professionally [13-15]. Partnerships with clinical facilities and preceptors are the key to the INTUNE project’s success as they provide student training opportunities in R/US areas of the project service area where primary care nurse practitioners and psychiatric/mental health nurse practitioners are most needed. UT Tyler has several existing clinical partners in the INTUNE project (Table 1), including several ancillary services, such as Andrews Center for Psychiatric/Mental Health Care, East Texas Cornerstone Assistance Network, Goodwill East Texas, and People Attempting to Help (PATH).

As part of the initiative to provide primary/psych mental health care to medically underserved people, a full time, grant funded FNP is provided at Bethesda Health Clinic in Tyler. Bethesda is a FQHC with a mission to provide high-quality primary care and psych/mental health care to hardworking low-income adults who are uninsured or underinsured. This important partnership also offers an excellent venue for training advanced practice nursing students.

THE INTUNE MOBILE CLINIC

In July 2019, the INTUNE partnership between UT Tyler and another local FQHC outfitted a mobile clinic that specializes in outreach to even more underserved individuals, assisting them in selecting a permanent medical home with referrals for continuing management services and specialty care. Special Health Resources (SHR) with locations in Tyler, Longview, and several other locations in Northeast Texas provides a driver for the unit, a bilingual medical assistant on board, and access to LPCs, psychiatrists, pediatricians, and other medical doctors via teleconference. The federal grant awarded to the university currently staffs the mobile clinic with two experienced, grant funded FNPs, one part-time and one full-time; both are in the process of obtaining a PMHNP certificate at the UT Tyler program.

Part of the funding of the INTUNE project comes from the Health Resources & Services Administration (HRSA), a branch of the federal government with a particular interest in providing benefits for people living in R/US areas by providing additional primary care and psychiatric/mental health screening and care. Through collaboration with The University of Texas at Tyler and Special Health Resources, the INTUNE project model includes components to: recruit, train, develop, support and evaluate preceptors as program partners; provide training for students/preceptors/faculty on telehealth as part of an enhanced partnership between UT Tyler and SHR; recruit and retain a culturally competent student body educated on R/US populations and areas; connect program graduates with the HRSA Health Workforce Connector and other employment support resources; and collect post-graduation employment demographics for at least one year post graduation, including National Provider Identifier (NPI) numbers from students receiving traineeship funds.

FNP and PMHNP students in the UT Tyler program who obtain clinical experience hours on board this nurse-led mobile clinic are taught to understand the unique primary care and mental health needs of rural, underserved populations, and how to utilize telemedicine as a means of connecting underserved populations with specialty services that would not typically be available. This currently includes training on the many ways COVID-19 has affected these populations and the creative ways that the INTUNE project is implementing to continue to provide primary care, psych/mental health care, and COVID-19 testing treatments, and referrals. This unique academic-community partnership affords the utilization of university faculty expertise, while providing a unique venue for training FNP/PMHNP graduate students. Dedicated faculty, known as Clinical Coordinators in the INTUNE project work with the project director to manage student/preceptor/site interactions on an ongoing basis.

Because of the desperate need for COVID-19 testing and referral in the INTUNE project area, the mobile unit was temporarily diverted to accommodate this need. The unit has gone from being utilized 1-2 days/week in rural areas specifically for primary/psych care to working all five days of the week in evolving areas of need. The unit is currently doing more than 100 COVID-19 tests/day and still providing telehealth at least one day/week for primary care and psych/mental health care, including follow ups.

Telehealth

The addition of psychiatric/mental health screenings and telehealth conference capabilities creates a more holistic approach to provide complete patient care for people with limited access. Telepsychiatry increases opportunities for patient education and medication management, offers faster access to specialists and reduced costs for patients; specialists can increase the number of patients they serve [16,17]. PMHNPs on board the mobile clinic have the support of psychiatrists and Licensed Professional Counselors (LPCs) via the telehealth conferencing capabilities as well as providing point of care behavioral health support to clients who would otherwise need to take off work to travel to distant locations to receive care or for those currently not receiving mental health care at all. Partnerships within several targeted rural school systems are currently in progress to provide psychiatric and primary care support to K-12 students.

Evaluation and data management

Evaluation of the curriculum and clinical training is conducted throughout the performance period as FNP and PMHNP faculty and



Table: INTUNE project clinical partners with the number of counties served by each and numbers of counties with HPSA or HRSA designations that are served by each [18].

Clinic Name	INTUNE Project Service Area Counties	Counties with Primary Care or Mental Health Care HPSA designations	Counties with HRSA designations served
Special Health Resources for Texas (SHRT)	23	20	22
INTUNE Mobile Clinic	25	21	23 (2 counties have no data)
Bethesda Clinic	19	17	18
The University of Texas Health Northeast	26	23	25
St. Paul Children's Clinic	17	15	16
Sharon Community Clinic	4	4	3
Bullard Mission Clinic	3	3	2
Family Circle of Care Clinics- Tyler, Athens & Jacksonville	3	3	3

Source: Northeast Texas Public Health District. CommUnity Cares Consortium Quarterly Report. December 2018.

clinical coordinators interact with students online and evaluate their performance in the clinical sites. Feedback from students and faculty is used to make changes in didactic and clinical learning experiences, to address identified deficiencies or challenges, including barriers to student recruitment from diverse populations in R/US areas. Summative evaluation is conducted at the end of each semester via results from student and faculty course evaluations.

Following the Plan, Do, Study, Act (PDSA) model, the project director implements the comprehensive Rapid Cycle Quality Improvement plan to assure optimum preceptor management and partnership success. Online surveys using the computer programs, Qualtrics and/or InPlace, are distributed on a scheduled basis to elicit feedback from all stakeholders (students, preceptors, clinical sites, and faculty) and continue to provide continuous monitoring of program metrics. Data is analyzed and results monitored quarterly and shared with all partners to allow for development of an action plan to address any deficiencies. Faculty are evaluated by student trainees and vice versa; preceptors are evaluated by students and vice versa; and students are expected to evaluate each of the clinical partner sites where they participated in clinical training.

The PDSA model for continuous quality improvement is used as the formal mechanism for feedback and evaluation in all processes via the Rapid-Cycle Quality Improvement Plan (RCQI) and focus on preceptor management and partnership effectiveness in ensuring the success of students and clinical partners. Each clinical partner in the network has an opportunity to provide input and evaluation at meetings held quarterly with the project director and applicable consultants, as needed. A quarterly review of processes is conducted by the project director and consultants and shared with stakeholders to formulate actions needed to improve implementation of the project.

The project director and clinical coordinators recruit additional accredited clinical sites in R/US areas as potential practice partners to support FNP and PMHNP student traineeships through onsite, mobile, and telehealth venues. UT Tyler also has a partnership with the Northeast Texas Area Health Education Center (AHEC) to help identify FNP and PMHNP trainee placement sites and graduate job opportunities.

RESULTS

An important result observed after the implementation of the INTUNE project is that many people will initially be interested in a

rural emphasis of healthcare, but serious time and effort is necessary for continued focus. With several entities working together (university personnel, students, and FQHC employees), the team initially met weekly to enable better communication and creative problem solving. Consistent reiteration of the goals and mission of the project helped keep the team focused and improved interpersonal relationships and team dynamics. With many strong voices, team members should be cognizant of and utilize productive ways to solicit creative input from all team members rather than just one or two people doing the majority of the work. Establishing and developing relationships within a team should be ongoing, particularly when changes in administration occur, which the INTUNE team experienced. Patience, diligence, and consistency will enhance effective team building.

Another result was that by utilizing flexible definitions of strategies that operationalized project goals would allow the project to continue even though initial plans might have to change. The INTUNE team initially outlined clear plans of moving into a rural area, setting up at a school or church and offering primary care/psych services to the community. When COVID-19 kept schools closed and distanced people from community contact, COVID testing became more of a priority than primary care. Flexibility as a team is an important continues to be part of successful implementation of strategies to provide care. The INTUNE Mobile Clinic was able to offer COVID testing while still caring for patients with chronic disease and/or follow-up appointments via telehealth. The flexibility to prioritize the needs of the community for COVID 19 testing and willingness to help with triage phone banks went a long way toward solidifying relationships with community partners.

On the educational side, the project team at the university was encouraged by the overwhelming interest of nurses to pursue a Psych/Mental Health Nurse Practitioner degree; there were 57 applicants for 30 seats in the Post-Master's program, and 87 applicants for 23 seats in the Master's PMHNP program, even with no advertising to the public. This initially presented a problem when available space for student numbers was limited by the numbers of teaching faculty and area preceptors. Additional faculty/preceptor recruitment has since been expanded to accommodate additional student placement in didactic courses and clinical preceptorships.

Telehealth is a topic of considerable interest to students and clinicians alike. Since the COVID-19 pandemic, it is something that has had to be rapidly implemented in clinics that previously had no experience with it. The UT Tyler PMHNP and FNP programs are

currently implementing telehealth education as it evolves and as updates in technology become available. The INTUNE project team is part of a nationwide telehealth toolkit workgroup which includes over 50 HRSA ANEW awardees from across the nation with access to experienced telehealth users. The 'Telehealth Toolkit' workgroup was created in October 2019 and the toolkit product is scheduled for release within the next several weeks. The toolkit can be used to help with student, clinician, and patient education, problem identification, and implementation of telehealth in a myriad of venues.

One outcome of the team's participation in the development of a telehealth toolkit was to fully understand the potential impact that telehealth education/training can have on FNP/PMHNP curriculum. The INTUNE project team encourages other university advanced practice nursing programs to include this important component of education as a requirement in their curriculum, or at the very least as an elective. It will also be important to encourage further research as telehealth continues to evolve, especially with use among rural and medically underserved populations.

CONCLUSION

Several overall conclusions were drawn from the implementation of the INTUNE Project. First, by putting in the time and effort it takes to develop the academic-practice partner relationship will increase the likelihood of project success. Second, once project goals are clearly defined, flexibility during operationalization of strategies will improve the chances of timely implementation and chances for success. The third conclusion identified was the importance of exploring evidence-based tools, such as telehealth, to improve access to care, especially those in rural and medical underserved areas. The fourth conclusion is that by identifying several ways to influence the outcome of the project allows for 'full circle' success. Through the development of the academic/community partner relationship, goals may be reached at an accelerated rate, ie, provider salaries are paid by the grant, community partner organization is supported, advanced practice students are trained didactically in academia and clinically in the community partner sites thereby increasing the number of providers, all of which inevitably leads to more patients cared for who otherwise would not have had access to care.

Ultimately, the INTUNE project helps patients find a permanent medical home network that will 'meet patients where they are' by establishing a relationship between the patient, clinic, and provider, dedicated to helping patients "own" their healthcare decisions and facilitating vulnerable patients' navigation to the appropriate health care resource. Linked together, the academic-practice partnerships along with the expertise and experience of university personnel provide the necessary capacity to effectively manage all aspects of the INTUNE project. By improving access to healthcare for populations in R/US areas in northeast Texas, facilities and practitioners are better able to provide primary care and psychiatric/mental health care services to those populations who are most in need.

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