Providing high-quality, person-centered care to individuals who are experiencing a serious illness requires providers who are adequately trained and an infrastructure that supports and encourages coordinated care. The Task Force on Serious Illness Care examined components of the serious illness workforce including capacity, specialization, training, and workforce models, and components of the health system infrastructure to support delivery of care.

SERIOUS ILLNESS CARE WORKFORCE DEVELOPMENT

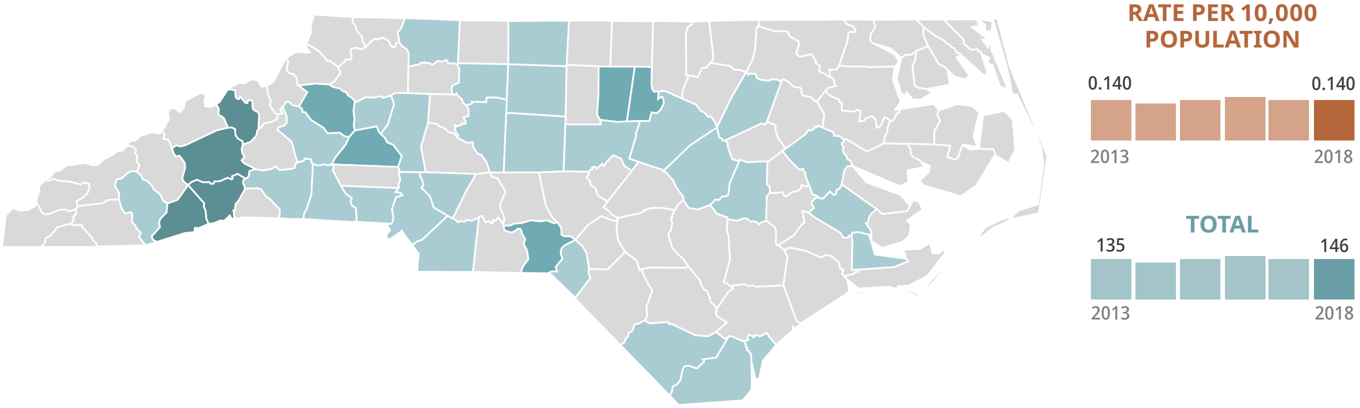
Currently in North Carolina, there are shortages throughout the workforce trained to meet the needs of those who are seriously ill.[1] These shortages limit access to care and are expected to increase over the coming decades due to provider burnout, an aging workforce, low wages, and an inadequate workforce pipeline.[1,2] In many facets of the serious illness workforce, there are barriers to a sustained and adequate workforce. In addition to these shortages, the demographic characteristics of the current workforce, as a whole, are not representative of North Carolina.[3,4] The task force recognized the need to understand the ways in which an unrepresentative workforce could impact the presence of implicit bias within palliative care resulting in lower-quality care for seriously ill individuals who are members of a marginalized community, and the need for policies and processes that increase cultural competency within the workforce.[5]

PALLIATIVE CARE WORKFORCE

Palliative care as a medical subspecialty was formally recognized in 2008, and as of 2018, there were 221 active, licensed physicians in practice in North Carolina who were board certified in Hospice and Palliative Medicine.[a] Palliative care has grown significantly over the past two decades—less than 25% of hospitals had a palliative care program in 2000,[6] and 93.7% of hospitals with more than 300 beds had a palliative care team in 2019.[1] Despite the growth of the field, access to palliative care varies widely and many communities lack access, particularly in rural areas where health care access remains challenging across types of care. Although North Carolina received a "B" grade for the prevalence and distribution of palliative care programs from the Center to Advance Palliative Care (CAPC) and the National Palliative Care Research Center (NPCRC),[1] in 2018 there were 64 counties in North Carolina without a physician that specialized in palliative medicine.[7]

The current palliative care workforce shortage is projected to grow even greater over the next several decades due to burnout and an aging workforce.[2,4,8] One analysis estimated there is one palliative care physician for every 808 eligible patients, which results in an unsustainable workload, especially considering the emotional impact of working with seriously ill patients.[4] Nearly one-quarter of hospice and palliative care physicians consider leaving the field within their first five years of practice; palliative care clinicians experience one of the highest rates of burnout of specialty physicians, at a rate of 62%.[9,10] The current palliative care workforce

FIGURE 5.1 Physicians with a Primary Area of Practice of Hospice Palliative Medicine per 10,000 Population by County, North Carolina, 2018



Physicians with a primary area of practice of Hospice Palliative Medicine include the following: Hospice & Palliative Care (OBGYN), Hospice & Palliative Medicine (Anesthesiology), Hospice & Palliative Medicine (Emergency Medicine), Hospice & Palliative Medicine (Family Medicine), Hospice & Palliative Medicine (Physical Medicine & Rehabilitation), Hospice & Palliative Medicine (Psychiatry & Neurology), Hospice & Palliative Medicine (Radiology), Hospice & Palliative Medicine (Surgery), Hospice and Palliative Medicine, Hospice and Palliative Medicine (Internal Medicine), Palliative Medicine.

Notes: Data include active, licensed physicians in practice in North Carolina as of October 31 of each year who are not residents-in-training and are not employed by the Federal government. Physician data are derived from the North Carolina Medical Board. County estimates are based on primary practice location. Population census data and estimates are downloaded from the North Carolina Office of State Budget and Management via NC LINC and are based on US Census data.

Source: The Cecil G. Sheps Center for Health Services Research, North Carolina Health Professional Supply Data. Accessed February 20, 2020. https://nchealthworkforce.unc.edu/supply/

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[a] *Spero, J. Director of Sheps Health Workforce NC, Cecil G. Sheps Center for Health Services Research. Written (email) communication. February 26, 2020.*

is also largely comprised of older (aged more than 50 years) clinicians with approximately 40% of palliative care physicians being eligible for retirement in the next decade.[4,11] Projections suggest this aging workforce will not be replaced at a sustainable rate. Over the next two decades, the patients eligible for palliative care will grow by 20%, but there is only a 1% expected growth in the physician workforce.[12]

Nurses are critical providers in palliative care and interact with those who are seriously ill and their families more than any other sector of the workforce.[13] Although there is not an overall shortage of nurses in North Carolina, there is disparate distribution of nurses within the state.[3] In 2014, metropolitan (urban) counties had 112.6 registered nurses per 10,000 people, while non-metropolitan (rural) counties had 80.7 registered nurses per 10,000 population.[3] This maldistribution may lead those in rural counties to experience decreased access to care or decreased quality of care.

FRONTLINE WORKFORCE

The task force also reviewed the important role of frontline staff such as certified nursing assistants, home health aides, and others. The bulk of day-to-day care that is not provided by family caregivers is provided by this frontline staff. Frontline staff who work with seriously ill patients often work long, non-traditional hours with low wages and perform physically and emotionally demanding tasks. Home care workers make up the largest portion of the workforce that cares for the seriously ill and enables patients to stay within their homes by tending to their health needs as well as assisting with bathing, dressing, and eating.[14] The physical nature of the tasks results in high rates of occupational injury,[14] and most home care workers are not offered health insurance through their employment.[15] The median pay for home health aides in 2018 was $11.57 per hour, or $24,060 per year,[16] which is not competitive with fast food or retail positions that offer more traditional work hours. Many home care workers feel they are poorly trained to handle the illness-specific needs of their patients, and there is currently no federal training standard for personal care aides.[14] In 2019, there was an 82% turnover rate among home care workers.[17]

ADDITIONAL MEMBERS OF THE SERIOUS ILLNESS CARE WORKFORCE

Social workers' involvement in serious illness care provides those who are experiencing serious illness and their caregivers with much needed psychological, emotional, spiritual, and cultural aspects of care.[18] Social workers often provide invaluable connections to community resources and education for those who are seriously ill.[18] A review of the field found social workers provide behavioral health support, care management, and referrals to other providers.[19] This multifaceted approach to care may increase access for marginalized communities.[19] The impact of social workers is largely dependent on the amount of time they are able to spend with seriously ill individuals and their families, and decreased social worker caseloads increased satisfaction amongst family members of those in palliative care.[20]

In addition, workers including chaplains and spiritual advisers are also integral components of the serious illness workforce, providing important spiritual care to those facing illness and end of life. Generally, spiritual care "encompasses religious rituals and practices, as well as activities that comfort and support the person who is seriously ill as they search for meaning and for connection" as they navigate care and end-of-life decisions.[21] Qualitative research has shown that spiritual care that improves spiritual and religious coping is associated with stronger social support, less psychological distress, and improved quality of life for people with serious illness.[21] The Center for the Advancement of Palliative Care has issued guidelines and toolkits for health providers and health systems to effectively integrate spiritual care into their palliative, hospice, and serious illness care processes.

In order to create a more sustainable workforce, the task force recommends:

RECOMMENDATION 5.1:
Develop a supported and engaged serious illness care workforce

In order to support the serious illness care workforce (including physicians, nurses, home health aides, direct care workers, the skilled nursing workforce, and others), the North Carolina General Assembly should require the North Carolina Department of Health and Human Services to convene a study of necessary components and resources for a supported workforce. Partners should include: North Carolina Community College System, University of North Carolina system, Area Health Education Centers. Study/analysis should review:

1. Current demographics, including number of agencies providing hospice, palliative care, home health services, long-term care, including number of individuals receiving services and geographic distribution of the workforce
2. Cost of care, its impact on other health care metrics (such as hospitalization, readmission) that impact overall cost, and potential cost savings from delaying institutional care
3. Performance on additional metrics, including those regarding patient and family satisfaction with care (patient-reported outcomes), and review of metrics under development, such as those regarding days at home, social isolation, and loneliness; also, performance on provider satisfaction (including turnover)
4. The effect of wages and other compensation across industries on the serious illness workforce; develop competitive compensation models to sustain a qualified and engaged workforce
5. Pipeline training, curricula and existing educational resources and programs within the state

TRAINING THE SERIOUS ILLNESS WORKFORCE

There is a great need for the future and current health care workforce to receive training in order to increase awareness of serious illness care and improve access to quality care.[1] The National Academy of Medicine defined three existing barriers within current training of those who provide care for the seriously ill: lack of palliative care content within the curriculum, lack of focus on communication skills, and the siloed approach to education, which causes a lack of interprofessional collaboration.[22] Despite gains in the recognition of types of serious illness care and the growth of palliative care programs, there is a deficit of palliative care curriculum within undergraduate and graduate medical education.[22] There are also currently no federal training requirements for in-home health workers.[23]

Improved training can also help to increase retention of the serious illness care workforce. An Iowa private home health company that implemented a training program on communication, mentoring, and building relationships with supervisors reduced staff turnover by 20% in one year.[24] Investing in training can better prepare the workforce for the occupational, physical, and emotional demands of their positions.

Training can also serve to redirect traditional, siloed professions toward an interprofessional approach to care and education for those who provide it.[25] Interprofessional education "occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes."[26] This approach to education is crucial for a workforce that works closely with a variety of professionals and often involves referring patients to specialists or additional services. Interprofessional education puts the focus of curricula on specific population needs and promotes collaboration that is needed to provide coordinated serious illness care.[25]

PRE-SERVICE TRAINING

Given the current shortage in the serious illness care workforce, it is unlikely that the number of specialty clinicians will be adequate to serve the growing population. Therefore, it is imperative that that all clinicians be trained in serious illness care.[27] Primary care providers are often the first step for diagnoses and treatment of serious illness, and patients with a serious illness typically maintain a relationship with their primary care provider over the course of their illness. Primary care clinicians can utilize the ongoing relationship with their patients and help them navigate complex care systems and facilitate end-of-life conversations.[28] In order to ensure that individuals receive access to quality care, the pre-service training curricula of all health care professionals should incorporate components of serious illness care, including palliative care skills such as symptom management and communication skills about disease trajectory and goals for end-of-life care.

Many undergraduate and graduate students' curricula do not incorporate opportunities to practice communication skills or reinforce empathetic approaches to comforting patients and their family members.[29,30] Feeling unprepared for communicating with patients can lead to emotional distress and subsequent burnout.[31] Learning how to effectively communicate with patients and their families requires ongoing pre-service training and the opportunity for feedback. The most effective communication training requires multiple opportunities throughout pre-service and in-service training and involves role-play scenarios and observations.[30]

TRAINING IN CULTURAL COMPETENCY AND IMPLICIT BIAS

E – Engage in empathetic perspective taking

P – Practice the right message

I – Individuate, recognizing the individual person's needs

C – Challenge stereotypes

Source: American College of Physicians. Accessed February 21, 2020 http://aahpm.org/quarterly/summer-16-feature

In order to effectively provide care for and communicate with seriously ill patients and their families, providers benefit from training in cultural competency and implicit bias. People with a serious illness who also speak a different language, come from marginalized communities, or have differing abilities encounter increased barriers to accessing quality care.[32] Cultural and religious beliefs can add complexity to end-of-life care. Culture can influence a variety of factors in palliative care, including preferences for pain management, communication styles, involvement of family, views on death, and emotional expression.[33] Lack of understanding can lead to dissatisfaction with care and dishonoring pain management or end-of-life wishes.[32] Serious illness workforce training should give providers an opportunity to recognize and confront their own implicit biases and learn strategies to develop empathetic approaches to facilitating conversations that focus on individual needs and wishes.[34]

CONTINUING EDUCATION

Although the Accreditation Council for Graduate Medical Education requires curricula for physicians to address communication with patients and families and provide the experience of working at least 100 hours with older patients, the standards do not specify how to facilitate these learning objectives, or address components of palliative care.[28] The current standards also do not recognize the age diversity of people who experience serious illnesses and they create varying levels of competency for providers. For nearly 20 years, there has been a consensus that palliative care training should be incorporated into the education of new- to mid-career physicians,[26] yet if any training is provided on palliative care, it likely takes place during preclinical years.[29] Continuing education provides the current workforce with the opportunity to feel more connected to their work and increase their knowledge which, in turn, decreases turnover.[38]

Continuing education is vital to filling gaps in training the current workforce and addressing the shortage of the palliative care workforce in particular. Currently, North Carolina has a Geriatrics Workforce Enhancement Programs (GWEP) at the University of North Carolina at Chapel Hill. The core common elements of the Geriatric Workforce Education Program include interprofessional education, quality improvement, development of interprofessional teams in primary care, and enhancement of geriatric skill in primary care. The Geriatrics Workforce Enhancement Program partners with academic, primary care, and community-based partners to increase access to education for medical professionals and caregivers in order to deliver continuing education and provide better care for patients in rural, underserved, and diversely populated areas.[22] It also builds workforce capacity by providing distance learning opportunities, conferences, and e-consults. The varied curriculum has enabled the program to train professionals and caregivers in all 100 counties.[23] The Geriatrics Workforce Enhancement Program builds a greater awareness of geriatric screening and conditions through two-year interprofessional fellowship programs in nursing, geriatric medicine, pharmacy, and dentistry.[22] The program also works with family caregivers and communities to enhance skills and preparation, and with partners with state Area Health Education Centers to enhance the availability of interprofessional education.[39–41]

The North Carolina Area Health Education Centers (NC AHEC) operates nine centers that link the state's universities, community hospitals, and health agencies, and provides continuing education opportunities for health care professionals across disciplines. Many of NC AHEC's programs are multidisciplinary and/or interprofessional. The Greensboro AHEC offers a course titled, "What Do I Say? A Course in Talking about Death and Dying," designed for members of the serious illness care workforce.[38] In this interprofessional program, participants are made aware of their own personal beliefs and attitudes about death in order to build cultural competency. The course provides participants with the basic skills needed to empathetically respond to people who are dying and their families, as well as the opportunity to practice those skills.[38] This and other AHEC courses provide an opportunity for the serious illness workforce in North Carolina to build on existing knowledge and learn from colleagues across the workforce to build community and best practices.

The task force recognized the strength of existing interprofessional training programs in serious illness care and recommends the promotion and development of these programs.

RECOMMENDATION 5.2:

Promote models of interprofessional training for best practices in serious illness care, including palliative care (PRIORITY)

In order to increase awareness of serious illness care options and improve access to quality serious illness care, schools of medicine, schools of nursing, schools of dentistry, schools of pharmacy, allied health training programs, divinity schools, community colleges, schools of social work, Geriatric Workforce Enhancement Programs, and North Carolina AHEC should develop and implement interprofessional training modules on serious illness progression and end-of-life care. Training should:

1. Incorporate providers/students including physicians, nurses, care managers, chaplains, social workers, community health workers, community paramedicine providers, patient and community navigators, care managers, home health workers, frontline staff (including high school training programs), advance practice providers, and others. Training should align with needs of providers who care for individuals across the age spectrum (i.e., appropriate for pediatric providers through geriatric providers), as well as for providers working with vulnerable or underserved populations such as immigrant/refugee populations, homeless populations, and rural communities
2. Consist of a varied curriculum at both pre-service and in-service levels, delivered through in-person classes/conferences, podcasts, interactive video, e-learning modules, and individualized guidance, as applicable
3. Include information on services provided through hospice and palliative care, with an emphasis on goals of person-centered care, meeting care goals of patients and families, and aligning understanding and expectations of serious illness trajectory and options for care between providers and families
4. Focus on new roles and functions serving individuals with serious illness, including retraining and upgrading skills. Also focus on workforce resiliency and prevention of compassion fatigue
5. Include communication skills around conveying difficult prognosis, fear, and vulnerability; early and frequent conversations about goals of care, end-of-life preferences, what to expect following a family member's death; and identifying grief/bereavement supports for families
6. Emphasize "purposeful exposure" to team-based care, palliative care, and hospice, and include rotations in community-based care settings and home health
7. Emphasize importance of cultural competency, disparities in illness and access to care, roles of drivers of health in serious illness care, ways that different providers can influence these drivers, needs of vulnerable populations, and innovations in connecting individuals with resources for non-clinical health needs, such as NCCARE360
8. Include strategies to reduce stigma and misunderstandings about end-of-life care, including hospice and palliative care
9. Include communication as a key component and should address the ways communication skills are crucial in addressing psychological, spiritual, cultural, and ethical aspects of care

INCENTIVIZE TRAINING IN SERIOUS ILLNESS CARE

By 2030, the estimated number of physicians specializing in palliative care will not be adequate to care for individuals with serious illness.[42] The workforce needs incentives to encourage and promote specialization in palliative care. Providing palliative care necessitates specialized training, yet many of the professionals on palliative care teams have not received training for their roles.[43] Several states have passed laws requiring continuing education in competencies specific to serious illness care, including pain management, safe opioid prescribing, and palliative care.[44] There may also be opportunity through the expansion of value-based payment models to incentivize additional training in serious illness care, including palliative care, hospice care, and specific core competencies. Models such as the Patient and Caregiver Support for Serious Illness model, the Primary Care First model, and private payment models like Blue Cross and Blue Shield of North Carolina's Care 360 provide a structure through which specific training in serious illness care competencies could be promoted as part of an overall strategy of improving quality and rewarding high-value care. **Please see Chapter Three** for additional information on these payment models.

RECOMMENDATION 5.3:
Incentivize training in serious illness care, including palliative care

In order to incentivize entry into relevant specialties, including geriatric and gerontology specialization, and additional training in palliative care for the primary care and specialty workforce, private and public payers should identify incentive methods for health professionals' specialization and training in these areas. Methods may include higher rates of reimbursement for individual practitioners, support by value-based payment models for training to ensure quality and value; and/or reimbursement based on performance on quality metrics (including those identified in work group named in Recommendation 3.5). Incentives should be tailored for broad application to health and human services professional designations.

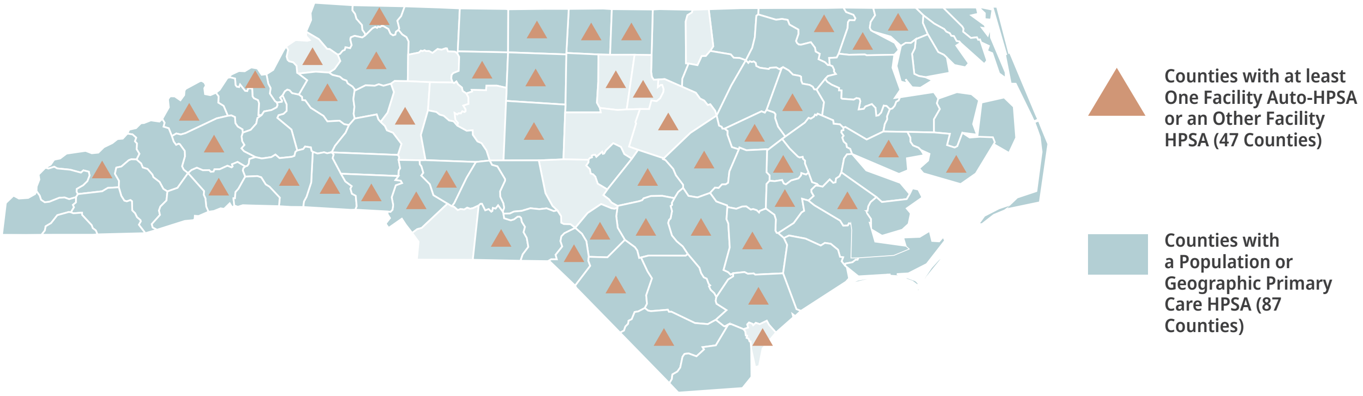
IMPROVING ACCESS THROUGH HOME- AND COMMUNITY-BASED MODELS OF CARE

In North Carolina there are 83 whole or partial counties with a Health Professional Shortage Area (HPSA) designation for primary care.[45] In order for seriously ill patients to receive non-emergent care in those counties, they must either drive long distances or receive care in emergency rooms or urgent care facilities, which increases cost for the patient and the system. Community-based care provides expanded access to care, particularly for individuals who live in rural communities. Geography, lack of public transportation, and fewer hospitals make it difficult for those who live in rural communities to access care.[46] Rural areas tend to have older residents with lower incomes, which increases the likelihood that those residents will experience a serious illness.[23] Although inpatient care at a hospital may be required for specialized medical services, community-based care can provide patients with safe, reliable, and timely care. This type of care can also alleviate stress for caregivers and provide them with much needed support.

TELEHEALTH AND REMOTE CARE

Telehealth services hold promise for improving access to care and reducing costs for the patient and provider. Telehealth is a method for expanding access to care in areas where there is a shortage of primary care providers. Although telehealth services do not allow in-person connection with individuals and providers, they can serve as an important component to serious illness care, particularly in rural areas. Telehealth increases the opportunity for contact with providers, including the opportunity to screen for unmet social needs. These needs can be addressed through NCCARE360, which enables providers to send and receive electronic referrals in order to create a coordinated care network **(see Chapter Three)**.[47]

FIGURE 2 North Carolina Office of Rural Health Primary Care - Health Professional Shortage Areas (HPSA)



DISCLAIMERS:

- Primary site only, does not include, Correctional Facilities or Federally Qualified Health Center (FQHC) satellite site
- Shortage area may be whole county, or population group or geographical area within county
- Counties that are in white represent urban or rural counties without an official HPSA designation
- The map is not reflective of counties that, if reviewed, would qualify for a primary care HPSA

Source: North Carolina Department of Health and Human Services, Provider Recruitment and Placement. Accessed February 17, 2020. https://files.nc.gov/ncdhhs/2019HPSAP_PrimaryCare_MAP2.jpg

The National Hospice and Palliative Care Organization has identified three types of telehealth that can be deployed for serious illness care—web-based applications, remote patient monitoring, and store and forward.[48] In web-based applications, patients access portals through the internet and can self-report health indicators such as glucose levels. Remote patient monitoring requires mobile devices or applications but allows real-time information sharing with providers. Both remote services enable providers to receive data to make more informed decisions and can alert providers to the need for care early. Store and forward capabilities enable video and or photos to be shared between a patient and provider.[48] The use of real-time telemedicine in palliative care is relatively new but can expand access to rural areas. In 2016, Four Seasons Compassion for Life in Western North Carolina piloted a program that utilized video conferencing and remote patient monitoring in homes with wireless internet or 3G/4G cellular reception. After participation in the pilot program, patients and caregivers reported a high level of satisfaction with the remote care and appreciated the ongoing and timely communication they were able to have with providers.[49]

COMMUNITY- AND HOME-BASED CARE DELIVERY

Community- and home-based care delivery provides those who are seriously ill with an opportunity to receive care in their own homes and communities instead of an institutionalized setting, a wish that has grown increasingly important to most Americans.[50] This type of care delivery also addresses the triple aim of reducing costs, improving patient experience, and improving population health.[50] Costs may be reduced through follow-up visits that enable providers and caregivers to address concerns and intervene in a timely manner, therefore decreasing the risk for hospitalization.[51] The experience of those who are seriously ill can be improved by receiving care from providers who live in their community and are more apt to being culturally attuned to their needs and beliefs. The overall health of the seriously ill population is improved through this care delivery because it enables providers to increase access to care, address social and physical needs, and provide education for positive health behaviors.[52] Therefore, the task force recommends:

RECOMMENDATION 5.4:

Increase access to serious illness care through expanded implementation of innovative models of care delivery (including telehealth and community- and home-based care) (PRIORITY)

In order to improve access to and quality of care for individuals with serious illness, Medicaid and private payers, medical and behavioral health providers, and the North Carolina Department of Health and Human Services (including but not limited to Medicaid and the Office of Rural Health) should prioritize expansion of new models of care delivery, including opportunities through managed care implementation and value-based payment reforms (**see Chapter Three**). Models may include:

1. Telehealth services (**see Recommendation 5.7**) including:
    a. Remote diagnostic capacity and ongoing consultation, medication management, and behavioral management when appropriate
    b. Home monitoring of activities of daily living, with local capacity for follow-up
    c. Integration of behavioral health and substance use disorder services to address issues related to serious illness (including but not limited to social isolation, hopelessness, and pain management)
    d. Remote screening for unmet social needs and connection to non-clinical health-related services using state screening tool and resource networks such as NCCARE360 as model
    e. Capacity for consultations between palliative care clinicians and community-based service providers and means of increasing skills and competencies
2. Community- and home-based health services, home-based primary care, home-based palliative care, and other home-based services

COMMUNITY PARAMEDICINE

Community paramedicine relies on state-licensed emergency medical services (EMS) professionals and agencies to reduce non-urgent transports to emergency rooms and increase access to primary care through home visits.[48] States are increasingly utilizing community paramedicine to provide care to rural areas, and pilot programs have shown decreased emergency room visits and 9-1-1 calls, improved patient satisfaction, and increased screening of geriatric residents.[53,54] EMS professionals visiting the homes of patients also present an opportunity to provide assistance to family caregivers and assess their well-being.[55] The Centers for Medicare and Medicaid (CMS) payment model of Emergency Triage, Treat, and Transport (ET3) could expand community paramedicine programs. ET3 would pay participating EMS providers to transport a patient to a hospital, primary care, or clinic, or provide treatment through a qualified health professional or telehealth.[56]

There are 24 existing community paramedicine programs in North Carolina.[57] McDowell County saved $102,833 in six months through its community paramedicine program.[58] In New Hanover County, the New Hanover Regional Medical Center (NHRMC) utilizes community paramedicine for patients who have been referred by a health care provider and live within 30 miles of the hospital's main campus.[57] The NHRMC piloted the program after more than 700 calls to 9-1-1 came from only 10 people with non-emergency complaints.[58,59] In the pilot program, 20 high-utilization patients were encouraged to call their assigned paramedic instead of 9-1-1 and were visited throughout a 12-month period. After these interventions, there was a 40.4% reduction in emergency department visits; a 27.9% reduction in EMS transports; and a 21.7% reduction in charges.[58] The NHRMC aims to see a referred patient within the first five days of being discharged from the hospital.[58] During these visits, an EMT reviews the patient's medical history and discharge instructions, refers the patient to community resources, inspects safety of the home environment, conducts a physical exam, and provides education for the patient and their caregivers.[57] This type of care is critical for patients who are seriously ill and wish to stay at home.

Community paramedicine provides a community-based model for increasing access to care for individuals with serious illness, therefore the task force recommends:

RECOMMENDATION 5.5:
Expand programs for community paramedicine

In order to improve access to high-quality serious illness care, the North Carolina Healthcare Association and community partners should promote/expand the development and implementation of innovative workforce approaches to serious illness care, including community paramedicine programs. These programs should:

1. Enable collaborations between emergency medical technicians, hospitals, primary care medical homes, social/human services, and other providers
2. Emphasize recruitment from within the service community, in order to ensure understanding of patient/caregiver/community characteristics and needs
3. Incorporate measurement of:
    a. Improved outcomes on metrics such as preventable hospitalizations, 30-day readmission rates, medication management, care management, and patient satisfaction with care
    b. Process metrics, such as number of programs, trained providers, etc.
    c. Outcomes in metrics under development, including measures of social isolation, loneliness, or others

COMMUNITY HEALTH WORKERS

A community health worker is “a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.”[60] Community health workers are members of the communities in which seriously ill patients live, making them critical to the provision of timely and culturally competent care for these patients. The North Carolina Department of Health and Human Services has defined four roles for community health workers: cultural liaison, health navigator, health and wellness promoter, and advocate.[61] These roles and the relationships that community health workers form with members of the community are critical to ensuring quality coordinated care for seriously ill patients, particularly those from underserved communities.

Community health workers serve as a bridge between medical providers, social service organizations, and individuals with serious illness. This is particularly important in communities that have traditionally been treated unethically or intentionally underserved by the medical community. One study that focused on patients from impoverished areas found that community health workers can reduce hospitalization by 65% and improve satisfaction with primary care.[62] Community health workers also aim to reduce hospitalization by addressing social determinants of health and providing culturally sensitive education for patients and caregivers.[63]

Community health workers are part of a sustainable and effective approach to providing non-critical care to those who are seriously ill.[64] NCDHHS has developed core competencies and curricula for community health workers that include communication skills, capacity-building skills, service coordination skills, interpersonal skills, advocacy skills, knowledge base, outreach skills, personal skills and development, and education and facilitation skills. These core competencies and subsequent curricula could be taught at community colleges, AHECs, or other relevant agencies.[61] Community health workers may be a sustainable and effective solution to the serious illness workforce shortage and are liaisons who provide culturally relevant and timely care to seriously ill patients, and the task force recommends:

RECOMMENDATION 5.6:
Expand community health worker programs

In order to improve access to high-quality serious illness care, the North Carolina Department of Health and Human Services should expand the current community health worker program. Expansion should ensure:

1. Recruitment from within the service community, in order to ensure understanding of patient/caregiver/community characteristics and needs
2. Incorporate measurement of:
    a. Improved outcomes on metrics such as preventable hospitalizations, 30-day readmission rates, medication management, care management, and patient satisfaction with care
    b. Process metrics, such as number of programs, trained providers, etc.
    c. Outcomes in metrics under development, including measures of social isolation, loneliness, or others
3. Partnership with North Carolina AHEC, community colleges, and other training organizations

INFRASTRUCTURE TO SUPPORT SERIOUS ILLNESS CARE

The task force identified several current initiatives in place to address infrastructure needs, particularly in rural North Carolina, and the potential ways that addressing these needs can improve serious illness care in these areas. Those who are seriously ill receive care from hospitals, doctors’ offices, at home, and in assisted living or skilled nursing facilities, necessitating care coordination between the various settings.[65] In order to provide well-coordinated and high-quality care, there must be technological infrastructure to support care coordination and transitions between the various settings where seriously ill patients receive care. In 16 counties in North Carolina, at least 35% of households have no internet connection. In three North Carolina counties, nearly half of households are without internet.[66] Access to high-speed internet is increasingly required both for recruiting workers and to support individuals' employment (i.e., finding/applying to jobs, communicating with colleagues, or telecommuting). Enhancing the broadband infrastructure is crucial for rural North Carolinians. Many North Carolina broadband projects target the "middle mile," the portion of the telecommunications network that connects the network operator's core to the local network plant, generally located with the local telecommunications provider.[67] Other projects target the "last mile," the portion of the telecommunications network that reaches individual consumers. Because it is often not cost-effective for telecommunications companies to install appropriate technologies in areas that serve few consumers, rural areas are often underserved by these technologies, particularly for the "last mile."[67]

Improved internet capacity through an enhanced broadband infrastructure can improve access to and coordination of care, increase access to personal medical information through online patient portals, and is instrumental in helping practices reach "meaningful use" standards for health information technology. With the expansion of new models of providing care, including telehealth as well as the community health worker and community paramedicine models described above, access to adequate broadband becomes more imperative. The North Carolina Telehealth Network, run by Cabarrus Health Alliance and subsidized by the Federal Communications Commission's Healthcare Connect Fund, provides a telecommunications network and high-speed broadband services with large discounts to eligible public and nonprofit health care providers. The North Carolina Telehealth Network provides this network for health institutions throughout the state and supports telehealth needs, exchange of health information, and disaster monitoring and response support.[68] In addition, the North Carolina Department of Information Technology's Broadband Infrastructure Office provides grants to broadband service providers to facilitate the expansion of broadband infrastructure in underserved areas. The Growing Rural Economies with Access to Technology program funds broadband expansion projects in economically distressed counties.[68]

OFFICE OF RURAL HEALTH NC ELECTRONIC HEALTH RECORD FUNDING PROGRAM

NC HealthConnex is a health information exchange that "compiles patients' health information from disparate sources to build a comprehensive view of a patient's electronic health record."[69] This provides an overview of a patient's health, promotes conversations between authorized providers, and reduces duplicative testing, therefore reducing costs for patients and providers.[69] In 2018 the Office of Rural Health offered the Electronic Health Record Funding Program to behavioral health and intellectual or developmental disabilities providers to improve access to care and health outcomes.[70,71] This grant allowed these providers to be reimbursed for electronic health record technology that would enable them to participate in NC HealthConnex.[72] If expanded, this program could offer an opportunity for providers to improve care coordination and access to care through connecting to NC HealthConnex, especially home health or long-term care providers that may benefit from assistance in developing or enhancing their technological capacity.

In order to improve the technological infrastructure and provide improved and better coordinated serious illness care, the task force recommends:

RECOMMENDATION 5.7:
Enhance health information technology infrastructure to improve care coordination and quality of care

In order to improve care coordination, communication capabilities, and the ability to share documents and patient information between health care providers, health care systems, technology product vendors, and data repositories, the North Carolina Department of Information Technology should:

1. Provide continued funding and support to municipalities and community organizations in rural North Carolina and other areas where access to broadband is limited, to enhance broadband access and to maintain broadband infrastructure
2. Consider renewal of funding to the NC DHHS Office of Rural Health NC Electronic Health Record Funding Program, with a new strategic focus on determining the feasibility of providing funding for small health care providers (including home health agencies and long-term care/skilled nursing facilities) to purchase and implement electronic medical record technologies in order to meet connection requirements/deadlines for NC HealthConnex

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