



Innovations in Rural Health System Development

Recruiting and Retaining Maine's Health Care Workforce

Amanda Burgess, MPPM
Andrew Coburn, PhD

NOVEMBER 2016

Muskie School of Public Service
Maine Rural Health Research Center



Rapid changes in health care payment and delivery systems are driving health care providers, payers, and other stakeholders to consider how the current delivery system might evolve.

This series of briefs profiles innovative rural health system transformation models and strategies from Maine and other parts of the United States. The aim is to assist rural communities and regions to proactively envision and develop strategies for transforming rural health in the state. In preparing these briefs we consulted experts, interviewed key informants, and reviewed the professional and research literature to find robust and innovative models and strategies that could be replicated in rural Maine.

PROMISING STRATEGIES:

- Rural-focused Medical Education Programs..... 2
- Oral and Behavioral Health Workforce Development 4
- New Health Workers 7

INTRODUCTION

Compared to the rest of the country, Maine has a robust per capita supply of physicians, nurse practitioners, physician assistants, nurses, and pharmacists. However, significant rural-urban disparities in provider distribution limit access to care in many rural areas of the state, where residents are older, have lower incomes, and greater health needs. Additionally, the aging of Maine's health care workforce is such that over the coming decade, nearly one out of five health professionals currently working may need to be replaced, and in some occupations—including psychology and dentistry—approximately one out of three may need to be replaced.¹

Recruiting and retaining health professionals in rural communities is a long-standing and complex problem resulting from factors that include an urban-centric medical education system and medical training that

KEY FACTS about medical education in Maine

■ Nearly one-third (30%) of Maine's primary care physicians graduated from a medical school affiliated with Maine Medical Center, including the University of New England College of Osteopathic Medicine, Tufts University School of Medicine, and the University of Vermont.²

■ Maine-based medical residency programs are a significant pipeline for Maine's primary care physician workforce: over half (55%) of physicians in family medicine/general practice in the state completed their medical residency in Maine.²

frequently does not prepare providers for the unique challenges of working in rural areas. In response, health care workforce training programs, states, and communities in Maine and across the country have developed promising policies and programs to increase the likelihood that health professionals will be available to meet the needs of rural residents and communities. This brief highlights innovations underway in Maine and elsewhere in health professions education programs. The report also discusses initiatives to expand the use of new types of health workers, such as community paramedics and community health workers, to expand the availability and accessibility of health care in rural communities.

PROMISING STRATEGIES

Rural-focused Medical Education Programs

What is medical education?

To practice as a physician in the United States an individual must meet certain educational and training requirements. Physicians must earn a bachelor's degree, graduate from a four-year allopathic or osteopathic medical school, and complete three to seven years of supervised professional training in a residency program, usually based at a hospital. In addition, physicians who want to specialize may complete a one to three year fellowship that offers additional training in a sub-specialty such as gastroenterology or neonatology.

KEY FACTS about medical education in Maine:

- Maine is home to one osteopathic medical school (University of New England College of Osteopathic Medicine) and one hospital-based allopathic medical school partnership (Tufts University School of Medicine-Maine Medical Center Maine Track Program).
- Maine has four family medicine residency programs. In addition to its family medicine residency, Maine Medical Center has 13 residency programs in specialties such as anesthesiology, pediatrics, and surgery.
- Nearly one-third (30%) of Maine's primary care physicians graduated from a medical school affiliated with Maine Medical Center, including the University of New England College of Osteopathic Medicine, Tufts University School of Medicine, and the University of Vermont.²
- Maine-based medical residency programs are a significant pipeline for Maine's primary care physician workforce: over half (55%) of physicians in family medicine/general practice in the state completed their medical residency in Maine.²
- Maine ranks 12th nationally for retention of physicians completing a medical residency in the state.³

PROMISING STRATEGIES AND MODELS

Longitudinal Integrated Clerkships

Redesigning medical education to recruit students from rural areas and provide them training experience in rural settings is a proven strategy for recruiting and retaining physicians in rural practice. Rural longitudinal integrated clerkships (LICs) are common to

many rural-focused medical education programs. As opposed to “block” training programs that are comprised of a series of short rotations in specific disciplines (psychology, obstetrics, surgery, etc.), an LIC is a prolonged period of training during the third year of medical school that gives medical students the opportunity to provide care to a panel of patients over time. Studies of individual programs have found that students graduating from rural-focused medical school programs are more likely to select a rural location for their practice.^{4,5}

EXAMPLE | The Tufts University School of Medicine-Maine Medical Center Maine

Track Program—a partnership between Maine Medical Center and the Tufts University School of Medicine in Boston, Massachusetts that seeks to grow Maine’s physician workforce—offers its students the option of participating in a nine-month LIC at one of ten hospitals across the state, eight of which are located in a rural area. In addition to offering an LIC, the program take several steps to encourage students to practice in Maine, including a targeted admissions process that favors Maine residents and financial incentives for Maine students.

Rural Training Track Residency Programs

The rural training track (RTT) model is another proven strategy for addressing physician shortages in rural areas. RTTs generally combine a year of training in an urban area with two years of training in a rural area, giving medical residents an opportunity to develop the skills needed to practice successfully in rural areas. About twice the proportion of RTT graduates practice in rural areas after completing their residency compared to family medicine residency graduates overall (35% vs. 17.5% respectively).⁶

EXAMPLE | The Swift River Rural Training Track, a part of the Central Maine Medical Center Family Medicine Residency Program, is the only RTT in Maine, and one of only two RTTs in New England. Residents receive their initial year of training at Central Maine Medical Center in Lewiston and their second and third years of training at Swift River Family Medicine, a clinical department of Rumford Hospital, a 25-bed Critical Access Hospital located in Rumford, Maine. Since its inception in 2005, 13 physicians have graduated from the Swift River RTT. Nine graduates continued to practice in a rural area after completing the program and five stayed in Maine.

Considerations for application in Maine

- There is considerable evidence that multiple, coordinated strategies are needed to successfully recruit and retain doctors and other health professionals in rural areas. This includes state-level policy and financial incentives as well as community level strategies to create a pipeline into the health professions from secondary and higher education to supporting rural-based health professions training programs.
- Maine is building a strong infrastructure for rural-based health profession training that could be expanded with greater support for training sites that might be reluctant to support their clinicians investing time in training medical students during clerkships because the trainees may or may not return to the community after their required residency.

KEY FACTS about the oral and behavioral health workforce in Maine:

■ Almost one third of Maine's dentists are 60 or older compared with 20 percent nationally.¹

■ Like Maine's physician supply, the behavioral health workforce is concentrated in urban areas. Seventy percent of the health care social workers and 69 percent of mental health and substance abuse social workers are employed in Cumberland, Penobscot, and Androscoggin counties.¹

- Physicians must have institutional support to take the time needed to train students. If health systems support providers taking on the role of preceptor more students will be able to experience rural practice.

Additional resources on Rural Training Tracks and Longitudinal Integrated Clerkships:

- The Consortium of Longitudinal Integrated Clerkships: <http://www.clicmeded.com/>
- The RTT Collaborative: <http://rttcollaborative.net>

PROMISING STRATEGIES

Oral and Behavioral Health Workforce Development

What is the oral and behavioral health workforce?

Maine's oral health workforce consists of a variety of practitioners including dentists, who must obtain a bachelor's degree and then undergo four years of training at a dental school, and positions with varying education and licensing requirements such as registered dental hygienists, dental hygiene therapists, independent practice dental hygienists, and expanded function dental assistants.

The behavioral health workforce is comprised of individuals with varying degrees of education and training that provide mental health and/or substance use disorder services, including: clinical, social, and school psychologists; social workers; mental health counselors; and substance abuse and behavior disorder counselors.

KEY FACTS about the oral and behavioral health workforce in Maine:

- In August 2013, the University of New England College of Dental Medicine, the only dental college in Northern New England, welcomed its inaugural class of 64 dental students. Of the 64 students, 24 were from Maine. The first class of students will graduate in the summer of 2017.
- Maine's dentists are unevenly distributed, with Cumberland, Kennebec and Penobscot counties maintaining a disproportionately high share of employment—68 percent of dentists work in one of those three counties but only 42 percent of the state's residents reside in those counties.¹
- Almost one third of Maine's dentists are 60 or older compared with 20 percent nationally.¹
- Maine has fewer clinical, counseling, and school psychologists per capita than the national average and nearly 70 percent of those psychologists are 50 or older.¹
- Like Maine's physician supply, the behavioral health workforce is concentrated in urban areas. Seventy percent of the health care social workers and 69 percent of mental health and substance abuse social workers are employed in Cumberland, Penobscot, and Androscoggin counties.¹

PROMISING STRATEGIES AND MODELS

Community-based Dental Education

Dental training programs have increasingly integrated community-based education programs into their curriculum. One such program—externships—place dental students into rotations in community sites such as community health centers, mobile clinics, and private dental offices during their final year of study. Rural externship placements provide dental students the opportunity to learn about the needs of a rural community and treat rural patients.

EXAMPLE | The University of New England College of Dental Medicine

(College), the only dental college in Northern New England, aims to address the oral health access issues in the Northern New England region through a public health-focused, community-based curriculum. The College's curriculum includes four semesters of public health-focused training in social and behavioral science, epidemiology, and the role of dentistry in public health. Classroom study is augmented by community outreach opportunities serving diverse populations from pre-school through end of life in a variety of settings including jails and homeless shelters. Students begin seeing patients in the on-campus Oral Health Center during their second year of their training—a year earlier than in most dental schools—and training culminates in two 12-week externships during a student's fourth and final year of training. Fourth year students are placed among 26 clinical sites including Federally Qualified Health Centers, non-profit community health clinics, and private practices that accommodate populations with high needs. Twenty four of the sites are located in Northern New England (including Aroostook and Washington counties in Maine) and a vast majority of the sites are located in a Dental Health Professional Shortage Area. The extended length of the externship program and the rural nature of many of the clinics allow students to better understand the roles of a dentist in a smaller, high need community.

The College's admissions process targets students with ties to northern New England. Of its inaugural class of 64 students, 24 were from Maine. Currently, 43 percent of students are from Northern New England. The first class of students will graduate in May 2017 and the College plans to track where students choose to practice after graduation.

EXAMPLE | The Northern Maine Area Health Education Center (AHEC) and the St. Apollonia Dental Clinic—a pediatric dental clinic in Presque Isle that has a high proportion of low-income patients—have collaborated to make Certified Dental Assistant training more accessible to practicing dental assistants in Aroostook County. St. Apollonia partnered with Northern Maine Community College (NMCC) in Presque Isle to develop a dental assistant training program that combines both classroom and hands-on instruction. The 100-hour course includes chair-side procedures and assisting in a variety of dental procedures at St. Apollonia Dental Clinic and classroom work at NMCC. Funding for the program was secured through a Maine Health Care Sector Grant from the Department of Labor in addition to funding leveraged through the Northern Maine AHEC.

Pipeline programs

A rural background increases the likelihood that a health care professional will choose to practice in a rural area. One long-term approach to addressing shortages in the rural health care workforce is to introduce rural secondary and higher-education students to health care professions at an early age, nurture their interest, and provide opportunities for them to acquire skills that will help them enter a health profession.

EXAMPLE | In Nebraska, 71 of the state's 93 counties do not have a psychiatric prescriber (psychiatrist, psychiatric nurse practitioner, or psychiatric physician assistant) and 32 counties do not have a behavioral health provider of any kind.⁷ Like Maine, Nebraska's behavioral health workforce is concentrated in the state's urban areas. **The Behavioral Health Education Center of Nebraska** (BHECN) was established by the Nebraska Legislature in 2009 to improve access to behavioral health services in Nebraska through workforce development programs. BHECN's initiatives focus on four areas: (1) development of a pipeline for behavioral health professions, (2) preparation of students in the provision of behavioral health services, (3) training and retention of the existing behavioral health workforce, and (4) evaluation of and reporting on the behavioral health workforce in Nebraska. BHECN's various recruitment and pipeline development efforts embrace a "grow your own" approach that targets students in Nebraska from high school through medical school. Due in part to BHECN-sponsored psychiatry mentorship activities at the University of Nebraska Medical Center (UNMC) the number of UNMC medical students taking psychiatry electives steadily increased from 9 to 69 between 2011 and 2015. Recruitment into psychiatry residency programs has also improved, with 9.68% of graduating UNMC medical students matching in a psychiatry residency program in 2015—more than double the national average of students matching in a psychiatric residency. In BHECN's fiscal years 2014 and 2015, the organization provided free, in person trainings on topics such as Mental Health First Aid, trauma informed care, and compassion fatigue to over 3,000 individuals working in behavioral health, over 2,000 of which worked in rural counties.

Considerations for application in Maine

- Communities with a shortage of health workers need to partner with community groups, educational institutions, governments, and others to come up with creative ways to recruit, train, and place rural community members in training programs that get them into the health care workforce.
- Communities need to look at other models, such as Project ECHO which is profiled in the behavioral health-focused brief, to train primary care physicians in rural areas to better address behavioral health issues of patients.

Additional resources on oral and behavioral health workforce development:

- BHECN Legislative Report: http://unmc.edu/bhecn/_documents/BHECN-Legislative-Report-2015-FINAL.pdf
- Behavioral Health Workforce Research Center: <https://sph.umich.edu/bhwrc/>
- Rural Health Information Hub, Rural Oral Health Toolkit: <https://www.ruralhealthinfo.org/community-health/oral-health>

KEY FACTS about new health workers in Maine

■ Maine's Community Health Worker Initiative, part of the State Innovation Model (SIM) Project, supports four community health worker pilots at DFD Russell Medical Centers, MaineGeneral, Spectrum Generations, and the City of Portland's Public Health Division.

■ In 2012, the Maine Legislature authorized the Maine Board of Emergency Medical Services to establish community paramedicine pilot projects. Over the first two and a half years of the program, the state's 12 community paramedicine pilot projects collectively made 3,755 community paramedicine runs.

PROMISING STRATEGIES

New Health Workers

What are new health workers?

In an effort to address health care workforce shortages rural areas have expanded the use of new types of health workers, including community paramedics and community health workers.

KEY FACTS about new health workers in Maine

- Maine's Community Health Worker Initiative, part of the State Innovation Model (SIM) Project, supports four community health worker pilots at DFD Russell Medical Centers, MaineGeneral, Spectrum Generations, and the City of Portland's Public Health Division.
- In 2012, the Maine Legislature authorized the Maine Board of Emergency Medical Services to establish community paramedicine pilot projects. Over the first two and a half years of the program, the state's 12 community paramedicine pilot projects collectively made 3,755 community paramedicine runs.

PROMISING STRATEGIES AND MODELS

Community Health Workers

Community health workers are frontline paraprofessionals that promote and improve individual and community health by bridging gaps between health care systems and medically underserved communities. Community health workers provide clients culturally appropriate health and social services, information on available resources, and social support. Research has shown that community health workers improve outcomes for clients with a variety of chronic conditions including asthma, hypertension, diabetes, and cancer,⁸ and increase use of preventive services.^{9,10}

EXAMPLE | Kentucky Homeplace is a robust, well-documented community health worker initiative serving 27 rural counties in eastern Kentucky. Community health worker training for the initiative includes a 40-hour didactic training and 80-hour practicum over the course of a three month orientation period. The didactic training covers topics including health coaching for chronic conditions, care coordination and system navigation, outreach and advocacy, and research. Since its inception in 1994 the program has served over 100,000 rural Kentuckians at no charge. Clients are typically poor and have low levels of educational attainment.¹¹ Several studies show the initiative increases patient adherence to follow-up recommendations and knowledge and awareness of preventive health measures.^{12,13}

Community Paramedicine

Community paramedicine fills health care gaps by expanding the role of paramedics and emergency medical technicians to provide in-home care and education to individuals who are not eligible for, or have limited access to, home health services and/or limited

transportation options. Community paramedicine is a proactive approach to addressing the issues of hospital readmissions, frequent utilizers, and use of emergency departments for routine health care.

EXAMPLE | The Lincoln County Community Paramedicine Pilot Project is a coordinated effort between the public Waldoboro Emergency Medical Services, the quasi-municipal Lincoln County Ambulance Service, and the private Boothbay Regional Ambulance Service; and representatives from LincolnHealth, MaineHealth, Miles & St. Andrews Home Health and Hospice, and Lincoln Medical Partners. Referrals to the program come from physicians based at home health agencies, primary care offices, and hospitals, including Togus VA Medical Center. After a referral is made the patient is visited by a community paramedic within 24-48 hours. The average age of patients visited is 80 years old, reflecting the aging population of Lincoln County and the state.

Considerations for application in Maine

- Full adoption of new health worker models will require sources of payment to support their services.
- Technical support may be needed to help some providers develop strategies to incorporate new health workers into their practices and delivery systems.

Additional resources on new health workers:

- Maine EMS Community Paramedicine Pilot Program Evaluation http://www.maine.gov/ems/documents/cp_muskie_report.pdf
- Community Paramedicine Program Handbook <http://www.communityparamedic.org/Program-Handbook>
- Community Health Workers Toolkit <https://www.ruralhealthinfo.org/community-health/community-health-workers>

REFERENCES

1. Leparulo P. *2014 Health Occupation Report*. Maine Department of Labor, Center for Workforce Research and Information; April 15 2014.
2. Skillman S, Stover B. *Maine's Physician, Nurse Practitioner and Physician Assistant Workforce in 2014*. Seattle, WA: WWAMI Center for Health Workforce Studies, University of Washington; September 2014.
3. Association of American Medical Colleges, Center for Workforce Studies. *2015 State Physician Workforce Data Book*. Washington, D.C.2015.
4. Quinn KJ, Kane KY, Stevermer JJ, et al. Influencing Residency Choice and Practice Location through a Longitudinal Rural Pipeline Program. *Acad Med*. 2011;86(11):1397-1406.

5. Zink T, Center B, Finstad D, et al. Efforts to Graduate More Primary Care Physicians and Physicians Who Will Practice in Rural Areas: Examining Outcomes from the University of Minnesota-Duluth and the Rural Physician Associate Program. *Acad Med.* 2010;85(4):599-604.
6. Patterson D, Schmitz D, Longenecker R, Andrilla C. *Family Medicine Rural Training Track Residencies: 2008-2015 Graduate Outcomes.* Seattle, WA: WWAMI Rural Health Research Center, University of Washington; February 2016.
7. Behavioral Health Education Center of Nebraska. *Behavioral Health Education Center of Nebraska: FY 2014 & FY 2015 Legislative Report.* Behavioral Health Education Center of Nebraska; 2015 2015.
8. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. Addressing Chronic Disease through Community Health Workers. 2015.
9. Krantz MJ, Coronel SM, Whitley EM, Dale R, Yost J, Estacio RO. Effectiveness of a Community Health Worker Cardiovascular Risk Reduction Program in Public Health and Health Care Settings. *Am J Public Health.* 2013;103(1):e19-27.
10. Crump SR, Shipp MP, McCray GG, et al. Abnormal Mammogram Follow-Up: Do Community Lay Health Advocates Make a Difference? *Health Promot Pract.* 2008;9(2):140-148.
11. University of Kentucky. *Kentucky Homeplace: January 1, 2016 - March 31, 2016 Quarterly Report.* Kentucky Homeplace;2016.
12. Dignan M, White C, Schoenberg N, et al. Effectiveness of an Intervention for Adherence to Follow-up Recommendations for Abnormal Pap Tests in Appalachian Kentucky. *Health Behavior and Policy Review.* 2014;1(1):6-15.
13. Feltner FJ, Ely GE, Whitler ET, Gross D, Dignan M. Effectiveness of Community Health Workers in Providing Outreach and Education for Colorectal Cancer Screening in Appalachian Kentucky. *Soc Work Health Care.* 2012;51(5):430-440.

The authors would like to thank interviewees Jaya Bradshaw, Rebecca Carr, Norma Desjardins, and Karen O'Rourke for taking the time to speak with us about their work.

Suggested citation:

Burgess A, Coburn A. *Innovations in Rural Health System Development: Recruiting and Retaining Maine's Health Care Workforce.* Portland, ME: University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center; November 2016.

