October 2014

Transforming Interprofessional Health Education and Practice: Moving Learners from the Campus to the Community to Improve Population Health

Thirteenth Annual Report to the Secretary of the United States Department of Health and Human Services and the Congress of the United States

Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL)

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The views expressed in this report are solely those of the Advisory Committee on Interdisciplinary, Community-Based Linkages, and do not represent the perspectives of the Health Resources and Services Administration nor the United States Government.

Transforming Interprofessional Health Education and Practice: Moving Learners from the Campus to the Community to Improve Population Health

Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL)

Mission

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) provides advice and recommendations to the Secretary of the Department of Health and Human Services (Secretary) concerning policy, program development, and other matters of significance related to interdisciplinary, community-based training grant programs authorized under sections 750-759, Title VII, Part D of the Public Health Service (PHS) Act, as amended by the Affordable Care Act. The following sections/programs are included under this Part:

- 750 – General Provisions
- 751 – Area Health Education Centers
- 752 – Continuing Education Support for Health Professionals Serving in Underserved Communities
- 753 – Education and Training Related to Geriatrics
- 754 – Quentin N. Burdick Program for Rural Interdisciplinary Training
- 755 – Allied Health and Other Disciplines
- 756 – Mental and Behavioral Health Education and Training Grants
- 757 – Advisory Committee on Interdisciplinary, Community-Based Linkages
- 759 – Program for Education and Training in Pain Care

The ACICBL prepares an annual report describing its activities conducted during the fiscal year, including findings and recommendations made to enhance these Title VII programs. This annual report is submitted to the Secretary of the United States Department of Health and Human Services and ranking members of the Senate Committee on Health, Education, Labor, and Pensions and the House of Representatives Committee on Energy and Commerce.

Report Development Process

The ACICBL's annual report includes findings and recommendations focusing on a select topic that encompasses a particular aspect of interprofessional education and training for healthcare providers covered in Title VII, Part D, sections 750-759 of the PHS Act. This annual report is prepared by the ACICBL after conducting an independent search of published literature on the topic, hearing testimony from experts in various areas relevant to the topic, engaging in dialogue with each other, and utilizing individual expertise and experiences in this area.

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Acknowledgements

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) provides advice and recommendations on policy and program development to the Secretary of Health and Human Services (Secretary) concerning the activities under Title VII, Part D of the Public Health Service (PHS) Act as authorized by section 757 (42 U.S.C. 294f), and as amended by the Affordable Care Act, Public Law 111-148. The ACICBL is governed by provisions of the Federal Advisory Committee Act (FACA) of 1972, (5 U.S.C. Appendix 2), which sets forth standards for the formation and use of advisory committees.

Each year, the ACICBL selects a topic concerning a major issue within the healthcare delivery system that is relevant to the mission of the Bureau of Health Workforce (BHW) Title VII – Part D, Interdisciplinary Community-Based Linkages programs. After the ACICBL analyzes the selected topic, it develops and sends recommendations to the Secretary concerning policy and program development. In 2013, the ACICBL examined Transforming Interprofessional Health Education and Practice: Moving Learners from the Campus to the Community to Improve Population Health.

This report is the culmination of the efforts of many individuals who provided their expertise to the ACICBL during three required formal meetings: the first as a scheduled conference call on December 7, 2012; the second held in Rockville, Maryland on April 22-23, 2013; and the third as a scheduled conference call on June 7, 2013. As noted throughout the report, experts informed the ACICBL; provided their knowledge and expertise; and responded to a broad array of issues concerning population health, continuing education, faculty development, community-based education, and interprofessional teams. The members of the ACICBL express appreciation to all presenters for their time and knowledgeable expertise.

Finally, this report has benefited from the capable assistance of federal staff from the Health Resources and Services Administration, Bureau of Health Workforce, Division of Medicine and Dentistry (DMD) and Division of Nursing and Public Health (DNPH): Dr. Joan Weiss, Designated Federal Official and Senior Advisor, DMD; CAPT Norma J. Hatot, Senior Nurse Consultant, United States Public Health Service, DNPH; Dr. Nina Tumosa, Public Health Analyst, DMD; Dr. Tamara Zurakowski, Public Health Analyst, DMD; and Ms. Crystal Straughn, Technical Writer, DMD. The ACICBL appreciates the hard work and dedication of these individuals in producing this report.

Sincerely,

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Transforming Interprofessional Health Education and Practice: Moving Learners from the Campus to the Community to Enhance Population Health

Executive Summary

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL) provides advice and recommendations on policy and program development to the Secretary of Health and Human Services (Secretary) concerning activities under Title VII, Part D of the Public Health Service Act as authorized by section 757 (42 U.S.C. 294f) as amended by the Affordable Care Act (ACA), Public Law 111-148. Programs under this Part are legislatively mandated to meet national goals for interdisciplinary, community-based linkages. In this report the term "interprofessional" is used in lieu of "interdisciplinary."[1]

Interprofessional education and collaborative practice can play an important role in improving patient care quality, satisfaction, safety, and efficiency. Health professions training, continuing education, continuing professional development, faculty development, and community-based training need to change to provide healthcare professionals, educators, and students with the collaborative care tools needed to improve the health of populations.

The ACA is moving healthcare toward a team-based system that rewards collaboration and quality with the goal of improving population health. The ACA will add millions of previously uninsured and underinsured Americans to the healthcare delivery system. New community-based models of care are needed to manage the increased number of patients while keeping costs low. Patient-centered medical homes and accountable care organizations are using teams of providers to improve health outcomes of populations.

Health professions education reform is critical to preparing the workforce to meet the health needs of populations. Change in health professions education has been slow in reform due to multiple and complex factors. Of primary concern, academic institutions are increasingly challenged to find sufficient clinical experiences for students in community-based practices that serve as models of team-based practice needed for contemporary practice. The healthcare delivery system and learning environment must be tailored to meet the needs of individual patients, populations of patients, and the members of the health care team (National Research Council, 2003). To prepare future healthcare professionals to address these needs, their education must include high quality clinical experiences in community practices that utilize an interprofessional approach when providing health care services. Dynamic partnerships involving universities, community practices, and other institutions are needed to provide students with innovative learning experiences in preparation for practice in the healthcare system of the future.

[1]In recent years, the term "interprofessional" has become widely used because it is more inclusive of all healthcare professionals.

Recommendations

The Advisory Committee on Interdisciplinary, Community-Based Linkages (ACICBL), at its meetings in December 2012, April 2013, and June 2013, examined the issue of how health professions education and healthcare delivery can be transformed through interprofessional collaboration and community-based learning. The ACICBL subsequently developed the following four recommendations for health professions educators, funders, and policymakers:

Recommendation 1: The ACICBL recommends establishing or strengthening partnerships among academic programs and community-based clinical practices to help community practices become learning laboratories for interprofessional and population-focused education and care.

Recommendation 2: The ACICBL recommends providing an incentive and recognition system designed to recruit and sustain the involvement of community-based providers as teachers and role models for the provision of interprofessional and population-focused healthcare.

Recommendation 3: The ACICBL recommends providing ongoing faculty development and team-based training for campus and community-based teachers who will be leaders in interprofessional and population health education.

Recommendation 4: The ACICBL recommends advancing the education of students for interprofessional practice by enabling, encouraging, and rewarding the active teaching and precepting of students by clinicians from professional disciplines different from their own.

Transforming Interprofessional Health Education and Practice: Moving Learners from the Campus to the Community to Improve Population Health

Background

The importance of transforming interprofessional health education and practice by moving learners from the campus to the community can best be understood by recognizing the gaps that exist between the current education and practice environments and the knowledge and skills needed to help address the health needs of populations. These gaps can be grouped into the categories of: driving forces, healthcare delivery and payment systems, policy changes, and the need for reform in health professions education, continuing education, and continuing professional development.

Driving Forces

Students and healthcare professionals who learn about, from, and with each other are more likely to work together effectively to care for patients and communities (Blue, Mitcham, Koutalo, Howell, & Leaphart, 2014). Interprofessional education and collaborative practice can help improve patient safety and management, patient-centered communication and patient satisfaction, and teamwork and information sharing. When a focus on achieving interprofessional education competencies is incorporated into health professions training, continuing education, and faculty development, it provides a foundation for team-based care that is key to delivering collaborative, comprehensive care to patients and to improving the health of populations.

Healthcare Delivery and Reimbursement Systems

The healthcare system has been driven by fee-for-service reimbursement for patient care whereby healthcare professionals have received payment for the number of procedures and services provided to patients. This fee-for-service reimbursement model has fostered professional silos, created competition among health professionals, and has been a major barrier to interprofessional practice. Emerging changes on the healthcare scene such as pay-for-performance, value-based purchasing, and accountable care organizations (ACOs) are all designed to reward healthcare professionals for quality, not just for numbers. These new reimbursement models are expected to promote collaborative practice and reduce costs (Rogers & Nunez, 2013).

Impact of Policy

The ACA is expected to have a major impact on healthcare delivery. The ACA is moving our healthcare system toward a model that both encourages and rewards team care and offers the prospect for improvements in population health. It will add millions of previously uninsured and underinsured Americans to the healthcare delivery system. To manage this increase while controlling costs, new community-based delivery models are needed. These new models—including patient-centered medical homes and ACOs—will make teams of providers responsible for improving the health outcomes of populations of patients. Interprofessional education and practice will be essential to achieving the goals of the ACA.

Support for Interprofessional Education

Several foundations and health professions have recognized the need for interprofessional education. For example, the Robert Wood Johnson Foundation convened a collaborative expert panel in 2011. The report concluded that educators in health professions schools must deliberately teach interprofessional groups of students, and model collaborative practice and team-based care. Although some health professions schools are providing this type of education, the change is not rapid or wide-spread enough to meet the needs of the population (Robert W. Johnson Foundation, 2011).

Health Professions Education Reform

The report "Health Professions Education: A Bridge to Quality" (National Research Council, 2003) discussed a vision for transforming health professions education that included health professionals being trained to deliver patient-centered care in a team using evidence-based practice, quality improvement approaches, and informatics. Inherent in this proposed model was health profession students being educated together, enabling them to practice together in interprofessional teams. The report highlighted the need for competency-based education that focuses on evaluating how well students have mastered outcomes or competencies. In addition, core competencies in oversight processes were recommended because they can drive faculty development, curricular reform, and leadership activities. The report also acknowledged that the transformation of health professions education is a slow and challenging process. Several possible reasons for lack of faster progress in reform were cited, including lack of sufficient academic center financing, lack of motivation and leadership, limited understanding of why change is better than current practice, and lack of sufficient coordination and collaboration within and among the professions. Many of these barriers persist today.

Health professions education needs to move into the community to prepare students to deliver interprofessional care and learn how to address the health needs of populations. The Macy Foundation has identified a need for new models of clinical training, particularly to effectively manage persons with chronic diseases. These new models must include longitudinal care in outpatient and community-based settings (Josiah Macy Jr. Foundation, 2013b). To effectively move learners from the campus to the community, interprofessional teams working in community-based clinical sites are fundamental for the translation of education and training into practice. Partnerships with universities, community practices, and other institutions can offer students unique learning experiences that expose them to a diverse range of patient populations and help them develop crucial clinical, communication, organizational, and teamwork skills that will benefit their future work as clinicians (Tufts University School of Medicine, 2013).

More community training sites are needed that will serve as models for current and future healthcare professionals on how to harness the resource of the interprofessional team to improve population health. As part of this partnership, academic health centers must be innovative and create interprofessional faculty development and continuing education programs that prepare community practitioners for their roles as educators in team-based care (Bainbridge, 2010).

Continuing Education and Continuing Professional Development

Just as reform is needed in the training of future providers, the continuing professional development of current providers must be enhanced with the addition of opportunities for team-based training. The IOM recommended a redesign of the continuing education (CE) system in the report "Redesigning Continuing Education in the Health Professions" (National Research Council, 2010). The report identified major problems in the way CE is provided, financed, regulated and evaluated. These issues adversely impact the provision of CE programs for health professionals. "Continuing professional development (CPD) includes components of CE but has a broader focus, such as teaching how to identify problems and apply solutions, and allowing health professionals to tailor the learning process, setting, and curriculum to their needs" (National Research Council, 2010, p. 5). This report discussed strategies to move health professions education into the community to prepare students to deliver interprofessional care and learn how to address the health needs of populations.

Advantages of Interprofessional Education and Practice

An interprofessional approach to healthcare delivery can lower the cost of care, improve patient outcomes, and provide valuable information that can be used to improve population health. Team-based care results in a more patient-centered, coordinated, and effective healthcare delivery system (Mitchell et al., 2012). When healthcare professionals from different specialties come together and communicate with each other, the patient's quality of care and safety can be improved.

Lack of coordination and teamwork among healthcare professionals often results in duplication of tests and services, gaps in treatment, overtreatment, medical mistakes, and high administrative costs. In addition, the fee-for-service system provides incentives for clinicians and healthcare systems to perform more procedures and tests, with fewer financial rewards provided when focusing on improving patient care and health outcomes. The National Commission on Physician Payment Reform estimated that without major changes to the current system, the nation is on track to spend $4.5 trillion on healthcare by 2019 (The National Commission on Physician Payment Reform, 2012).

The ACA includes changes designed to reduce healthcare costs. It provides incentives for efficient care, supports health information technology, and fights fraud and waste. Provisions in the ACA establish programs for bundled payments, value-based purchasing, and reduced Medicare payments to hospitals for errors and avoidable readmissions (Centers for Medicare & Medicaid Services, 2012). These changes have many implications for healthcare professionals, including the need to collaborate effectively across professions and settings.

Today, stimulated in part by the ACA, more organizations, agencies, and systems are redesigning healthcare with innovative models and approaches to reduce costs and improve population health. New models of care include ACOs that are designed to coordinate care for patients within and across health care systems. The concept of an ACO is represented by such quality leaders in healthcare as the Geisinger Health System, Kaiser Permanente, and the Department of Veterans' Affairs. Specific examples of the innovations modeled by these organizations are included in the Appendix. All are using an interprofessional approach to

healthcare delivery, demonstrating that high quality healthcare can be achieved at lower costs. These models require an education system that trains health professionals to work in a collaborative manner. They can be applied in other systems and organizations by healthcare professionals who are trained to work in teams to address the healthcare needs of populations.

Challenges in Linking the Academic Setting with Community Practices and Health Systems

Community as a Learning Laboratory

Recent efforts to reform health professions education and healthcare delivery have shown that it is important to link academic centers with community practices and health systems (Latessa, Colvin, Beaty, Steiner, & Pathman, 2013). Such linkages create an environment in which learners and healthcare professionals work with patients, families, and communities to achieve the Triple Aim: improving the patient's experience of care, improving the health of individuals and populations, and reducing the costs of healthcare (Berwick, Nolan, & Whittington, 2008). Leaders in health professions education and healthcare delivery must be willing to devote time, effort, and resources to working with community practices to help them become models for providing team-based care. To the fullest extent possible, it would be desirable for these same practices to be knowledgeable about and engaged in helping address significant health problems in their communities so they can involve learners in working with them to address these identified needs.

The number of health professions students being admitted to educational programs is increasing, and there is a need to provide outstanding clinical experiences for students in community-based clinical practices. These community practices can serve as learning laboratories for students. Community-based education affords students with the opportunity to apply what they learn in the classroom to real-world situations. Students can gain a better understanding about the effect of physical and social environments on patient's health; community resources that can help improve population health; systematic approaches for assessing health problems in a community; and health promotion techniques and interventions to address community health problems ("University of Connecticut Health Center," n.d.). Students can also gain experience working collaboratively with patients, patients' families, other healthcare professionals, ancillary staff, and community-based providers to enhance patient care. Partnerships among academic centers and delivery systems need to create community-based learning environments and faculty that model interprofessional team-based practice (Josiah Macy Jr. Foundation, 2013a).

Examples of effective community-based interprofessional learning include interprofessional student assignments to clinical practice sites; assessments of patients with complex conditions; interprofessional problem-based learning sessions, and student-run clinics (Bainbridge, 2010). Community sites are crucial to student development and it is important to focus on how to get students into the community, how to communicate what they should be learning, and what contractual agreements need to be formed between academic and community-based clinical sites to prepare students for practice.

Community-Based Learning Challenges
There are significant challenges that are necessary to overcome in order to provide students with interprofessional, community-based experiences. These barriers include, but are not limited to, a lack of a) flexibility within academic programs in scheduling community-based activities; b) space to train and possibly house groups of students; c) financial constraints on team teaching; d) assessment of student performance in team environments; and e) access to interprofessional placements in the community (Bainbridge, 2010).

Across all healthcare disciplines, in many locations in the United States, the number of practices able and willing to accept students for clinical rotations is decreasing due to the clinical demands of patient care and the reduction in revenue attributed to practice-based teaching (U.S. Department of Education, 2013). In addition, healthcare delivery systems are consolidating with hospitals, bringing more primary care clinical practices into their administrative structure. A concern is emerging that some of these healthcare delivery systems are only willing to teach those students from the programs the systems sponsor, and are either unable or unwilling to accept students from non-affiliated educational programs. Others eschew teaching entirely. The development of this trend might lead to a decrease in the number of sites available to students who seek exemplary, community-based primary care learning experiences (Recruiting and Maintaining U.S. Clinical Training Sites, 2013), particularly in locations where students may choose to enter clinical practice.

Continuing Education and Continuing Professional Development
Interest in continuing interprofessional education is increasing. Interprofessional education is now recognized as an important part of CE that can help to improve population health. The Accreditation Council for Continuing Medical Education (CME), the American Nurses Credentialing Center and the Accreditation Council for Pharmacy Education have a joint process for accrediting providers of CE content that focuses on team-based care involving physicians, nurses, and pharmacists. New accreditation, certification, and financing models are needed to support the transformation of CE to incorporate an interprofessional focus (Owen & Schmitt, 2013).

Continuing professional development (CPD) is a lifelong learning process that provides educational opportunities that extend from the classroom to the point of care. It shifts control of learning to individual health practitioners, enabling them to control their own learning. "The system bases its education methods on research, theory, and findings from a variety of fields and embraces information technologies to provide professionals with greater opportunities to learn effectively. If coordinated nationally and across the health professions, a CPD system can advance evidence-based, interprofessional, team-based learning; coordinate collaboration among the professions; and provide a higher quality training to improve patient health and safety" (National Research Council, 2010, p. 5).

Faculty Development
Clinical practice, health professions education, and healthcare delivery are complex and continuously changing. Faculty members must receive CE and participate in CPD programs that equip them with the tools needed to provide health professions students with a beneficial interprofessional experience. Faculty development is a key component for establishing

interprofessional education in academia and the community. Faculty development is a "broad range of activities that institutions use to renew or assist faculty in their roles, and includes initiatives designed to improve the performance of faculty members in teaching, research, and administration" (Steinert et al., 2006, p. 2). Faculty includes all individuals who teach and supervise students in the university, in the hospital, and in the community.

Faculty members teaching in an interprofessional environment need to have the knowledge, skills, and values to teach effectively in this setting. "Competencies for interprofessional teaching should include a commitment to interprofessional education, understanding of roles and responsibilities of different professions, positive role modeling, group dynamics, expert facilitation, valuing diversity, ability to use professional differences creatively within groups, and a deep understanding of and skill in using active learning methods" (Buring et al., 2009, p. 5). The goal of this type of faculty development is to produce skilled preceptors from various disciplines and in a range of settings who can effectively train future healthcare providers to function well as members of interprofessional healthcare teams (Buring et al., 2009).

Faculty development must include community preceptors who teach students off campus. It must bring school-based and community-based preceptors together to create a culture of respect, providing opportunities for them to discuss best practices and collaborate on student and clinical issues. Faculty development is crucial for community-based preceptors who need general teaching skills and education about the academic program's curriculum and philosophy about patient care. Many community-based faculty members would like to teach students and participate in faculty development programs, but they have little time to devote to these activities. Increased demands for clinical productivity limit their time to teach students and participate in faculty development. School-based teachers may not have the time or resources to develop and provide specialized training for community-based preceptors. Flexible programs are needed to address these challenges. Training formats include workshops, online training, discussion forums, and newsletters. The length of these programs can be brief, employing an online format or longer for a workshop (McAndrew, 2010).

The responsibility for educating students ultimately lies with the faculty, but students often learn from other individuals in the educational environment, both formally and informally. This is particularly true when community practices exemplify team-based care. In these sites, students observe how all team members contribute to the care of patients; they benefit from working with a variety of ancillary staff members who fill both clinical and non-clinical roles. As professional development activities are created to teach and model collaborative practice, educators need to acknowledge explicitly the important educational roles community-based faculty members play in both the care of patients and in the education of students.

It is also important to acknowledge that, in team-based settings, whether in the community or at the academic health center, the roles of faculty in relation to students take on different meanings than they have in traditional, silo-structured education. The medical student working on such a team should experience the pharmacist as a faculty member, just as he/she does the physician on the team. Similarly, the professor of physical therapy, in a team-based setting, may have third year pharmacy and medical students on the clinical rotation in addition to physical therapy students. Professional development activities are needed that emphasize the shared teaching

responsibilities across disciplines that prepare faculty members to work collaboratively in mentoring students from within as well as outside their own professional disciplines.

Lessons Learned and Strategies to Overcome Challenges

New models of interprofessional community-based education, continuing professional development, and faculty development are keys to an improved health professions education and healthcare delivery system. At a recent Macy Foundation conference, participants discussed making the important linkage between interprofessional education and collaborative practice to create an environment where all participants learn, teach, care, and collaborate. "This linkage provides better outcomes for individuals and populations; better quality, safety, and value within healthcare systems; and better education, training, and life-long professional development" (Josiah Macy Jr. Foundation, 2013a, p. 2). Conference participants developed a vision for the future of healthcare education and practice where learners and professionals work together to achieve the Triple Aim. Based on this vision, participants developed recommendations in five areas:

1. Engage patients, families, and communities in the design, implementation, improvement, and evaluation of efforts to link interprofessional education and collaborative practice;
2. Accelerate the design, implementation, and evaluation of innovative models linking interprofessional education and collaborative practice;
3. Reform the education and life-long career development of health professionals to incorporate interprofessional learning and team-based care;
4. Revise professional regulatory standards and practices to permit and promote innovation in interprofessional education and collaborative practice; and
5. Realign existing resources to establish and sustain the linkage between interprofessional education and collaborative practice (Josiah Macy Jr. Foundation, 2013a, p. 2).

These recommendations stress the importance of bringing together healthcare professionals from a variety of specialties with patients, families, and communities to create an improved quality-focused healthcare system.

Clinical Practices and Preceptors

Engaging licensed healthcare professionals to serve as clinical preceptors is essential to linking the academic setting with community practices and health systems. In the past, when students left the campus to spend time in community-based clinical practices, the clinicians in those practices may not have received sufficient information about the specific educational content they were being asked to emphasize when teaching students. In the future, it will be important for academic programs to build a closer working relationship with clinicians in their practices in order for these clinicians to understand the important role they play in providing students with clearly articulated learning opportunities not readily available on campus.

Community-Based Preceptor Recruitment and Payment

Community-based preceptors already teach a large number of medical students in the United States, and are more likely than physicians in other specialty areas to report that precepting students places interferes with patient flow in their clinical practices (Latessa, Beaty, Colvin,

Landis, & Janes, 2008). Similar trends are found among other community-based preceptors of health professions students (Latessa, et al., 2013). As health professions school enrollments increase, the demands on community-based preceptors is likely to increase and attention must be paid to recruiting and retaining qualified individuals.

It is challenging to recruit, train, and retain community preceptors. Some institutions have begun to pay community-based preceptors, and this is particularly common when there is competition from other health professions programs for clinical preceptors (Anthony, Jerpbak, Margo, Power, Slatt, & Tarn, 2014). Other institutions provide free or reduced-rate continuing education, library resources, or academic appointments (Latessa, et al., 2013).

One method to encourage practitioners to serve as clinical preceptors may be through changes in the continuing competency requirements for licensure and certification. In 2012, the State of Nebraska Department of Health and Human Services Licensure and Credentialing Division adopted new rules and regulations for physical therapists and physical therapist assistants. They made it possible for them to receive continuing competency credit when teaching students. Changes in ways to fulfill continuing competency requirements for licensure and certification may be a method to encourage more practitioners to serve as clinical preceptors in the future (Nebraska Secretary of State, 2012). This was corroborated by Ryan, Vanderbilt, Lewis, and Madden (2014).

A recent study of the willingness of community physicians to precept students found that some non-financial factors may be important motivators (Ryan, et al., 2014). Extrinsic and intrinsic factors to volunteer as preceptors were compared between community-based physicians who were active as preceptors, and those who were inactive. There were no differences between the two groups in the importance in of intrinsic factors, such as participating in the education of the next generation of physicians. Volunteer preceptors, however, rated the availability of a medical school email account, letters of appreciation, plaques or certificates of appreciation, social gatherings, and teaching awards as significantly more important than did the inactive preceptors. Across both groups, CME credit, credit towards Maintenance of Certification, and feedback on their performance, were rated as the most important extrinsic motivators.

Models of Community-Based Learning and Faculty Development

The following are innovative models of community-based programs and faculty development programs that demonstrate how universities, preceptors, students, and organizations can work together to improve healthcare education and population health and help communities.

Mountain Area Health Education Center

The Mountain Area Health Education Center (MAHEC) in Asheville, North Carolina created the Preceptor Development Program (PDP). This program developed strategies to overcome the challenges of providing faculty development to preceptors. The goals of PDP were to develop and disseminate materials that were relevant to community-based teaching and easy for busy practitioners/teachers to use and for faculty developers at other universities and Area Health Education Centers to adapt and use. Community-based preceptors reported that participation in the PDP increased their satisfaction and confidence as teachers (Langlois & Thach, 2003).

In 2005 and 2011, the MAHEC led two state-wide studies in North Carolina addressing satisfaction, motivation, and the future of community preceptors (Latessa, Beaty, Colvin, & Janes, 2007; Latessa, et al.,, 2013). Intrinsic reasons (e.g. enjoyment of teaching) remain important motivations to precept, but other extrinsic incentives increased in importance. Several regional and national presentations were given, sharing these results and stimulating discussion about how better support can be provided to community preceptors and ensure their continued service as educators.

In 2009, in collaboration with the University of North Carolina School of Medicine and Mission Hospitals, MAHEC began a longitudinal integrated campus in Asheville (Heck, Latessa, & Beaty, 2014). Now with 20 third-year medical students, there are nearly 200 dedicated fulfilled preceptors who continue teaching each year. A large annual fall education conference is one of the highlights of the development for these preceptors. Other publications are pending about the outcomes of this innovative longitudinal model of teaching and learning.

East Carolina University School of Nursing

The East Carolina University School of Nursing in Greenville, NC implemented the Integrative Clinical Preceptor (ICP) Model in their undergraduate program, which is based on collaboration between students, preceptors, and faculty with the goal of improved population health. The ICP implementation resulted in population-focused student learning experiences, preceptors who increased their scope of service, and increased faculty productivity in research and scholarship. In the ICP model, students contribute to the planning of their clinical experience based on their individual needs. Students interact with faculty and reflect, revise, and restructure their goals throughout the program rather than just completing tasks. Preceptors are clinical teachers, role models, and mentors under the ICP model. They are encouraged to participate in planning meaningful community clinical experiences for students. Faculty members are a resource for students and preceptors under the ICP model. Instead of coordinating schedules and rotations for students, faculty members provide preceptor development and guidance and student oversight. This ICP efficiency allowed faculty more flexibility and time to devote to research and other scholarly activities. The ICP model implementation is an example of how communication and buy-in from all stakeholders can result in a collaborative experience that links students and academic centers to the community (Mallette, Loury, Engelke, & Andrews, 2005).

Nova Southeastern University (NSU) College of Osteopathic Medicine

One example of an effective partnership to support students' learning of population health concepts it the Nova Southeastern University College of Osteopathic Medicine's Geriatric Education Center (GEC) in Fort Lauderdale, Florida. The GEC, in collaboration with the university's Center for Interprofessional Education and Practice (CIEP), has identified "Points of Interprofessional Intersection". This collaboration has yielded several projects that involve interprofessional teams of students and faculty who can work with individuals over 65 years to help solve real challenges. One student team worked in the community on a sleep project for persons with Alzheimer's Disease and their family members, and developed a manual for caregivers and individuals with Alzheimer's disease and related dementias (ADRD) on more effective sleep. Another set of interprofessional student/faculty teams have provided education to older adults with diabetes and families who have elders with diabetes. Yet another project is focused on homeless older adults and those with unstable housing, and involves teams of

students working side by side with a team from law enforcement, social work, and psychology. Finally, interprofessional student teams worked with the Aging and Disabilities Resource Center staff to address hoarding among older adults.

All of these initiatives are bringing interprofessional teams of students and faculty into the community. As a result, real issues facing a culturally diverse elder population in Florida are being addressed (C. Rokusek, personal communication, March 20, 2014).

University of Nebraska Medical Center's Rural Interdisciplinary Training programs (initially funded by Quentin N Burdick Rural Interdisciplinary Grants)
The University of Nebraska Medical Center's (UNMC's) rural interdisciplinary training programs, initially developed with funding from the HRSA Quentin N. Burdick Programs for Rural Interdisciplinary Training (1999-2005), have been institutionalized. Rural programs are housed under UNMC's Rural Health Education Network (RHEN), which includes formal partnerships with 90 of Nebraska's non-metropolitan communities and with the Winnebago and Omaha tribal communities. Interdisciplinary team training continues for preceptors and community leaders who provide required rural practicum experiences for Rural Health Opportunities Program (RHOP) students. The RHOP students, admitted through a competitive special track, receive early admission, early rural clinical experiences, and their education includes a focus of the unique needs of rural health community-based care. A 2012 evaluation showed that 86% of RHOP allied health graduates (clinical lab science, physician assistant, physical therapy and radiography) have worked in a rural community at some point in their career. The UNMC-rural Native American community partnerships have focused on diabetes prevention, which includes training students at the tribal college as Diabetes Prevention Program assistants, so they in turn could provide diabetes education to their tribal members. Community-based wellness programming, including outcome assessment, is ongoing in the Native American communities. These activities illustrate success in sustaining efforts for improving population health by moving learners from the campus to the community (P. Hageman, personal communication, March 21, 2014).

Recommendations with Rationale

Recommendation 1: The ACICBL recommends establishing or strengthening partnerships among academic programs and community-based clinical practices to help community practices become learning laboratories for interprofessional and population-focused education and care.

Rationale: Educating and training the current and future healthcare workforce requires a systematic strategy with support from the leaders in healthcare committed to expanding, strengthening, and sustaining partnerships between community-based practice settings and academic programs. With the implementation of the ACA and the increasing attention to improving the health of populations through interprofessional collaborative practice and quality improvement, a close partnership between academic faculty and community-based clinicians can enhance the contributions of the interprofessional practice team to improving health outcomes of the population being served. In the coming years, such partnerships between academic faculty and clinical practices can result in more practices becoming outstanding learning laboratories to show students how the healthcare of tomorrow is practiced today. Designated members of the

campus faculty might travel to the precepting clinical practices and provide consultative services to those practices interested in reengineering their delivery system to fully harness the resources of the interprofessional teams and increase their focus on quality improvement initiatives and population health priorities. This outreach and close working relationship between the campus and community-based faculty has not been optimally prevalent in the past, but such a collaboration will become increasingly important in the coming years as community-based education becomes a more prominent component of health professions education.

Implementation of the ACA, specifically meeting the goals of the Triple Aim of improving patient and population health and the quality of the patient care experience while simultaneously reducing the overall cost of care, requires a workforce that has knowledge that can only be obtained through direct practice experience. Although at present, academic and community-based clinics serve as educational sites for multiple professional academic programs, training remains anchored in the profession of the student. This must change and move in the direction of interprofessional models.

Recommendation 2: The ACICBL recommends providing an incentive and recognition system designed to recruit and sustain the involvement of community-based providers as teachers and role models for the provision of interprofessional and population-focused healthcare.

Rationale: Community-based healthcare providers are experiencing major transitions in their work environments as part of the changing health systems. As these providers face increased productivity demands and ongoing adaptations to changing practice environments, they may be less likely to become or remain involved in providing clinical education. To meet future health workforce training needs, it will be critical to identify and utilize incentives and recognition systems to recruit and retain community-based providers who are exemplary role models working to advance high quality, contemporary interprofessional practice.

Recommendation 3: The ACICBL recommends providing ongoing faculty development and team-based training for campus and community-based teachers who will be leaders in interprofessional and population health education.

Rationale: Since healthcare delivery systems will continue to evolve in the direction of greater use of collaborative care models, it is essential for campus-based educators and community-based preceptors to participate in ongoing faculty development directed at improving the teaching of team-based approaches. Innovative methods for providing faculty development are needed to both engage and link academic faculty with their community faculty colleagues. Faculty development programs should include a major focus on the content areas of interprofessional education and population health to enhance teacher capacity to serve as role models and educate students to work effectively in teams to assess and address the health needs of populations.

Recommendation 4: The ACICBL recommends advancing the education of students for interprofessional practice by enabling, encouraging, and rewarding the active teaching and precepting of students by clinicians from professional disciplines different from their own.

Rationale: When students learn in team-based environments, it is essential that they have the opportunity to learn from teachers in professional disciplines different from their own. It is also critically important that educators embrace this role. Academic health centers should institute reward systems and faculty development programs that facilitate cross-disciplinary teaching by campus and community-based faculty. When necessary, accreditation standards for academic programs will need to be changed to support cross-disciplinary education.

Summary

Health professions education reform is needed to improve population health and provide quality care. Students, faculty, and community-based preceptors must be provided with the tools needed for interprofessional learning that prepares the future healthcare workforce for collaborative practice. Health education starts on campus, but it does not end there. Community-based learning exposes students to unique experiences that are crucial to their development as healthcare practitioners.

The recommendations offered in this report have been developed with the goal of increasing community-based learning and transforming health professions education. Partnerships across all levels of health professions education, designed to teach and practice collaborative care and address the health needs of populations can result in empowered, engaged clinician-educators and students all working toward the same goal of improving the nation's healthcare system.

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Appendix

Accountable Care Organization Programs

Geisinger Medical Home Model

Geisinger is changing the way it delivers primary care by using team-based care to keep more people healthy with decreased costs. The Geisinger Health System utilizes a Patient-Centered Medical Home Model that includes ProvenHealth Navigators (PHN) who offer a point of contact to monitor and coordinate care and help patients understand and manage their health. The success of the PHN model is its five-point framework that encompasses patient centered primary care, integrated population management, medical neighborhood, quality outcomes, and value-based reimbursement (Maeng et al., 2012). "The model is designed to improve the quality of care provided in physicians' offices by inserting Geisinger nursing professionals directly into physician-led patient care teams, thus providing enhanced care coordination and evidenced based care that is extraordinarily cost effective" (Geisinger Health System, 2011).

The PHN includes Embedded Case Managers. They are specially trained registered nurses that interact with the primary care physician, clinical personnel, and office staff. They also improve access, adherence to best practices, coordination of services, and collaboration among the medical home team. As a result of this patient-centered care, there has been a 22% decrease in readmissions annually and 72% of patients thought their quality of care improved after working with a PHN Embedded Case Manager ("Geisinger ProvenHealth" n.d.).

Kaiser Permanente Heart Disease Prevention Program

Kaiser Permanente Colorado conducted a study where researchers examined healthcare costs in two populations of patients with heart disease, 628 people enrolled in the Kaiser Permanente Collaborative Cardiac Care Service (CCCS), a population disease management program, and 628 patients receiving standard care. The goal of the study was to determine if Kaiser's collaborative care service could provide better outcomes than standard care. Kaiser Permanente's CCCS matches heart disease patients with personal nurses and clinical pharmacy specialists who deliver the significant portion of care over the phone. The program provides a 3-6 month rehabilitation program, a personal nurse, and a personal clinical pharmacy specialist.

At the end of the study, patients enrolled in CCCS experienced superior health outcomes. As compared to patients receiving standard care, CCCS patients had better cholesterol control and fewer hospitalizations. Overall, CCCS patients had an 89% reduction in overall mortality and 88% reduction in cardiac mortality compared with patients receiving standard care. The average cost for CCCS was $60 less each day for an annual average of $21,900 per patient per year. Patients enrolled in the CCCS had lower healthcare costs in the following areas: medications $4 per day compared to $5 per day; doctor's office visits: $7 per day compared to $8 per day; and hospitalizations: $19 per day compared to $69 per day (Kaiser Permanente, 2010).

"This program works because it is a team approach," said John Merenich, MD, study co-author and medical director of the Clinical Pharmacy Cardiac Risk Service. "Our teams of nurses and clinical pharmacists, as well as our health information technology, require significant investment.

We always knew it was the right investment because it saved lives. Now we know it's also the right investment because it provides the highest quality care at a lower cost. This is the value people have been looking for in healthcare" (Kaiser Permanente, 2010).

Department of Veterans Affairs

The Department of Veterans Affairs (VA) operates the nation's largest integrated healthcare system, with more than 1,700 hospitals, clinics, community living centers, domiciliaries, readjustment counseling centers, and other facilities. The VA uses interdisciplinary teams to deliver care and improve outcomes for its aging veteran population. Dr. Thomas Edes, Director, Geriatrics and Operations, Department of Veterans Affairs spoke with the ACICBL Committee, about an innovative interprofessional VA program that is providing Veterans with exceptional care at lower costs. (T. Edes, personal communication, April 22, 2013).

The Home-Based Primary Care (HBPC) Program is comprehensive, longitudinal primary care delivered in the home by teams including nurses, physicians, social workers, rehabilitation therapists, dietitians, pharmacists, and psychologists. HBPC's goals are to support patients who need physical, cognitive and psychosocial care, to reduce hospital visits and stays in long term care and use of rehabilitative services, and to increase patient independence. The program provides patients assistance with daily living activities such as bathing, dressing, meal preparation, and taking medications.

The HBPC Program has had a major effect on VA and Medicare costs. In 2006, 9625 veterans were enrolled in HBPC, and 6951 used Medicare. While in HBPC, Medicare inpatient days dropped 9.5% and Medicare costs dropped 10.2%. HBPC enrollment resulted in a 25% reduction in combined VA and Medicare hospital admissions, 36% reduction in combined VA and Medicare hospital days, and 13.4% reduction in combined VA and Medicare costs (a drop from $45,980 to $39,796 in total cost after adding in the costs of HBPC $9113 per patient/year).

Geisinger, Kaiser Permanente, and the Department of Veteran Affairs have implemented successful interprofessional models that are improving patient outcomes and lowering care costs. These models require an education system that trains health professionals to work in a collaborative manner. They can be applied in other systems and organizations by healthcare professionals who are trained to work in teams to address the healthcare needs of populations.