Transforming Patient Care: Aligning Interprofessional Education with Clinical Practice Redesign

Rapid redesign of healthcare delivery, stimulated in part by the Affordable Care Act, is occurring alongside, but independently of, health professions educational reform. On the delivery side, change is being driven by three simultaneous aims: improving the patient’s experience of care, improving the health of individuals and populations, and reducing the per capita cost of health care (the “Triple Aim”). On the education side, there is growing awareness of the importance of achieving team-based clinical competencies as an essential public good. Key to these efforts is the recognition that health care today involves professionals working together in collaborative, interdependent care systems and in partnership with the people served by these systems.

Missing from these many laudatory and innovative efforts is the ability to connect practice redesign with interprofessional educational reforms. Historically, health professions education and healthcare practice have developed and functioned separately, with little recognition that the two are inextricably linked.

In recent years, the Josiah Macy Jr. Foundation has promoted change in health professions education, focusing particularly on interprofessional education. This work is based on the belief that healthcare professionals who learn about, from, and with each other will be more likely to develop the competencies needed to work effectively together to care for patients and communities. The Foundation believes that this educational reform effort must be coordinated with related efforts to redesign healthcare delivery to be team-based and responsive to individual, family, and community needs. The two realms should not be changed in isolation. Educational reform must incorporate practice redesign, and delivery system change must include a central educational mission if we are to achieve enduring transformation.

Making this important linkage between interprofessional education and collaborative practice will create an environment within which all participants learn, all teach, all care, and all collaborate. It invites recognition that better outcomes for individuals and populations; better
quality, safety, and value within healthcare systems; and better education, training, and life-long professional development of healthcare workers are all connected. It also expresses the responsibility of all healthcare professionals to meet the needs of the individuals, families, and communities they serve as their highest goal, by developing and sustaining a culture of mutual respect between and among the different health professions.

In January 2013, the Foundation brought leaders in health professions education and healthcare delivery together to discuss how they might align their efforts to connect great learning and great practice. Conference participants discussed a commissioned paper that lays out a vision for a high-functioning healthcare system with empowered patients and engaged teams of practitioners and learners. They also discussed case studies featuring interprofessional education and collaborative practice efforts currently underway.

During the conference, participants reached a consensus vision for the joint future of healthcare education and practice: We envision a healthcare system in which learners and practitioners across the professions are working collaboratively with patients, families, and communities and with each other to accomplish the Triple Aim. Participants agreed that this vision is achievable if all sectors of the education and practice communities work together with mutual respect and professionalism.

Based on this shared vision, conference participants crafted recommendations for immediate action 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.

5. Realign existing resources to establish and sustain the linkage between interprofessional education and collaborative practice.

The recommendations in each of these areas are presented below. They are interdependent and of equal importance; each one necessitates the others. While many more recommendations to improve the education and practice of health professionals were proposed and considered during the conference, we present only those that are directly related to achieving the linkage of interprofessional education and practice. We do not underestimate the magnitude of the change in culture that will be required to accomplish all of these recommendations. However, conference participants agreed that these steps must be taken if we are to achieve the Triple Aim of better care, better health, and lower costs.

Furthermore, because of the rapid changes already taking place and the constraints on further growth in healthcare costs, there is great urgency in meeting this need. While full implementation of these changes will involve actions beyond the scope of each educational institution or healthcare system, much can be accomplished today at the local level by the engagement of educational and healthcare delivery leaders in the spirit of this report. We urge everyone in a position of responsibility to take steps within their own areas of jurisdiction now, while also participating in the more general recommendations outlined.
Recommendation I

Engage patients, families, and communities in the design, implementation, improvement, and evaluation of efforts to link interprofessional education and collaborative practice.

If the alignment of education and practice is to be successful, it must be informed by the needs and preferences of the patients, families, and communities served. All of us — patients, families, communities, clinicians, faculty members, students, healthcare leaders, policymakers, and society at large — are part of the same healthcare system. And we all share the benefits when our healthcare system is aligned with and responsive to individual and collective needs.

A growing body of evidence demonstrates that incorporating patient preferences contributes to higher-value health care. Value also is enhanced when patients, families, and communities assume increased responsibility for factors influencing health. Thus, the future of health care should be one in which we all learn, all teach, all care, and all collaborate at every level of the healthcare system — from the development of policies to the daily interactions of patients and providers. This is a future first and foremost characterized by more engagement.

Engagement refers to deliberate and consistent efforts by all healthcare professionals and healthcare systems to advance the central role of patients, families, and communities in defining what matters to them; to promote informed and shared decision making regarding plans of care; to foster shared accountability for actions related to these plans; and to assure reciprocal and respectful relationships. The ultimate goal is to assure that patient, family, and community perspectives inform system-level design of health professions education and patient care. Achieving this goal will require changing expectations for health professional competencies, accreditation standards, and the measurements used to gauge success.

1. Convene a national group to identify effective methods for patient, family, and community engagement in the design and evaluation of models linking interprofessional education and collaborative practice.

A public-private partnership of federal agencies and private foundations would be the ideal convener. The group’s deliberations will be informed by the existing work of the Institute for Patient- and Family-Centered Care, the Centers for Medicare and Medicaid Partnership for Patients, the Institute for Healthcare Improvement, the Patient-Centered Outcomes Research Institute, and local and national healthcare systems with experience in team-based care, such as the Geisinger Health System and the Veterans Health Administration. The group would engage educational institutions, healthcare systems, professional associations, and regulatory organizations in disseminating its results.

2. Ensure that expectations of patients, families, and communities inform the competencies used to guide the development of new models linking collaborative practice and interprofessional education.

Over the past decade, much effort has gone into the delineation of the professional competencies needed to achieve the Institute of Medicine’s aims for health care: safe, timely, effective, efficient, equitable, and patient-centered. More recently, the Interprofessional Education Collaborative has defined the competencies most relevant to interprofessional learning and team-based care. Although the competencies reflect considerable professional wisdom, they should be further informed by
patient, family, and community needs and expectations.

3. **Revise accreditation standards to ensure input from patients, families, and communities.**

Evidence that patient, family, and community voices influence the design, implementation, evaluation, and continuous improvement of systems of learning and care should be a prerequisite for successful accreditation. Accrediting bodies for education and healthcare should revise their policies to incorporate standards of patient, family, and community engagement.

**Recommendation II**

**Accelerate the design, implementation, and evaluation of innovative models linking interprofessional education and collaborative practice.**

Innovators already are designing new models linking interprofessional education and collaborative practice. In order to achieve widespread alignment of education and practice redesign, many more approaches must be developed. Robust evaluation tools that can be used to link successful models to improved outcomes and to accelerate the spread of those models also are needed.

These early models should be classified on the basis of their key attributes, learning impact, patient and population health outcomes, and effects on healthcare costs. Successful models could then serve as prototypes for launching and testing additional models. Lessons learned should be rapidly disseminated, so that progressively more sophisticated education-practice partnerships can be developed in the future.

Broadly based coalitions with a shared vision and a common understanding of priorities are needed to advocate for this effort. Creative approaches to patient and community engagement and explicitly designed measures for success are needed. Such coalitions must include academic health centers, large healthcare systems, community health organizations, and advocacy groups.

1. **Develop broadly based coalitions to align education and clinical practice.**

Broadly based coalitions must help inform the operational design of the education-practice interface. Private-public partnerships among government agencies and foundations can facilitate further creation of these coalitions. The National Center for Interprofessional Practice and Education is the result of such a public-private partnership. The Robert Wood Johnson Foundation’s Aligning Forces for Quality initiative also could be a force for linking interprofessional education and practice.

Among the key stakeholders for these coalitions are: patients, families, community leaders, academic health centers and other health professions schools, health systems, community health organizations, public health and social services agencies, and local chapters of health professional organizations. Students and their local and national professional organizations are powerful forces for change and should be included as well.

The National Center for Interprofessional Practice and Education will be an appropriate locus for some of this work. However, many other initiatives will be needed at the local, regional, and national levels. National professional organizations (such as the Interprofessional Education Collaborative) and national quality organizations (such as the Institute for Healthcare Improvement and National Quality Forum) should provide guidance and assistance.
2. **Develop scenarios to advance alignment between interprofessional education and collaborative practice.**

The scenario-building process should start with the development of a shared vision around the core values of achieving the Triple Aim through interprofessional education and collaborative practice. Because educational and practice resources will continue to be constrained, it is essential that new, creative scenarios for the education-practice interface be developed without delay. The alignment between education and practice must be explicit and interdependent, and improvement must be viewed as a shared responsibility. The goal is to build new models linking education and practice that bring real and measurable value to individual and population health.

3. **Develop metrics to evaluate the impact of models linking education and practice on learning, on patient and population health, and on healthcare costs.**

There is a paucity of rigorous measures to evaluate the impact of linking interprofessional education and collaborative practice. There is a need to support new scholarship in this area, including the development of evaluation protocols that go beyond process measures and identify the most effective models, tying them to the Triple Aim outcomes. There also is a need to apply known scholarship in teamwork from other fields, such as business and education, to health care. The Centers for Medicare and Medicaid Services, the National Institutes of Health, the Patient-Centered Outcomes Research Institute, the National Quality Forum, the Health Resources and Services Administration, and the Agency for Healthcare Research and Quality should all share an interest in supporting this work in partnership with private foundations.

---

**Recommendation III**

**Reform the education and lifelong career development of health professionals to incorporate interprofessional learning and team-based care.**

An alliance of education and practice will only be successful if the healthcare workforce is appropriately prepared for collaborative work. This must begin with pre-licensure education and continue for a professional lifetime. Professional development must become a shared responsibility of educational institutions and healthcare delivery systems.

Increasing numbers of healthcare system leaders and policymakers have recognized that achieving the Triple Aim will require more widespread adoption of new models of interprofessional education and collaborative practice. Despite this knowledge, health professions education still inadequately values interprofessional education and learning in team-based care. To change this will require a partnership of teaching institutions and delivery systems to create learning environments and teachers that model interprofessional collaborative practice.

1. **Incorporate interprofessional team-based competencies into all health professions education programs.**

Adopting or modifying existing interprofessional competencies — such as those issued by the Interprofessional Education Collaborative — should be undertaken without delay. Common language and standards need to be developed and incorporated into
policies for professional certification and institutional accreditation across the health professions and across the continuum of education.

Similar work needs to be done by delivery-system accrediting bodies, such as the Joint Commission and National Committee for Quality Assurance, and incorporated into credentialing and privileging policies and procedures for hospitals, medical homes, and healthcare organizations. Competencies can be revisited periodically as better ways to enhance interprofessional learning and team performance become available.

The National Center for Interprofessional Practice and Education should work collaboratively with the Interprofessional Education Collaborative and other professional and educational organizations to build a repository of robust case studies and implementation strategies for the competencies.

2. **Expand faculty development programs to prepare health professionals for effective interprofessional learning, teaching, and practice.**

   Relatively few health professions faculty have participated in interprofessional education programs. Traditionally trained educators and health professionals, whether in academic health centers or community-based settings, are generally unable to model interprofessional competencies or mentor students in collaborative work across professions.

   The Macy Foundation has supported a pilot interprofessional faculty development program, and the Interprofessional Education Collaborative has hosted several faculty development institutes. Broad expansion of these types of efforts will be necessary. Cataloging best models and lessons learned should be one of the priorities of the National Center for Interprofessional Practice and Education.

3. **Incorporate interprofessional team-based competencies in performance reviews of health professionals in clinical and academic settings.**

   Performance feedback should be provided with an eye to interprofessional as well as professional competence. Institutional, professional, and government licensure review processes should all incorporate interprofessional elements in their frameworks. In addition and where appropriate, faculty evaluations should include feedback from both students and patients regarding teaching of team-based competencies.

4. **Develop new models of clinical education to prepare health professionals for team-based care.**

   The clinical education of health professionals is fragmented and discontinuous. Newer educational models that emphasize continuity of patient care over time and across settings should be replicated. Increasing the number of longitudinal, team-based experiences will lead to greater opportunities for students to build relationships with patients, families, teachers, and other clinicians. Wider deployment of such models would increase opportunities for interprofessional training experiences and better prepare students for team-based care.
Recommendation IV

Revise professional regulatory standards and practices to permit and promote interprofessional education and collaborative practice.

If the alignment of interprofessional education and collaborative practice is a goal of the healthcare system, then professional regulation should reflect that goal. Efficient models of care and education take advantage of significant overlaps in knowledge, skills, core commitments, accountabilities, and professional imperatives of the different health professions. Good teamwork requires team members to understand and agree upon their roles and to encourage each other to function at the highest levels of their education and training.

This currently is not always the case for all health professionals or all healthcare delivery systems. But, when these conditions are met, interprofessional clinical education is possible, and health professionals learn how to contribute their unique strengths to achieve the Triple Aim. When these conditions are not met, professionals learn to function in silos and are less likely to develop the skills needed to collaboratively improve health and health care.

1. Revise accreditation and certification standards to eliminate barriers to efficient and effective team-based care and clinical interprofessional education.

Standards and policies of accrediting and certifying bodies should be revised so that they require interprofessional education and training in collaborative team-based care, promulgate policies that approve the use of interprofessional faculty members and preceptors, and allow acceptance of interprofessional continuing education courses.

Health professionals should be able to teach students based on their areas of expertise and scopes of practice rather than simply on the basis of their professional backgrounds. Learners should be able to accrue credit towards certification and recertification based on the relevance of the learning experience to their practice, and faculty from all health professions should be able to contribute to the experience of all learners.

2. Revise state and federal laws and regulations to eliminate barriers to efficient and effective team-based care.

Regulatory policies generally lag behind advances in healthcare education and clinical quality improvement methods. Legislators, governors, attorneys general, professional societies, and patient and community advocacy groups, while mindful of their obligation to protect the public, should advocate for regulatory relief so that health professionals receive appropriate training to function in interprofessional teams at the highest levels of their education and training. There is an urgent need for collaboration across the health professions to update state licensure practice acts and scope of practice regulations.

3. Create incentives for institutional privileging policies that support linking efficient and effective team-based care and clinical interprofessional education.

Innovations in interprofessional education and collaborative practice – and ultimately the achievement of the Triple Aim – are often impeded by institutional decisions about professional privileges. Institutional privileging should be based on documented training, certification and licensure, and demonstrated expertise within legal scopes of practice. Restrictions that artificially limit patient (and learner) access to the full variety of health professionals qualified to provide care inhibit innovations in
team-based care and interprofessional education.

Institutions may need incentives to open up practice privileges to the full extent of applicable laws and regulations. Accreditors, such as the Joint Commission and insurers/payers, including Medicare and Medicaid, could help by requiring non-exclusionary privileging practices as a part of accreditation or insurance contracts.

Recommendation V
Realign existing resources to establish and sustain the linkage between interprofessional education and collaborative practice.

The alignment of interprofessional education and practice can take place only if current resources are reconfigured to accomplish this goal. It must become the new way of doing business to achieve the Triple Aim.

Transformation of the U.S. healthcare system will require new financial models and creatively aligned incentives. The resources available for change include financial and human assets provided by government and the private sector. These resources, which currently are widely scattered and poorly coordinated, reside in healthcare delivery systems, educational institutions, health insurance companies, private foundations, and public agencies and the communities they serve, to name but a few.

Creating an effective, efficient, and sustained linkage between interprofessional education and collaborative practice will require that all resources be brought “to the table” and shared in support of the Triple Aim. It will require the development of new incentives, including innovative payment systems, to motivate participants engaged in system redesign. And it will require training and, where necessary, retraining in systems-based practice, performance improvement, and public health – all conspicuously underrepresented in the education of most health professionals today.

Transformative change will require substantive engagement of health system executives, educational leaders, insurers, and professional organizations, as well as students and users of health services. Health system administrators and education and training program directors should be included, along with clinical professionals, patients, families, and community advocates. Together they will need to negotiate the use of resources across organizational boundaries, redirecting existing resources and identifying new resources where possible.

1. Delineate the resources presently or potentially available for supporting the linkage of interprofessional education and collaborative practice.

Understanding the resources for clinical education will be essential in determining how they might be shared more effectively in the future. At each site, this will require an environmental scan of existing and potential resources. This should include the type, source, and ownership of all relevant resources and whether and how they are being used to promote effective linkages between interprofessional education and collaborative practice.

Health system assets include delivery systems, service lines, facilities, their own education programs, contracting services, information systems, providers, administrators and support personnel, quality improvement systems, and financial resources. Educational system assets include expertise in teaching and learning, evaluation systems, research and reporting, learners in the health professions, clinical faculty expertise, affiliation networks, accreditation linkages, and financial resources. Community and public resources include primary care networks, federally
qualified health centers, visiting nurse associations, faith-based organizations, and local health departments.

2. **Develop new models of resource sharing among organizations that integrate interprofessional education and practice.**

   New models of shared governance, organizational management, and accountability must be developed, as well as new approaches to reallocating resources between practice and educational partners and across relevant health professions. New model formation is anticipated to happen predominantly at the local level, but buy-in at organizational and policy levels will be essential as well.

   At the local level, educational and practice institutions will need to plan, implement, and evaluate model teams of integrated learners, including where they are deployed and what will be the expected outcomes for teams and individuals, the evaluative approaches used, and the expected impact on the Triple Aim. Within these new models, incentives for those engaged in care provision and workplace learning need to be aligned to achieve sustainability.

   These efforts will need human and financial resources to promote and achieve alignment of incentives, establish sustainable decision making, and provide oversight of the education-practice interface resulting from the overlap between participating practice and educational institutions.

3. **Demonstrate a positive value proposition for linking interprofessional education and practice.**

   Achieving these new models requires each institution to assess the expected value added and create a plan to achieve that value. It requires reallocating resources from programs not adding value, and providing some up-front investment that can be recovered from achieving the Triple Aim. Individual value propositions may vary, but an effective business case, including a positive return on investment and a plan for continuous improvement, is essential. Savings garnered from achieving the Triple Aim need to be reinvested in further enhancing the practice and education interface.
Participants

Debra J. Barksdale, PhD, FNP-BC, CNE, FAANP, FAAN
University of North Carolina Chapel Hill

Paul Batalden, MD
Dartmouth Medical School

Amy V. Blue, PhD
Medical University of South Carolina

Judith L. Bowen, MD
Oregon Health and Science University
US Department of Veterans Affairs

Barbara F. Brandt, PhD
University of Minnesota

Valentina Brashers, MD, FACP, FNAP
University of Virginia

Frank B. Cerra, MD*
University of Minnesota

Marilyn Chow, PhD, RN, FAAN*
Kaiser Permanente

Malcolm Cox, MD*
US Department of Veterans Affairs
Co-Chair

Linda Cronenwett, PhD, RN, FAAN*
University of North Carolina Chapel Hill

Susan Dentzer
Health Affairs

Patricia M. Dieter, MPA, PA-C
Duke University

Mark Earnest, MD, PhD, FACP
University of Colorado

Margaret Flinter, PhD, APRN, FNP-BC, FAANP
Community Health Center, Inc.

Terry Fulmer, PhD, RN, FAAN
Northeastern University

Bruce Hamory, MD
Geisinger Health System

Linda Headrick, MD*
University of Missouri

David Irby, PhD*
University of California San Francisco

Robert L. Jesse, MD, PhD
US Department of Veterans Affairs

Kathleen Klink, MD, FAAP
Health Resources and Services Administration

Richard D. Krugman, MD
University of Colorado

Gerri Lamb, PhD, RN, FAAN
Arizona State University

Eric B. Larson, MD, MPH
Group Health Cooperative

Theodore Long, MD
Yale University

Lucinda Maine, PhD, RPh
American Association of Colleges of Pharmacy

Lloyd Michener, MD
Duke University

Mary D. Naylor, PhD, RN, FAAN*
University of Pennsylvania
Co-chair

Samuel Nussbaum, MD
WellPoint, Inc.

Herbert Pardes, MD
NewYork-Presbyterian Hospital

Russell Robertson, MD
Chicago Medical School at Rosalind Franklin University of Medicine and Science

Eduardo Salas, PhD
University of Central Florida

Stephen C. Schoenbaum, MD, MPH*
Josiah Macy Jr. Foundation

Elena Speroff, APRN BC, MSN
VA Connecticut Healthcare System

George E. Thibault, MD*
Josiah Macy Jr. Foundation

Donna Thompson, RN, MS
Access Community Health Network
The conclusions and recommendations from a Macy conference represent a consensus of the group and do not imply unanimity on every point. All conference members participated in the process, reviewed the final product, and provided input before publication. Participants are invited for their individual perspectives and broad experience and not to represent the views of any organization.

The Josiah Macy Jr. Foundation is dedicated to improving the health of the public by advancing the education and training of health professionals.
Transforming Patient Care: Aligning Interprofessional Education with Clinical Practice Redesign