Exploring a Business Case for High-Value Continuing Professional Development Proceedings of a Workshop

DETAILS

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EXPLORING A BUSINESS CASE FOR HIGH-VALUE CONTINUING PROFESSIONAL DEVELOPMENT

PROCEEDINGS OF A WORKSHOP

Patricia A. Cuff and Erin Hammers Forstag, *Rapporteurs*

Global Forum on Innovation in Health Professional Education

Board on Global Health

Health and Medicine Division

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APPENDIXES

Acronyms and Abbreviations

ACCME	Accreditation Council for Continuing Medical Education
AIDS	acquired immunodeficiency syndrome
ANCC	American Nurses Credentialing Center
AOTA	American Occupational Therapy Association
ART	antiretroviral treatment
CAPABLE	Community Aging in Place—Advancing Better Living for Elders
CDS	clinical decision support
CE	continuing education
CEO	chief executive officer
CME	continuing medical education
CPD	continuing professional development
EHR	electronic health record
FIP	International Pharmaceutical Federation
GIS	geographic information system
HIV	human immunodeficiency virus
HMO	health maintenance organization
HVHC	High Value Healthcare Collaborative

ICU	intensive care unit
IOM	Institute of Medicine
IPE	interprofessional education
MOH	Ministry of Health
MRICU	medical respiratory intensive care unit
MUSC	Medical University of South Carolina
NGO	nongovernmental organization
NIMART	nurse-initiated antiretroviral treatment model
OB	obstetrics
OT	occupational therapy
PDSA	Plan-Do-Study-Act
PI	performance improvement
QSP	Quality Scholars Program
RASS	Richmond Agitation and Sedation Scale
ROI	return on investment
TPA	Turkish Pharmacists' Association
UNAIDS	Joint United Nations Programme on HIV/AIDS
USUHS	Uniformed Services University of the Health Sciences
VCU	Virginia Commonwealth University

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Introduction[1]

Continuing education, continuing professional development, and high-value continuing professional development exist along a continuum. Continuing education (CE) "often is associated with didactic learning methods, such as lectures and seminars, which take place in auditoriums and classrooms," and is often viewed by health professionals as merely a path to maintaining licensure and certification through the accumulation of credits (IOM, 2010). Continuing professional development (CPD), in contrast, embraces a wider array of learning formats and methods that are driven by learners. Countries such as Canada, New Zealand, the United Kingdom, and those within the European Union have embraced CPD as a way of "maintaining, improving, and broadening knowledge and skill throughout one's professional life" (IOM, 2010). It focuses on improving individual performance in order to drive quality and safety in the clinic and to improve the health and well-being of populations. Finally, high-value CPD is driven by outcomes. Those outcomes—which may benefit the practitioner, individuals and patients, the team, or populations—must demonstrate value in order for funders to decide whether to invest in CPD. According to the 2010 Institute of Medicine (IOM) report *Redesigning Continuing Educa-*

[1] The planning committee's role was limited to planning the workshop, and this Proceedings of a Workshop was prepared by the workshop rapporteurs as a factual summary of what occurred at the workshop. Statements, recommendations, and opinions expressed are those of individual presenters and participants, and are not necessarily endorsed or verified by the National Academies of Sciences, Engineering, and Medicine, and they should not be construed as reflecting any group consensus.

BOX 1-1
Statement of Task

An ad hoc committee will plan and conduct a 1.5-day public workshop to explore the financial and social return on investment (ROI) for high-value continuing professional development (CPD) across health and education systems. The workshop will look at various formal and informal tools, methods, or models for educating the current clinical workforce (e.g., faculty development, preceptor training, workplace learning, and continuing education). These examples will foster relevant discussions on what composes high-value CPD (e.g., improved efficiency, better quality and safety, and a social ROI), and what makes up the business case that includes costs and who pays for the training. Perspectives from high-, middle-, and low-income countries as well as patients and/or patient advocates will further inform a business case assessing the value of CPD calculated as: Value = (Quality + Outcomes)/Cost.

tion in the Health Professions, "Arriving at the value proposition for CPD will be essential to understanding the best ways to invest CPD resources."

The Global Forum on Innovation in Health Professional Education (Global Forum) hosted a workshop on April 6–7, 2017, to explore the value proposition for CPD. Forum members and workshop participants gathered in Washington, DC, to learn about innovative CPD programs around the world, to consider the perspectives of those who invest in CPD, and to discuss the business case for CPD (see the full Statement of Task in Box 1-1). Leatherman et al. (2003) define a business case for health care improvement, which was adapted to high-value CPD for this workshop. A business case for high-value CPD

> exists if the entity that invests in the intervention realizes a financial return on its investment in a reasonable time frame, using a reasonable rate of discounting. This may be realized as "bankable dollars" (profit), a reduction in losses for a given program or population, or avoided costs. In addition, a business case may exist if the investing entity believes that a positive indirect effect on organizational function and sustainability will accrue within a reasonable time frame. (p. 18)

Most financial investors—whether governments, philanthropists, or businesses—want to see a return on their investment (ROI) within 5 years or less. Researching the value proposition is essential for making the business case that a CPD intervention will provide the intended ROI within the defined period of performance. However, the value of CPD may not

be purely monetary. For example, a business case may not demonstrate a financial return, but the value to stakeholders may be great enough that it tips the balance so the decision is made to move forward despite the lower rate of return on the investment. For the purpose of this workshop, the value proposition for CPD is spelled out in the background paper by Ronald Cervero and Holly Wise in Appendix B [Value = (Quality + Outcomes)/Cost].

Cervero and Wise provided introductory comments to the workshop attendees that describe the value proposition. Wise, who represents the American Council of Academic Physical Therapy on the Global Forum, reminded the audience this is not the first time the National Academies of Sciences, Engineering, and Medicine (the National Academies) has explored continuing education and continuing professional development. In 2010, an IOM committee released a report, *Redesigning Continuing Education in the Health Professions*, that put forth requirements for achieving a new vision for CPD. It included improvements in "the value and cost-effectiveness of CPD delivery," and it required a system that considers "ways to relate the outputs of CPD to the quality and safety of the health care system" (IOM, 2010, p. 8). In this regard, *quality* may be considered part of the outcomes measure. However, in other instances, quality and outcomes may be viewed as independent variables to ensure "a workforce of health professionals who can provide high-quality, safe care and improve patient outcomes" (IOM, 2010, p. 14).

To further the discussion, Ronald Cervero of the Uniformed Services University of the Health Sciences described *outcomes* as being dependent on the stakeholders and what they hope to gain: "We need to know, first of all, who are the stakeholders and what are their interests?" Outcomes, like value, can be described in terms of a continuum from simple learning outcomes, in which CPD participants learn new information, to health outcomes, in which the CPD intervention has an eventual effect on health (Kirkpatrick, 2006; Miller, 1990; Moore et al., 2009). Improving quality and outcomes comes at a cost. The value proposition attempts to include all these elements into one equation in order to explore "whether an investing entity should proceed with financially supporting" a CPD intervention, said Wise.

ORIENTATION TO THE WORKSHOP

Susan Scrimshaw, co-chair of the Global Forum that hosted the workshop,[2] opened with "Buenos dias!" and "Sawadee ka!" to welcome the participants who traveled internationally from countries including Australia, Mexico, the Philippines, and Thailand. She also gave a warm

[2] For a full list of Global Forum members, see p. vii of this report.

welcome to the workshop participants and members of the Global Forum while recognizing those in the audience who brought varied health and education perspectives from Belgium, Canada, Greece, Puerto Rico, Scotland, and South Africa. She remarked on how the diversity of the Global Forum membership goes beyond geography to include support from associations, foundations, government, and academia. The Global Forum emphasizes an interprofessional approach to all its activities and is now actively seeking cross-sector engagement for addressing critical challenges, such as the social determinants of health and financing health professions education. Scrimshaw noted that the Global Forum is celebrating 5 years since its inception, and said "We are getting to some really difficult, gritty, important topics," such as the one being explored in the workshop—making a business case for high-value CPD. With those few comments, Scrimshaw handed the microphone to Holly Wise to orient participants to the agenda and describe how the topic relates to the work of the Global Forum.

The Global Forum, said Wise, is composed of 56 appointed members who represent 19 different professions and hail from nine different developed and developing countries. Its guiding principles emphasize engaging students, being person and patient centered, and creating an environment of learning with and from partners from outside the United States. The workshop was planned with these principles in mind, Wise said. Workshop topics are selected and developed by the Global Forum members themselves, and then an ad hoc planning committee develops and creates an agenda of activities, she added.

Objectives for this workshop draw from the Statement of Task in Box 1-1 and begin with building a foundation for understanding the elements of a business case and what composes high-value continuing professional development. Subsequent sessions then apply the foundational understanding for participants to explore examples of high-value CPD through invited presentations, panel discussions, and breakout groups. The presentations and panel discussions covered putting the *value* in high-value CPD, real-world business cases for high-value CPD, and the role of accrediting and credentialing bodies.

There were four breakout groups that met simultaneously during the afternoon of the first day of the workshop. These groups were co-led by facilitators who presented brief case studies based on real-life interventions or programs. Each group considered the case study in exploring the potential business case from the perspective of the investing entity: government, workplaces, professional associations, or philanthropic organizations. The facilitators of each breakout group presented a summary of the group's discussion to the entire workshop audience. See Appendix A for the workshop agenda.

Organization of the Proceedings

This workshop summary is made up of six chapters organized in the following structure: Chapter 2 presents background information about high-value CPD and summarizes a presentation about how to develop a business case. Chapter 3 focuses on how to define *value* for CPD, including nonmonetary value. Chapter 4 presents four real-world cases in which an organization undertook a high-value CPD activity. Presenters discussed the process, outcomes, and lessons learned. Chapter 5 summarizes the presentations by four representatives of accrediting and credentialing bodies, exploring the considerations and points of leverage that these bodies have. Chapter 6 presents the work of the breakout groups through summaries of each group's case study and conversation. Finally, Chapter 7 concludes the report with the workshop participants' reflections about the workshop and next steps.

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2

Outcomes-Based, High-Value CPD from a Business Perspective

Highlights from Individual Speakers and Participants

- Continuing education (CE) is often associated . . . with seat time or continuing education units rather than competency units. In contrast, continuing professional development (CPD) is a more holistic approach that encompasses a broader variety of learning methods and theories. (Wise)
- An incredible amount of financial resources and intellectual and regulatory effort is put into general education and prelicensure training while there is much less investment in CPD, the final and longest phase of a health professional's career. (Cervero)
- What has been largely unexplored is the concept of the value of CPD: Can the value of CPD be measured and quantified in a way that makes a convincing business case for investing in CPD? (Cervero)
- The purpose of a business case is to provide the basis for making a decision as to whether to move forward with a specific project. (Karahanna)
- When developing a business case, it is important to keep in mind the perspective of the intended audience. (Savitz)
- It is critical to use a team-based approach when building a business case, and such teams would ideally include clinical experts, researchers, community representatives, and patients and caregivers. (Savitz)

PROGRESSING BEYOND CONTINUING EDUCATION

Holly Wise, American Council of Academic Physical Therapy

As part of her opening remarks, Wise asked the workshop participants, "What is high-value continuing professional development (CPD) and does it make sense to support it?" Wise said that the topic of CPD is of critical importance because a workforce of knowledgeable health professionals is essential to the discovery and application of health practices to prevent disease and promote well-being. However, the professional workforce is not consistently prepared to provide high-quality health care and ensure patient safety. Referring to the 2010 Institute of Medicine (IOM) report *Redesigning Continuing Education in the Health Professions*, Wise highlighted the authors' conclusion that the continuing education (CE) system for health professionals was not working, as there were major flaws in the way that CE was conducted, financed, regulated, and evaluated. The authors further determined that a new comprehensive vision of CPD was needed to ensure that all health professionals engage effectively in a process of lifelong learning aimed at improving patient care and population health. CE is often associated with didactic teacher-centered learning—using methods such as lectures conducted in auditoriums—and is associated with seat time or continuing education units rather than competency units. In contrast, CPD is a more holistic approach that encompasses a broader variety of learning methods and theories, said Wise. CPD is learner driven and tailored to individual needs, and includes concepts such as self-directed learning and practice-based learning. CPD "stretches beyond the 'classroom' to the point of care," concluded Wise.

CPD IN THE CONTEXT OF A HEALTH PROFESSIONAL'S CAREER

Ronald Cervero, Uniformed Services University of the Health Sciences

After this broad overview, Cervero continued the discussion by looking at CPD in the context of a health professional's career. He said that CPD "is by far the longest phase" of any health professional's career. The other phases—general education, specialized prelicensure programs, and induction into practice—are of comparatively short duration (see Figure 2-1). However, while there has been an incredible amount of financial resources and intellectual and regulatory effort put into the other phases in order to build a "magnificent system of health professions education," there has been much less investment in the final and longest phase. Cervero said "We send out our health professionals for 30 to 40 years, pretty much on [their] own."

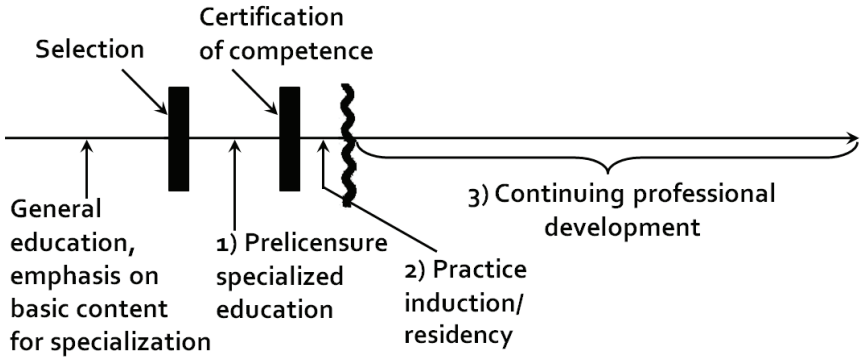

FIGURE 2-1 The three-phase continuum of lifelong professional development.
SOURCE: Presented by and used with permission from Ronald Cervero, April 6, 2017.

Cervero brought the conversation back to outcomes and quality by citing efforts of the International Pharmaceutical Federation to progress and adopt their definition of CPD (FIP, 2014), and the 2010 IOM report that emphasized performance improvement over seat time (IOM, 2010). He noted five goals from this 2010 report for preparing health professionals that were first described in the 2003 IOM report *Health Professions Education: A Bridge to Quality*. In it, the authors state that effective CPD should ensure that health professionals can provide patient-centered care, work in interprofessional teams, employ evidence-based practice, apply quality improvement, and use health informatics (IOM, 2003). According to Cervero, using these elements creates a seamless system of lifelong professional development that begins in the first two educational phases and continues through professional development. To effectively incorporate these elements into CPD interventions, Cervero said that CPD should do the following:

- Be learner driven
- Be tailored to individual needs
- Use a broad variety of learning methods
- Include organizational and systems factors
- Focus on clinical as well as other practice-related content, such as communication and business

Cervero noted the progress that has been made in recent years in defining and promoting CPD in the United States, with systems of accreditation, recertification, and relicensure beginning to move away from CE and toward CPD (see Chapter 5). A recent article in *Academic Medicine* talks

about why this broad view is so important (McMahon, 2017). In it, he said, continuing education is described as having evolved into what is now a multidisciplinary approach for "engaging clinicians where they live and work and learn." It includes teamwork, mentoring, real-time feedback, technology-enabled learning, and relationship building.

But despite such progress, what has been largely unexplored is the concept of the *value* of CPD. How can high-value CPD improve quality, safety, and effectiveness? How can high-value CPD meet the quadruple aim of health care—improving population health, enhancing patient experience, reducing per capita cost, and improving work life of health care providers? Can the value of CPD be measured and quantified in a way that makes a convincing business case for investing in CPD? To begin answering these questions, Cervero turned the podium over to Elena Karahanna, professor of business in the Management Information System Department at the University of Georgia, to walk workshop participants through the process of building a business case.

MAKING A BUSINESS CASE

Elena Karahanna, University of Georgia

Karahanna first defined the purpose of a business case:

> to provide the basis for making a decision as to whether or not to move forward with a specific project. . . . Therefore, it has to describe the initiative, it has to justify why this particular initiative is needed, it has to identify the costs, and it has to identify the benefits that will be derived from this initiative, and it also has to identify any risks that might derail the project.

Karahanna noted that while there are numerous templates that can be used to build a business case, there are five essential components: problem description, business requirements, business benefits, costs, and risk assessment and feasibility. Karahanna used an example of a health maintenance organization's (HMO's) diabetes management intervention to elucidate each component of the business case.[1]

Problem Description

The problem description is the *why* of the business case: Why is there a need to take action? What is the problem, and why does it need to be

[1] This example is based on the field report "The Business Case for Diabetes Disease Management at Two Managed Care Organizations: A Case Study of HealthPartners and Independent Health Association" (Beaulieu et al., 2003).

solved? What is the general idea behind the solution that is being proposed? Karahanna noted that a problem description must be both compelling and convincing both in terms of the problem and in terms of the proposed solution. It must describe a real problem that is worth solving in an effort to convince the decision maker, who is typically the investing entity, that the proposed solution has the potential to actually address the problem.

The example, diabetes, is one of the most common—and most costly—chronic diseases. Lack of proper treatment can lead to blindness, end-stage renal disease, nerve damage and amputations, heart disease, or stroke. Diabetes care is often poorly managed, and the disease exacts a high toll on society in terms of health costs and lost productivity. Over the past 5 to 10 years, new types of care management strategies for diabetes have emerged and been adopted by some providers. They all fall under the definition of disease management. Different programs offer different services, but a few key elements are common to all programs. The basic idea is that diabetic patients' long-term health can be improved and medical care costs can be saved if patients learn about their disease and become active participants in managing their health. The focus of disease management is on prevention and control rather than on acute care. The aim is to improve the coordination of care and reduce the number of hospitalizations and severe complications among diabetic patients.

Business Requirements

The business requirements description is the *how* component of a business plan. How will the described problem be addressed? What are the specific components of the proposed solution? What is the scope of the project, and what is *not* included in the scope? Who are the stakeholders, and how will they be involved? During this step, it may be appropriate to perform a needs assessment in order to fully understand stakeholder perspectives and the needs of the targeted community. This may involve, for example, interviews or focus groups, mapping processes and identifying inefficiencies, error-prone steps or pain points, examining best practices, and performing gap analyses.

For the diabetes example, a diabetes management intervention must include the following:

- Patient and physician education
- Programs about weight control and other lifestyle changes for members
- Adherence to clinical guidelines

- Nurse case management
- Monitoring and tracking

Business Benefits

Defining the business benefits of a project answers the *what* questions. What are the business objectives that the project aims to achieve? What are the benefits (e.g., reduced cost, improved quality) that will be derived from the project? Business objectives need to be specific and verifiable, associated with a time frame, and associated with a stakeholder.

In the diabetes example, the objectives are many:

- Reduce costs for specialist visits by 30 percent by year 2.
- Reduce the number of emergency room visits by 5 percent during the first year and by 25 percent by year 3.
- Reduce hospital inpatient stays by 20 percent by year 3.
- Reduce costs from managing blindness by 12 percent by year 5.
- Reduce the number of amputations by 35 percent by year 5.
- Reduce the number of end-stage renal failures by 40 percent by year 5.
- Reduce hemoglobin A1C levels by 15 percent by year 2.
- Increase the average life expectancy of diabetic patients by 2 percent by year 5.
- Achieve an average of 80 percent of the patients being satisfied with the program by year 2.

Costs

The fourth component of a business plan estimates the costs involved in carrying out the project. These costs can include both development and operating costs, tangible costs (e.g., salaries of training staff), and intangible costs (e.g., loss of employee morale). Costs should be quantified, if possible, and should identify stakeholders and timeframe.

In the diabetes example, two types of costs are defined—development costs and operating costs:

- Development costs
  - Development cost of the system (information technology personnel salaries, software, hardware)
  - Costs of developing educational material for patients and physicians

- Operating costs
  - Higher premiums for health insurance (for patients)
  - Costs of additional nurses and administrative staff
  - Increased costs because of more visits to nutritionists and exercise counselors
  - Increased lab costs

Feasibility and Risk Assessment

The final component of a business case assesses the risk of a proposed initiative from a financial (see next section), organizational, and technical perspective. It is designed to answer two questions: (1) Can we proceed with this project, and (2) If so, should we? The feasibility assessment looks at whether the organization has the means and expertise to carry out the project. For example, is there organizational knowledge of the domain, and does the organization have the financial resources, human resources, organizational capacity, and time to commit to the proposed activity? The feasibility assessment also involves performing a stakeholder analysis to identify potential resistance to the proposed initiative by specific stakeholder groups, especially those groups whose buy-in and cooperation are critical to the success of the initiative. The risk assessment considers the potential risks of proceeding (or of not proceeding), and whether these risks can be mitigated. The risks may be tangible or intangible and may include risks to the organization as a whole, to individual health professionals, to the patients, or to other stakeholders.

The diabetes example includes the following considerations:

- Technical considerations
  - Does the organization have the technical know-how to develop the initiative? If not, can it hire external expertise?
  - How large is the initiative?
  - How complex is the initiative (e.g., how many interdependencies does it have, how many organizations/units does it involve)?
- Identify stakeholders, and ask the following for each stakeholder group:
  - Do the potential users like the idea?
  - Will the users actually use it if it is implemented?
  - Do they have reasons to resist it? Are there any negative effects?
  - How much power do they have? Is their resistance material to the success of the initiative?
  - Things to consider include the following:
    - Lack of time
    - Lack of incentives

- Power shifts
- Fear of change of job responsibilities
- Fear of loss of employment
- Reversal of long-standing procedures
- Loss of control

- Organizational considerations
  - Do the organization's power people support it?
  - Does it fit the strategy and long-term plans of the organization (strategic alignment)?
  - How well does the new system fit the organizational culture?

Financial Assessments

Once the problem and potential solution have been described, and the benefits, costs, and risks of the project have been identified, financial analyses can be performed (e.g., cost–benefit, cost-effectiveness, cost utility, or cost feasibility analysis). While financial analyses are an important part of the business case, Karahanna said that there may be circumstances in which implementing a project may not make sense from a purely financial standpoint, but the intangible or nonfinancial benefits may be sufficiently compelling to move forward anyway. Karahanna presented a linear synopsis of the process for making a business case (see Figure 2-2), but she

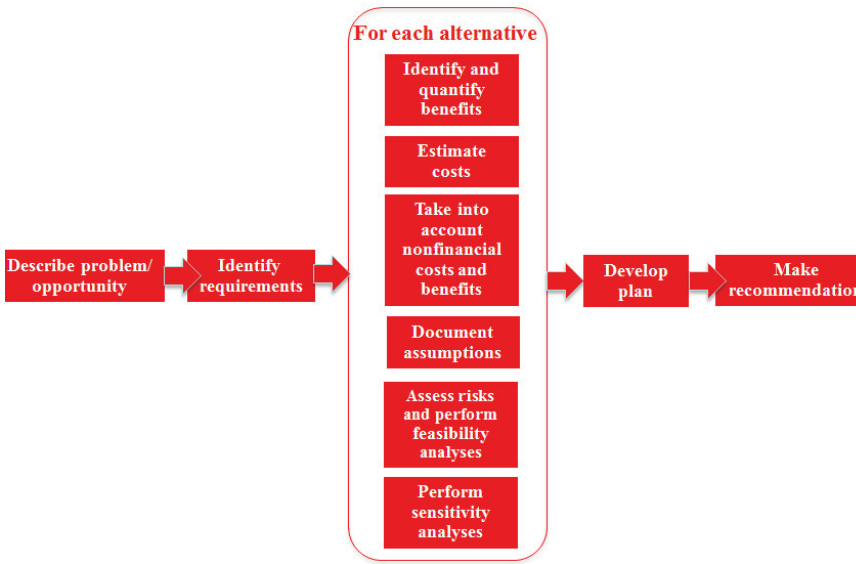

FIGURE 2-2 Making the business case.
SOURCE: Presented by Elena Karahanna, April 6, 2017.

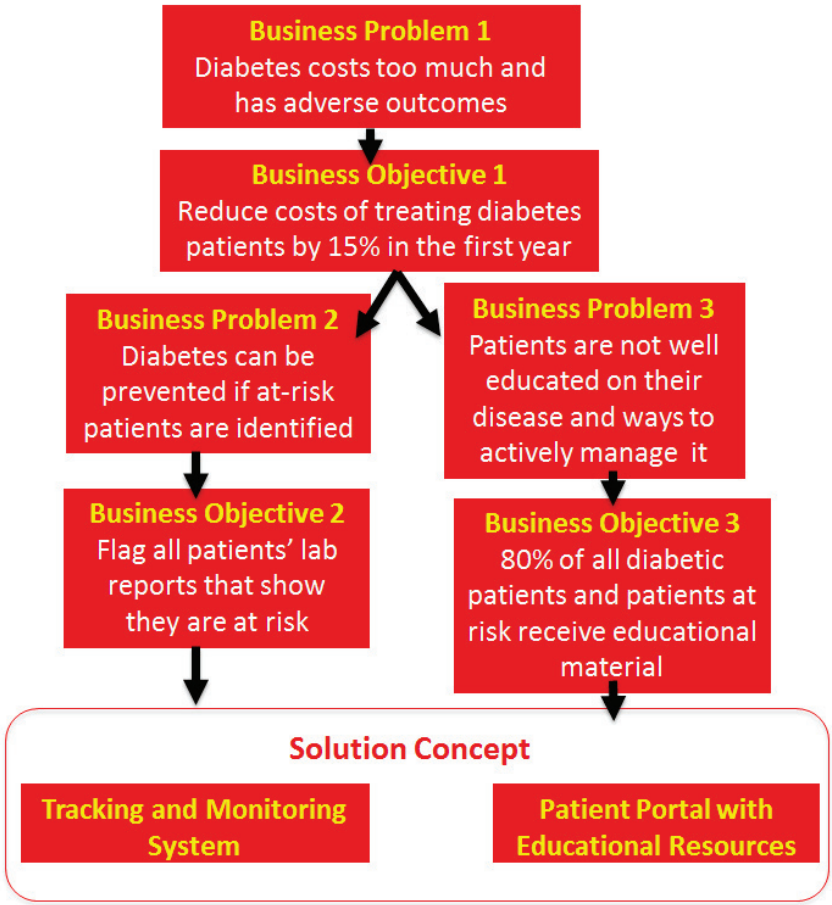

FIGURE 2-3 Interrelationship between problem description and business objectives. SOURCE: Presented by Elena Karahanna, April 6, 2017.

said that it is actually an iterative process in which each component may be revised as the problem, solution, costs, risks, and benefits are further refined. In particular, the problem description and the business objectives are intertwined, and exploring one can help clarify the other. The business objectives can be made more measurable by asking, "How will we assess whether the problem is solved?" Likewise, the problem description can gain granularity by asking, "What is keeping us from achieving this goal?" (see Figure 2-3). Karahanna noted that a business case usually looks at costs and benefits over a period of 5 years, although a particular business case may

look at a shorter or longer time frame, particularly in the case of a disease intervention in which the disease outcomes take time to manifest.

DISCUSSION

The moderator of the discussion session, Lucy Savitz, assistant vice president for delivery system science in the Institute for Healthcare Delivery Research at Intermountain Healthcare, opened the floor for discussion, and a number of participants responded. Patricia Hinton Walker of the Uniformed Services University of the Health Sciences observed that in the diabetes example that was presented, the true cost and complexity of patient behavior change was underestimated. She noted that behavior change is not a simple consequence of a provider-directed intervention; it requires the active participation and motivation of patients and their caregivers. Savitz agreed with this observation and said that patient behavior change is often influenced by people outside of the clinic setting—from informal caregivers to friends at church—and these influences should be included in a business case whenever possible. Walker guided the discussion back toward CPD, and argued that unidirectional education of health professionals is unlikely to be successful without understanding and engaging the patient and caregiver perspective.

Savitz pointed out that when developing a business case it is important to keep in mind the perspective of the intended audience. For example, a business case made to a health care organization would show a benefit or savings to that particular organization, rather than simply a benefit to society as a whole, because the organization has a fiduciary duty to make financially sound decisions. Karahanna agreed and said that business cases are almost always directed at whoever is funding the project—whether that is a philanthropic organization, a for-profit business, or a nonprofit—and that the business case should reflect the funder's perspective and motivations.

Malcolm Cox, co-chair of the Global Forum, asked Savitz and Karahanna to comment on the expertise that is necessary to build a business case. Savitz responded that in her experience, it is critical to use a team-based approach when building a business case, and such teams would ideally include clinical experts, researchers, community representatives, and patients and caregivers. She noted that including community partners can lead to unexpected cost savings; for example, in an Intermountain diabetes project, the local farmers' market provides discounts to patients at no cost to Intermountain. Karahanna suggested adding a member with expertise in business analysis to the team in order to facilitate the process by pulling all the components of the business plan together.

The final comment came from Brenda Zierler of the American Academy of Nursing. She noted that people in the United States can change insur-

ance providers often, making it a challenge to demonstrate a return on investment because the costs and benefits may accrue to different entities. Savitz agreed. This is a challenge, she said, and health care plans need to work together on initiatives that improve health care and health outcomes because they will see benefits accrue to the health care plans collectively, as well as to the population as a whole.

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3

Putting the *Value* in High-Value CPD

Highlights from Individual Speakers and Participants

- Those who provide and study education and patient care must articulate sound explanations and realistic expectations for the value of their work; yet, the science to explain outcomes is incomplete with uncertain causal linkages. (Mazmanian)
- While much of the attention is focused on the economic benefits of continuing professional development (CPD), CPD can also contribute to important noneconomic benefits for the patient. (Spiegel)
- How does one balance the tension between the rights and needs of the individual patient with the realities of tight budgets and the needs of the population as a whole? (Kishore)

To build a business case for implementing high-value continuing professional development (CPD), it is critical to understand how CPD aligns with value-based purchasing as it takes hold in the United States and in other international markets as well. In the view of Paul Mazmanian, associate dean for assessment and evaluation studies at Virginia Commonwealth University, those responsible for managing professional development will likely face pressure to restructure the CPD enterprise to meet the demands of reorganizing health systems. Value would be based on how well the CPD meets the needs of the individual health care provider,

the profession, the public, and others investing in the results of CPD. Often, value is measured in financial terms, but there are also nonmonetized outcomes, such as interprofessional collaboration or patient satisfaction, that may be of equal or greater value than the financial implications of a CPD intervention.

WHAT IS THE VALUE PROPOSITION FOR HIGH-VALUE CPD?

Paul Mazmanian, Virginia Commonwealth University

To help the workshop participants better understand *value* when discussing high-value CPD, Mazmanian explored components of the value proposition [Value = (Outcomes + Quality)/Cost]. He first looked at outcomes and quality before delving into issues related to effectiveness and cost. Following his presentation, the audience used his ideas to grapple with defining the stakeholders for a business case that might benefit from a particular CPD intervention.

Outcomes and Quality

Mazmanian explained that outcomes can be measured at a number of different levels and with a variety of tools. The simplest outcome—and one that is often measured by traditional continuing education (CE)—is the number of people who participate in an activity. Outcomes can also be measured by participant satisfaction with the activity, knowledge gained through participation, intention to change practice as a result of the activity, and actual change in practice. Finally, an activity can be evaluated by its effect on changes in patient or population health. These would all be indications of quality. Tools ordinarily used to measure the effect of an educational activity include questionnaires, tests of knowledge, self-reported changes in knowledge or intention to change, observed changes in practice, and clinical or self-reported patient outcomes. Less frequently reported outcomes include immunization rates, mortality, morbidity, and other community health indicators. Box 3-1 outlines evaluation perspectives of Moore, Green, and Gallis with tools for achieving desired results and improved outcomes (Moore et al., 2009). Mazmanian uses the work of Moore because it offers increased sensitivity for measuring progress and success at levels 1 and 2, and, with more recent versions, at 3C.

Effectiveness

Next, Mazmanian explored the various forms that CE or CPD can take, and the evidence about the effectiveness of each form for affecting

BOX 3-1
Evaluation Outcomes and Tools

Level 1: Participation
- Description: Number of learners who participate in the educational activity
- Tools: Attendance records

Level 2: Satisfaction
- Description: The degree to which expectations of participants were met regarding the setting and delivery of the educational activity
- Tools: Questionnaires or surveys completed by attendees after an educational activity

Level 3A: Declarative knowledge
- Description: The degree to which participants state *what* the educational activity intended them to know
- Tools: Pre- and posttests of knowledge or self-reported gain in knowledge

Level 3B: Procedural knowledge
- Description: The degree to which participants state *how* to do what the educational activity intended them to know how to do
- Tools: Pre- and posttests of knowledge or self-reported gain in knowledge

Level 3C: Dispositional knowledge
- Description: The degree to which participants *demonstrate intentionality*, consistent with values, attitudes, and norms
- Tools: Valid and reliable tests of psychological constructs or statements of commitment to change

Level 4: Competence
- Description: The degree to which participants *show* in an educational setting *how* to do what the educational activity intended them to be able to do
- Tools: Observation in an educational setting or self-report of competence or intention to change

Level 5: Performance
- Description: The degree to which participants *do* what the educational activity intended them to be able to do in their practices
- Tools: Observed performance in clinical settings, patient charts, administrative databases, self-reports of performance

Level 6: Patient health
- Description: The degree to which the health status of patients improves because of changes in the practice behavior of participants
- Tools: Health status measures recorded in patient charts or administrative databases or patient self-report of health status

Level 7: Community health
- Description: The degree to which the health status of a community of patients changes because of changes in the practice behavior of participants
- Tools: Incidence and prevalence reports or community self-reports

SOURCE: Adapted from Moore et al., 2009.

changes in attitudes, learning, and behavior. The interventions and definitions noted in Table 3-1 are derived from the Cochrane Collaboration, Effective Practice and Organisation of Care Group, which recently updated its taxonomy to be more sensitive to accountability and organizational culture (EPOC, 2015).

As shown in Table 3-1, effects are inconsistent across interventions, settings, and behaviors. This analysis is derived largely from reviews of studies extending from 1995 to 2017 (Davey et al., 2017; Davis et al., 1995; IOM, 2010; Mazmanian, 2009; McGaghie, 2013; Neimeyer and Taylor, 2012; Rayburn et al., 2017). According to Mazmanian, the assembled evidence offers guidance about general principles for CE and CPD, but it provides limited specifics regarding the best ways to support learning and behavior change, in all cases. For the most part, there is evidence to support the overall effectiveness of CE and CPD in select instances, but too little evidence exists to make a compelling case for the effectiveness of CE or CPD in every circumstance (IOM, 2010). As a result, CPD providers cannot always determine the effectiveness of their instructional methods, and health professionals lack a dependable basis for choosing among CPD activities. However, this is not unique to CPD. There is visible concern throughout the behavioral sciences that study results too often are not replicable. Recent reports suggest that half or fewer of the published studies in psychology produce replicable results (Ioannidis et al., 2014; Van Bavel et al., 2016).

Mazmanian fears that the historic inability to draw definitive scientific conclusions about the effectiveness of CPD is clouding discussions about the value of CPD. He also noted the pivotal role of the learner in well-designed CPD: CPD participants must recognize a *need* for improvement, and be motivated to learn and actually implement changes, especially in the face of any resistance to change. Without these conditions, Mazmanian has difficulty seeing how CPD will be maximally effective.

TABLE 3-1 Educational Interventions and Their Effectiveness

Intervention	Definition	Effectiveness for Behavior Change
Educational material	Printed/published and distributed recommendations for clinical care	Little or no effect
Conferences	Conferences, workshops, lectures outside practice setting	Mixed effectiveness

TABLE 3-1 Continued

Intervention	Definition	Effectiveness for Behavior Change
Outreach visits	Trained person meets with providers in practice setting to improve performance	Mixed effectiveness
Local opinion leaders	Practitioners defined by their colleagues as influential, often using sociometric techniques to make the determination	Mixed effectiveness
Patient-mediated interventions	Physicians get information from patients who receive it from other sources	Mixed effectiveness
Audit and feedback	Summary of clinical performance of health care over a specified period, with or without recommendations for clinical action; information obtained from medical records, databases, patients, or observation	Mixed effectiveness
Reminders	Intervention (manual or computerized) prompting physicians to perform a clinical action (e.g., reminders about screening/preventive services, enhanced laboratory reports, and administrative support, such as follow-up appointment systems or stickers on charts)	More consistent effectiveness
Multifaceted interventions	Select combinations of the previous seven interventions, such as outreach visits, clinical information from patients, or computer reminders to counsel patients about specific disorders	More consistent effectiveness
Interprofessional education	Two or more health and social care professionals learning interactively in educational sessions	Mixed effectiveness
Interprofessional collaboration	Interventions in health care settings to improve care provided by two or more health professionals	Mixed effectiveness

SOURCE: Presented by Paul Mazmanian, April 6, 2017.

Costs

Mazmanian explained that there are many ways to analyze the costs and benefits of a CPD program, and gave three examples. First was a simple calculation of the per-participant cost; for example, the total costs of the venue, materials, staffing, and food divided by the number of participants. Second was an analysis that included nonmonetary benefits; for example, if a specific CPD program costs more than another option, but it is more time efficient, the extra money may be worth the time savings. Third was a cost analysis that takes into account future revenue gains that are due to the program; for example, a physician that is trained in a procedure through CPD will be able to generate future revenue by performing the procedure, and this revenue may justify the initial expense of CPD. Mazmanian closed by saying that those who provide and study education and patient care must articulate sound explanations and realistic expectations for the value of their work; yet, the science to explain outcomes is incomplete with uncertain causal linkages.

Table Discussions

In an attempt to bring the presentations of Karahanna and Mazmanian to life, Cervero asked the workshop participants to talk to the other people at their small tables to identify examples of high-value CPD activities. The examples could be theoretical or based on an actual activity drawn from personal experiences. Each table had a designated facilitator encouraging dialogue on examples of high-value CPD activities, who benefits from a particular CPD design and how they benefit, and what the associated costs might be with an identified activity. After 10 minutes of discussion, one participant from each table reported back to the larger group with his or her identified CPD activity and its associated costs and benefits. These comments, shown in Table 3-2, are those of the individual respondent and should not be considered a group consensus.

PATIENT PERSPECTIVE AND NONECONOMIC VALUES

Andrew Spiegel, International Alliance of Patient Organizations

Spiegel, director of the International Alliance of Patient Organizations, told workshop participants that although much of the attention is focused on the economic benefits of CPD, CPD can also contribute to important noneconomic benefits for the patient. Spiegel has been a leader in the patient advocacy community for more than 20 years, after his parents died 2 days apart from two different cancers. Over these 20 years, Spiegel has worked to improve the patient experience by identifying and addressing

TABLE 3-2 Exploring Costs and Benefits to High-Value CPD Activities

CPD Activity	Costs	Benefits
Table 1 respondent: Based on an actual example of an interactive, longitudinal workplace minicourse at USUHS that teaches epidemiologists how to use geographic information system (GIS) mapping	Expenses include the teacher who was from the USUHS and paid for by taxpayers, the epidemiologists' time, and purchase of the software.	• Epidemiologists, many of whom were trained before this technology was available. • Military leaders who get better geographic information on health information of who was having different health effects and their locations. • The population with improved health through more targeted information and improved medical services.
Table 2 respondent: A theoretical CPD activity for learning leadership and management skills	The main cost would be the delivery of the training and the opportunity costs (i.e., what has to shift in order to accommodate the training).	• Faculty, students, and health professional colleagues would better understand how to create business and financial plans, improve communication, and perform evaluations. • Management and leadership would learn how to inspire their workers to go forward with a vision.
Table 3 respondent: A theoretical CPD activity for training health care workers to combat the opioid epidemic	While the costs for the program are uncertain, there were theorized financial gains through reduced public health costs and improved public safety.	• Health care providers, prescribers, and dispensers would feel more confident in their skills, their decision making, and their approach to dealing with opioid addiction. • Patients would gain a sense of empowerment to avoid addiction. • The public health system would have less addiction in the community and provide greater public safety.

continued

TABLE 3-2 Continued

CPD Activity	Costs	Benefits
Table 4 respondent: Based on an actual example of a team-based simulation activity for health care workers in a high-risk OB section to practice very specific high-risk interventions	• Shared costs in developing a single best practice. • Individual costs of not doing clinical work in order to participate in the simulation. • Costs of the training, the simulation, and the debriefing. A potential perverse disincentive is that C-sections actually have a higher bundle rate. So if there is a decrease in the number of C-sections, this may change the revenue stream.	• Patients receive better care. • Physician residents get more in-depth training. • The team shares best practices and learns to work more effectively together. • The health care facility has decreased OB complications, an improved reputation, is invested in the future, and has decreased overall costs for bundled payments. • The health system can show decreased complication rates in high-risk OB patients.
Table 5 respondent: A theoretical CPD activity using TeamSTEPPS as applied to palliative care in the home	Costs involve a simple metric of calculating the cost of care in the hospital versus the cost of care in the home.	• Payers would have fewer costs with care outside of the hospital. • The family/caregivers would have enhanced communication, and they could have their experience incorporated into the design of future high-value CPD activities. • The community would have lower taxpayer costs with end-of-life care. • Individual health care providers and their teams could use clinical data for performance improvement at an individual and team level.

TABLE 3-2 Continued

CPD Activity	Costs	Benefits
Table 6 respondent: Based on an actual example where a national association with thousands of clinics around the United States wanted to improve the competencies of administrators at each of the clinics	Costs include an expert consultant, the platform for delivery of the education, and the time of the administrators.	• Patients, clients, employees, and administrators enhanced their skills, which improved the overall system. • What started as a top-down approach from the organization shifted as the learners took charge of the CPD activity.
Table 7 respondent: A theoretical interprofessional CPD activity looking at ventilator-acquired pneumonia in a practice setting	While the costs for the program are uncertain, it was theorized that health care expenditures would be reduced in terms of implementing this bundle.	• Educators would learn to take risks in terms of becoming collaborative coaches, mentors, and facilitators. • Accreditors would be challenged to remove barriers and allow innovation. • Patients would have improved health. • Clinicians would learn an intervention and improve their interprofessional skills. • The institution gains in terms of bundled costs.

NOTE: OB = obstetrics; TeamSTEPPS = Team Strategies & Tools to Enhance Performance & Patient Safety; USUHS = Uniformed Services University of the Health Sciences.

unmet patient needs. He noted that in the patient advocacy community the issue of CPD is not "ever discussed or published" despite the self-evident link between health care provider skills and knowledge and the patient experience. Spiegel said:

> There is little debate that CPD can improve the health care provider's knowledge base and skill level, can change behaviors and attitudes, and can improve clinical outcomes. All of this can (and should) benefit the patient.

Based on Spiegel's personal and professional experiences, he identified 12 patient-focused goals for CPD:

1. *CPD can increase patients' knowledge about their disease and treatment options*. Spiegel said that, despite efforts by the patient advocacy community to educate patients outside the clinic setting, patients still tend to get most of their information from their doctors and follow their doctors' recommendations. For this reason, it is essential that CPD helps providers effectively convey and translate information about disease management to their patients.
2. *CPD can promote patient comfort*. Patient comfort can take many forms, including comfort in understanding the disease, comfort with the treatment of the disease, and comfort with medication management.
3. *CPD can ensure that health care providers are reliable sources of information*. Spiegel said that "Dr. Google" has changed the traditional patient–provider relationship. Patients now come into a provider's office armed with information gleaned from the Internet. To work within this new paradigm, providers must stay up to date not just on the latest scientific information about a disease but also on what patients and others are talking about on the Internet.
4. *CPD can consider patient preferences*. Sometimes what a patient prefers is inconsistent with other stakeholders' goals, said Spiegel. For example, when Spiegel's mother was battling cancer, her preference was to be in the hospital where she could get access to care and pain management. However, her wishes were in contrast to the goals of stakeholders like payers and providers, whose goal is generally to keep patients out of the hospital to reduce costs and minimize the risk of hospital-acquired infections. CPD could educate health care providers to better understand and acknowledge these differing priorities.
5. *CPD can recognize the informed patient and encourage dialogue*. Spiegel observed that some providers are annoyed with patients who gather their own information and want to be active participants in understanding and managing their disease. CPD could help providers understand how to work with these patients and encourage dialogue.
6. *CPD can teach providers to value patients' time*. Spiegel suggested that CPD could help providers understand that patients have lives and activities outside of disease management, and that the timing of clinic appointments and treatments should acknowledge this reality.
7. *CPD can encourage clinical trials where appropriate*. Most patients receive information about clinical trials from their health care providers, but the majority of health care providers do not even discuss clinical trials with patients, said Spiegel.

8. *CPD can recognize that illness affects more than the patient.* When a patient is diagnosed with a disease, there is an entire community of people who are affected, including the patient, the family, the caretaker, and the employer. CPD could help providers recognize this fact, and recognize the value and importance of all community members' time and perspectives.
9. *CPD can consider the effect of treatment on nonmedical issues.* Spiegel said that while medical guidelines may tell a provider the "best" treatment for a patient, this does not take into account the patient's perspective and the effect that a treatment may have on the patient's family or ability to work. CPD could encourage better dialogue between providers and patients to make these types of decisions.
10. *CPD can consider the caregiver.* A patient's caregiver can be a key player in a patient's treatment plan. The provider can learn to take the time to acknowledge the caregiver's role and offer assistance and information to that caregiver when indicated or requested.
11. *CPD can encourage recognition that a patient is a unique individual.* Spiegel noted that regulators and policy makers are often looking for a "one-size-fits-all" approach to patient care in order to save costs and simplify the system. However, providers need to remember that patients have unique bodies and unique needs, and these standard guidelines may not be appropriate for every patient.
12. *CPD can remind providers that patients come before economics.* When providers are making decisions about disease management, they should keep in mind that patients are more important than the bottom line. CPD can help providers take patient preferences into account and to think creatively in order to "find a way to pay!"

Spiegel concluded that when CPD is being developed and implemented, "the patient must always be the central focus." He reminded workshop participants that "at some point, we will all be patients." In response to a call for questions and comments, many workshop participants responded.

Marilyn De Luca of the New York University School of Nursing and Medicine shared that she and her colleagues often forget that the provider does not "own the illness or . . . birthing experience," and asked Spiegel how CPD can help providers understand and acknowledge the centrality of the patient in making informed decisions about disease management. Spiegel responded that the patient's perspective and involvement in care depend in large part on cultural expectations. He said that in Europe, patients who are diagnosed with colon cancer generally accept the testing and treatment that the government is willing to pay for; whereas in the United States, patients fight for the best medical care available, even when it is just an incre-

mental advance in treatment. CPD that is geared toward helping providers understand and acknowledge the patient's perspective can be adapted for the culture and health care environment of the patient's country.

Michelle Troseth, president of the National Academies of Practice, asked Spiegel to elaborate further on his point about encouraging informed dialogue between patients and providers. Spiegel said that in his experience, the traditional relationship between patients and providers—in which the provider makes the decisions and the patient follows orders—is falling away as the generations shift. He noted that younger patients are more likely to come to the doctor's office armed with information, and likewise, younger providers are more likely to recognize and understand that patients want to be informed and active decision makers in their care.

Sandeep Kishore of the Young Professionals Chronic Disease Network brought up the tension between the rights and needs of the individual patient versus the realities of tight budgets and the needs of the population as a whole. He asked Spiegel for his perspective on how to balance this tension. Spiegel responded that there is no easy answer. He noted that as medical advances are made, there are new and very expensive treatments or cures becoming available, but it is financially unfeasible to pay for every patient's treatment. The National Institute for Health and Care Excellence in the United Kingdom attempts to address this tension by conducting an assessment that compares the cost of the treatment to the value of the life that would be extended or saved. This kind of assessment inevitably denies treatment to some patients, he remarked, before wondering aloud, "Should every patient have access to every therapy no matter where they are in the world?" The International Alliance of Patient Organizations advocates for universal quality health care in every country in the world, but Spiegel admits that achieving this goal is enormously difficult and not getting any easier.

Brenda Zierler of the American Academy of Nursing said that chronic disease management, and cancer care in particular, requires a team approach. She noted that patients often spend a relatively small amount of time with their doctors, and much more time with other team members who meet patient needs for comfort, information, therapy, and social work. Zierler and Spiegel agreed that the design and implementation of CPD could reflect this team approach to care, rather than further entrenching the silos within health care.

Joanna Cain of the American Board and College of Obstetrics and Gynecology described her experience. Some of the best advice about how to train physicians, she said, has come from her cancer patients. However, these patients are not always comfortable sharing their opinions in such formal venues as large meetings or committees. Noting that the patient perspective is invaluable in building a business case for CPD, she asked Spiegel

how patients can be encouraged to share their ideas and provide input. Spiegel agreed that patients are often intimidated about getting involved in academic or policy discussions, and said that as a consequence, many important conversations have traditionally lacked the patient perspective. He said that patient advocacy organizations are changing this unfortunate dynamic, and that these groups are participating in discussions about many aspects of health care. Patient advocacy groups have not yet been included in the discussions about CPD, Spiegel said, but they are eager to participate and can provide this critical patient perspective.

Referring to Spiegel's conclusion that "we will all be patients," Laura Magaña Valladares of the Association of Schools and Programs of Public Health said that preferably, we would all be "really healthy citizens." She asked Spiegel for his perspective on prevention and health promotion. He responded that cancer screening as a preventive measure has been an enormous success in recent years. An increase in screenings such as colonoscopies has saved "literally tens of thousands of lives in the last 10 to 15 years." He noted that the increase in screenings was attributable "primarily" to CPD, and that a great opportunity exists for health care providers to continue to make strides in preventive care.

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4

Real-World Business Cases for High-Value CPD

Highlights from Individual Speakers and Participants

- A challenge to setting up the business case was accounting for the indirect and intangible costs and benefits. (Savitz)
- Developing a business model and showing the value of the program became the only way to make the program a reality. (Bowden)
- The benefits of the program outweighed the costs, making it a "great business case for high-value continuing professional development." In addition to the quantifiable improvement in outcomes and cost savings, there were other benefits, such as improved staff satisfaction, increased interprofessional collaboration, and a gain in skills and knowledge that can be used in other projects. (Dean and Miller)
- While the technical methodology of the business case is ultimately important, it is essential to first fully understand and acknowledge the needs, concerns, and relationships of the stakeholders. (Kitto)

Transitioning from a broad discussion about the value proposition and how to define the elements of a business case, the workshop turned to concrete, real-world business cases for high-value continuing professional development (CPD) projects. There were four real-world cases presented,

followed by a discussion among the presenters and the workshop participants. For each case, the presenters described how the project was developed and implemented, and whether and how a business case was made for the project. Presenters discussed the outcomes of the projects, and offered reflection and lessons learned from the experiences.

SEPSIS CARE TRAINING

Lucy Savitz, Intermountain Healthcare

Savitz told workshop participants about her experience developing and implementing a CPD program for sepsis care at Intermountain Healthcare, a fully integrated delivery system in Salt Lake City, Utah. She noted that making the business case for high-value CPD at Intermountain may be "a little easier" than other health care organizations because Intermountain views CPD as "a responsibility of the delivery system." This view, she added, is rooted in the notion that a clinician "will have to relearn their profession at least six different times" over the course of a career, and that it is "almost physically impossible" for busy professionals to keep up with new findings in the field on their own.

Sepsis is the leading cause of in-hospital mortality in the United States, and there is strong evidence that early identification and treatment of sepsis saves lives. However, Savitz went on to say there is a rapidly changing evidence base about sepsis, and some physicians have raised questions about the sepsis bundle (a set of evidence-based best practices that give maximum outcome benefit when instituted together).[1] To improve sepsis care, the High Value Healthcare Collaborative (HVHC), of which Intermountain is a member, developed and tested a sepsis training program in emergency departments, inpatient units, and intensive care units. The objective of the program was to implement the 3-hour sepsis bundle reliably across these different patient care settings, said Savitz. The HVHC members—12 health delivery organizations across the country from Hawaii to New York City—worked collaboratively, but each implemented and tailored the sepsis program to their own unique systems and communities. Savitz said that differences between the communities include cultural issues, state regulations, payer mixes, and patient populations, all of which can affect the implementation of the program and "how you sell [the] business case locally." For example, in Utah, state regulations require that nurses be paid overtime for training; this cost must be accounted for in a Utah business plan, but it may not apply in other states.

[1] See https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2888324 (accessed November 2, 2017).

In describing the business case for the sepsis program, Savitz laid out some of the benefits and costs of implementation (see Table 4-1), and noted that one of the challenges was accounting for the indirect and intangible costs and benefits. For example, "increased positive patient experience" is a benefit of the sepsis program, but it is difficult to quantify or determine a dollar value for the benefit. Savitz said they were able to "sell" this benefit by theorizing that increased patient satisfaction would lead to increased patient loyalty and repeat business for the system. Savitz also noted that the business plan incorporates not only outcome measures but also process measures. Because some of the outcomes—for example, patient mortality—may be far removed from the time of training, the plan includes process measures such as compliance with the bundle or a decrease in time to treat. Including both outcome and process measures allows a delivery system to evaluate the progress that is being made. Regarding the costs of the program, Savitz noted that the collaboration between HVHC members reduced the costs and burdens of developing the program. For example, HVHC built an Internet platform for sharing resources; this enabled members to download training materials and substitute their own logo, rather than each organization spending time and money to create unique materials.

Savitz concluded her presentation with the story of the "Lipstick Lady." At one health care delivery organization that Savitz visited, many providers

TABLE 4-1 Benefits and Costs of the Sepsis Care Training Program (from Savitz abstract)

Benefits	Costs
Decreased in-hospital mortality	Developing and testing training materials
Decreased length of stay	Maintaining training materials
Decreased ICU days	Staff time in training
Increased discharge disposition to home	Analytic time to produce reports**
Increased staff morale*	Chart abstraction time
Increased positive patient experience	Dedicated staff time
(Future) avoided payment penalty	Decision support tool development
Increased bundle compliance (process)	EHR programming—CDS
Decreased time to treat (process)	Refresher training/reinforcement

NOTE: CDS = clinical decision support; EHR = electronic health record; ICU = intensive care unit.

* "Lipstick Lady" example and decreased turnover.

** Value of measurable feedback.

SOURCE: Presented by Lucy Savitz, April 6, 2017.

shared the same story: a woman in the emergency department was identified and treated for sepsis early, and at the time she was supposed to be transferred to the intensive care unit (ICU), she was sitting up in her gurney applying lipstick. Savitz said that despite all the data that are gathered in support of CPD programs, these types of real-life patient stories are what serve as "enormous proof of the work and the value" of CPD. After seeing the Lipstick Lady survive and thrive after early sepsis intervention, "nobody was asking questions" about the value of these training programs.

PHYSICAL THERAPY RESIDENCY

Mark Bowden, Medical University of South Carolina

The Medical University of South Carolina (MUSC) has been in the process of developing a neurologic residency program for doctors of physical therapy over the last 4 years, said Bowden, director of the Division of Physical Therapy at MUSC. Physical therapy residencies, unlike medical residencies, are not part of the formal training process and have no external funding sources. Bowden explained that a physical therapy residency is a "voluntary program that individuals take up postprofessionally to . . . improve as clinicians." He noted that while some participants of the residency may end up taking the neurologic clinical specialization exam, passing this exam is not the point of the residency. The goal is to alter clinical decision making and help participants become better therapists. That said, the exam does serve as a measurable by-product of the residency program.

Bowden commented that initially, there was no business model for the residency program. It was seen as an opportunity to improve education and clinical practice, and ultimately, to improve patient care. However, it soon became clear that funding would not be available for the residency program. Developing a business model and showing the value of the program became the only way to make the program a reality. To begin the process, four business students performed a survey of physical therapy students and recent graduates to learn about overall interest in a residency and the limitations to implementation. The survey revealed that 79 percent of students and 61 percent of therapists were either somewhat interested or highly interested in pursuing a residency. However, 94 percent of survey respondents were concerned about assuming the costs of the residency, and 56 percent were reluctant to relocate for the purpose of pursuing a residency.

In response to these concerns, the residency was designed in such a way that the tuition was covered by the employer, there was no relocation involved, there were minimal losses to productivity, and—perhaps most importantly to the business case—the program maintained revenue neutrality to MUSC while maximizing the investment of clinical partners.

The residency includes 64 hours of intensive study in Charleston (over four weekends), 120 hours of additional online content and interactive education, 160 hours of one-on-one mentoring, and three site visits by program faculty to observe the resident as well as resident–mentor interactions.

The mentorship requirement is a critically important part of the residency program, with mentors serving as "extensions of the faculty," said Bowden. The relationship is collaborative rather than unidirectional, and the mentor helps facilitate the development of advanced professional behaviors, proficiency in communications, and consultation skills. To serve as a mentor, the therapist must complete an online mentorship certification course, participate in ongoing mentorship training, and have a specialty certification or at least 3 years in neurologic physical therapy. Mentors are invited to participate in all didactic learning opportunities and must be familiar with the content in order to reinforce the material with residents during patient care.

Over the last 4 years, the program has had 21 residents participate in seven different states. The hospitals that have hosted residents have seen dramatic benefits. One site, AnMed Health Rehabilitation Hospital, used to have difficulty recruiting therapists, with positions open for as long as 6 months, and recruitment and startup costing as much as $20,000. After it implemented the residency, the hospital's recruitment and startup costs decreased to $3,000, and there is now a waiting list for new position openings. Three out of the last four hires sought the hospital out directly because of the residency opportunity, Bowden said. In addition, the hospital has seen improvements in patient care and patient satisfaction, with average length of stay decreasing by more than 2.5 days, improvements in a standardized measure for inpatient rehabilitation, and a higher discharge rate to the community. MUSC has seen benefits as well, with the creation of a revenue stream for Division of Physical Therapy strategic planning, creation of clinical education sites for their entry-level doctor of physical therapy students, and the development of clinical partners for comparative effectiveness and pragmatic clinical trials.

Bowden told workshop participants about plans to improve the business model and quantify the impact of the residency, including

- calculating the cost savings that are associated with shortening length of stay;
- expanding the outcomes data collected to include physical performance, patient satisfaction, and quality of life;
- developing a metric for "value" that includes costs, outcomes, and patient satisfaction data; and
- calculating costs per site for recruitment, retention, and marketing, and evaluating the effect of the residency.

COLLABORATION AND COORDINATION IN THE MRICU

Amy Dean, Virginia Commonwealth University
Kristin Miller, Virginia Commonwealth University

Dean and Miller presented their experience with developing and implementing an interprofessional training program aimed at improving patient care in the medical respiratory intensive care unit (MRICU) at Virginia Commonwealth University (VCU). Dean is the nurse clinician at VCU Health, and Miller is the assistant professor with the Division of Pulmonary Disease and Critical Care Medicine at VCU School of Medicine. Dean began by explaining how the MRICU operates. It is a 28-bed ICU that specializes in the care of critically ill patients; the patients are often on mechanical ventilation, require continuous renal replacement therapy, and/or have continuous infusions of sedatives and vasoactive medications. The MRICU is run by an established interprofessional team that includes nurses, physicians, advanced practice providers, physical therapists, occupational therapists, pharmacists, and respiratory therapists, and the unit is split into a "red team" and "blue team" to which patients are admitted on a rotating basis.

The Collaboration and Coordination in the MRICU project came out of the VCU Langston Quality Scholars Program (LQSP), which is a collaboration between the school of medicine, the school of nursing, and the health system at VCU. LQSP is an experiential learning program that is designed to deliver CPD that focuses on the science of improvement and leadership skills, said Dean. The curriculum for LQSP is planned by a collaborative team of education experts, and it is delivered through didactic and online modules, embedded quality improvement experiences in the workplace, and biweekly coaching by a health care science of improvement expert. LQSP is taught in a dyad format, with participants from different health professions learning and working together. Over the course of about 8 months, Dean and Miller participated in the LQSP as a dyad from the MRICU, and developed and implemented their project to improve MRICU care.

Miller explained that their project was grounded in the "ABCDEF bundles," which are a series of best practices for patient care in the ICU (Marra et al., 2017):

A: Assess, prevent, and manage pain
B: Spontaneous awakening trial and spontaneous breathing trial (reduce sedation to test whether patient can be removed from ventilator)
C: Choice of analgesia and sedation
D: Assess, prevent, and manage delirium

E: Early mobility and exercise
F: Family engagement and empowerment

The MRICU project focused on three of these bundles: B, C, and E. Miller explained the reasoning behind these choices. The B bundle (spontaneous awakening and spontaneous breathing trial) was chosen because "studies have shown that synergistic use of both the spontaneous awakening trial and the spontaneous breathing trial decreases duration on the ventilator, decreases hospital lengths of stay, and decreases delirium." The C bundle (choice of medication for analgesia and sedation) was chosen because, while sedation is important to keep patients comfortable and in sync with the breathing machines, deep sedation is often unnecessary and deleterious. Miller said,

> Deep sedation has been found to reduce 6-month survival and to increase hospital mortality, ICU and hospital length of stay, time on the breathing machine or the ventilator, and physiologic stress to the patient.

To help providers find the ideal level of sedation for a patient, VCU uses evidence-based guidelines and the Richmond Agitation and Sedation Scale (RASS). Finally, the E bundle (early mobility and exercise) was chosen because ICU-acquired weakness is a problem that leads to decreased functional mobility, longer time on the ventilator, and increased mortality, said Miller.

Dean added that despite the scientific evidence behind these best practice bundles, they were not being consistently and effectively implemented. Dean and Miller built an interdisciplinary team of providers from the MRICU to help bridge the gap between the scientific evidence and actual implementation of the practices. This team concluded that there was an issue with communication and coordination of the bundles, so a goal was set to "achieve daily interprofessional communication and coordination of the care relevant to the patient sedation level, liberation potential, and the mobility plan for all MRICU blue team patients." The blue team served as the intervention group while the red team served as the control group. The blue intervention team used a Plan-Do-Study-Act (PDSA) cycle to develop and test different approaches to solving the problem. After several cycles, the team eventually developed a solution of interprofessional huddles held at 8 a.m., in which the team had a scripted conversation lasting 2 minutes per patient to develop a simple written plan for sedation, liberation potential, and mobility (see Figure 4-1).

Over the course of 3.5 months, the team held 269 huddles for 53 patients. The patients who had the "bundled huddle" had numerous improved outcomes: increased time at an appropriate sedation level, decreased use of

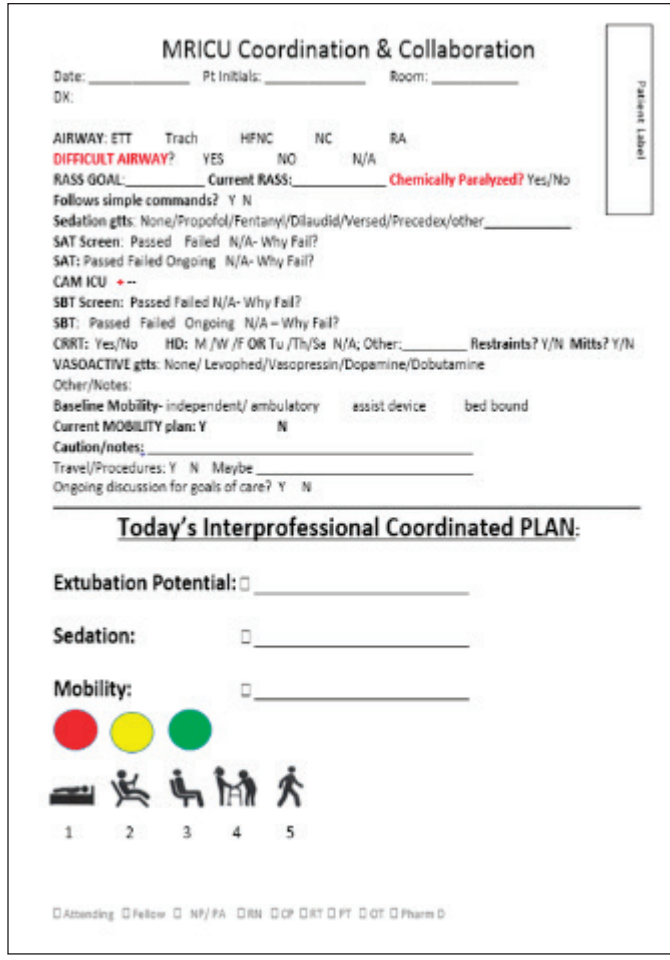

FIGURE 4-1 The solution.
SOURCE: Presented by Amy Dean and Kristin Miller, April 6, 2017.

benzodiazepines (from 20 percent of patients to 5 percent), and increased provider compliance with spontaneous awakening trials and spontaneous breathing trials (from 45 percent to 92 percent and 41 percent to 89 percent, respectively). Postintervention, 99 percent of patients had a mobility plan, compared to 16 percent preintervention. The average observed inpatient length of stay was markedly decreased for patients who had the bundled huddle—from 11.01 days preintervention to 7.75 days postintervention (compared to 9.95 and 9.22 days in the red control group). Length

of stay in the ICU was similarly decreased, from 4.96 days to 3.14 days, compared to an increase in the red team's patients from 3.76 days to 4.28 days.

With these data in hand, Dean and Miller estimated how much money was saved by implementing the program. The length of stay difference (1.14 days) was multiplied by the number of blue team admissions (183), and then by the average cost of a day in the ICU ($3,184).[2] The cost savings over the course of the intervention was estimated to be $664,246; extrapolated out to an entire year, Dean and Miller estimated that the potential yearly savings was $2.26 million. In addition to the savings related to the length of stay, Dean and Miller also found significant savings related to the MRICU accommodation charges and respiratory therapy charges.

The cost savings must be compared to the cost of implementing the program, said Dean. The total cost—including LQSP faculty and staff, outside speakers, and supplies—was approximately $97,000, or about $12,000 per dyad. Dean said that it seems clear that the benefits of the program outweighed these costs, making a "great business case for high-value continuing professional development." She noted that in addition to the quantifiable improvement in outcomes, there were other benefits, such as improved staff satisfaction, increased interprofessional collaboration, and a gain in skills and knowledge that can be used in other projects.

CPD COLLABORATIVE CONSORTIUM

Simon Kitto, University of Ottawa

Kitto shared a case study about an attempt at building a CPD consortium in Ontario, Canada. Kitto explained that because of the universal health care system in Canada, there are public-sector institutions in Ontario that work on CPD. However, these institutions have traditionally had no relationship with the Ministry of Health (MOH) of the Ontario Province. Rather, MOH had provided money for health care professional education directly to the hospitals, said Kitto. An Office of CPD in the Ontario Providence had the idea to approach MOH and present a business case for redirecting their CPD funding to the Office of CPD, instead of to the hospitals. MOH, said Kitto, had a limited understanding of what CPD was—it was a "completely new concept to them." However, MOH had a great interest in quality improvement. Kitto said this was an opportunity for offices of CPD and MOH to "marry their interests."

[2] Based on Dasta, J. F., T. P. McLaughlin, S. H. Mody, and C. T. Piech. 2005. Daily cost of an intensive care unit day: The contribution of mechanical ventilation. *Critical Care Medicine* June, 1266–1271.

Six medical school CPD offices were chosen as participants to create a "consortium for the development, implementation, and evaluation of quality continuing education for the health professions." The goal, said Kitto, was for all the medical schools in the province to begin to work together and present a united front to MOH to make the case for investing in CPD. The consortium planned to use a "walk in the woods" approach to develop their plan. This is a "method for multidimensional problem solving that is geared toward reaching a deal with necessary buy-in and support." There are four stages in the method: (1) identify self-perceived needs, (2) agree on key interests, (3) explore options for meeting and prioritizing these interests, and (4) reach an agreement and develop a plan for moving forward (Marcus et al., 2012).

The consortium began the process by identifying some key value propositions about CPD, each centered around the overarching goals of social good, collaboration, and quality. The consortium agreed that CPD could bring more value to health care by being more

- responsive to critical emerging health issues (social good),
- strategically positioned to compete for provincial funding (collaboration),
- streamlined to create more efficiencies in administrative systems (quality),
- evidence based in the CPD needs assessment process (quality),
- innovative in the design of continuing education (quality), and
- collaborative.

Further discussions resulted in a list of shared interests for the consortium to effectively collaborate and move forward with its plan. The list included

- oversight coordination models,
- intellectual property,
- revenue sharing practice,
- accreditation models,
- implementation models, and
- memoranda of understanding for research collaboration.

Despite this initial success in identifying value propositions and shared interests, the project soon came to a halt, said Kitto. On the day that the consortium planned to begin the formal walk in the woods process, several key stakeholders failed to participate. As a medical sociologist, Kitto sought to learn some lessons from the stalled process; he identified three logistical,

cultural, and political issues that obstructed the consortium from successfully moving forward:

1. Social desirability: Kitto remarked on the identified value propositions that centered on social good, collaboration, and quality. These are "pretty hard for anyone to reject" he said. Kitto speculated that the people involved in the consortium were reluctant to publicly disagree with such goals; yet, it is possible these goals were not aligned with their actual interests and beliefs. Because of this misalignment, some may not have perceived the value in participating in the process.
2. Local concerns: Kitto said that asking these local, public institutions to help build a provincewide business case was problematic for several reasons. First, the offices of CPD are "lean machines;" they have a limited number of personnel, are heavily focused on local operations, and emphasize maintaining preexisting local relationships. Second, the cultures of the regions in which the offices were located were very different. The offices were driven by local issues and the needs of the health care professionals in their immediate environment rather than external collaborative efforts.
3. Relationships between the stakeholders: Despite shared interests in improving CPD, the universities involved in the consortium and their representatives had a "quasi-competitive" relationship with each other. Kitto said that although they are public-sector institutions, universities compete with one another for students, funding, clients, and other resources. This history of competition, he added, "overshadowed the partnership" that could have been formed.

Kitto concluded that if he were to approach this process again, he would focus less on the technical aspects of building the business case and more on the stakeholders involved—who are they, what are their concerns, and where might there be sticking points? He said that while the technical methodology of the business case is ultimately important, it is essential to first fully understand and acknowledge the needs, concerns, and relationships of the stakeholders. Kitto argued that an "intercultural communication process" is necessary to bring the different CPD offices together. It is an intercultural process in that although there are similarities, each university stakeholder has its own organizational culture, history, and motivations, and these differences need to be addressed in order to build a successful collaboration.

DISCUSSION

Mike Rouse of the Accreditation Council for Pharmacy Education asked Dean and Miller to elaborate on the specific education and training that the providers received during the MRICU intervention. Dean explained that there were monthly didactic lectures that taught how to use quality improvement tools, such as process mapping, fishbone diagramming, and the PDSA cycle. In addition, the providers learned much from the biweekly coaching sessions with the science of improvement experts. Miller added that there was a lot of bedside education, in which the providers who were involved in the intervention could quickly educate the other members of the care team about topics such as mobility or sedation.

Brenda Zierler of the American Academy of Nursing pointed out that in her opinion, one of the best outcomes of the MRICU intervention was the interdisciplinary collaboration and communication that resulted in a clear and consistent plan of care. Miller agreed that the interdisciplinary aspect of the intervention was highly beneficial for everyone involved.

Julia Royall of the Global Health Information Specialist noted that Dean and Miller brought together a very diverse group of professionals to plan the intervention, and wanted to know the most challenging aspect of bringing these personalities and people together. Dean replied that the biggest challenge was "igniting the passion within the interdisciplinary team," but said that focusing the group on the benefit to the patients made it "easy to bring people on board." Miller added that the coaches from QSP were instrumental in helping them choose the right people for the team.

Savitz asked Bowden to elaborate on his goal of collecting data on patient quality of life. Bowden said that one of the challenges in getting clinical partners for the physical therapy residency has been getting people to recognize that things could be done better or differently, and that broadening the scope of outcomes that are measured—to include such aspects as quality of life—is critical to this conversation.

Darla Coffey from the Council on Social Work Education observed that none of the panelists mentioned continuing education credits as a primary driver or component of their projects. The panelists confirmed that participants in their programs do in fact receive CE credits, but that it tends to be "nontraditional CE," such as discussion and learning during patient care rather than a standard lecture format. Coffey applauded the fact that these projects seemed to emerge from a commitment to learning and a systems perspective, and that any CE credits conveyed were simply added benefits.

Zohray Talib of The George Washington University had two questions for Bowden regarding how a project like the physical therapy residency might be translated for use in an area such as East Africa. First, she asked how leadership of hospitals can be incentivized to invest in the staff and to

recognize that there is value in upgrading staff. She noted that leadership is sometimes reluctant to invest in staff when there is no guarantee that the staff will continue working at the hospital. Bowden replied that the residents in his program make a 2-year commitment to the facility after the end of the residency, and if the resident leaves before that time, he or she must pay the investment back. However, he noted, he is "totally okay" with residents eventually moving on to other facilities, because it expands the impact of the program and puts the residents in a position to create culture change in their new workplace. Talib's second question concerned the effectiveness of using a virtual classroom for some components of the program, noting that this model could be quite useful in a low-resource setting. Bowden responded by saying they struggled with the online portion of the residency in the first year, and have learned much about doing it effectively. He said that instead of continuously inundating the residents with content, they learned to ask residents to explore a small amount of content and then lead a practical discussion about it with their peers. For example, a resident might read an article about a specific approach to patient care, then try the approach in the clinic and report back to the other residents about whether and how the approach worked in the real-world environment.

Joel Nelson of the Health Resources and Services Administration asked the panelists about whether there has been "diffusion of innovation" with their programs; for example, has the red team in the MRICU adopted any of the practices of the blue team, or have new pilots of these projects been implemented elsewhere? Dean replied by saying that they are currently working to firmly establish their project in the ICU and hope to eventually take it hospital-wide and perhaps even community-wide. Dean commented that their MRICU dyad, one of eight dyads from different hospital departments, had seen great success and they were attempting to diffuse what they had learned. Miller added that a current focus of their work is on educating people within their ICU to make the program sustainable, noting that changing the way things have traditionally been done is very challenging. Bowden chimed in saying that one of their goals with the physical therapy residency is to "lay sod inside of rehab and then allow it to spread from there." The hope, he said, is that people outside the residency program will take note of the benefits of the residency and want to make similar changes in their own area of practice as well. Bowden relayed a story about the diffusion of a resident innovation. One of the residents worked with the information technology department at his hospital to develop a menu of rehab-specific options in the electronic health record for his facility in Florida. Two years later, a site visit revealed that a facility in York, Pennsylvania, was using the menu in its electronic health record.

Savitz said that her evaluation and analysis of the HVHC project resulted in a "generalized framework for accelerated dissemination and

implementation" of this type of learning health care system. She relayed some key components of the framework:

- Use a clinical expert panel to address areas in which there is a dynamic evidence base, and answer questions about the data.
- Develop a tool and resource portal for people to share resources, such as clinical decision support tools or tools for comparative data analysis.
- Facilitate opportunities for providers to share examples of real-world learning.

Bjorg Palsdottir of the Training for Health Equity Network asked the panelists whether there was any opportunity for the lessons they have learned in their CPD programs to influence the education and training that health providers receive before they enter practice. Bowden responded that his group at MUSC has a formal process for collecting and analyzing feedback from the residents and the mentors, and that the feedback has "dramatically changed" how they approach entry-level education. Specifically, he said that it is "insufficient to focus so much on the didactic portion," so they are making an attempt to use the classroom to teach clinical reasoning skills and pose practical patient scenarios.

Donald Moore, director of the Division of Continuing Medical Education and of Evaluation and Education at Vanderbilt University, observed that the CPD programs the panelists had described were largely focused on the kind of incidental and informal learning that takes place in the work environment, and that this move away from more traditional, formal education is an important part of the transition from CE to CPD.

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5

The Role of Accrediting and Credentialing Bodies

Highlights from Individual Speakers and Participants

- The organization sought to bring about behavior change among its staff through a novel continuing education strategy that ultimately led to a culture change that spread throughout the rest of Scotland's health system. (Benton)
- Jointly accredited providers do not generally struggle with planning and implementing team-based interprofessional educational activities, but they do struggle with the evaluation of this type of continuing professional development. (Chappell)
- Data and health informatics is an amazing opportunity for all the health professions within credentialing, licensing, and accreditation that can help promote standards and consistency of care and treatment across the education to practice continuum. (Regnier)
- While accreditors have a role to play by requiring content and outcomes on improving the well-being of providers, this involves a culture change that would require a collaborative effort to address because individual professional associations are limited in what they can do alone. (Harvison)

Malcolm Cox of the University of Pennsylvania introduced the speakers for the session, noting that accrediting bodies "walk a tightrope" between a primary responsibility for the health of the public and a responsibility to the profession itself. Cox said that professional development is in transition, and accrediting and credentialing bodies have an important role to play in this transition. In reflecting on the evolution of continuing professional development (CPD) in developed countries, he commented on how professional development has become more results or outcome-oriented, paralleling changes in accreditation and regulation. This is a shift away from the traditional continuing education (CE) measurement method of counting how many hours a professional sat in a session. Cox noted that accrediting and credentialing bodies should be in the forefront of "pushing, pulling, and dragging" the profession forward into the new model of competency-based, high-value CPD, and invited the presenters to share their perspectives on their work.

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION

Neil Harvison, American Occupational Therapy Association

Occupational therapy (OT) is one of the "smaller professions," said Harvison, chief academic and scientific affairs officer with the American Occupational Therapy Association (AOTA). For this reason, AOTA is responsible for many of the stages of the learning and credentialing continuum for occupational therapists. The association accredits graduate programs and residencies, provides board and specialty credentials, and offers CE for professionals. For most of these three areas, AOTA has moved to a competency-based system of assessment. Harvison noted that CE for OT remains knowledge based, in part because there are 52 different jurisdictions that dictate the CE requirements for renewal of license or certification.

The movement toward competency-based assessments is based on three broad agreements within the OT community, said Harvison. First, knowledge-based assessments do not guarantee practice competency and quality OT interventions. Second, competency-based learning outcomes are the best way to reflect the effect and value of continuing professional development. Third, competency-based learning outcomes should be consistent with the profession's quality initiatives and support systems outcomes. However, while there is agreement on these points, he added, there is disagreement on other issues regarding competency-based assessments. The field is struggling to identify the specific outcomes that are reflective of competency, as well as deciding how to best assess these outcomes. Harvison noted that, although perhaps the "gold standard" would be a content expert assessing the competency of each individual, this model is logistically and financially

problematic. Finally, there is the matter of determining what a competency-based system will cost and whether the return on investment will outweigh the cost.

Harvison gave a real-life example of the work that AOTA is undertaking to identify the specific competencies that occupational therapists should have. A recent intervention called Community Aging in Place—Advancing Better Living for Elders (CAPABLE) had great success in using an interprofessional team to help low-income older adults live more easily and safely in their homes (Szanton et al., 2016). A 5-month demonstration project of CAPABLE found that 75 percent of participants had improved their performance of activities of daily living, along with a reduction in depressive symptoms. AOTA took this success story and attempted to identify the "distinct clinical competencies of an occupational therapist that contributed to this positive outcome." Harvison said that, through this process, the competency that was identified as most important to the success of the program was the occupational therapist's skill at developing an occupational profile. An occupational profile is an assessment of the individual's history, experiences, patterns of daily living, interests, values, and needs. Most crucially, the occupational therapist develops an occupational profile in order to identify the daily activities that are most meaningful to the individual but that the individual is unable to participate in successfully.

AMERICAN NURSES CREDENTIALING CENTER

Kathy Chappell, American Nurses Credentialing Center

Chappell is the senior vice president for Accreditation, Certification, Measurement, and the Institute for Credentialing Research at the American Nurses Credentialing Center (ANCC). She started with a question for those who had planned the workshop: "If time were completely irrelevant," she asked, "how would you have assessed . . . learning and change through this workshop?" She noted that credits for CE have traditionally been awarded based on time (e.g., credit hours), and that such a system has its benefits. It is easily understood, consistent internationally, finite, and equitable. Despite these benefits, the amount of time spent in a CE session is "relatively meaningless" in terms of whether knowledge or skills have been improved, said Chappell. The ANCC sought to use a different approach and developed an outcome-based system for its professional education programs. The new system is a five-tiered model that measures different outcomes at each level:

Level 1: Articulate knowledge and/or skills.
Level 2: Apply knowledge and skills.
Level 3: Demonstrate in an educational setting.

Level 4: Integrate into practice.
Level 5: Measure impact on practice, patient, and/or system outcomes.

There are currently five organizations that are testing this model in practice: American Nurses Association Center for Continuing Education and Professional Development, Dartmouth-Hitchcock Nursing Continuing Education Council, Montana Nurses Association, OnCourse Learning, and Versant. Each of these organizations has been charged with developing, implementing, and evaluating up to three activities using this model, with at least one activity at Level 3 or higher. Chappell noted that before rolling out the new model, ANCC confirmed that its own Commission on Certification would accept this new method of awarding CE credit for ANCC-certified nurses since the current model still uses a credit hours system. Chappell said that if a CE program is "using a currency that is not recognized, there is little incentive for a nurse to participate." In addition, ANCC worked to translate the conceptual model into practice by developing operational guidelines to help the organizations "figure out how they are actually going to do this."

Chappell reflected on the lessons learned from ANCC's experience so far. She noted that some organizations are capable of using an outcomes-based model, while it is "a huge stretch" for others. Similarly, some learners embrace the model, while others "want to sit back and . . . do not want to be engaged in this kind of work." Chappell said that while some found the model to be "logistically complex to operationalize," they also found it "liberating not to have to calculate CE hours." Finally, ANCC found that the concept of getting credit for workplace learning was "very positively received." By taking CPD out of the classroom and decoupling it from time requirements, the new model allows professionals to advance their learning and skills in a real-world setting and to see a direct effect on their practice.

SCOTTISH EXEMPLAR OF HIGH-VALUE CPD

David Benton, National Council of State Boards of Nursing

Benton, chief executive officer at the National Council of State Boards of Nursing, told workshop participants about his experience working in Scotland for a major integrated health system. The organization was large, with 8,500 nurses spread over multiple sites ranging from rural island communities to major towns. Unfortunately, it was not functioning well as an entity, said Benton. To address the dysfunction, the organization sought to bring about behavior change among its staff through a novel CE strategy. Using a 1995 literature review by Francke et al., the team based its model

on several concepts drawn out by the authors about the role of CE in creating behavior change. These concepts involved

- having a conceptual model to assess impacts,
- identifying strong evidence between experience and behavior change,
- bringing about behavior change through voluntary rather than mandatory participation,
- encouraging risk taking and innovators who are more likely to apply and implement learning,
- focusing on a single topic that builds throughout the experience rather than a potpourri of activities, and
- taking a systems rather than an individual approach.

The team started with a kickoff event to identify the major issues that the nursing staff were currently facing, and then used these findings to drive a series of consequent events. For each event or intervention that was implemented, the team attempted to "assess whether or not that intervention had made a major change" to the services offered by the organization. The team asked staff members to list the biggest problems they were facing, as well as the solutions they had tried. When aggregated, it became clear that the solutions far outweighed the problems, but the solutions had been "locked in different parts of the organization and people were not communicating." To address this issue of the connections and communication between staff, the team used "social network analysis to identify where individuals get their information from and who they transmit it to." These communication patterns were then measured. As a result of this analysis and subsequent interventions, communications within the health care system were greatly improved, and isolated domains came together into an integrated system. In addition, the team was able to identify key individuals who were particularly connected and could help disseminate and gather information on the ground.

Workload was identified by staff as the most pressing problem, so the team focused on implementing greater flexibility within the system. These new practices included setting flexible work terms for current and new staff, inviting experienced professionals who had taken a career break to come back into the system and serve their communities, and allowing nurses to take sabbaticals to gain experience in other countries and systems. These new practices resulted in a reduction of the vacancy rate by 55 percent and a reduction in the usage of temporary workers by 73 percent. In addition to these quantifiable benefits, the organization underwent a culture change in which staff were empowered to tackle issues and share experiences, and this culture change spread throughout the rest of Scotland's health system.

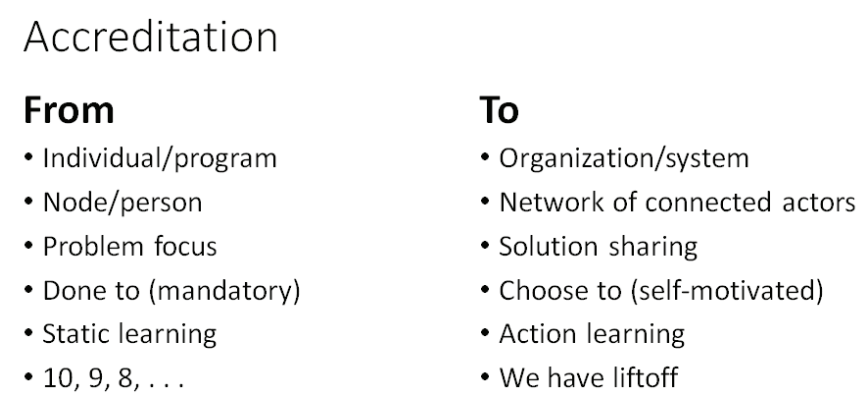

FIGURE 5-1 Paradigm shift toward next-generation accreditation.
SOURCE: Presented by David Benton, April 7, 2017.

Benton felt strongly that the accreditation processes must undergo a paradigm shift toward "next-generation accreditation" (see Figure 5-1). The focus would not be on individuals, but on the system as a whole, made up of a network of connected actors. It would be geared toward solutions and action, and be driven by self-motivation rather than imposed from above. Finally, it would look at CPD in terms of the return on investment over a period of time, and how CPD can affect the delivery of health care.

LEVERAGING THE POWER OF LEARNING

Kate Regnier, Accreditation Council for Continuing Medical Education

Regnier is the executive vice president at the Accreditation Council for Continuing Medical Education (ACCME). She began by outlining the ACCME system, which includes 2,000 accredited organizations that plan and present about 150,000 continuing medical education (CME) programs per year. Together, these organizations interact with around 14 million physician learners and 11 million other learners, which is "an incredible number of touch points with health care professionals." Regnier noted that since 2006, ACCME has "moved beyond knowledge" for its CME standards. She said "It is no longer acceptable for [CME] to be . . . evaluated for change simply in knowledge." CME must be geared toward improving a health professional's actions. To receive ACCME accreditation, CME programs are expected be

- designed to change competence, performance, and/or patient outcomes;
- based on practice-relevant, valid content;

- independent of commercial influence; and
- evaluated for changes in competence, performance, and/or patient outcomes.

In addition to these basic requirements, ACCME recently announced new commendation criteria (see Figure 5-2). ACCME developed these as a system of "incentives and rewards" to encourage CME providers to offer educational programs with the highest impact. These criteria are optional for accredited CME providers, but providers that demonstrate compliance with 8 of the 16 criteria are eligible for Accreditation with Commendation (ACCME, 2016). The 16 criteria are divided into five categories:

1. Promotes team-based education
2. Addresses public health priorities
3. Enhances skills
4. Demonstrates educational leadership
5. Achieves outcomes

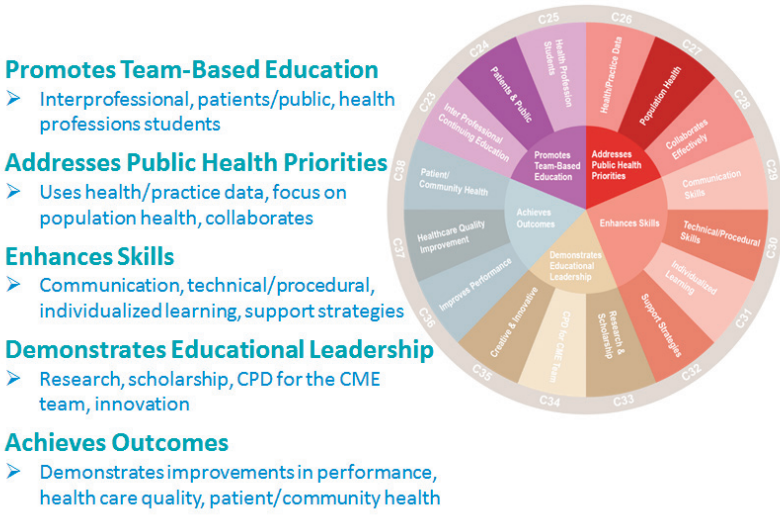

FIGURE 5-2 ACCME commendation criteria.
NOTE: CME = continuing medical education; CPD = continuing professional development.
SOURCE: Presented by Kate Regnier, April 6, 2017. Used with permission from ACCME.

Regnier mentioned that the president and chief executive officer (CEO) of ACCME, Graham McMahon, recently published an article in *Academic Medicine*: "The Leadership Case for Investing in Continuing Professional Development" (McMahon, 2017). In this article, said Regnier, McMahon makes the business case for accredited CME by arguing that CME

- is a cost-effective, powerful catalyst for change;
- creates and supports teams;
- improves clinician well-being;
- engages clinicians with institutional priorities;
- facilitates processes to empower clinicians in bottom-up quality improvement;
- improves referrals to appropriate, necessary treatment options;
- engages patients and teams in care decision making; and
- improves quality and safety.

As examples of the demonstrable benefits of CME, Regnier shared some real-life outcomes of CME programs offered by accredited providers. In one example, an accredited health system developed an initiative to provide resources and CME activities that address effective communication with patients and peers. This demonstrated an increase in patient satisfaction and involvement in care decisions. In another example, an accredited hospital significantly lowered the rate of complications and improved outcomes for maternal and neonatal patients by integrating emergency drills, simulation exercises, and reminders into existing quality improvement efforts. For the third example, Regnier described a statewide initiative that included partners in community health, community government, health care, and the school system. The initiative focused on clinicians and public education about the risks associated with opioid use. A noteworthy finding was lower rates of deaths from accidental opioid overdose recorded in the first 18 months of the project.

DISCUSSION

Cox thanked the presenters for their perspectives, and noted that accrediting and credentialing bodies have a unique power to catalyze change in the field of CPD, and to "move [CPD] down the track." He asked workshop participants for their questions and comments.

Interprofessional Education and Team Outcomes

Barbara Brandt, director of the National Center for Interprofessional Practice and Education, began the discussion by saying that the National Center has "struggled with the issue of which model to choose . . . for measuring the impact of interprofessional education on collaborative practice and patient outcomes." Because health care is shifting toward a team-based approach, CPD should also aim to improve and assess competency at both an individual level and a team level. The issue, said Brandt, is "how to tease" apart these competencies and assess them accurately. She noted that sometimes, one member of the team (often the physician) gets credit for an outcome, simply because it is so difficult to identify and measure team competencies. Brandt said that while this issue has not been resolved, the "conversations are starting to happen."

Chappell added that jointly accredited providers "do not generally struggle" with planning and implementing team-based interprofessional educational activities, but they do struggle with the evaluation of this type of CPD. She said that common activity evaluations do not reflect the team component. She offered an example where participants are asked to rate their agreement with the statement, "As a result of participating in this educational activity, I will change the way I take care of patients with hypertension." An evaluation statement that could better reflect the team approach might instead say, "I better understand my role as a member of a team taking care of patients with hypertension." Chappell commented on the growing body of evidence that interprofessional education is improving team collaboration and patient care. She pointed specifically to a 2016 report from the Joint Accreditation Leadership Summit that shared success stories demonstrating the effect of interprofessional educational efforts (JAICE, 2016). Harvison suggested learning from examples coming out of other health care fields, such as rehabilitation. The field of rehabilitation has been using team-based approaches for more than 50 years and measures the competencies of the team in producing an outcome, he pointed out.

Regnier added that ACCME has also been discussing the issue of evaluation of team-based CPD, particularly in terms of the relationship between team-based CPD and the regulatory requirements for individual education and assessment for licensing. She said that ACCME recently brought together CPD providers and licensing bodies from the nursing, pharmacy, and medicine fields to talk about these challenges. She concluded that these organizations and fields may need to work together to develop a system that can "use a lot of these tools and resources to account for multiple [licensing] requirements." Benton joined in, saying that there are efforts under way to make the disparate licensing requirements less onerous through the

Nurse Licensure Compact, which allows nurses to hold a multistate license and practice in any of the 25 states under the compact.

Benton summed up the conversation with a statement about the progress being made in alleviating regulatory barriers and making the system of CPD and licensure more efficient:

> I think what we are seeing here is a willingness, not just within the United States, but globally, to start to sort out some of these barriers and . . . consider ideas from other disciplines and from other parts of the world. Our health systems are facing incredible pressures, and unless we start to really incentivize efficiencies, we are not going to be able to meet the needs of citizens at a national and global level.

Role of Data

Panelists discussed the use of data to guide CPD and credentialing. For example, Benton said that in Portugal the nursing board can download aggregated information about what nurses are doing day to day. This information helps to guide the requirements for continuing education and to shape the curriculum of the CE to meet the needs of the nurses. Benton also told participants about a system called Nursys, which allows people to see if and where a nurse has an active license to practice. In addition to licensure status, the system will soon include information about nurse credentials.

Regnier also commented that she sees data and health informatics as an amazing opportunity for all the health professions within credentialing, licensing, and accreditation. For example, the idea of connecting data from electronic health records with education can help promote standards and consistency of care and treatment across the education-to-practice continuum, she said. The question is how to make sure the health professions are working in sync with those in health informatics.

Workforce Well-Being

Mazmanian asked the panelists for their thoughts on how CPD could be used to promote the mental and physical well-being of health care providers themselves. Regnier said this issue is "increasingly at the forefront," and that professional education "can be about more than the clinical care recommendations." In addition, professionalism, communication, teamwork, and team support are all appropriate topics for education and can contribute to provider well-being. She added a comment about the medical respiratory intensive care unit (MRICU) intervention that was previously discussed at the workshop (see Chapter 4). This was a great example of how learning and working with a team can create connection and community among providers and improve well-being.

Presenters mentioned several initiatives that have been undertaken in an effort to improve well-being within the workforce. This includes the American Nurses Association's Healthy Nurse, Healthy Nation challenge, a Scottish program called Balanced Working Lives, an international program called Positive Practice Environments, and the ANCC-credentialed program Pathway to Excellence. Both Regnier and Chappell said that initiatives to improve well-being—whether these include education specifically targeted at the workforce, or initiatives like the MRICU project that have tangential benefits for the workforce—meet the guidelines for accreditation and should count as CPD.

Harvison concluded that while accreditors certainly have a role to play by requiring content and outcomes on such issues as resilience, health, and wellness, improving the well-being of providers "involves a culture change." He noted that providers do not work in professional silos but in complex health care delivery environments that vary widely. For example, working in a community-based practice with underserved populations "is probably a lot more stressful than in some of these other environments." Harvison said that improving provider well-being "involves a culture change across the system as a whole," and that a collaborative effort is needed because individual professional associations are limited in what they can do alone.

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6

Exploring a Business Case for Investing Entities: Reflections and Next Steps

Highlights from Individual Speakers and Participants

- Government: Nurse-initiated antiretroviral treatment not only expands access to antiretroviral treatment but also has the potential to improve overall health care delivery. It encourages interdisciplinary team practice and allows nurses to practice at the full level of their preparation and training. (DeLuca)
- Workplace: Carrying out this intervention in an environment with scarce resources means that other interventions—which may be more successful—cannot be carried out. There is a risk that if the program is not successful it will generate cynicism among faculty and staff and reduce willingness to participate in future continuing professional development (CPD) programs. Lastly, the goals of the program may be at odds with other goals of the entity. (Gilman)
- Professional association: Despite the potential value of CPD for the members and the association, the justification for investing money in a CPD program is unlikely to include a financial benefit to the organization. (Rabionet)
- Philanthropy: The goals of the funder and the funding recipient do not need to be the same, but they cannot be in conflict. (Curley)

To delve more deeply into the issues surrounding continuing professional development (CPD) that were discussed at the workshop, the participants were divided into four breakout groups. Each group focused on a different case study of an intervention and a different investing entity: governments, workplaces, professional associations, or philanthropic organizations. Each group was asked to consider the investing entity's perspective on CPD and to explore the business case for the specific intervention: who are the stakeholders, what are the costs, what are the benefits, who pays, and what are the incentives?

In addition to this charge to the groups, Lucy Savitz asked workshop participants to keep in mind the importance of partnerships, relationships, and goodwill between stakeholders. Recalling the lessons learned from Simon Kitto's attempted CPD consortium in Canada, Savitz urged participants to consider the value of relationships when building a business case. Karahanna concurred, noting that a business case should anticipate that stakeholders may have disincentives to participate, and it should try to identify and mitigate these disincentives. Savitz added that stakeholders may have very different goals, but that through discussion and alignment of goals, stakeholders can agree to collaborate. For example, an insurance company may want to undertake an initiative to reduce future expenses, a public health entity may undertake the same initiative in order to improve population health, and a delivery system may do it to improve patient satisfaction and return rate. Thorough discussion and understanding of these motivations can increase the likelihood of a successful collaboration, said Savitz.

The groups met simultaneously, and afterward, the facilitators of each group presented their summary of the group's discussions to the entire audience.[1] Participants in each breakout group used the case studies to discuss, react to, and explore ideas for building a business case within a specific investing entity. The reports of the facilitators noted below are based on their interpretation of these conversations.

EXPLORING A BUSINESS CASE FOR GOVERNMENTS

Marilyn DeLuca, New York University

After presenting the case study for expanding the role of Namibian nurses in treating patients infected with human immunodeficiency virus

[1]The following sections are the reports from the individual facilitators, and should not be viewed as a consensus of the groups or of the workshop participants. Furthermore, while these case studies are based on real-life examples, data for the case studies were at times estimated in an effort to encourage more focused discussions among the group members and should not be considered definitive.

BOX 6-1
Case Study:
Working to Achieve the 90-90-90 Targets in Namibia

Namibia has an HIV prevalence of 14 percent, and the government is working to expand access to ART in order to help meet the 90-90-90 targets set by the Joint United Nations Programme on HIV/AIDS (UNAIDS). By 2020, UNAIDS calls for

- 90 percent of persons living with HIV to know their HIV status,
- 90 percent of HIV-positive individuals to have access to ART, and
- 90 percent of those receiving ART to achieve viral suppression.

To increase access to ART, some countries are using the nurse-initiated antiretroviral treatment model (NIMART), which allows nurses to prescribe and manage HIV-positive patients. For this case study, workshop participants assessed the cost-utility of implementing NIMART in government-supported health centers in Region A of Namibia, weighing the monetary and other costs with the anticipated short- and long-term outcomes, including

- increased number of HIV-positive individuals enrolled in ART,
- increased number of HIV individuals managed on ART,
- increased number of HIV individuals with suppressed viral load,
- reduced morbidity among HIV-positive individuals,
- increased life expectancy among HIV-positive individuals,
- decreased prevalence of HIV positivity, and
- decreased transmission of HIV.

See Appendix C for the full case study.

NOTE: This case is based on World Health and Population, Wesson et al., 2015, but some data have been adjusted to make a simpler case study.
SOURCE: Presented by Marilyn DeLuca, April 7, 2017.

(HIV) (see Box 6-1), Marilyn DeLuca laid out her argument for taking action that was informed by the participants in her small group discussion. In 2014, she said, Region A enrolled 1,715 new patients in antiretroviral treatment (ART), but given trends in prevalence and population growth, it is estimated that by 2018, more than 14,000 new patients will need to be enrolled in ART. With only 282 physicians in the entire country, it would be "impossible to achieve" this without allowing nonphysicians to prescribe ART and manage HIV patients. The nurse-initiated antiretroviral treatment model (NIMART) offers one way to accomplish this.

DeLuca added that implementing the NIMART model in Namibia

would require "many frequent walks in the woods" to fully engage all the stakeholders and identify and address roadblocks, concerns, and perspectives. She then reported on the many stakeholders that would be involved in a transition to NIMART. Stakeholders would include patients, families, physicians, nurses, pharmacists, community health workers, laboratory staff, pharmaceutical manufacturers, government, employers, the educational system, nongovernmental organizations (NGOs), and philanthropic funders. She specifically called out tribal leaders as critical stakeholders because they so often hold the keys to community buy-in. She then acknowledged the risk of tension between stakeholders. For example, doctors may be sensitive to nurses "taking" their duties, while patients may not feel comfortable with a nonphysician treating them.

Next, DeLuca reported on looking at the costs of implementing NIMART in Region A. The estimated costs of salaries, medication, and training were $1.5 million. She identified a number of less obvious costs or risks to implementation, including

- movement of health workers to HIV/AIDS from other critical areas such as chronic diseases;
- overburdened nurses pushing back because of increased workload;
- costs of educating patients, families, and communities;
- increased future medication costs as more patients are enrolled;
- costs of developing the training and performing monitoring and quality assurance;
- cost of scaling NIMART up to an entire country if it is successful;
- costs in changing policy and regulations and implementing new certifications; and
- possible conflict and competition with the broader AIDS strategy.

The stated benefits of NIMART—such as an increased number of patients with viral load suppressed by ART, or reduced transmission of HIV—are fairly obvious and quantifiable. However, other benefits were also identified that are a likely result of the program, including

- fewer AIDS orphans and less disruption to families;
- empowered and aware health care workforce;
- increased productivity of workers and increase in gross domestic product;
- improved education and empowerment of patients, families, and communities; and
- interprofessional team practice that can benefit other areas of health care.

DeLuca noted that the NIMART model is not merely a way to expand access to ART but a way of improving the overall health care system. The model encourages interdisciplinary team practice and allows nurses to "function and practice at the full level of their . . . training and education." Additionally, the NIMART model frees up physicians to focus on enrolling and managing the most critically ill patients.

Looking at the example as a business case to accept or reject, DeLuca based her decision to move forward with the implementation of NIMART on the discussions she heard within her breakout group session. The benefits accrue to the HIV patients themselves as well as to the community and the health care workers, she explained. These benefits outweigh the costs of the program. In addition, the costs of not moving forward—increased HIV infection, morbidity, and mortality—are too great. However, this endorsement of the business case was accompanied by a caveat that engaging stakeholders and working collaboratively are critical to the success of the program. DeLuca said that the changes cannot simply occur in clinics; there must be a shift in the ecosystem. For example, the source of the funding would be transparent, and there would be buy-in from the local communities. Health care workers would be partners in the shift to NIMART, and attention would be paid to how and when the workers were trained. Patients and families would be made aware of the changes and assured that they were receiving appropriate treatment. Finally, NIMART would only be a part of a holistic nationwide effort to address all aspects of HIV/AIDS, including awareness, prevention, testing, self-care, and stigma.

EXPLORING A BUSINESS CASE FOR WORKPLACES

Stuart Gilman, Veterans Health Administration
Lucy Savitz, Intermountain Healthcare

Gilman began his summary with a brief synopsis of the case study looking at emergency department use at the Veterans Health Administration (see Box 6-2). He then summarized his view of the breakout group's discussions, starting with a list of identified stakeholders:

- Patients
- Clinical institution senior management
- Clinical institution middle management
- Frontline clinicians
- Frontline staff
- Academic affiliates
- Veterans Affairs Central Office academic affiliations
- Community representatives

BOX 6-2
Case Study: Improving Clinician Ability to Engage in Performance Improvement Through Workplace Learning on Emergency Department Use

Stuart Gilman, Veterans Health Administration

Five Veterans Affairs Medical Centers established a collaborative workgroup to use workplace learning strategies to prepare interprofessional clinical faculty and staff to teach performance improvement (PI) to trainees. A curriculum in PI was developed, and a goal was set to use the PI program to reduce low-acuity visits to emergency departments. The PI program involved a variety of methods, including expert-led conference calls, formal instruction, participant presentations, expert and collaborative peer coaching, and formal presentations and sharing about the results that each site achieved. The business case objective of this program was to identify whether the PI educational activity resulted in enhanced value (i.e., reduced low-acuity visits to emergency departments).

SOURCE: Presented by Stuart Gilman, April 7, 2017.

This led Gilman to his discussion of the complex choices that must be made when designing a CPD program such as the one outlined in this case study. First, the entity desiring change would determine what problem to tackle, asking "what is the opportunity for improvement that is more important" than other potential opportunities to improve? Then it would determine the type of results it wanted from the program. This could be a short- or long-term improvement, it could involve only changes to processes, or it could entail substantial changes in outcomes. Gilman noted, "You want to measure what matters, and what usually matters involves patients." This comment came with a caveat: There are a huge variety of measures that could be used, he said, including clinical outcomes, educational outcomes, and team knowledge and skills. The last choice to make involves determining the type of instructional design to use to accomplish the desired results.

Gilman identified a number of development and operation costs and benefits for the program based on his group's input (see Table 6-1). After some discussion, he realized that the clinical environment and the learning environment for workplace-based educational interventions must be thought of as separate but interrelated elements. For example, there is one set of development costs for an educational activity and another set of costs on the delivery side for setting up clinical activities. After the activi-

TABLE 6-1 Workplace Education Costs and Benefits

	Education	Clinical
Development	• Faculty time for curriculum development • Data management • Educational outcomes identified	• Clinical staff time for aim development, current state inquiry • Data management • Clinical outcomes identified
Operation	• Faculty time • Cost of educational intervention (e.g., technology, media, simulation) • Data collection, management, analysis	• Clinical staff time for champions as well as all staff involved in clinical change • Patient out of pocket costs, time, parking, transportation, etc. • Data collection, management, analysis

SOURCE: Presented by Stuart Gilman and Lucy Savitz, April 7, 2017.

ties begin, there are operational events for the educational component of the intervention that may be discrete from the operational events of the clinical component. What is important to note is that such processes may not operate in parallel and are likely to be intentionally out of phase. For example, the education development may occur and then proceed to the education operation, which then initiates the clinical development. For those in charge, figuring out the right sequence for these events can be a real challenge.

EXPLORING A BUSINESS CASE FOR PROFESSIONAL ASSOCIATIONS

Silvia Rabionet, University of Puerto Rico and Nova Southeastern University
Michael Rouse, Accreditation Council for Pharmacy Education
Elena Karahanna, University of Georgia

Rabionet summarized the first case study that the group looked at (see Box 6-3), an American Pharmacists Association program that trained more than 280,000 pharmacists to provide immunizations. Rabionet said that the program was spurred by the "identified need for higher rates of immunizations to achieve national targets, and [the] need for easier access of immunization services by patients." The program focuses not only on giving the pharmacists the skills to immunize but also on teaching the

BOX 6-3
Case Study: APhA's Pharmacy-Based Immunization Delivery Certificate Training Program

Silvia Rabionet, University of Puerto Rico and Nova Southeastern University

- Trained more than 280,000 pharmacists
- Partnerships with schools and colleges of pharmacy, state pharmacy associations, pharmacy corporations, and dedicated faculty and staff
- Combines self-study modules with case studies and an assessment exam, a live seminar with a final exam, and a hands-on assessment of intramuscular and subcutaneous injection technique
- Annual continuing education

SOURCE: Presented by Silvia Rabionet, April 7, 2017.

basics of immunology and how to serve as the primary source of information about vaccines. In addition to workforce training, a program like this requires changes in the scope of practice law and acceptance by patients.

Rabionet then described the costs and benefits of the program, saying that, while the cost of training the pharmacists was almost $500 million, the savings of doing the immunizations in the pharmacy rather than elsewhere was $2.4 billion. This resulted in a net benefit of $1.9 billion. The expansion in the pharmacists' scope of practice had a "substantial impact on the cost of immunization," she said. However, she also brought forward a comment from her breakout group saying that, while the program reduced costs, it did not result in improved vaccination rates.

The case study presented by Rouse focused on training pharmacists to help manage asthma patients (see Box 6-4). With the sponsorship of the Turkish Pharmacists' Association (TPA), more than 3,500 pharmacists in Turkey have been trained, and there was a measurable effect on patient outcomes, with improvements in peak flow rate and asthma control tests, reduced salbutamol use as a result of improved inhaler technique, and improved patient quality of life and habits. In addition, said Rouse, pharmacists had enhanced competence and confidence, and the TPA gained a stronger reputation. An analysis of the economic effect of the program has not yet been performed, said Rouse.

BOX 6-4
SMART Pharmacy in Turkey: A Case Study in High-Value CPD

Michael Rouse, Accreditation Council for Pharmacy Education

- Sponsored by Turkish Pharmacists' Association (TPA), which is politically influential and well resourced
- In Turkey, there are no CE requirements for pharmacists
- Traditional "retail" practice; limited scope of practice with regard to clinical services
- Pharmacists anxious about future viability, and their motivation and self-image are perceived to be low
- The CPD program focused on asthma and chronic obstructive pulmonary disease, which are big health problems, with 80–90 percent of patients not using inhalers correctly
- Pharmacists were trained in the basics of asthma, how to educate patients on correct inhaler technique, how to measure peak flow raes, and how to record patient data

SOURCE: Presented by Michael Rouse, April 7, 2017.

Professional Associations Investing in CPD

Breakout group participants considered both of the case studies outlined above when engaging in discussions about professional associations as an investing entity for CPD. Rabionet presented the group's discussions, beginning with the following list of 13 stakeholders that had been identified (she emphasized the top 6 stakeholders, pointing out that professional associations—the investing entity—were also viewed as key stakeholders):

1. Professional associations (main plus other related)
2. Health professionals
3. Providers of CPD
4. Employers of health professionals
5. Patients
6. Federal and state lawmakers and legislative bodies
7. Credentialing and accrediting agencies
8. Association members
9. Accrediting agencies of continuing education bodies
10. Educational institutions
11. Funding agencies

12. Insurance companies
13. Industry

Rabionet then went through the identified costs and benefits for a professional association to invest in CPD. Development costs may include costs associated with needs assessment and research, content development, course development, training the trainer, advocacy for necessary legal changes, and development of record keeping systems. Operational costs include the costs of delivering the training, promotion costs, the cost of materials, and the costs of assessment, testing, and accreditation. Despite these costs, Rabionet reported a number of substantial benefits to the professional association:

- Increase in membership of the association (which could increase revenue)
- Better recruitment to that profession at schools
- Advancing the profession
- Enhancing the public image, reputation, and credibility of the profession
- Revenue from "tuition" for CPD
- Increased nondues revenue opportunities (conferences, publications, scholarship)
- Having "control" or influence over CPD standards and quality
- Improved alignment between practice and education, thereby fulfilling the obligation of responding to the profession as a whole
- Encouraging company sponsorship
- Centralized data repository to demonstrate outcomes

Given these costs and benefits, the group discussed why a professional association would want to be an investing entity in CPD, Rabionet said. The decision to invest is likely not motivated purely by financial reasons. Every professional organization will have a different perspective on whether and how to invest in CPD based on the mission of the organization, the potential value of CPD for the members and the association, and the justification for investing money in a program that is unlikely to result in financial benefit to the organization. Rabionet recounted a number of justifications for investing in CPD offered by individual participants of her group. First, the mission of advancing the profession is unique to the professional association, and CPD represents an opportunity to advance the profession in an organized, consistent, and standardized way. CPD also gives the association an opportunity to add value for its members, their employers, and ultimately patients through lifelong learning. However, as was pointed out by one participant, lifelong learning is not just for an individual professional but for the profession as a whole. In summary, said Rabionet, professional

associations want to invest in CPD to help health professionals practice using the full scope of their education and training while assuring growth, development, credibility, and the survival of the profession.

EXPLORING A BUSINESS CASE FOR PHILANTHROPIC ORGANIZATIONS WORKING WITH HIGHER EDUCATION

Darlene Curley, Jonas Center for Nursing and Veterans Healthcare
Paul Mazmanian, Virginia Commonwealth University

Before presenting the case study, Curley remarked on several disconnections that the breakout group had identified during their discussion about philanthropists and higher education working on CPD. The first involved the term *business case*. Some wondered whether it might be inappropriate for philanthropic organizations to consider a business case, noting that philanthropies are mission driven, and groups seeking their support must aim to align their proposals with the mission of the organization. Curley agreed that grant seekers must do their "homework about what kind of philanthropic organization [they] are speaking to and what their mission is and what their values are." However, she noted, the mindset that philanthropists may not see "things from a business case point of view" is changing with organizations such as the Gates Foundation and the Chan Zuckerberg Initiative. Curley said that her organization, the Jonas Center for Nursing and Veterans Healthcare (Jonas Center), requires a business case for any grant proposal. She needs "an eight-point one-pager" to present to the Jonas family and the advisory board in order to get an initial decision on whether to move forward. She noted that the anticipated return on investment is a critical piece of a proposal, despite the fact that the Jonas Center itself will not be the entity that profits from the investment. While the Jonas Center does look at nonmonetary outcomes, such as quality improvement, the financial return on investment is always part of the discussion.

Curley's point prompted comments from her small group participants. One came from a participant who believed the phrase *business case* might be a cultural barrier outside of the United States. It may make it difficult to keep the patient as the focus of health interventions, he said, in a community where businessmen are seen as corrupt and exploitative of the poor. This led several individual participants in the breakout group to describe alternatives to the phrase *business case* that included *alignment* (ensuring that scarce resources are being used to further the priorities of everyone involved) and *accountability* (holding grantees accountable for the wise use of resources and showing funders what happened as a result of their investment).

Another participant suggested there may be a mismatch between the

goals of philanthropic organizations that provide the money and the higher education institutions that carry out the CPD programs. Mazmanian, who was a co-leader of the small group, agreed that the perspectives are slightly different, saying that higher education wants funding that is sufficient, sustainable, and in line with the values of its institution. Curley said the goals of the funder and the funding recipient do not need to be the same, but "they cannot be in conflict." Despite potential mismatches, Mazmanian said, there are many benefits for higher education institutions working with philanthropic organizations on CPD programs, including the following:

- Doing meaningful work that produces a high-quality CPD program with high-value outcomes that address the mission of the funding organization as well as the mission of the educational institution
- Demonstrating rapid success and solving immediate problems more quickly by involving health care practitioners currently in the workforce, as opposed to waiting for those at earlier stages of training in the health professions education pipeline
- Building capacity for carrying out future similar work in CPD
- Learning to specify measurable objectives for describing progress and determining relative success
- Building new relationships with partners, patients, health systems, and communities
- Building evidence and tracking performance over an extended period of time, along with helping to identify or explore causal linkages that may go undetected using other designs
- Paying the bills of the CPD enterprise itself

Curley and Mazmanian both emphasized that sustainability is a critical component of a successful program. From the funder's point of view, the initial funding is intended to create a program that will continue past the point that the money ends; the project may be considered a "failure" if it does not. Grantees generally share this view, and hope to use the initial funding to build capacity to continue the funded program and expand upon success.

Moving from a general discussion into the case study, Curley gave a brief synopsis of the Jonas Center's Vision Care program (see Box 6-5), which has the goal of eliminating children's blindness. Curley said that pediatricians are not routinely trained in ophthalmology, and that most states do not require vision tests for children. The program is designed to increase the number of providers who are trained in children's vision and to double the number of children receiving vision care by 2021.

For Donald Jonas—the living funder of the Jonas Center—this program started as a personal passion. Jonas has a genetic retinal disease and is

BOX 6-5
Case Study: Low Vision and Blindness Initiative

Darlene Curley, Jonas Center for Nursing and Veterans Healthcare

Goal: Eliminate children's blindness by improving the quality of and access to pediatric ophthalmology services.

Funded Program: Jonas Children's Vision Care

- Partnership with leading university academic medical center
- $5 million dollar program over 5 years ($2.5 million Jonas Fund Grant; $2.5 million match from university)

Five program objectives:

1. Double the number of children receiving care by 2021.
2. Increase the number of clinicians, nurses, and scientists pursuing careers in pediatric ophthalmology, vision science, and visual rehabilitation:
   - Create 25 pediatric ophthalmology training opportunities for pediatricians, nurses, and scientists
   - Offer specialty seminars, ophthalmology grand rounds, and basic science courses in ophthalmology simulation skills, clinical observerships, and clinical fellowships
3. Disseminate research
4. Outreach
5. Advocacy

SOURCE: Presented by Darlene Curley, April 7, 2017.

legally blind, said Curley. In his years of caring for this disease, he visited vision centers and found that there were a great number of children who were blind. Although this personal experience sparked his desire to do something, the Jonas Center conducted 3 years of research about the topic and about how an investment could have the greatest effect. In addition to these personal reasons, Curley listed a number of other reasons why a philanthropic organization such as the Jonas Center would invest in this type of program. First, the focus on CPD means that it is easier and faster to see a return on investment, unlike, for example, focusing on training people

coming up through the pipeline. Second, the money that is invested in this specific CPD program also builds capacity for other CPD programs. Finally, by training and supporting health care providers and scholars in pediatric ophthalmology, the program builds capacity and potential for research into children's vision problems.

Regarding the issue of sustainability, Curley noted that it is a 5-year grant program, but there is the expectation that the grantee will generate revenue with the program, and this revenue will be sufficient to run the program for at least an additional 5 years. Curley emphasized again that, for philanthropic organizations, "sustainability is one of the first questions on the business case at the very beginning."

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7

Reflections on the Workshop

The last session of the workshop gave participants a chance to reflect on the previous day and a half of discussions, to identify gaps, and to think about how they could use what they learned to move forward, individually and collaboratively. To spur conversation, a panel of three participants—Lucy Savitz, Simon Kitto, and Jody Frost—each took a few minutes to share their thoughts with the other participants.

CPD FOR KEEPING PACE WITH A CHANGING ENVIRONMENT

Lucy Savitz, Intermountain Healthcare

Savitz started by acknowledging the major changes that are happening in health care as well as the "velocity of data" that are being promulgated in the worlds of education, clinical care, and research. She said that providers cannot keep pace with this dynamic environment and that high-value continuing professional development (CPD) is an excellent model for helping providers stay up to date and deliver the highest-quality care. In addition to the shift from continuing education's (CE's) didactic, top-down approach to CPD's interactive, holistic approach, there is also a shift toward learning health care systems, where education and research are embedded into the delivery system, said Savitz. Using a learning health care system model creates an iterative ecosystem in which learning and service delivery can inform each other, and where professionals can learn on the job rather than in an atmosphere that is disconnected from the workplace. Savitz noted that while professional development in the workplace is often

focused on the individual, "we need to think about how . . . to educate teams of people so we can meet mission critical elements." She added that while it is sometimes difficult to measure specific outcomes for a team-focused approach, this approach can add value for the delivery system through improved collaboration and coordination.

Savitz recalled the earlier discussion about workforce well-being (see Chapter 5), and said that "caregiver experience" should be added to the value proposition for a business plan. She noted that when health professionals feel competent it can lead to increased workforce well-being and, in turn, decreased turnover and improved recruitment and retention. In addition to these benefits, Savitz said that high-value CPD that takes caregiver experience into account can help decrease the "individual learning burden" that professionals face. In Savitz's experience, professionals are overwhelmed by the expectation that they maintain their professional development in their free time. Savitz said that more research is needed to build the evidence base regarding CPD and the caregiver experience.

Finally, Savitz encouraged participants to think outside of the traditional cost-benefit analysis when making decisions about CPD. She noted that while this type of analysis is beneficial for "comparing competing opportunities to invest in training," investing entities should also look for opportunities to "lift all boats" to reach a higher level of practice that meets the mission of the organization.

CPD FOR TRANSMITTING VALUES AND NORMS ACROSS GENERATIONS AND COHORTS

Simon Kitto, University of Ottawa

As a sociologist, Kitto said that "all [he] looks at is nonmonetized values in health care and health care education," but that these are often seen as "thin bargaining chips in building a business case." While it is difficult to assign value in economic terms to nonmonetized values, these values are essential to the maintenance and growth of the professional identities of individuals and organizations that, in effect, serve to bind or unbind people to collaborative activities in CPD. He elaborated that he views CPD not just as an instrumental way to "pick up skills or knowledge" but as a way to transmit values and norms across generations and cohorts. The business case for CPD should consider not only monetized outcomes and costs but also the educational value for the participants and how this education benefits providers, the system, and patients. He noted that while bundled interventions—which might include educational, clinical, and systems components—are essential for improving care, it is important to maintain and champion the unique contribution of education as a mechanism for instill-

ing the value and behaviors of high-value CPD into health care organizations and professions.

A REVIEW OF THE WORKSHOP

Jody Frost, National Academies of Practice

Jody Frost, representing the National Academies of Practice, reviewed the workshop sessions and noted the "quality presentations and very knowledgeable presenters." Frost expressed her appreciation for the global perspective brought by the participants from outside the United States. Noting their wonderful ideas and "solutions that are not U.S.-centric," she said that it "broadens our thinking when you get other people who bring different points of view and give us new ways of looking at things and new innovations." She applauded how the workshop allowed participants to see CPD through the lenses of different stakeholders and to discuss a more comprehensive and holistic view of CPD. In particular, Frost gave the panel on accreditation and credentialing (see Chapter 5) "top honors" because it was thought provoking, innovative, and "questioned long-standing assumptions about how we measure CE." Regarding the case study discussions (see Chapter 6), Frost noted that working through these examples—and seeing the variety of stakeholders involved in these cases—made it clear that "the decisions we make are not as simple as we think." Finally, Frost drew an analogy between high-value CPD and the workshop itself, noting that both require an investment of time and money and that both should result in measurable outcomes. She encouraged the forum to "practice what you preach" and build a business case for its workshops.

FINAL REMARKS

"We too often drive into the future using only our rearview mirror."
—Jody Frost

Cervero asked workshop participants to think about the words that Frost used in reflecting on the workshop: "So what, and now what?" He said that workshop participants need to have a sense of urgency about using their leadership in order to facilitate the shift toward high-value CPD. Cervero asked participants to take 10 minutes and talk with one another about "one actionable item that you plan to take forward from this workshop," adding that participants were there not only to learn, but also to be the spark that could ignite action. After these table discussions, individual participants returned with the following ideas for moving high-value CPD forward:

- Disseminate the great ideas heard at the workshop to members at national meetings.
- Work on translating day-to-day interprofessional teamwork into CPD.
- Study maintenance of certification requirements for different professions and how these requirements affect other providers in the interprofessional network.
- Integrate ideas from the workshop into a 10-year initiative that is being developed.
- Meet the needs of CPD participants by ensuring an environment of psychological safety in which participants feel safe speaking up and taking risks.

Cervero thanked the workshop participants for their high-quality discussions and their excellent ideas for next steps. Noting the many connections that were made over the last day and a half, Cervero called on participants to continue these discussions, and adjourned the workshop.

Appendix A

Workshop Agenda

Exploring a Business Case for High-Value Continuing Professional Development

A Workshop of the Global Forum on Innovation in Health Professional Education
April 6–7, 2017

Keck Center of the National Academies, Room 100
500 Fifth Street NW, Washington DC 20001
Overflow Room if needed: 101
This meeting will be webcast.

DAY 1: APRIL 6, 2017

8:00 am **Breakfast**

8:30 am **Welcome**
Susan Scrimshaw, Co-Chair of the Global Forum on Innovation in Health Professional Education

SESSION I: Understanding the Business Case

Objective:
To build a foundation for understanding the elements of a business case and what composes high-value continuing professional development (CPD)

8:35 am **Orientation to the Workshop**
Holly Wise, American Council of Academic Physical Therapy, Workshop Co-Chair

8:45 am **A Business Case: What Is It and What Goes into Building It?**
Moderator: Lucy Savitz, Intermountain Healthcare
- Elena Karahanna, University of Georgia

Q&A and Facilitated Discussion

SESSION II: Understanding High-Value CPD

9:30 am **Defining High-Value CPD**
Ronald Cervero, Uniformed Services University of the Health Sciences, Workshop Co-Chair

Table Discussion Question 1:
- Come up with an example of a high-value CPD activity

Exploring the Value Proposition[1] for High-Value CPD
Paul Mazmanian, Virginia Commonwealth University School of Medicine

Table Discussion Question 2:
- Using that example, describe who benefits, what are the costs, and what are the incentives for paying

Report Back
A table representative reports one high-value CPD example, who benefits, the costs, and payment incentives

10:45 am **Break**

SESSION III: Business Cases for High-Value CPD

Objective:
To learn from business case examples that use elements of the value proposition for exploring whether an investing entity should proceed with financially supporting a defined activity

11:15 am **Business Case Examples**
Moderator: Holly Wise, American Council of Academic Physical Therapy, Workshop Co-Chair

A Business Case for Quality in Health Care
Lucy Savitz, Intermountain Healthcare

[1] The Value Proposition is Value = (Outcomes + Quality)/Cost.

The Business Case for an Innovative High-Value CPD Initiative in Physical Therapy
Mark Bowden, Medical University of South Carolina Division of Physical Therapy

Collaboration and Coordination in the MRICU (Medical Respiratory Intensive Care Unit)
Amy Dean and Kristin Miller, Virginia Commonwealth University Medical Center

Q&A and Facilitated Panel Discussion with Audience

12:15 pm **Lunch**

SESSION IV: Illuminating the Business Case for an Investing Entity

Objective:
To further describe elements within and external to a business case, and to explore business cases of four investing entities for high-value CPD

1:15 pm **Quality, Social Good, and Collaboration in CPD**
Simon Kitto, University of Ottawa
Q&A and Facilitated Discussion

Nonmonetized Outcomes of High-Value CPD (Valued Outcomes Outside of the Business Case)
Moderator: Simon Kitto, University of Ottawa
- Andrew Spiegel, International Alliance of Patient Organizations

Q&A and Facilitated Discussion

2:00 pm **Revisiting the Business Case in Preparation for the Breakout Groups**
Facilitator: Ronald Cervero, Uniformed Services University of the Health Sciences, Workshop Co-Chair

Panel:
- Elena Karahanna, University of Georgia
- Lucy Savitz, Intermountain Healthcare

Discussion:
- Questions for the panelists
- Instructions for breakout groups
- Short descriptions of the four breakout sessions

2:30 pm **Breakout Sessions: Exploring a Business Case for Four Investing Entities**

Groups:

1. **Exploring a business case for government (Room 101)**
   Leaders: Marilyn DeLuca, New York University, and Julia Royall, former National Library of Medicine
2. **Exploring a business case for workplaces (Room 105)**
   Leader: Stuart Gilman, Veterans Health Administration
   Assisted by: Lucy Savitz, Intermountain Healthcare
3. **Exploring a business case for professional associations (Room 100)**
   Leader: Silvia Rabionet, University of Puerto Rico and Nova Southeastern University
   Assisted by: Michael Rouse, Accreditation Council for Pharmacy Education, and Elena Karahanna, University of Georgia
4. **Exploring a business case for philanthropic organizations working with higher education (Room 106)**
   Leader: Darlene Curley, Jonas Center for Nursing and Veterans Healthcare
   Assisted by: Paul Mazmanian, Virginia Commonwealth University School of Medicine

Informal break to occur during session per leaders' discretion.

4:45 pm **Summary of the Day (Room 100)**
Workshop Co-Chairs

5:00 pm **Adjourn**

DAY 2: APRIL 7, 2017

7:30 am **Breakfast**

SESSION V: Considerations, Reflections, and Next Steps

Objective:
To reflect upon the business case for high-value CPD and how it might be operationalized by credentialing and accreditation organizations

8:00 am **What Is the Business Case for Accrediting and Credentialing Bodies to Move Forward with High-Value CPD: Strategies and Tactics**
Moderator: Malcolm Cox, Co-Chair of the Global Forum on Innovation in Health Professional Education

Panel:
- Neil Harvison, American Occupational Therapy Association
- Kathy Chappell, Accreditation Program and Institute for Credentialing Research, American Nurses Credentialing Center
- David Benton, National Council of State Boards of Nursing
- Kate Regnier, Accreditation Council for Continuing Medical Education

Facilitated Discussion

9:15 am **Break**

9:30 am **Facilitated Discussion with Breakout Group Leaders**
Moderator: Holly Wise, Workshop Co-Chair

1. **Exploring a business case for government**
   Marilyn DeLuca, New York University, and Julia Royall, former National Library of Medicine
2. **Exploring a business case for workplaces**
   Stuart Gilman, Veterans Health Administration, and Lucy Savitz, Intermountain Healthcare
3. **Exploring a business case for professional associations**
   Silvia Rabionet, University of Puerto Rico and Nova Southeastern University, and Elena Karahanna, University of Georgia
4. **Exploring a business case for philanthropic organizations working with higher education**
   Darlene Curley, Jonas Center for Nursing and Veterans Healthcare, and Paul Mazmanian, Virginia Commonwealth University School of Medicine

Discussion

CLOSING

10:00 am **Reflections**
Moderator: Ronald Cervero, Uniformed Services University of the Health Sciences, Workshop Co-Chair

Panel:

- **Reflections from the financial perspective**
  Lucy Savitz, Intermountain Healthcare
- **Reflections considering nonmonetary value**
  Simon Kitto, University of Ottawa
- **Reflections on the workshop**
  Jody Frost, National Academies of Practice

Next Steps
Moderator: Ronald Cervero, Workshop Co-Chair
Facilitated Discussion

What is one actionable item that you plan to take forward from this workshop?
Share it on social media! Hashtag: **#IHPEGF**

11:00 am **Adjournment**
Room 100 will remain open until 12:00 pm for networking opportunities

Appendix B

Background Paper for a Workshop on Exploring a Business Case for High-Value Continuing Professional Development

Ronald Cervero, Uniformed Services University of the Health Sciences, and Holly Wise, American Council of Academic Physical Therapy

The purpose of this paper is to provide background and context for the upcoming workshop "Exploring a Business Case for High-Value Continuing Professional Development (CPD)." There are two main elements to this workshop. The first is to distinguish *high-value CPD* from CPD and continuing education (CE). The second is to understand what a business case is and how it can be used within the context of high-value CPD.

CONTINUING EDUCATION TO CONTINUING PROFESSIONAL DEVELOPMENT

Drawing from the 2010 Institute of Medicine (IOM) report *Redesigning Continuing Education in the Health Professions*, "CE often is associated with didactic learning methods, such as lectures and seminars, which take place in auditoriums and classrooms." It is often viewed by health professionals as a path to maintaining licensure and certification through the accumulation of credits. Conversely, CPD embraces a wider array of learning formats and methods that are learner driven. Countries such as Canada, New Zealand, the United Kingdom, and those within the European Union have embraced CPD as a way of "maintaining, improving, and broadening knowledge and skill throughout one's professional life." It focuses on individual performance improvement that might drive quality and safety in a clinical environment and the health and well-being of populations in a public health setting.

CPD TO HIGH-VALUE CPD

High-value CPD is outcomes driven. Those outcomes—which may benefit the practitioner, individuals and patients, the team or collaboration, and populations—demonstrate value or the business case for improving health and health care in any or all of the identified stakeholders. Other stakeholders include funders, providers, governments, and regulators. For the purpose of this workshop, the value proposition for CPD is defined as an equation: Value = (Quality + Outcomes)/Cost. According to the 2010 IOM report, "Arriving at the value proposition for CPD will be essential to understanding the best ways to invest CPD resources."

BUSINESS CASE FOR HIGH-VALUE CPD

Leatherman et al. (2003) define a business case for a health care improvement that was adapted to high-value CPD for this workshop. A business case for high-value CPD exists if

> the entity that invests in the intervention realizes a financial return on its investment in a reasonable time frame, using a reasonable rate of discounting. This may be realized as "bankable dollars" (profit), a reduction in losses for a given program or population, or avoided costs. In addition, a business case may exist if the investing entity believes that a positive indirect effect on organizational function and sustainability will accrue within a reasonable time frame. (p. 18)

Most financial investors like to see a return on their investment within 1 to 2 years, although social investors and governments tend to be more willing to extend the timeline for demonstrating the intended outcomes. However, rarely do business cases extend beyond 5 years. Researching the value proposition is essential for making the business case that a CPD intervention will provide the intended return on investment within the defined period of performance. If the business case is approved, there will need to be financial and programmatic data collection and evaluation to demonstrate the positive return. This can be done using a variety of cost analysis tools that are described on page 85. Of note is that a business case may not demonstrate a financial return, but the value shown to its users may tip the balance so the decision is made to move forward with the business case despite the unlikely positive financial return. In addition, maintaining ethical standards of providers and financers of CPD is essential for guarding against potential conflicts of interest.

COST ANALYSIS TERMS

Cost–benefit analysis is the evaluation of alternatives according to their costs and benefits when each is measured in monetary terms (Walsh et al., 2013).

Cost/benefit ratio can be thought of as one stakeholder's benefit is another stakeholder's cost (Walsh et al., 2013).

Cost-effectiveness analysis refers to the evaluation of two or more alternative educational approaches or interventions according to their costs and their effects in producing a certain outcome (Walsh et al., 2013).

Cost-feasibility analysis involves simply measuring the cost of a proposed intervention in order to decide whether it is feasible, that is, whether it can or cannot be considered (Walsh et al., 2013).

Cost-utility analysis is the examination of two or more alternatives according to their cost and their utility. In this context, *utility* means the satisfaction among individuals as a result of one or more outcomes or the perceived value of the expected outcomes to a particular constituency. Data on user satisfaction can be derived in a number of ways, such as by analyzing the results of questionnaires or interviews. Cost-utility analysis is closely related to cost-effectiveness analysis (Walsh et al., 2013).

Fixed costs are expenses that must be paid by an organization regardless of any business activity (Walsh et al., 2013).

Net present value is the present value of money—a dollar today is worth more than a dollar will be in 2 years (Hooper, 2007).

Opportunity costs are the value of the best alternative that was not chosen in order to pursue the current endeavor, as in "What could have been accomplished with the resources expended in the undertaking?" It represents opportunities forgone (TRB, 2005).

Quality-adjusted life year (QALY) is a measure of the benefit of a medical intervention based on the number of years of life that would be added by the intervention. If the extra years would not be lived in full health, for example, if the patient would be blind, then the extra life-years are adjusted by a factor to account for this.

Return on investment (**ROI**) measures the amount of return on an investment relative to the investment's cost. It is calculated as the following ratio (Investopedia, 2017):

$$\text{ROI} = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}}$$

Value proposition: Value = (Outcomes + Quality)/Cost (Wehrwein, 2015).

Variable costs are costs that vary directly with the rate of output, such as labor, fuel, power, or cost of raw material. Also known as operating costs, prime costs, or direct costs (TRB, 2005).

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Appendix C

Abstracts

CONTENTS

C.1

HIGH-VALUE CONTINUING PROFESSIONAL DEVELOPMENT: A BUSINESS CASE FOR QUALITY IN HEALTH CARE

Lucy Savitz, Ph.D., M.B.A.
Intermountain Healthcare

The Need for Sepsis Care Training

Problem: Sepsis is a leading cause of death in U.S. hospitals. Early identification and treatment have been shown to be effective in saving lives. However, there is a changing evidence base as more research is done and the Centers for Medicare & Medicaid Services (CMS) changes the performance measure, creating misalignment.

Special considerations include the following:

- Direct and indirect costs and benefits
- Turning intangibles into tangible benefits/costs
- External influencers (state regulations, government monitoring)
- Dynamic evidence base

Business Objective: Implementation of the 3-hour sepsis bundle reliably across patient care settings (emergency department, inpatient units, intensive care units)

Benefits	Costs
Decreased in-hospital mortality	Developing and testing training materials
Decreased length of stay	Maintaining training materials
Decreased ICU days	Staff time in training
Increased discharge disposition to home	Analytic time to produce reports**
Increased staff morale*	Chart abstraction time
Increased positive patient experience	Dedicated staff time
(Future) avoided payment penalty	Decision support tool development
Increased bundle compliance (process)	EHR programming—CDS
Decreased time to treat (process)	Refresher training/reinforcement

NOTE: CDS = clinical decision support; EHR = electronic health record; ICU = intensive care unit.

* "Lipstick Lady" example and decreased turnover.

** Value of measurable feedback.

C.2

THE BUSINESS CASE FOR AN INNOVATIVE HIGH-VALUE CONTINUING PROFESSIONAL DEVELOPMENT

Mark Bowden, P.T., Ph.D.
Medical University of South Carolina

Background

The Division of Physical Therapy at the Medical University of South Carolina (MUSC) has developed a clinical residency program for physical therapists to meet the mission of improving clinical excellence through postprofessional education. A physical therapy residency is an optional postprofessional program designed to substantially advance the individual's expertise in examination evaluation, diagnosis, prognosis, intervention, and management of patients within a specialty. Residency participation often results in a clinical specialization designation from the American Board of Physical Therapy Residency and Fellowship Education. In 2012, the physical therapy division partnered with a team of MUSC M.B.A. students to develop a business plan for the residency program. Important factors that shaped the direction of the residency program were identified, highlighted by the two largest factors preventing licensed therapists from pursuing residency education: relocating to a new location (56 percent of respondents), and tuition costs of the residency combined with opportunity costs associated with reduced salary (94 percent of respondents). The program set out to develop a business model in which MUSC was responsible for primary didactic education but developed a network of clinical partners to invest in their staff and serve as sites to translate education into practical clinical skills.

Cost

The Division of Physical Therapy developed a neurologic residency program (and later added an orthopedic residency program) with the following features:

- The program would minimize cost to the individual therapist in the development of clinical partners who would pay tuition ($8,000–$9,000 per year) in exchange for an extended service contract with the therapist.
- The program would be a blended model to minimize costs, combining on-site education in Charleston, South Carolina, with weekly

virtual classroom meetings and site visits from the academic faculty to the clinical sites.
- The program would maximize the expertise within the MUSC community and minimize outside instruction to help control costs.
- An experienced therapist (more than 3 years of specialty physical therapy experience) at the facility would agree to mentor the resident for 160 hours of one-on-one time over the course of the residency in exchange for sitting in on any didactic classes at no cost.
- The program could be completed within 12 months.

Initial partners included individual branches of the HealthSouth Corporation, but the model has recently expanded to include Roper St. Francis Healthcare System and Wake Forest Baptist Healthcare System.

The education model includes four onsite, intensive weekends in Charleston, and the clinical partners provide transportation to and from Charleston. In exchange, the residency program provides 64 hours of didactic content that includes live patient sessions and the opportunity to treat patients with residency faculty. In addition to the intensive weekends, the residents meet with faculty weekly for a 2-hour session within a virtual classroom. All of these sessions are built on an Internet-based platform maintained by the MUSC College of Health Professions IT Department. Importantly, each resident is given an MUSC username and password, which not only allows all content to be secure behind a firewall but also provides access to all MUSC protected sites, including the library and all of the electronic journals and resources. In addition, residency faculty go to each clinical site three times per year not only to observe the resident in practice but also to observe mentor–resident interactions. This "mentor the mentor" program has proven critical to the success of a multisite residency to assure that the program mentors are extensions of the centralized faculty.

Outcomes

Quantitatively, pilot data indicate that patients treated by residents or residency graduates have shorter lengths of stay, improved Functional Independence Measure (FIM) and FIM efficiency scores, a higher discharge percentage into the community (and lower to skilled nursing facilities), and overall Program Evaluation Model scores. Clinical partners report much greater success recruiting and retaining therapists, spending a fraction of historical costs for search and startup packages. Feedback from clinical partners indicates an enormous value for the per-resident tuition, and the program has grown each year with a steady expansion of clinical partners.

From the MUSC perspective, the university has noted several high-

value outcomes as well. The residency program clinical partners are also sites for clinical education for MUSC's entry-level Doctor of Physical Therapy students, and improving the overall performance and culture within these sites vastly improves the clinical training experience. Revenue from the residency program is targeted for use for strategic planning, including use as seed money for additional residency programs and other academic entrepreneurial endeavors. The partnership with residency clinical sites has thus far yielded one pilot therapy project by HealthSouth, which is currently being leveraged into an application for a large, multisite pragmatic clinical trial.

To date, 21 residents have enrolled in this program from 11 clinical sites across seven states. Importantly, most of these individuals would not have been able to pursue residency education if not for this financial model. In 3 years, it has become one of the largest neurologic residencies in the nation. Ten of the 11 individuals who took the Neurologic Clinical Specialist (NCS) examination passed on the first effort. The program learned a great deal from the one who did not, as this clinical experience and workload did not allow a translation from the didactic classroom to the clinic. As a result, all applications are currently reviewed not only for the resident but for the clinic and mentor as well to assure the potential of success for the resident and facility. Subjective data indicate that the program has generated substantial benefits for the clinical partners, including improved recruitment and retention of staff, increased marketing opportunities via residency site location and an increase of NCS-certified therapists (see directory of specialists available at http://www.abpts.org/FindaSpecialist), and a cultural shift in the direction of improved evidence-based practice within the facility as evidenced by increased peer-review activities, journal club leadership, and neurologic program development.

C.3

A BUSINESS CASE FOR INNOVATIVE HIGH-VALUE CONTINUING PROFESSIONAL DEVELOPMENT

Amy Dean, M.S., R.N., CCRN, and Kristin Miller, M.D., M.S.
Virginia Commonwealth University

Background

The Virginia Commonwealth University (VCU) Medical Center is an 865-bed academic medical center and is a part of VCU Health in Richmond, Virginia. VCU comprises many health-related schools, including, but

not limited to, schools of medicine, nursing, dentistry, allied health, health administration, physical therapy, and pharmacy. In 2016, the Langston Quality Scholars Program (LQSP) was founded through a collaboration between VCU Medical Center and the Schools of Medicine, Health Administration, and Nursing through the Langston Center for Quality, Safety and Innovation.

The LQSP is an experiential learning program designed to deliver continuing professional development focused on the science of improvement and leadership. The hybrid program curriculum focuses on the science of improvement methods and tools, change management, and leadership. The 8-month program consists of didactic workshops and online modules as well as biweekly project coaching sessions with a science of improvement expert. Each of the eight dyads selected a project based on mutual interests with support from their leadership.

The medical respiratory intensive care unit (MRICU) at the VCU Medical Center is a 28-bed intensive care unit caring for critically ill adults who often require specialized therapies, such as mechanical ventilation, continuous renal replacement therapy, titratable continuous infusions of sedating agents and vasoactive medications, and intensive monitoring of vital signs and hemodynamics. The patients are cared for by two multiprofessional teams (red and blue) that are composed of nurses, physicians (attending, fellow, resident, intern), advanced practice providers, dieticians, physical and occupational therapists, critical care pharmacists, and respiratory therapists. Patients are admitted to either the blue or the red MRICU teams on an alternating (every other day) rotation schedule.

The Society of Critical Care Medicine (SCCM) and the American Association of Critical Care Nurses (AACN) recommend a "bundled" approach to the care of the critically ill (Balas et al., 2012; Ely, 2017). As part of the ABCDEF bundle (see iculiberation.org), each letter represents one component of best practice in critical care. Collectively, the ABCDEF bundle is an initiative to assist in implementing the 2013 SCCM Pain, Agitation, and Sedation Guidelines (Barr et al., 2013). Research has shown that when these best practices are incorporated as a bundle the patient has better outcomes, including decreased ventilator days, decreased incidence of delirium, and shortened hospital length of stay.

Each individual aspect of the ABCDEF Bundle was introduced in the MRICU prior to the LQSP; however, thorough understanding of the bundles by the team and the compliance rates of the separate aspects of the bundle were low. Secondary to the poor compliance and limited understanding of a best practice initiative, the MRICU dyad chose to focus on three components of the ABCDEF bundle during the LQSP: "B" (Both Spontaneous Awakening Trial [SAT] and Spontaneous Breathing Trial [SBT]), "C" (Choice of analgesia and sedation), and "E" (Early Mobility and Exercise).

With coaching from the science of improvement specialists, the dyad formed a small interdisciplinary team representative of MRICU clinicians. Using the science of improvement tools such as process mapping and fish bone diagrams, the team was able to understand and dissect the problem of ABCDEF bundle compliance. The problem was stemming from multiple factors, but the key deficiency was the lack of communication and coordination about the plan of care from the team. It was clear they could improve upon their interprofessional collaborative practice. The aim statement for the project stated that by October 2016 the team would achieve daily interprofessional communication and coordination of care relevant to patient sedation level, liberation potential, and mobility plan for all MRICU blue team Critical Care Hospital-4th Floor (CCH 4) intubated or trached patients as evidenced by increased compliance with SAT/SBT, adherence to Richmond Agitation and Sedation Scale (RASS) goals, and discussion and implementation of a daily mobility plan.

Plan-Do-Study-Act (PDSA) cycles were performed to find a solution for the project. After five major revisions, the solution developed by the group involved a daily morning interprofessional team huddle. The huddle would occur at the patient's bedside using a 2-minute scripted dialogue that focused on three components of the ABCDEF bundle (B, C, and E). The interdisciplinary team included a provider (M.D. or advanced practice providers), bedside RN, RN clinical coordinator, physical therapist, occupational therapist, pharmacist, and respiratory therapist. The night RN caring for the patient would complete the questions listed on the rounding tool, which was read to the team by the morning shift RN. Following the scripted presentation, a brief interprofessional discussion followed, outlining the daily plan of care relevant to liberation potential, sedation choice, and mobility plan.

Baseline (preintervention) data were obtained from both teams and included choice of sedating infusions, compliance with SAT/SBT, percentage of time at RASS goal in a 24-hour time frame, and discussion and implementation of an individualized mobility plan. Following implementation of the project, similar data were obtained on the intervention team (MRICU blue team patients that were intubated or trached). Huddles were completed on each patient in the intervention group until the patient was discharged from the intensive care unit (ICU). The intervention data encompasses the time frame from July 12, 2016, through October 31, 2016. Currently, the huddle is still being implemented, and the team is focusing on continued educational efforts to fully implement all components of the ABCDEF bundles and methods to guarantee sustainability. In addition, future PDSA cycles will emphasize methods to expand, engrain, and implement the huddle to include all MRICU patients (MRICU blue and red team patients).

Outcomes

From July 12 through October 31, 2016, 269 huddles were completed on MRICU blue team patients. These blue team patients included all intubated or trached patients, and the team huddled on these patients even after they were liberated from the ventilator and until they were discharged from the ICU. Data collected revealed four major findings (when compared to preintervention data): increased percentage of time at sedation target (RASS) goal, decreased use of benzodiazepine infusions, increased compliance with Spontaneous Awakening and Breathing Trials, and increased numbers of patients with a mobility plan.

Length of stay analysis showed a clear reduction in both ICU and hospital length of stay when the intervention team (blue team) was compared to the nonintervention team (red team). There was a 1.14 day reduction in average ICU length of stay for MRICU blue team patients compared to MRICU red team patients. Furthermore, the difference in length of stay held even when taking patient acuity into account as both teams had similarly observed expected length of stay ratios by diagnostic related grouping.

Other unmeasured outcomes that were noted from this project include better understanding of other disciplines' roles and perspectives; perceived improved staff morale, camaraderie, and job satisfaction; increased education among multiple providers, and overall improved communication across multiple disciplines. In addition, being introduced to key principles in the science of quality improvement allows members to implement these tools toward other quality improvement projects throughout the hospital and community.

Cost

The cost of the continuing professional development (CPD) LQSP was $97,494, which equates to $12,127 per M.D./RN dyad. This cost estimate includes faculty salaries, coaching, continuing medical education, Institute for Healthcare Improvement online modules, speakers, center staff, and educational supplies. The average cost of one 20-minute huddle (with full attendance of staff: attending physician, fellow, advanced practice provider, clinical coordinator RN, bedside RN, occupational and physical therapist, and pharmacist) is $120.50.

Regarding length of stay, a reduction of 1.14 ICU days among the intervention (MRICU blue team) equates to an estimated annual cost reduction of $2.26 million. This calculation is based on an average daily ICU cost of $3,184.00 as outlined by Dasta et al. (2005).

When VCU Health specific ICU charges were analyzed, there was a reduction in both average MRICU accommodation and respiratory therapy charges in the intervention group (MRICU blue team) compared to the nonintervention group (MRICU red team).

In summary, the LQSP is a high-value continuing development project that provided the VCU Health MRICU team with the tools needed for a successful quality improvement initiative. This project has the propensity for a substantial return on investment.

C.4

EXPLORING A BUSINESS CASE FOR GOVERNMENT

Marilyn DeLuca, Ph.D., R.N.
New York University

Working to Achieve the 90-90-90 Targets in Namibia

The 90-90-90 targets aim to end the AIDS epidemic by 2030 (UNAIDS, 2014). Developed in consultation with national and regional stakeholders, the targets call for countries to implement strategies that, by 2020, will allow

- 90 percent of persons living with HIV to know their HIV status.
- 90 percent of HIV-positive individuals to have access to antiretroviral treatment (ART).
- 90 percent of those receiving ART to achieve viral suppression.

The goals of ART are to suppress viral load, reduce associated morbidities and increase longevity among HIV-positive individuals, and reduce the spread of HIV infection among noninfected individuals.

Namibia is a high- to middle-income country with a population of 2.5 million people, and it has a high HIV-positive prevalence rate of 14 percent (Wessong et al., 2015). In 2014, Namibia's minister of health projected a near doubling of the number of those requiring ART in 2015 to 220,000 individuals. To expand access to ART, the government is seeking strategies to increase ART services in government-supported health centers. Among the major constraints to expanding services is the limited number of physicians (282) and nurses (4,251) employed in the public sector. Retention of qualified staff, maldistribution of clinicians, and low physician salaries in the public sector constrict access to health services.

In Namibia, as in other settings, physicians are the designated clinicians who enroll patients into and prescribe antiretroviral treatment. To increase access to ART, several countries are expanding policies and practices through the use of the nurse-initiated antiretroviral treatment model (NIMART) (Callaghan et al., 2010). Following training in ART and associated changes in policy, practice, and certification, nurses can prescribe and manage HIV-positive patients. Evaluations of these programs indicate that patients are as well managed as in physician-initiated and managed ART settings; in some instances, NIMART settings report higher patient retention in ART (Kredo et al., 2014).

The case described focuses on one Namibian region referred to as Region A. In 2014 (base year), Region A enrolled 1,715 new patients in ART and provided a total of 213,358 patient visits. Given past trends in HIV prevalence and recent population growth in Namibia, it is projected that by 2018 an additional 146,120 newly HIV-positive individuals will require ART treatment in Namibia. With 10 percent of the country's population, estimates indicate that 10 percent of HIV-positive individuals live in Region A (Wesson et al., 2015).

Using a staffing projection model, *Workload Indicators of Staffing Need* or *WISN* (WHO, 2010) staffing requirements were calculated with and without NIMART for Region A.

Adoption of NIMART and interventions that allow professional nurses to competently practice at the full scope of their preparation have implications across settings. Such practice and policy changes have the potential to reduce demand for physician time, promote interprofessional patient-centered care management, and, most significantly, increase access to care.

Project Purpose

The purpose of the project is to evaluate the cost utility of implementing NIMART in Region A in Namibia's government-supported health centers.

Business Case Objectives

To compare the value of ART care and treatment in Region A *with* and *without* NIMART to inform decision making by the ministry of health, considering monetary and other costs and desired outcomes, which include an increase in the number of individuals enrolled in ART, their viral suppression, and improved health status.

Value = (Quality + Outcome)/Costs

Short-term outcomes (by end of year 1) include

- increased number of HIV-positive individuals enrolled in ART.
- increased number of HIV individuals managed on ART.
- increased number of HIV individuals with suppressed viral load.

Middle to long-term outcomes (by end of year 5 and beyond) include

- reduced morbidity among HIV-positive individuals.
- increased life expectancy among HIV-positive individuals.
- decreased prevalence of HIV positivity among individuals in Namibia.
- decreased transmission of HIV among individuals in Namibia.

C.5

AMERICAN NURSES CREDENTIALING CENTER ACCREDITATION INNOVATION PILOT: AWARDING OUTCOME-BASED CONTINUING EDUCATION (CE) CREDIT

Kathy Chappell, Ph.D., R.N., FNAP, FAAN
Accreditation and Institute for Credentialing Research

Background

The American Nurses Credentialing Center (ANCC), as the leader in accreditation of continuing nursing education, is piloting an innovative method of awarding CE credit to nurses using an outcome-based model. This model is designed to integrate a learner/team-directed educational approach that incorporates performance/quality improvement expectations into learning experiences to positively impact nursing practice, patient, and/or systems outcomes.

The outcome-based model has five levels, beginning with articulation of knowledge and skills and progressing through application of knowledge and skills, demonstration of knowledge and skills in an educational setting, integration of knowledge and skills into practice, and impact on practice, patient, and/or system outcomes. Professional practice gaps serve as the guide for determining desired outcomes of each learning experience.

The pilot was launched in October 2016 and will be evaluated over the next 12 months. Five ANCC accredited providers are participating:

1. American Nurses Association Center for Continuing Education and Professional Development
2. Dartmouth-Hitchcock Nursing Continuing Education Council
3. Montana Nurses Association
4. OnCourse Learning
5. Versant

Each pilot organization will be developing its own educational activities and recruiting registered nurses to provide qualitative and quantitative evaluation feedback. Feedback will be used to better understand how awarding outcome-based CE credit may affect the educational experience. ANCC-certified nurses will be able to use credit awarded toward ANCC certification renewal requirements. Credit may also be accepted by individual boards of nursing and health care organizations that require documentation of continuing professional development activities, though nurses are encouraged to contact their respective boards and organizations to confirm.

C.6

REFRAMING THE MODEL: AN EXEMPLAR OF HIGH-VALUE CPD

David C. Benton, R.G.N., Ph.D., FFNF, FRCN, FAAN
National Council of State Boards of Nursing

This panel contribution focuses on a radically different approach to the provision of continuing professional development (CPD). Instead of focusing on the individual learner, the exemplar describes how a systemic approach was taken to addressing a real organization-wide problem—workforce shortages—through focusing on identifying best practices in flexible working practices and getting frontline managers to own and implement these solutions.

The work drew on the systematic review of Francke et al. (1995) that identified the determinants of behavior change associated with successful CPD. By using an initial social network analysis of nursing leadership in a fully integrated health care delivery system in northeast Scotland, the structure of existing communication pathways and commonly experienced problems was identified (Benton, 2015).

A 1-day event was built on the work of Spencer Johnson's *Who Moved My Cheese?* (Johnson, 1998) and created a parable on the original story with a focus on introducing flexible working practices. After some initial presentation the remainder of the day focused on an action learning model. Opportunities to implement the learning were engineered ahead of time; as a result, flexible working practices were introduced, with several of

these being written up and published. Multiple added-value consequences occurred—a reduction in vacancies; reduced costs associated with the use of agency staff; the creation of an in-house staffing bank; and the identification of a wide range of innovative experiences and practices that radically improved patient care, increased efficiency of services, and saved money.

Reflecting on this work, it is possible to suggest that a number of paradigm shifts are required if high-value CPD is to be designed, implemented, evaluated, and accredited. A new model of accreditation of CPD is needed to fully recognize the learning that can take place as a result of an initial well-designed kickoff event that then delivers continuing professional development over a prolonged period.

C.7

EXPLORING A BUSINESS CASE FOR HIGH-VALUE CONTINUING PROFESSIONAL DEVELOPMENT: AN ACCREDITOR'S PERSPECTIVE ON LEVERAGING THE POWER OF LEARNING

Kate Regnier, M.A., M.B.A.
Accreditation Council for Continuing Medical Education

The Accreditation Council for Continuing Medical Education (ACCME) dedicates its efforts to leveraging the power of learning for the benefit of individuals, institutions, and the patients they serve. ACCME manages a geographically distributed educational system comprising about 2,000 accredited organizations that plan and present 150,000 educational activities annually. These accredited organizations are located throughout the country; in addition, ACCME has recently begun accrediting international organizations. Accredited organizations engage in interactions with more than 14 million physician learners and 11 million other health care professionals each year. That means each clinician interacts multiple times with educators every year.

Informed in part by the Institute of Medicine report *Health Professions Education: A Bridge to Quality*, ACCME changed the focus of accredited CME from knowledge acquisition to knowledge in action—teaching clinicians how to apply education to practice. Since 2006, ACCME has required educators to design interventions to change learners' competence, performance, and/or patient outcomes, and to measure those changes. Activities are based on practice-relevant, valid content that is independent of commercial interests.

Recently, after 2 years of engagement with the CME community, ACCME instituted a new menu of criteria for Accreditation with Com-

mendation. These criteria provide an incentive—a 6-year rather than 4-year term of accreditation—for organizations to implement best practices. The criteria address five themes:

1. Promotes team-based education
2. Addresses public health priorities
3. Enhances skills
4. Demonstrates educational leadership
5. Achieves outcomes

ACCME believes there is a strong business case for accredited CME and CPD, as described in the article "The Leadership Case for Investing in Continuing Professional Development," by Graham McMahon, M.D., M.M.Sc., published in *Academic Medicine*.

According to McMahon, accredited professional education

- is a cost-effective, powerful catalyst for change;
- creates and supports teams;
- improves well-being by building empowered teams that take care of each other;
- engages clinicians with institutional priorities where they work and learn;
- facilitates processes to empower clinician participation in quality improvement initiatives that are bottom up, rather than top down;
- improves referrals to appropriate, necessary treatment options; and
- engages patients in team and care decision-making improvements to quality and safety.

It is important to demonstrate the business case with data. There are numerous examples of accredited CME making a meaningful and measurable difference in safety, quality, and patient care. Here are a few examples of outcomes that resulted from CME initiatives:

- An increase in patient satisfaction and involvement in care decisions
- Improved care coordination for the mentally ill
- Improved outcomes for sepsis patients
- Significantly lowered rate of complications and improved outcomes for both maternal and neonatal patients
- Lower rates of deaths from accidental opioid overdose

To further leverage the power of education, ACCME coordinates with colleague accreditors across the health professions, licensing, and credentialing bodies. For example, ACCME collaborated with accreditors in nurs-

ing and pharmacy to develop Joint Accreditation for Interprofessional Continuing Education, a shared system to promote team-based education.

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Appendix D

Speaker Biographical Sketches

David Benton, R.G.N., Ph.D., FFNF, FRCN, FAAN, took up his post as the Chief Executive Officer (CEO) of the National Council of State Boards of Nursing (NCSBN) on October 2, 2015. Immediately prior to this he worked at the International Council of Nurses in Geneva, Switzerland, for the previous 10 years, first as their consultant on nursing and health policy specializing in regulation, licensing, and education, and then as CEO. He qualified as a general and mental health nurse at the then Highland College of Nursing and Midwifery in Inverness, Scotland. His M.Phil. research degree focused on the application of computer-assisted learning to postbasic nurse education, and he has had articles published in relation to research, practice, education, leadership, regulation, and policy topics over the past 30 years. He has a Ph.D. Summa Cum Laude from the Complutense University of Madrid for his work on researching an international comparative analysis of the regulation of nursing practice. Dr. Benton has held senior roles for 25 years across a range of organizations. These roles have included working as Executive Director of Nursing at a health authority in London, as a senior civil servant in the Northern and Yorkshire regions, as Chief Executive of a nurse regulatory body in Scotland, and as Nurse Director of a University Trust Health System.

Dr. Benton is the recipient of several awards and honors. He is particularly proud of being awarded the inaugural Nursing Standard Leadership award in 1993. He was presented with the Fellowship of the Florence Nightingale Foundation in 2001, awarded Fellowship of the Royal College of Nursing in 2003 for his contribution to health and nursing policy, and most recently became a Fellow of the American Academy of Nursing in

2015. Dr. Benton has held several visiting appointments and is currently a visiting professor of nursing policy at the University of Dundee in Scotland.

Mark Bowden, Ph.D., P.T., has 17 years of experience as a physical therapist, along with working as a clinical practitioner, therapy manager, research physical therapist, and researcher. He received his B.S. in Psychology in 1991 and his M.S. and P.T. in 1995, both from Duke University. He received his Ph.D. in Rehabilitation Science from the University of Florida in May 2009, where his doctoral work concentrated on movement dysfunction after neurologic injury, specifically measurement of activity-specific behavioral recovery. Presently, he serves as an Assistant Professor in the Department of Health Science and Research at the Medical University of South Carolina and as a Research Health Scientist at the Ralph H. Johnson Veterans Affairs Medical Center in Charleston, South Carolina.

Ronald M. Cervero, Ph.D., recently joined the School of Medicine at the Uniformed Services University of the Health Sciences (USUHS) as a professor and associate director for remote campus education in the Department of Medicine's Graduate Programs in Health Professions Education. He had held a variety of leadership roles at the University of Georgia (UGA) prior to moving to USUHS. He served as the Head of the Department of Lifelong Education, Administration, and Policy and Associate Dean for Outreach and Engagement in the College of Education. Most recently, he was the Associate Vice President for Instruction with administrative responsibility for the University's Science Learning Center, Office of Online Learning, Center for Teaching and Learning, Office of Academic Assessment, Extended Campuses, and Air Force and Army ROTC. He provided significant and sustained leadership for distance education since 2001, when he led the department to offer UGA's first online graduate degree. Since then, he has been responsible for the growth of online learning programs for the College of Education, and served as interim director of the University's Office of Online Learning.

Dr. Cervero received the Aderhold Distinguished Professor Award in 2008 for excellence in research, teaching, and outreach from the University of Georgia's College of Education. He earned his M.A. in the social sciences and his Ph.D. in education at The University of Chicago.

Kathy Chappell, Ph.D., R.N., FNAP, FAAN, has more than 25 years of nursing experience, including clinical practice as a direct care nurse in critical care and emergency nursing; hospital administration; project management for programs such as the Magnet Recognition Program, National Database of Nursing Quality Indicators, quality improvement and shared

governance; hospital-system strategic planning for support of professional nursing practice including nursing clinical education and nursing student recruitment and research; and director of an international credentialing program.

As Vice President of the Accreditation Program and Institute for Credentialing Research, Dr. Chappell is responsible for the Institute for Credentialing Research and the Accreditation Programs, including Primary Accreditation of continuing nursing education, Joint Accreditation of organizations providing interprofessional continuing education, accreditation of courses validating nursing skills (Nursing Skills Competency Program), and accreditation of residency and fellowship programs (Practice Transition Accreditation Program). Dr. Chappell received her baccalaureate in nursing with distinction from the University of Virginia, her master's of science in advanced clinical nursing from George Mason University, and her doctorate in nursing from George Mason University.

Malcolm Cox, M.D., is an Adjunct Professor of Medicine at the University of Pennsylvania. He most recently served for 8 years as the Chief Academic Affiliations Officer for the U.S. Department of Veterans Affairs (VA) in Washington, DC, where he oversaw the largest health professions training program in the country and repositioned the VA as a major voice in clinical workforce reform, educational innovation, and organizational transformation. Dr. Cox received his undergraduate education at the University of the Witwatersrand and his M.D. from Harvard Medical School. After completing postgraduate training in internal medicine and nephrology at the Hospital of the University of Pennsylvania, he rose through the ranks to become Professor of Medicine and Associate Dean for Clinical Education. He has also served as Dean for Medical Education at Harvard Medical School; upon leaving the Dean's Office, he was appointed the Carl W. Walter Distinguished Professor of Medicine at Harvard Medical School. Dr. Cox has served on the National Leadership Board of the Veterans Health Administration, the VA National Academic Affiliations Advisory Council (which he currently chairs), the National Board of Medical Examiners, the National Advisory Committee of the Robert Wood Johnson Foundation Clinical Scholars Program, the Board of Directors of the Accreditation Council for Graduate Medical Education, and the Global Forum on Innovation in Health Professions Education of the National Academies of Sciences, Engineering, and Medicine (which he currently co-chairs). Dr. Cox is the recipient of the University of Pennsylvania's Christian R. and Mary F. Lindback Award for Distinguished Teaching and in 2014 was recognized by the Association of American Medical Colleges as a nationally and internationally renowned expert in health professions education.

Darlene Curley, R.N., M.S., FAAN, is the Chief Executive Officer (CEO) of the Jonas Family Fund and Executive Director of the Jonas Center for Nursing and Veterans Healthcare, a philanthropic organization charged with improving health care access, quality, and affordability. Grant strategies include nursing, veterans' health care, low vision and blindness, mental health, and environmental health. Since 2009, Ms. Curley has transformed the profile and impact of the center from a local New York City funder to a national thought leader by forging partnerships with 40 funders and more than 100 academic and health care organizations. She is leading a $25 million effort to support 1,000 Doctoral Nursing Scholars in all 50 states to address the nation's critical shortage of nursing faculty and primary care leaders.

Ms. Curley served as a Representative in the Maine State Legislature (2002–2007) and was responsible for negotiation and oversight of an $8 billion state budget as a member of the appropriations committee. She was appointed to the Health Committee of the National Conference of State Legislatures, and is recognized as an expert in state health policy, finance, and workforce development. Committed to health care access in rural areas, Ms. Curley was the Founder and CEO of Community Homecare, a Medicare- and Medicaid-certified home health and medical staffing agency serving five counties in western and northern Maine (1982–1990). From 1992 to 1995 Ms. Curley was the Northeast Director of System Integration for Advantage Health. As the National Director of Strategic Planning for HealthSouth (1996–1999), she was responsible for health system mergers and acquisitions in all 50 states.

Ms. Curley holds a B.S. from the University of Maine and an M.S. from the University of Maryland. In 2013 she received the Second Century Award for Excellence in Healthcare from Columbia University, and in 2015 she was named a Visionary Pioneer at the University of Maryland. Ms. Curley is currently an external advisor to the Columbia University Center for Health Policy, appointed to Senator Gillibrand's New York Aging Issue Workgroup, and a Fellow in the American Academy of Nursing and The New York Academy of Medicine. She is a frequent speaker and author on topics of health care philanthropy, health policy, and workforce development, including op-eds in *Politico* and the *Los Angeles Times*.

Amy Dean, R.N., is a registered nurse with more than 10 years of nursing experience. She is certified in critical care nursing by the Association of Critical Care Nurses. She earned an associate's degree in Nursing from Pitt Community College, a bachelors degree in Nursing from East Carolina University, and a master's degree in Nursing Administration and Leadership from Virginia Commonwealth University. Ms. Dean's interests include renal replacement therapy in the critically ill, early mobility in the critically ill, and working on quality improvement within an interprofessional team.

Marilyn DeLuca, Ph.D., R.N., is a registered professional nurse, a global health workforce advocate, and founder of the consultancy Global Health-Health Systems-Philanthropy. She serves as an adjunct associate professor in the College of Nursing and a research assistant professor in the School of Medicine at New York University (NYU). Dr. DeLuca's experience spans 25 years in the field of global and domestic health care systems, reform, and workforce. She collaborates with and provides services to governments, nongovernmental organizations, and key stakeholders, including the Clinton Global Initiative, the African Development Bank, and the Global Health Workforce Alliance (GHWA). She is a member of the team developing GHWA's Global Strategy for Human Resources for Health and leads the Technical Workforce Group 3 on data, systems, and impact measurement.

Dr. DeLuca earned a Ph.D. in public administration with a concentration in comparative health systems and reform politics at NYU, where she also earned master's degrees in public administration and nursing. In 2008, she was inducted into the Alumni Hall of Fame at Hunter College, where she earned a bachelor's degree in nursing. Dr. DeLuca has expertise in systems-based models and focuses on expanding the global health workforce and on universal health coverage. She is lead editor of the 2013 book *Transforming the Global Health Workforce*.

Jody S. Frost, P.T., DPT, Ph.D., FNAP, is an Education Consultant and Facilitator with expertise in strategic planning, educational assessment, consensus building, professionalism, interprofessional professionalism, interprofessional education, and leadership fellowship/training programs. Dr. Frost currently serves as President-elect of the National Academies of Practice (NAP) and was a founding member and former Vice Chair of NAP's Physical Therapy Academy. In addition, she served as a Community Moderator for the National Center for Interprofessional Practice and Education. She founded the Interprofessional Professionalism Collaborative representing 12 health professions and an assessment organization, which is focused on the development and testing of an Interprofessional Professionalism Assessment and tool kit. Dr. Frost received her bachelor's degree in physical therapy from Ithaca College, master's in counseling and personnel studies from Rowan University, Ph.D. from Temple University, and D.P.T. from Marymount University.

Stuart Gilman, M.D., M.P.H., is the Director of the Veterans Health Administration's Centers of Excellence in Primary Care Education, a demonstration project advancing interprofessional education in the U.S. Department of Veterans Affairs (VA) patient-centered primary care settings. He has additional national responsibilities as the Director of Advanced Fellowships,

which includes the VA's relationship with the Robert Wood Johnson Foundation's Clinical Scholars Program and a portfolio of programs providing advanced preparation for health professionals to become leaders in fields of strategic importance to the VA, including fields such as geriatrics, social work, clinical informatics, women's health, patient safety, health services research, and many others. After studying anthropology and biology at Grinnell College, Dr. Gilman received his M.D. at Rush Medical College, Chicago, Illinois, then completed Internal Medicine Training at the University of California, Irvine. He subsequently received his M.P.H. from the University of California, Los Angeles, and was a Robert Wood Johnson/VA Clinical Scholar at the University of California, San Francisco. Although Dr. Gillman has national responsibility in the VA, he is based in Southern California, with his office at the Long Beach VA Medical Center. Dr. Gillman is a practicing primary care general internist, and he holds the academic rank of Professor of Clinical Health Sciences, University of California, Irvine.

Neil Harvison, Ph.D., OTR/L, FAOTA, is the Chief Officer for Academic and Scientific Affairs at the American Occupational Therapy Association (AOTA). In this capacity he provides leadership and direction for the accreditation, education, and research functions of the association. Dr. Harvison holds a bachelor's degree in occupational therapy (hons.) from the University of Queensland (Australia), a Master of Arts in Developmental Disabilities Studies from New York University, and a Doctorate of Philosophy from the Steinhardt School of Education at New York University. Prior to joining AOTA in 2006, Dr. Harvison spent more than 24 years as a pediatric practitioner and hospital administrator. For 12 years he was the associate director for outpatient services at the Mount Sinai Rehabilitation Center in New York City. During this period, he held clinical faculty appointments at the Mount Sinai School of Medicine, Columbia University College of Physicians and Surgeons, and Mercy College.

Dr. Harvison served in a number of volunteer leadership roles as a member of AOTA before joining the staff in 2006. He has also served on the Board of Directors of the Association of Specialized and Professional Accreditors as both the chairperson and the vice chairperson. Dr. Harvison currently serves as a member of numerous national interprofessional advisory boards. He is the author of numerous publications and presentations in health care education and accreditation and is an associate editor for education with the *American Journal of Occupational Therapy*. In 2011, Dr. Harvison was recognized with the AOTA Fellows award for service to education and practice.

Elena Karahanna, Ph.D., M.B.A., is a University of Georgia Distinguished Research Professor and the L. Edmund Rast Professor of Business in the

Management Information Systems Department, Terry College of Business, at the University of Georgia. She has also held visiting appointments in Hong Kong, Australia, Singapore, and Italy, and she was on the faculty at the University of Cyprus and at Florida State University. Dr. Karahanna is also a Senior Consultant with Cutter Consortium's Business-IT Strategies practice. She holds a Ph.D. in Management Information Systems from the University of Minnesota with specializations in Organization Theory and Organizational Communication, and a B.S. in Computer Science (summa cum laude) and an M.B.A. degree from Lehigh University.

Simon Kitto, Ph.D., is a medical sociologist who has been working in health professions education research since 2002. Effective January 1, 2015, Dr. Kitto joined the Department of Innovation in Medical Education as an associate professor; he also serves as the director of research within the Office of Continuing Professional Development. His main research interests are studying how structural, historical, and sociocultural variables shape interprofessional clinical practice, educational settings, and activities. His current research focuses on the nature and role of continuing interprofessional education and practice within the nexus of patient safety, quality improvement, and implementation science intervention design and practice. Dr. Kitto has published more than 70 research articles, abstracts, reports, chapters, and books. His most recent publications focus on barriers and facilitators to integrating continuing education, quality improvement, patient safety, and knowledge translation initiatives in critical care settings.

Paul E. Mazmanian, Ph.D., serves as the Associate Dean for Assessment and Evaluation Studies, School of Medicine, and the Director of Evaluation, Virginia Commonwealth University Wright Center for Clinical and Translational Research. For nearly 25 years, he led a continuing education office for the School of Medicine, including 10 years of partnership with the School of Allied Health Professions and 8 years of collaboration with the Master of Public Health Program. From 2000 to 2010, he was editor of the *Journal of Continuing Education in the Health Professions*. Dr. Mazmanian has served on two previous committees of the National Academy of Medicine: a Consensus Committee on Redesigning Continuing Education in the Health Professions, and a Standing Committee on Credentialing Research in Nursing. His current interests include regulation, human factors, quality, safety, and patient outcomes.

Kristin Miller, M.D., M.S., is a graduate of the University of Virginia and the Virginia Commonwealth University (VCU) School of Medicine. She completed her residency and fellowship training in pulmonary and critical care medicine at VCU. Dr. Miller is an Assistant Professor in the Depart-

ment of Internal Medicine, Division of Pulmonary and Critical Care Medicine at VCU Health in Richmond, Virginia. She is an attending physician and the Associate Medical Director in the Medical Respiratory Intensive Care unit. She also practices as a neurocritical care specialist and consultant in pulmonary medicine. Dr. Miller's interests include sedation and delirium, early mobility, patient and family engagement, and interprofessional practice in the intensive care unit.

Warren Newton, M.D., M.P.H., serves as the director of the North Carolina Area Health Education Centers (AHEC) Program. North Carolina AHEC has nine regional centers with 20 residencies, more than 200,000 hours of continuing medical education/continuing education annually, and supports community-based educational experiences for all professions across the state. AHEC has built a health careers pipeline and provides practice support in health information technology, patient-centered medical homes, and quality improvement to more than 1,200 primary care practices across the state. Dr. Newton recently completed nearly two decades as chair of the Department of Family Medicine at the University of North Carolina (UNC) School of Medicine where he launched the Improving Performance in Practice program and a statewide program improving quality of care in primary care residencies. In collaboration with many partners, he founded Community Care of Central Carolina and the Carolina Health Net system for more than 20,000 uninsured residents in Alamance, Caswell, Chatham, and Orange counties. He founded and still leads the I^3 Collaborative of 25 Family Medicine, Internal Medicine, and Pediatric residencies working to implement the Triple Aim. He recently completed a 5-year term as dean of education at the UNC School of Medicine, where he led a successful Liaison Committee on Medical Education reaccreditation, expanded the school to include formal campuses in Charlotte and Asheville, reformed the curriculum and student services, and increased admissions of underrepresented minorities by 50 percent. He also served as senior policy advisor to the Secretary of North Carolina's Department of Health and Human Services for the majority of 2016, where he helped lead North Carolina's 1115 Medicaid Waiver, developed a comprehensive plan for graduate medical education expansion in needed specialties in rural communities, and developed a statewide task force to define metrics of care for Medicaid.

A graduate of Yale University, Northwestern Medical School's family medicine residency program, and the Robert Wood Johnson Clinical Scholars Program at UNC, Dr. Newton also serves as a professor of family medicine at the UNC School of Medicine and adjunct professor of epidemiology at the UNC Gillings School of Global Public Health. Dr. Newton is the past chair of the American Board of Family Medicine and served as founding chair of the American Board of Medical Specialties Committee on Continuing Certifica-

tion. He also serves on the Liaison Committee for Medical Education and on the National Academies of Sciences, Engineering, and Medicine's Global Forum on Innovation in Health Professional Education.

Silvia E. Rabionet, ME.d., Ed.D., is an associate professor at Nova Southeastern University College of Pharmacy, Department of Sociobehavioral and Administrative Pharmacy. She received a B.A. from Mount Holyoke College, and her M.A. and Ed.D. from Harvard University. She is also affiliated with the University of Puerto Rico Graduate School of Public Health. For the past 30 years she has designed and administered numerous public and private training and faculty development grants in the fields of tobacco cessation, public health preparedness, HIV/AIDS, and mentoring, among others. She has developed and implemented competency-based models for health workforce development. She has actively participated with the Centers for Disease Control and Prevention, Pan American Health Organization, World Health Organization, and other local, regional, and international networks and associations in the development of materials and technical reports for workforce development and continuing education.

She currently teaches Public Health and Health Promotion at the master's, Pharm.D., and Ph.D. levels. She is the program director of an R-25 National Institute of Mental Health–funded mentoring project on HIV and mental health. The project facilitates the research development of minority junior faculty and doctoral students, is affiliated with universities in Florida and Puerto Rico, and represents five professions. She spearheaded a collaborative qualitative research project on nonmedical use of prescription drugs among health professions students. She is co-investigator on the first trans-Caribbean prospective research on adherence to Highly Active Antiretroviral Therapy among HIV patients. The project, sponsored by the National Institutes of Health Office of AIDS Research, was launched in 2013 in three countries. She has published about public health history and education, mentoring, and sociobehavioral aspects of drug use.

Kate Regnier, M.A., M.B.A., is the Executive Vice President of the Accreditation Council for Continuing Medical Education (ACCME) and has been with ACCME since 1995. Ms. Regnier oversees the processes of accreditation and reaccreditation for national and international providers of continuing medical education, the recognition of the U.S.-based state and territory medical societies as accreditors within their states according to the markers of equivalency, and the Joint Accreditation of Providers of Interprofessional Continuing Medical Education with colleague accreditors, the Accreditation Council for Pharmacy Accreditation, and the American Nurses Credentialing Center. Ms. Regnier is also responsible for the review of non-U.S. accreditors for their substantial equivalency with ACCME's sys-

tem. Ms. Regnier also oversees the education, communications, monitoring, and business functions of ACCME, and serves as the primary staff liaison to the ACCME board of directors.

Ms. Regnier received a bachelor of arts degree in English from the College of the Holy Cross (1986), a master's degree in English from Northwestern University (1990), and a master's degree in business administration from Loyola University of Chicago (1995).

Michael Rouse, B.Pharm., M.P.S., was born in Zimbabwe and moved to the United States in 2001 to join the Accreditation Council for Pharmacy Education (ACPE), where he is Assistant Executive Director, Professional Affairs, and Director, International Services. Mr. Rouse has been very active in the United States and internationally to advance the continuing professional development (CPD) approach for lifelong learning. He has several CPD-related publications, and he co-authored the *Global Report on Continuing Education and Continuing Professional Development* published by the International Pharmaceutical Federation in 2014. In the United States, ACPE has taken the lead in advancing the CPD model in pharmacy, and for several years, Mr. Rouse led those efforts. He has helped to develop education materials, tools, and resources to support learners and education providers in their adoption of a CPD approach.

Julia Royall, M.A., has been working in international health in Africa since 1990 and has more than 40 years of professional experience in the communications field. She has focused her efforts on how access to medical information and the Internet can support improved health, and on the ways in which new technology solutions can assist remote and underserved communities in developing countries. For her entire career, Ms. Royall has been committed to bringing together technology and information—first as the Executive Producer of a theater company that she founded on this premise as a doctoral student at Carnegie Mellon University in 1976, and later as a Project Coordinator at the Massachusetts Institute of Technology Media Lab. As Deputy Director of SatelLife, she initiated and directed the HealthNet Information Service that served and continues to serve African countries. She was recruited to the National Library of Medicine at the National Institutes of Health (NIH) in 1997 to create a malaria research network to support scientists in Africa as part of the Multilateral Initiative on Malaria. For this work she has received the NIH Director's Award and was recently honored by *Federal Computer Week* magazine. Her research interests include African American history, history of the slave trade, PanAfricanism, and the relationship between African traditional communication systems and the Internet.

Lucy A. Savitz, Ph.D., M.B.A., is the Assistant Vice President for Delivery System Science in the Institute for Healthcare Delivery Research at Intermountain Healthcare, holds a Research Professor appointment in Epidemiology at the University of Utah, and is on the Institute for Healthcare Improvement faculty for impacting cost and quality. At Intermountain, Dr. Savitz has been involved in studying the effective spread of evidence-based, cost-effective care process models. She leads the Intermountain-based Agency for Healthcare Research and Quality (AHRQ) ACTION III network, serves on the Board representing Discovery and Dissemination for the High-Value Health Care (HVHC) Collaborative, and is the HVHC Co-Primary Invistigator for the AHRQ Center of Excellence award to Dartmouth. Dr. Savitz currently serves as the Chair of the Academy Health Committee on Advocacy and Public Policy, the Center for Medicare/Medicaid Executive Leadership Council, the AHRQ National Advisory Council, and the AARP National Policy Council. She previously served as an economist for the Colorado Legislative Council, a financial planner for University of North Carolina Health Care, and a Malcolm Baldrige Examiner in 2001 and 2002. She holds a Ph.D. from the University of North Carolina at Chapel Hill's School of Public Health and an M.B.A. from the University of Denver.

Susan C. Scrimshaw, Ph.D., is President of The Sage Colleges, Troy, New York. Her previous positions include President of Simmons College, Boston, Massachusetts; Dean of the School of Public Health at the University of Illinois at Chicago; and Associate Dean of public health and professor of public health and anthropology at the University of California, Los Angeles. She is a graduate of Barnard College and holds a Ph.D. in anthropology from Columbia University. Her research includes community participatory research methods, health disparities, pregnancy outcomes, violence prevention, and culturally appropriate delivery of health care. She is a member of the National Academy of Sciences and a fellow of the American Association for the Advancement of Science and the American Anthropological Association. She has served on the Chicago and Illinois State Boards of Health. She is a past president of the board of the U.S.-Mexico Foundation for Science and of the Society for Medical Anthropology, and former chair of the Association of Schools of Public Health. Her honors include the prestigious Yarmolinsky Medal, given by the National Academy of Medicine for distinguished service; the Margaret Mead Award; and a Hero of Public Health gold medal awarded by President Vicente Fox of Mexico. Dr. Scrimshaw lived in Guatemala until age 16. She speaks Spanish, French, and Portuguese.

Andrew Spiegel, J.D., founded the Colon Cancer Alliance (CCA), the leading U.S.-based national patient advocacy organization dedicated to colon cancer. Mr. Spiegel, an attorney, besides being a co-founder of the organization and longtime board member of the alliance, became the Chief Executive Officer in January 1999 and he ran CCA for nearly 5 years before undertaking his next venture, the Global Colon Cancer Association. Mr. Spiegel is a member of the National Colorectal Cancer Roundtable and is on the Stand Up to Cancer Advocate Advisory Council. He serves on the steering committee of the Alliance for Safe Biologic Medicines and the Board and Membership Committee of the Digestive Disease National Coalition (DDNC), is a member of the Coalition for Imaging and Bioengineering Research, and is a member of the Computerized Tomography Coalition, as well as an active member of many other health care coalitions and organizations. Mr. Spiegel is currently cochair of the DDNC. In 2012, Mr. Spiegel received the David Jagelman Award for Patient Advocacy from the American Society of Colon and Rectal Surgeons.

Mr. Spiegel is a 1986 graduate of Temple University in Philadelphia, where he earned a bachelor's degree in Political Science with minors in English and Philosophy. He is a 1989 graduate of the Widener University School of Law where he was an editor of the *Delaware Law Forum*, an invited member of the Phi Delta Phi legal honors society, and a member of the Moot Court Honor Society. After working for a Philadelphia litigation firm, Mr. Spiegel opened his own law firm in 1995 and was a participating member of numerous legal organizations in the region.

Holly H. Wise, P.T., Ph.D., FNAP, is the representative for the American Council of Academic Physical Therapy, a component of the American Physical Therapy Association. She is an academic educator and physical therapist with a breadth of experience in interprofessional education and collaborative practice and is currently a professor at the Medical University of South Carolina (MUSC), an academic health center with six colleges: Dental Medicine, Graduate Studies, Health Professions, Medicine, Nursing, and Pharmacy. A graduate of Wake Forest University, Duke University, and the University of Miami, Dr. Wise has worked in settings ranging from acute care to rehabilitation centers, co-owned a private practice for 13 years, and co-founded two interprofessional postpolio evaluation clinics.

Dr. Wise serves as the Associate Director for Collaborative Practice in the MUSC Office of Interprofessional Initiatives and is a member of the MUSC incubator team with the National Center for Interprofessional Practice and Education. Dr. Wise has multiple publications and presentations related to the scholarship of teaching, with a focus on interprofessional education and collaborative practice and is actively involved in interprofessional-funded research initiatives.

Appendix E

Forum-Sponsored Products

Convening Activity Publication: ***Interprofessional Education for Collaboration: Learning How to Improve Health from Interprofessional Models Across the Continuum of Education to Practice: Workshop Summary*** **(2013)**
In 2012, the Global Forum on Innovation in Health Professional Education held its first two workshops, focusing on linkages between interprofessional education (IPE) and collaborative practice. The workshops set the stage for defining and understanding IPE and provided living histories of speakers from around the world who shared experiences working in and between interprofessional education and interprofessional or collaborative practice. This publication summarizes the workshops.

Convening Activity Publication: ***Establishing Transdisciplinary Professionalism for Improving Health Outcomes: Workshop Summary*** **(2013)**
This publication looks at professionalism among the different health professions and considers whether it might be possible for all the health professions to share a common understanding of professionalism with each other (in a transdisciplinary fashion) and with society (through a social contract), and have that understanding be practiced and promoted in the education of all health professionals.

Convening Activity Publication: ***Assessing Health Professional Education: Workshop Summary*** **(2013)**
The content covered at the workshop and captured in this publication involves assessing core competencies, particularly within interprofessional

education and health professional collaborations that include patient-centered health care teams. Discussions at the workshop helped describe these competencies and explored the challenges, opportunities, and innovations in assessment across the education-to-practice continuum.

Convening Activity Publication: ***Building Health Workforce Capacity Through Community-Based Health Professional Education: Workshop Summary*** **(2014)**
In setting the stage for the workshop summarized in this publication, the first speaker reminded participants of the importance of learning from and with communities for understanding the values and challenges faced by the community they serve. It was later remarked that health systems are *of* the community, thus reinforcing the importance of bi-directional learning. Innovative examples of community-based learning that followed this idea were presented and discussed.

Convening Activity Publication: ***Empowering Women and Strengthening Health Systems and Services Through Investing in Nursing and Midwifery Enterprise: Lessons from Lower-Income Countries: Workshop Summary*** **(2015)**
Experts in women's empowerment, development, health systems' capacity building, social enterprise and finance, and nursing and midwifery explored the intersections between and among these domains. Innovative and promising models for more sustainable health care delivery that embed women's empowerment in their missions were examined. This publication highlights examples and explores broad frameworks for existing and potential intersections of different sectors that could lead to better health and well-being of women around the world, and how lessons learned from these examples might be applied in the United States.

Consensus Study Report: ***Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes*** **(2015)**
Whereas considerable research has focused on student learning in interprofessional education (IPE), only recently have researchers begun to look beyond the classroom and beyond learning outcomes for the effect of IPE on such issues as patient safety, patient and provider satisfaction, quality of care, health promotion, population health, and the cost of care. The forum members wanted to know what data and metrics are needed to evaluate the effect of IPE on individual, population, and system outcomes. To answer this question, the individual sponsors of the forum sponsored an Institute of Medicine study to examine the existing evidence on this complex issue and consider the potential design of future studies that could expand this evidence base.

Convening Activity Publication: *Envisioning the Future of Health Professional Education: Workshop Summary* (2015)
This publication summarizes a workshop where Forum members focused on envisioning the future of health professional education in light of the *Lancet Commission Report*. The workshop aimed to explore the implications that shifts in health, policy, and the health care industry could have on health professional education and workforce learning; to identify learning platforms that could facilitate effective knowledge transfer with improved quality and efficiency; and to discuss opportunities for building a global health workforce that understands the role of culture and health literacy in perceptions and approaches to health and disease.

Consensus Study Report: *A Framework for Educating Health Professionals to Address the Social Determinants of Health* (2016)
The World Health Organization defines the social determinants of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life." These forces and systems include economic policies, development agendas, cultural and social norms, social policies, and political systems. Educating health professionals in and with communities negatively affected by the social determinants of health can generate awareness among those professionals about the potential root causes of ill health, contributing to more effective strategies for improving health and health care for underserved individuals, communities, and populations. This is the context in which the expert committee of the National Academies of Sciences, Engineering, and Medicine developed a high-level framework for educating health professionals to address social determinants of health. The committee's framework aligns education, health, and other sectors to better meet local needs in partnership with communities. The individual sponsors of the Forum sponsored this study.

National Academy of Medicine (NAM) Perspective Paper: *Breaking the Culture of Silence on Physician Suicide* (2016)
Every year an estimated 400 U.S. physicians take their lives. Numerous global studies involving every medical and surgical specialty indicate that approximately one in three physicians is experiencing burnout at any given time. Medical students appear to be at an equal or higher risk of burnout, depression, substance abuse, and suicide. Because of the perceived and real risks associated with seeking help for such problems, many students, trainees, doctors, and health care organizations fail to recognize, report, discuss, or pursue treatment for these conditions. The purpose of this paper is to shine a spotlight on this culture of silence, to understand the scope and complexity of the underlying issues, and to drive changes to deliver indi-

vidual, organizational, and societal interventions that preserve and promote the physical and emotional health of caregivers.

Convening Activity Publication: *Exploring the Role of Accreditation in Enhancing Quality and Innovation in Health Professions Education: Proceedings of a Workshop* (2017)
The purpose of accreditation is to build a competent health workforce by ensuring the quality of training taking place within those institutions that have met certain criteria. It is the combination of institution or program accreditation with individual licensure—for confirming practitioner competence—that governments and professions use to reassure the public of the capability of its health workforce. This workshop explored global shifts in society, health, health care, and education, and their potential effects on general principles of program accreditation across the continuum of health professional education. This publication summarizes the workshop.

NAM Perspective Paper: *I Felt Alone But I Wasn't: Depression Is Rampant Among Doctors in Training* (2016)
Dr. Elisabeth Poorman, a primary care doctor and a former resident at Cambridge Health Alliance, answered the call and agreed to reprint her entry in WBUR's CommonHealth blog, published in August 2016. The piece is Dr. Poorman's personal reflection on the rampant depression experienced by doctors and doctors in training.

NAM Perspective Paper: *Defining Community-Engaged Health Professional Education: A Step Toward Building the Evidence* (2017)
The Global Strategy for Health Workforce 2030 outlines a set of milestones and strategies to expand and strengthen the health workforce that could better position countries to achieve universal health coverage and relevant Sustainable Development Goals. The strategy underscores a need to counter the global shortage of health workers (expected to be 17 million by 2030) and ensure the workforce is appropriately trained to address the evolving health needs of the population. This training would ideally produce health professionals who are responsive to the population, socially accountable, both person and population centered, and supportive of empowered and engaged communities. Community-engaged health professional education is a mechanism for learning how to work in and with communities while obtaining the attributes just listed. Developing socially accountable individuals and institutions within a health system is key to improving the health and well-being of present and future societies.

NAM Perspective Paper: *100 Days of Rain: A Reflection on the Limits of Physician Resilience* (2017)
In this commentary, Dr. Miguel Paniagua, member of the Global Forum on Innovation in Health Professional Education, shares a personal reflection on the limits of physician resilience in response to the National Academy of Medicine Perspective paper *Breaking the Culture of Silence on Physician Suicide*.

NAM Perspective Paper: *A Multifaceted Systems Approach to Addressing Stress in Health Professions Education and Beyond* (2017)
There are unique stressors faced by health professionals that begin during the educational process and continue throughout training and into practice. While stress is expected owing to the intense nature of the work in health care, the systems in which faculty and health professionals work often intensify this already stressful environment and can lead to negative mental and physical effects. Stress takes a major toll on individuals and has been reported to increase absenteeism, errors, burnout, and substance use, and it can even lead to individuals quitting the health professions altogether. While it is indisputable that the nature of the work in health care causes stress, organizations also bear responsibility for accepting and even creating an institutional culture where stress can be worsened by outdated or negative policies and behavioral patterns. Moral distress can be experienced when there is difficulty obtaining appropriate interventions or care to support patients and families.

Convening Activity Publication: *Future Financial Economics of Health Professional Education: Proceedings of a Workshop* (2017)
Health workforce shortages affect people's access to quality health care around the globe, and can result in untreated sickness, disability, and adverse economic consequences. Chronic underinvestment in health workforce education and training creates a mismatch between strategies to educate the right number and mix of health professionals and meeting the needs of the population, particularly within remote and underserved communities. Addressing this mismatch while considering how supply and demand drive decisions within education and health was the topic of the workshop summarized in this document. The workshop sought to explore resources for financing health professional education in high-, middle-, and low-income countries, and to examine innovative methods for financially supporting investments in health professional education within and across professions.

NAM Perspective Paper: *Addressing Burnout, Depression, and Suicidal Ideation in the Osteopathic Profession: An Approach That Spans the Physician Life Cycle* (2017)

Burnout, depression, and suicidal ideation are key areas of concern because of the consequences they can have on physicians as well as the patients for whom they care. The level of burnout in the medical profession has increased at an alarming rate in the past decade. Statistics reveal that about 54 percent of all physicians are burnt out (30–40 percent of employed physicians and 55–60 percent of self-employed physicians). Students, interns, and residents also factor into the equation; reports indicate they experience burnout at a rate of 20–40 percent. According to the *International Classification of Diseases*, *Tenth Edition* (ICD-10), burnout is defined as "a state of vital exhaustion." It manifests as emotional exhaustion that affects a person's passion for work, ability to relate to others, sense of accomplishment or purpose, judgment, productivity, emotions, and overall health.

NAM Perspective Paper: *Burnout, Stress, and Compassion Fatigue in Occupational Therapy Practice and Education: A Call for Mindful, Self-Care Protocols* (2017)

Now more than ever is the time for occupational therapy educators, students, and practitioners to invest in strategies to combat burnout and stress. Current health care practice requires occupational therapy practitioners to manage many dimensions of patient care. Combining professional and educational duties with the emotional energy required for patient encounters and managing one's personal life can create the potential for burnout, compassion fatigue, and an imbalanced professional quality of life. Occupational therapy fieldwork educators must put more time into their formal training toward teaching experiences with their students, and learn to recognize the potential for burnout by increasing self-awareness.

NAM Perspective Paper: *Promoting Well-Being in Psychology Graduate Students at the Individual and Systems Level* (2017)

More than 70 percent of psychology doctoral students report experiencing stressors that can affect their ability to fully function. Common stressors include academic responsibilities, debt, anxiety, and poor work–life balance. Lack of support from faculty, poor relationships with faculty, and cohort tension are sources of stress and negatively affect both personal and professional functioning while serving as barriers to effective coping. This can result in trainees who have difficulty developing and exhibiting the proper degree of professional competence (termed as *problems with professional competence*). These problems with professional competence can be manifested in difficulties attaining identity as a psychologist, self-awareness,

and reliable clinical judgment and reflection skills, as well as developing the ability to have effective interpersonal interactions. Once competency problems emerge, they demand immediate attention in order to ensure patient safety and effective care. A proactive and preventive strategy involves implementing both individual- and systems-level approaches designed to increase self-care.

NAM Perspective Paper: *Stress-Induced Eating Behaviors of Health Professionals: A Registered Dietitian Nutritionist Perspective* (2017)

For health professionals, stress and eating often combine in unhealthy ways. The stress comes early in their training and lingers throughout their careers. Anyone who has worked or trained in a hospital knows all too well the cycle of workplace stress leading some individuals to overeat and gain excess weight, which in turn leads to physical and mental stress caused by the weight gain itself. Others react to stress by eating less and losing weight, which can similarly have negative consequences. Often stress comes with unhealthy food choices, such as skipping meals, reliance on fast food, restricting fluid intake, or choosing foods high in sugars and fats and low in nutrients. Skipping meals and drinking too little fluid have not been shown to increase medical errors, but they do contribute to burnout and jeopardize weight and nutritional status.

NAM Perspective Paper: *Breaking Silence, Breaking Stigma* (2017)

The NAM Perspective paper *Breaking the Culture of Silence on Physician Suicide* brought together four unique voices from surgery, nursing, medical training, and the clergy to consider what had led Kaitlyn, a young medical student, to take her own life on April 11, 2013. Drawing from personal experiences, the authors exposed what they thought was a culture of silence under intense pressure that pushes physicians and trainees to experience depression and in some cases to tragically end their lives. But these are just four opinions based on four experiences. The authors hope to bring more voices into the conversation by asking others who are comfortable doing so to share their own reactions to situations they have been forced to navigate throughout their education and their careers as health care providers. Dr. Jasleen Salwan has taken up that challenge and agreed to reprint her entry from the Yale Internal Medicine periodical *Beeson Beat*. The piece, titled "Breaking Silence, Breaking Stigma," provides a strong step in normalizing vulnerability—and will ideally encourage other young physicians to share their experiences, solutions, and paths forward.

NAM Perspective Paper: *Breaking a Culture of Silence: The Role of State Medical Boards* (2017)

Continuing the *Culture of Silence* series, Dr. Arthur Hengerer, past chair

of the Federation of State Medical Boards (FSMB), has written a powerful narrative on the personal commitment he is making to breaking—and rectifying—the culture of silence around burnout in our workforce.

NAM Perspective Paper: *The Role of Accreditation in Achieving the Quadruple Aim* (2017)

Interprofessional education (IPE) and collaborative practice continue to gain momentum within the health sector. Recently, accreditors from multiple health professions have joined together to discuss their role and to set continuing education standards for IPE and guidance for interprofessional foundational education. Although models for IPE exist to guide the learning process from education to practice, there are few guides for the historic work of accreditors to promote interprofessional collaboration across education and practice. Five individuals from the education, practice, and accreditation communities came together to propose a new model, which focuses on the collaborative needs in education and care delivery and is the focus of this paper.