# INTERIM REPORT OF THE AHRQ NATIONAL ADVISORY COUNCIL SUBCOMMITTEE ON THE PATIENT-CENTERED OUTCOMES RESEARCH TRUST FUND STRATEGIC FRAMEWORK AND FUTURE ACTIVITIES

# **EXECUTIVE SUMMARY**

This interim report summarizes the work of a subcommittee of the Agency for Healthcare Research and Quality's (AHRQ's) National Advisory Council (NAC). The NAC's Subcommittee on Patient-Centered Outcomes Research Trust Fund Investments (the subcommittee) was established to provide input on the strategic framework for AHRQ's investment of its share of the Patient-Centered Outcomes Research Trust Fund (PCORTF) over the current 10-year authorization period. The subcommittee is grateful for the opportunity to support this important work and respectfully submits the following recommendations and considerations as the result of discussions held during four virtual meetings, an independent review of reference materials, and contributions from the subcommittee members, who have substantial expertise and experience in a range of areas related to health and healthcare.

Patient-Centered Outcomes Research (PCOR) provides decisionmakers with objective, scientific evidence on the comparative effectiveness of treatments, services, and other interventions used in healthcare. The PCORTF was established by the U.S. Congress through the Affordable Care Act in 2010 and reauthorized from 2019 through 2029 to fund PCOR, develop PCOR data infrastructure, and disseminate PCOR evidence. AHRQ is one of three agencies authorized by Congress to invest a portion of the PCORTF, specifically to disseminate and implement the findings of PCOR and to train researchers in PCOR methodology. As with the previous decade's funding, 16 percent of the money flows to AHRQ—approximately \$1 billion over the current 10-year period.

The NAC charged the subcommittee with providing input on the "strategic planning, management, and evaluation of AHRQ's PCORTF investments," with specific mention of the following as items for discussion:

- AHRQ's development of a connected portfolio of projects in strategic national priority areas, including specific objectives, metrics, and strategies to achieve and measure the success of AHRQ's PCORTF investments in mandated activities and desired outcomes.
- 2. Innovative approaches and methods that AHRQ can use to increase the success of dissemination and implementation activities.

- 3. Targeted communication, dissemination, and implementation of PCOR evidence and the results of AHRQ's PCORTF investments to key stakeholders (providers, health systems, congressional staff, payers, government agencies, and patients) and consideration of potential partnerships to increase the impact of AHRQ's PCORTF investments.
- 4. Innovations in training and in how best to ensure diversity, equity, and inclusion and the success of the next generation of health services patient-oriented researchers.

In addition, the Presidential administration began articulating its key health priorities around the time that the subcommittee was meeting. Those priorities informed the ongoing planning work of AHRQ leadership and were integrated into the Subcommittee's work beginning with its third meeting.

The questions posed by the NAC's charge to the subcommittee include a number of interconnections. For this reason, many views that were expressed across the four meetings in connection with various elements of the charge are summarized by theme, because this allowed for more cohesion in how the views were grouped and expressed.

### Input on Strategic Framework

At a high level, subcommittee members expressed support for the goals and priorities described in the <u>draft Strategic Framework to Guide AHRQ's PCORTF Investments</u> as published in the *Federal Register* in the fall of 2021. Members did cite the likely need for additional focus in moving from the broad scope of priorities included in the draft framework to a portfolio of programs that can be accomplished within the relatively constrained resources available to AHRQ through the PCORTF.

Themes that emerged during discussion included the benefits of collaboration with other Federal agencies and outside organizations across the portfolio of PCORTF work, a desire to elevate health equity and engagement with patients and their families, and debate on the goals and approaches to the evaluation of the PCORTF investments.

In reviewing the strategies section of the draft strategic framework, subcommittee members indicated that they supported a more expanded description of training to reflect a vision of

how training could reach more types of professionals and prepare them for a range of roles in which they could make a positive impact on healthcare quality and health outcomes.

### **Recommendations and Considerations**

**Health Equity**: Health equity is one of the five priorities included in the draft strategic framework. Subcommittee members concurred with the importance of this principle and leaned toward further elevating it, so that it is more of an overarching principle that is incorporated throughout the work areas within the portfolio. Addressing inequity in health, clinical outcomes, and healthcare access will require changes in the settings that serve the affected populations. Subcommittee members emphasized the care needed in defining and reaching out to these settings, in part because of the large variety of types and sizes of healthcare practices and organizations that serve disproportionate percentages of the affected populations. In addition, subcommittee members outlined tactics for changing the implementation and grantmaking processes to achieve more equitable outcomes.

**Portfolio Design**: The subcommittee supported the value of bundling the implementation and training components of the PCORTF investments within the same grantee or network, where feasible. The subcommittee also strongly supported looking to prior AHRQ and Federal agency initiatives to inform this portfolio. This would involve including patient and clinician input at multiple levels of the process and creating accountability structures for equitable distribution of PCORTF investments among collaborating institutions and organizations.

**Innovations in Training**: The subcommittee supported augmenting the programs that AHRQ funds to expand who receives training and for what purpose. Areas of need include having more types of funding mechanisms, more diversity in trainees as related to professional background and stage in career, increased demographic diversity, and an expanded view of the career trajectories for graduates of programs funded with PCORTF investments. A key example would be the provision of training programs to equip individuals to lead quality programs and clinical implementation within communities or health systems, such as in the current AHRQ learning health systems research portfolio.

Innovations in Dissemination and Implementation: Subcommittee members weighed in on the benefits of aligning AHRQ's implementation projects with other Federal initiatives and on new approaches to dissemination and implementation, including ways to advance digital health and health equity. The subcommittee discussed the potential benefits of focusing significant funds and effort on an initiative that could be large in scope, both geographically and over time, as well as providing input on priorities to consider in the design process. Over several meetings, subcommittee members emphasized the importance and timeliness of addressing the population-wide need for behavioral health care through implementing care models that integrate these services in primary care settings.

**Partnerships:** This discussion identified multiple benefits that could be achieved through partnership and collaboration, both outside the Federal Government and with other Federal agencies. Subcommittee members endorsed a list of possibilities, including working with patients and families, to ensure that AHRQ's priorities align with what matters most to those who receive healthcare. In addition, the subcommittee identified multiple opportunities to improve AHRQ's impact and reach through collaboration across the Federal Government, including addressing complex challenges such as workforce adequacy and payment reform, for which no single Federal entity has the authority and scope to arrive at a complete solution.

**Challenges in Achieving Comprehensive Primary Care**: The subcommittee endorsed a focus on primary care as a sector that was specifically named as a priority in the draft strategic framework. In addition, at multiple points, the subcommittee's discussion on other topics circled back to the many barriers facing practices and organizations that provide primary care. The essential role of primary care within the larger healthcare landscape was clear from the discussion. The subcommittee members recommended strongly that AHRQ work across Federal agencies to solve some of the more complex challenges in this area and that AHRQ aggregate and communicate the evidence about effective models to policymakers in government and in health systems.

**Outcomes and Metrics**: Because of the preliminary nature of the portfolio elements, the subcommittee did not weigh in on outcomes and metrics across the body of work. Members did discuss the potential ways to define outcomes and evaluate them. Subcommittee

- 5 -

members supported defining outcomes for which meaningful evaluation can be completed, considering the available time and funds. They did not agree on whether it would be feasible to look at patient- or population-level outcomes as a result of this work. Some members advocated for this as the most meaningful outcome, while others advocated for evaluating the implementation program itself to the extent that the practices being implemented already have a good evidence base for their effectiveness.

Next Steps: The subcommittee members recommended continuing the SNAC as AHRQ completes its strategic planning process and makes decisions about its PCORTF investments. Members agreed that there are further ways in which the subcommittee could contribute to the NAC's support for AHRQ's strategic planning process for the Agency's PCORTF investments. Subcommittee members would welcome the opportunity to continue to support the NAC for an additional phase of subcommittee work and could provide input on the other sources of external feedback in the strategic planning process, offer input on the next steps in AHRQ's PCORTF planning process, and offer advice for NAC consideration in focusing the overall strategic framework and on decision-making around the various elements within the portfolio.

EXECUTIVE SUMMARY	2
CONTENTS	7
SECTION 1. BACKGROUND	
SECTION 2. CHARGE AND PROCESS	
SECTION 3. INPUT ON STRATEGIC FRAMEWORK	
SECTION 4. RECOMMENDATIONS AND CONSIDERATIONS	
Section 4.1 Health Equity	
Section 4.2 Portfolio Design and Implementation Considerations	14
Section 4.3 Innovations in Training	
Section 4.4 Innovations in Dissemination and Implementation	
Section 4.5 Potential Partnerships	
Section 4.6 Cross-Agency Collaboration	
Section 4.7 Challenges in Achieving Comprehensive Primary Care	
Section 4.8 Outcomes and Metrics	23
Section 4.9 Next Steps	24
SECTION 5. REFERENCES	
Section 5.1 Health Equity	
Section 5.2 Prior and Current Healthcare Improvement Initiatives	
Section 5.3 Integration of Behavioral Health and Primary Care	27
Section 5.4 Training	
Section 5.5 Team-Based Care and Workforce	
Section 5.6 Connecting Research and Policymaking	
APPENDIX 1. DRAFT STRATEGIC FRAMEWORK	
APPENDIX 2. SUBCOMMITTEE MEMBERS	
Subcommittee Member Biographies	
AHRQ Staff	43

# CONTENTS

# SECTION 1. BACKGROUND

Patient-Centered Outcomes Research (PCOR) provides decisionmakers with objective, scientific evidence on the comparative effectiveness of treatments, services, and other interventions used in healthcare. The Patient-Centered Outcomes Research Trust Fund (PCORTF) was established by the U.S. Congress through the Affordable Care Act in 2010 to fund PCOR, develop PCOR data infrastructure, and disseminate PCOR evidence. These three goals for the PCORTF are accomplished through coordination among three partners: the Patient-Centered Outcomes Research Institute (PCORI), the Agency for Healthcare Research and Quality (AHRQ), and the Department of Health and Human Services (HHS)

The PCORTF was re-authorized by Congress from 2019 through 2029. As with the previous decade's funding, 16 percent of the money flows to AHRQ. Over the 10-year period, this will amount to around \$1 billion.

In the authorizing language, AHRQ is tasked with disseminating and implementing the findings of PCOR and with training researchers in PCOR methodology. In addition, advancing the clinical use of digital tools is specifically called out in the legislation.

In the process of establishing a strategic framework for AHRQ's PCORTF investments, AHRQ has initiated the following activities:

- An internal process with Agency staff to inventory current efforts and recommendations in order to create a draft strategic framework for structuring and focusing the work (Appendix 1)
- 2. A public comment process on the draft Strategic Framework to guide AHRQ's PCORTF Investments through publication in the *Federal Register*
- 3. A series of four workshops held by the National Academies of Science, Engineering, and Medicine (NASEM) to provide guidance on the draft Strategic Framework.
- 4. The formation of a subcommittee of the National Advisory Council (NAC) of AHRQ (the subcommittee) focused on providing input to the NAC.

This report summarizes the work of the subcommittee as described in the fourth activity. The subcommittee members considered information generated by the other three activities, but they used this information only to spur discussion and thought and not as information that needed to be evaluated and incorporated. This report is meant to complement the independent products emerging from the internal AHRQ process, the NASEM workshops, and the public comments that were received.

In addition, the Presidential administration began articulating its key health priorities around the time that the subcommittee was meeting. Those priorities heavily informed the subcommittee's work beginning with its third meeting and contributed to recommendations about initiatives focused on key Administration priorities.

# SECTION 2. CHARGE AND PROCESS

As stated in the NAC's charge to the subcommittee, "The purpose of the PCORTF SNAC [subcommittee of the National Advisory Council] is to discuss matters related to AHRQ's strategic planning, management, and evaluation of AHRQ's PCORTF investments. An initial focus shall be providing feedback on the Agency's proposed PCORTF Strategic Framework. The PCORTF SNAC will report to the Chair of the NAC and will share recommendations of the PCORTF SNAC."

The charge to the subcommittee included the more general purpose articulated above and a specific request for input on the following items:

- AHRQ's development of a connected portfolio of projects in strategic national priority areas, including specific objectives, metrics, and strategies to achieve and measure the success of AHRQ's PCORTF investments in mandated activities and desired outcomes.
- 2. Innovative approaches and methods AHRQ may use to increase the success of dissemination and implementation activities.
- 3. Targeted communication, dissemination, and implementation of PCOR evidence and results of AHRQ's PCORTF investments to key stakeholders (providers, health systems, congressional staff, payers, governmental agencies, and patients) and consideration of potential partnerships to increase the impact of AHRQ's PCORTF investments.
- 4. Innovations in training and how best to ensure diversity, equity, and inclusion and the success of the next generation of health services patient-oriented researchers.

The subcommittee consists of 14 members (Appendix 2) who were invited and agreed to participate. Members were chosen for their expertise and their ability to bring a diversity of experiences and perspectives to the group's work. The subcommittee met four times before the production of this report—in June, July, September, and October of 2022. Each meeting was virtual and was 3 hours long. The questions posed by the charge have interconnections, especially across items 1, 2, and 3 above. For this reason, many views that were expressed across the four meetings are summarized by theme in order to provide more cohesion in the grouping and expression of views.

# SECTION 3. INPUT ON STRATEGIC FRAMEWORK

In responding to the first element of the subcommittee's charge, members reviewed the draft Strategic Framework to Guide AHRQ's PCORTF Investments (strategic framework) as published in the *Federal Register* before the first meeting and discussed the draft framework as their first activity. Members expressed support at a high level for many of the goals and priorities in the framework. However, they cited the potential difficulty in operationalizing work across the listed priority areas given the broad scope of the draft framework and the relatively constrained resources available to AHRQ through the PCORTF. Additional high-level thoughts were to multiply efforts wherever possible through cross-departmental collaborations and to prioritize closing the gap between what we know about effective healthcare and what has been implemented in care systems.

Health equity was characterized as a necessary design consideration within all areas of the strategic framework, such as the identification and reduction of inequity in health outcomes; workforce demographics; the types of sites participating in implementation activities; and training programs and trainees. Subcommittee members indicated that many safety net providers do not have the resources to fully participate in care transformation or research activities as currently structured.

A good deal of the subcommittee's discussion touched on themes connected with the highlevel priority in the framework of "Patient, Family, and Provider Experience of Care That Enhances Trust in the Healthcare System." Examples of outcomes that subcommittee members valued included improving the experience for patients when they seek healthcare, engaging communities and individuals in PCOR, and ensuring that patient goals drive priorities for their care. These concepts emerged in relation to multiple elements in the strategic framework and the charge. This group of issues may be best addressed across the portfolio's priority areas rather than as freestanding areas of focus.

Regarding the other three items listed as priority areas in the framework, several participants observed that principles that are presented in a general way might not offer adequate guidance for focusing on what is included in the portfolio of PCORTF investments. There may be value in revisiting the stated guiding principles in the framework (person-

centered, evidence-based, collaborative, stakeholder-driven care, and continuous learning) given the substantial similarities between those principles and the priority areas.

Regarding the items provided in the framework as strategies, subcommittee members endorsed multiple items as they were listed, including structuring AHRQ internally for success; improving AHRQ's capacity to facilitate and assess the uptake of evidence within health systems; and moving beyond interactions focused on healthcare organizations and practitioners to include disseminating evidence to policymakers at the State and Federal levels.

The strategy statement related to training spurred comments that the focus on health science researchers seemed to be more specific and restricted than the subcommittee members were envisioning. The subcommittee, while not intending to exclude this focus, identified many potential benefits of broadening the types of professional training available using PCORTF funds; these are detailed further in the training section that follows (Section 4.3).

Discussion about outcomes of the PCORTF investments surfaced during debate about whether the scope of the PCORTF is adequate for achieving measurable impact on population health outcomes. It was agreed that AHRQ's mission in this area might be better served by focusing on measures of system change and the implementation of evidencebased care models. It was also noted that measuring the degree of system change is more likely to generate meaningful information about the impact of AHRQ's portfolio activities funded with PCORTF dollars. Subcommittee members reacted positively to AHRQ's success in collaborating to align PCOR across the Federal research agencies, in disseminating that evidence, and in creating data structures that allow for the analysis of outcomes.

# SECTION 4. RECOMMENDATIONS AND CONSIDERATIONS

In addition to the input on the Strategic Framework to Guide AHRQ's PCORTF Investments (strategic framework) summarized in the previous section, the subcommittee discussed many of the other aspects of its charge in more depth. The basis for these discussions were the specific requests within the charge to advise on the strategic framework (item 1) and training (item 4), as well as the more general requests contained in items 2 and 3 to advise on innovations in dissemination and implementation, on targeted outreach strategies, and on potential partnerships. The recommendations and input that emerged from those conversations are listed below, grouped by theme. In many cases, a single theme emerged across multiple meetings in response to different discussion topics.

# Section 4.1 Health Equity

Subcommittee members raised themes around health equity both in response to specific questions and as important elements of other topics, such as training and program implementation. AHRQ has recently updated its definition of priority populations to include those groups identified as members of underserved communities: Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. While the subcommittee members did not specifically weigh in on these categories, their discussions about health equity aligned with this definition.

The subcommittee agreed on the following recommendations:

- Establish that a key priority in each of the work areas is to address equity in health status, clinical outcomes, patient experience, and healthcare access across populations.
- Prioritize reaching "safety net" settings—that is, locations that serve a disproportionate share of populations affected by health inequities. These populations typically include people who are uninsured, publicly insured, live in rural or other isolated communities, or face barriers in meeting their basic needs,

 Define "safety net" based on the attributes of the community and populations served—not organizational type. Subcommittee members noted that the health systems and practices that provide significant care to populations that experience health inequities can be government owned, non-profit, or for-profit and are of all sizes. The goal should be to support a diverse ecosystem of providers, ranging from small independent practices and health centers to large integrated systems that disproportionately serve populations that experience health inequities.

A range of perspectives emerged about how to ensure that health equity is a cross-cutting and pervasive priority within the overall portfolio and AHRQ's administrative process:

- Integrate stakeholders, including patients and affected community representatives, at all stages of the process of planning, distributing funds, executing funded projects, and evaluating the portfolio.
- Consider equity at each step of the design, expenditure, and reporting processes at AHRQ.
- In scoring grants, consider adding points to applications from safety net sites.
- Expect equity to be a consideration of grantees throughout their process modeled on PCORI's approach to centering patient engagement.

# Section 4.2 Portfolio Design and Implementation Considerations

In considering a wide range of topics, subcommittee members frequently raised ideas that addressed the process for designing and implementing the portfolio of work funded by PCORTF investments.

The subcommittee agreed on the following recommendations:

- Where possible, bundle dissemination and implementation with training in the same overall structure.
- Look for predictors of success or lessons learned from evaluations of prior AHRQ work to promote practice improvement and system change at the individual, clinical, and organizational levels. An example that is particularly relevant to the innovations in dissemination and implementation discussed below in Section 4.7 is the important AHRQ program EvidenceNOW, which initially focused on facilitating primary care

implementation of best practices in addressing the "ABCS's" of cardiovascular risk reduction and was followed by additional projects focusing on unhealthy alcohol use, urinary incontinence, and state-based models of primary care support.

- Use lessons from prior efforts to improve healthcare quality that were led by other Federal agencies or State or private entities. Examples of such programs include the Certified Community Behavioral Health Clinic initiative from the Substance Abuse and Mental Health Services Administration (SAMHSA), multiple Center for Medicare and Medicaid Innovation (CMMI) initiatives, and multiple primary care medical home and behavioral health integration projects organized and funded at the State level or by private payers or health systems.
- Consider requiring that the primary recipients of PCORTF investments allocate a specified minimum share of the award budget for partners, such as communitybased organizations, patient representatives, and healthcare providers, for their contributions to the work. In order to have meaningful patient, community, and stakeholder engagement, AHRQ policy needs to ensure that these participants can be equitably compensated or reimbursed for their participation. This could include putting caps on the indirect costs that can be attached to funds that are paid outside the primary recipient's organization.
- Focus on patient and care provider perspectives in portfolio design. An example
  would be evaluating the emphasis in the strategic framework on care for multiple
  chronic conditions and asking whether this is a priority for patients and their families
  and, if so, what components of care are most desired or valued. Although clinical
  guidelines are available for many chronic conditions, improving performance on each
  of these individual, disease-specific metrics may be less important to patients than
  more holistic goals and measures that are tied to quality of life and that can be
  customized to an individual's situation and values.
- Invest in training community members, practicing clinicians, and experienced grant reviewers to participate and work collaboratively in AHRQ's application review process. Both the PCORI and the Center for Health Care Strategies have published relevant guidelines on how to be successful in broadening the perspectives represented on review committees.

Subcommittee members also offered the following suggestions:

- Within the strategic framework and project portfolio, define terminology that is widely used but not always with the same meaning. Examples are "behavioral health," "safety net," "researcher," and "engagement."
- Articulate the role of AHRQ's National Center of Excellence for Primary Care Research in larger Federal efforts around supporting and improving primary care.

# Section 4.3 Innovations in Training

The subcommittee was briefed on recent and current work around training. In addition, many members have had direct experience with AHRQ's training work through a range of prior programs.

The subcommittee agreed on the following recommendations:

- Expand the scope of AHRQ training programs so that they recruit and develop professionals who aspire to careers in learning health systems (LHS) research and implementation science embedded within healthcare organizations, government and non-profit agencies, and other applied settings.
- Consider creating new financial models that support training people for roles outside full-time academic research. The AHRQ LHS K12 award is an example of this type of work. Further progress might involve establishing new awards, such as a mid-career K12 program, or using PCORTF investments to fund tuition for diverse trainees to participate in existing clinical quality, patient safety, and leadership programs through the Institute for Healthcare Improvement, for example.
- Develop immediate measures of success that allow the outcomes of training
  programs to be evaluated before the 10-year mark, when a trainee's career
  achievements in research and publications become apparent. The goal would be to
  measure outcomes beyond advancement in academic institutions. Areas that could
  be evaluated include the demographics of trainees and the types of organizations in
  which they work in the years during and after training.

- Measure the outcomes of training programs outside of trainees' formal academic publications by assessing the impact and reach of their work on public policy, clinical guidelines, innovative quality measures, and care improvement within organizations.
- Create new channels for recruiting and supporting trainees, such as through hospital associations, Primary Care Associations, professional associations, State Offices of Rural Health, and Area Health Education Centers.
- Use training programs as an opportunity for innovation, for strengthening strategic partnerships, and for developing new partnerships.
- Consider arrangements that bring together academic research settings with frontline clinical settings, with a focus on quality improvement or safety to train professionals for roles outside of academic research.

# Section 4.4 Innovations in Dissemination and Implementation

As part of considering innovations in dissemination and innovation, the subcommittee considered the potential benefit of designing one or more initiatives that would be large in scope, both geographically and over time.

The subcommittee discussed this idea, as well as returning to an area that had come up frequently in prior meetings -- the importance and timeliness of addressing the current population-wide needs in the area of behavioral health. Subcommittee members especially focused on behavioral health integration in primary care as an area with a strong evidence base for effectiveness, where there could be significant benefit from more widespread adoption.

The subcommittee agreed on the following recommendations:

- Move forward with designing a large initiative with the goal of creating continuity and interconnection across multiple areas of dissemination and implementation work.
- Investing a portion of PCORTF funds in a larger initiative, in addition to standalone projects, could have significant and lasting impact and has excellent potential to help accomplish the goals assigned to AHRQ for its investments of the PCORTF.
- Design any large initiative so that it offers the opportunity to participate in all regions of the country.

- Support the dissemination and implementation activities in patient care settings
  using regional structures that provide technical assistance and support, as well as a
  national center to coordinate across the multiple regions.
- Consider choosing the organizations that will have a lead role regionally based on their attributes and competencies and allow a range of organizations to apply to serve in this lead role, such as academic health centers, research institutes, public health entities, health systems, and not-for-profit organizations.
- Include training wherever feasible within any large dissemination and implementation initiative.
- Focus initially on using this broad dissemination and implementation initiative to advance behavioral health integration in primary care.
- Incorporate a broad range of partners, including Federal agencies (i.e., CMS, SAMHSA, and HRSA), State Medicaid agencies, and a diverse range of healthcare organizations. Collaboration across Federal agencies could align incentives, expectations, agency assets, and technical assistance.
- Include technical assistance for healthcare organizations and align this with funding from public or private sources that supports transformation of clinical care, including an initial focus on behavioral health integration. Typically, this type of care transition shifts patient interactions to activities that are unbillable under a fee-for-service payment model. Aligned funding is necessary for clinical care providers to shift their care processes without losing the revenue that they would have earned through feefor-service activities and without adding uncompensated burdens to a provider workforce that is already under strain.
- Ensure that PCORTF investment dollars flow equitably, both to the fiscal lead within each network and to other participants. Whether this is accomplished through budget oversight or direct payments from AHRQ, project partners that are not the lead organization require fair compensation for their participation, especially front-line practice sites and community-based organizations.

Subcommittee members offered the following additional suggestions:

- Opportunities around digital health include EHR improvements, patient-facing apps, and digital screening tools. It will be important to carefully select the tools for usability and sustainability over time. The untapped potential for patient-reported outcomes is large, but financial support for this type of digital tool is unavailable from typical sources such as Medicaid programs. Workers and patients should be equipped to create relationships supported by digital tools to include augmenting the workforce using artificial intelligence platforms and self-management tools.
- Support equitable access to tools and to the internet as well as digital health literacy for patients and staff.
- Within the scope of behavioral health integration, consider including reverse integration of primary care into specialty behavioral healthcare settings and including K-12 schools as care sites.
- For behavioral health integration activities, consider the role of Measurement-Based Care protocols for treating behavioral health conditions. In addition to being a best practice in clinical care, this approach enables healthcare organizations to evaluate and improve the quality of their own care as well as facilitate pay for performance.
- Consider defining the effective elements of the behavioral health integration model that is intended to be implemented by using an accountability method that includes measures of structure, process, and outcomes.
- Consider creating support structures for clinicians and administrators, including meetings, and schedule clinician sessions in ways that are compatible with the schedules of those who are involved in clinical care. For example, administrators may be able to travel to attend long meetings, while meetings for clinicians would feature different content and be held virtually.
- The Improving Access to Psychological Therapies model from the U.K. brought new types of professionals into the behavioral health workforce through a team-based care model. There may be some elements of this model that could be incorporated into future dissemination and implementation work.

# Section 4.5 Potential Partnerships

Subcommittee members were generally supportive of expanding the types of partners reached by AHRQ's work. This section focuses on partnerships with organizations that are not part of the Federal Government. The subsequent topic area outlines some potential gains that could be realized through collaboration across Federal healthcare agencies.

The subcommittee agreed on the following recommendations:

- Augment AHRQ's important work with clinical care settings by fostering systems-level change. Reaching policymakers can change the context and incentives within which care providers operate. Examples of policymakers include legislators, Medicaid programs, other Federal and State health agencies, private foundations, public and private purchasers of healthcare, and leaders within large health systems.
- Partner with individuals, communities, and families, either directly or through PCORI's existing structures, to ensure that AHRQ knows what priorities matter most to patients and their families, particularly those experiencing health inequities.
- Evaluate partnership models that include clinical delivery systems, State Medicaid agencies, academic health centers, and community-based organizations. These collaborations could serve to disseminate clinical best practices, involve public and elected officials at the State level in the design of policies and payment systems, and advance the role of community-based organizations in supporting patients through access to health-related social resources and health system navigation resources.
- Carefully consider the financial arrangements within the dissemination, implementation, and training models that include multiple organizations, such as those described above. This would include designating which entity should be the primary recipient of AHRQ funds and how to best ensure that funds are distributed equitably to community-based and patient-representing organizations for their contributions to the work.

### Section 4.6 Cross-Agency Collaboration

Subcommittee discussions repeatedly returned to the theme of cross-agency collaborations within the Federal Government. Subcommittee members clearly recognized how increased

collaboration could multiply AHRQ's resources available for this work and create alignment and synergy across the scope, authority, and expertise of different Federal agencies. In addition, addressing the complex drivers of many of the barriers to achieving the full potential of PCORTF investments will require a coordinated response. Issues related to workforce and healthcare financing are two examples that are discussed in further detail below.

The subcommittee characterized collaboration as a way to improve engagement with clinical care providers and health systems by approaching them with fewer but more robust initiatives. Clinical care providers have a finite change capacity, and that capacity is used most effectively when Federal and State governments are coordinated in their approach to care transformation.

The subcommittee agreed on the following recommendations for what might be possible through a coordinated response across the Federal Government:

- Align AHRQ's PCORTF work with the priority work of other agencies within HHS. For example, the Initiative to Strengthen Primary Health Care, an emerging cross-agency initiative led by the Office of the Assistant Secretary for Health (OASH), is particularly salient in regard to the proposed innovations in dissemination and implementation discussed below (Section 4.7). The OASH initiative builds on the recent National Academies of Science, Engineering, and Medicine report entitled *Implementing High-Quality Primary Care*. This report stressed the need for alignment and collaboration among Federal and State government agencies and private stakeholders to revitalize this critical sector of U.S. healthcare and included an emphasis on integrating comprehensive behavioral health and social services. AHRQ is represented on the working group for the OASH Initiative to Strengthen Primary Health Care.
- Develop and implement financial reforms by the Centers for Medicare & Medicaid Services (CMS) and other public and private payers so that payments for healthcare better align with the key attributes of high-quality care, fairly compensate for the costs of providing that care, and recognize the work of all members of the care team. For example, AHRQ could collaborate with the Center for Medicare and Medicaid Innovation to align AHRQ's PCORTF implementation work with demonstration

programs of reformed payment models that bring financial sustainability to changes such as implementing comprehensive primary care and modifying care processes to address health inequities.

- Develop and implement workforce development pathways to train people to fill the many needed roles within care teams. Having adequate numbers of people with the appropriate training and skills will be crucial to fill staffing gaps and provide more comprehensive team-based care to populations that are not able to access such care currently. As an example, AHRQ could disseminate the evidence related to the benefits of more diverse care teams, while improving the financial support for teambased care through collaborating with State Medicaid programs to write community health workers into their state plans and with the Health Resources and Services Administration (HRSA) on workforce programs.
- Identify where organizations or States are experiencing barriers in order to facilitate cross-agency alignment of incentives and regulations so that healthcare workers can practice at the top of their licenses and skills, access can be improved, workforce diversity is increased, and burnout is addressed within the healthcare workforce in general.

# Section 4.7 Challenges in Achieving Comprehensive Primary Care

Many members provided input related to the strategic framework's priority area of achieving comprehensive primary care. This included outlining how difficult it is to implement and maintain more comprehensive and robust models of primary care in the current environment. Payment methods and the overall low investment in primary care do not adequately support more innovative models of care, especially in safety net systems with limited financial resources.

Perhaps the largest gaps in transforming clinical care for individuals are the final steps of putting the good models of care into practice and having the resource and leadership commitments needed to sustain the models once they are implemented.

The subcommittee agreed on the following recommendations:

- Review and aggregate the evidence around the clinical aspects and likely outcomes of implementing various models of behavioral health integration in primary care, team-based primary care, and other patient- and community-oriented care models.
- Create relationships and ways to communicate with decisionmakers so that they know what outcomes were successfully achieved and the extent of resource investment.
- Delineate AHRQ's role in addressing the workforce and financial barriers to primary care transformation that are described in the preceding section of this report.

# Section 4.8 Outcomes and Metrics

The subcommittee's discussion on outcomes emphasized the complexity of U.S. healthcare systems and the many initiatives with similar goals that have preceded this work. Those initiatives varied in how they were evaluated, and they yielded a range of outcomes in terms of clinical impact, financial effectiveness, and change in the health of the populations under study. The subcommittee discussed outcomes and metrics for PCORTF investments at a high level. However, the members were not able to recommend specific outcomes or metrics given the current stage of planning for the portfolio of work.

The subcommittee agreed on the following recommendations:

- Include evaluation measures that are tied to the key goals of each initiative, which currently revolve around the implementation of evidence-based care. The most relevant metrics for an implementation initiative would be implementation measures—not outcome measures. An example would be the RE-AIM measures, which focus on assessing reach, effectiveness, adoption, implementation, and maintenance, with only limited use of pragmatic measures of effectiveness.
- Given the relatively limited financial resources provided through the PCORTF as compared to the scope of U.S. healthcare and the multifactorial influences on health, it would be unreasonable to judge the initiative's success based only on populationlevel improvement in health status.

Subcommittee members offered the following suggestions:

- Consider including patient-reported outcomes. For example, the National Committee for Quality Assurance conducts ongoing quality measurement work around meeting patient-defined goals.
- Carefully consider and clearly articulate the scope of behavioral healthcare that the initiative intends to incorporate in primary care. This field includes a broad array of services for mental health conditions, substance use disorders, and health-related behaviors.
- Consider defining outcomes and measures that evaluate the degree to which systems have changed through the adoption of evidence-based approaches to care.
- Implementation science may offer metrics that would be better for measuring systems change than the more common clinical- and patient-focused metrics.
- Implementation science can inform the related issue of pivoting from quality measures and outcomes to metrics that can be tailored to the patient's preferences and to ensure that patient-centered outcomes and measures are implemented equitably.
- The behavioral health measures in the Core Set of Adult Health Care Quality Measures for Medicaid may offer good measures for behavioral health.

### Section 4.9 Next Steps

The subcommittee members believe that their work under the charge from the NAC has been fruitful, and the members are grateful to the NAC for the opportunity to serve.

- The subcommittee members agreed that there is further work to be done for which the subcommittee could be of use.
- The subcommittee could continue to provide value to the NAC through working under an updated charge during a second phase of meetings in the coming year.

In looking to future steps in the PCORTF planning process, the subcommittee suggests the following:

• The subcommittee members would welcome the opportunity to review and provide input on next steps based on the forthcoming compilation of content from this report, from the four workshops held by the National Academies of Science, Engineering,

and Medicine, and from the public comment process on the strategic framework as published in the *Federal Register*.

- Given the breadth of professional roles and experiences, the members could provide input on the portfolio of initiatives and projects as those plans become more specific.
- The subcommittee could also weigh in on bringing more focus to the draft strategic framework and provide input to the NAC that would continue to build alignment with Agency and Administration priorities.

# SECTION 5. REFERENCES

The following content was considered by subcommittee members as part of their process. Some reference documents were identified and shared by the team staffing the subcommittee, while others were suggested by the subcommittee members themselves, either during the meetings or in separate correspondence.

# Section 5.1 Health Equity

National Institute of Minority Health and Health Disparities Research Framework <u>https://www.nimhd.nih.gov/about/overview/research-framework/nimhd-framework.html</u>

Unique Review Criteria and Patient and Stakeholder Reviewers: Analysis of PCORI's Approach to Research Funding https://pubmed.ncbi.nlm.nih.gov/30314615/

Researchers, Patients, and Stakeholders Evaluating Comparative-Effectiveness Research: A Mixed-Methods Study of the PCORI Reviewer Experience <u>https://doi.org/10.1016/j.jval.2018.03.018</u>

### Section 5.2 Prior and Current Healthcare Improvement Initiatives

Center for Medicare and Medicaid Innovation, Addressing Challenges in Primary Care– Lessons to Guide Innovation

https://jamanetwork.com/journals/jama-health-forum/fullarticle/2795471

PCORI's Health Systems Implementation Initiative <u>https://www.pcori.org/impact/putting-evidence-work/health-systems-implementation-</u> <u>initiative</u>

Summative Evaluation Results and Lessons Learned from the Aligning Forces for Quality Program (AF4Q, Robert Wood Johnson Foundation, 2005-2015) https://www.ajmc.com/view/summative-evaluation-results-and-lessons-learned

Two Years After A Disappointing RCT In Camden: Reassessing Value And Building Ecosystems Of Care

https://www.healthaffairs.org/content/forefront/two-years-after-disappointing-rct-

camden-reassessing-value-and-building-ecosystems-

care?utm\_medium=email&utm\_source=rasa\_io&utm\_campaign=newsletter

GAO Report November 2020 on PCORTF

https://www.gao.gov/assets/gao-21-61.pdf

Using The Medicare Shared Savings Program To Innovate Primary Care Payment <a href="https://www.healthaffairs.org/do/10.1377/forefront.20221013.766203/">https://www.healthaffairs.org/do/10.1377/forefront.20221013.766203/</a>

Improving Delivery of Cardiovascular Disease Preventive Services in Small-to-Medium Primary Care Practices (EvidenceNOW) https://www.jabfm.org/content/35/5/968

Section 5.3 Integration of Behavioral Health and Primary Care

A Framework for Integrating Behavioral Health and Primary Care <u>https://wellbeingtrust.org/integrating-behavioral-health-in-primary-care-a-new-</u><u>framework-for-alternative-payment-models/</u>

How Practices Can Advance the Implementation of Integrated Care in the COVID-19 Era <a href="https://www.commonwealthfund.org/sites/default/files/2020-11/Pincus">https://www.commonwealthfund.org/sites/default/files/2020-11/Pincus</a> implementing integrated care COVID era ib.pdf

Prioritizing Quality Measure Concepts at the Interface of Behavioral and Physical Healthcare upper cased for consistency; some of the journal articles are upper case <u>https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC5890862&blobtype=pdf</u>

Quality Indicators for Physical and Behavioral Health Care Integration <u>https://pubmed.ncbi.nlm.nih.gov/26043185/</u>

PCORI-funded Tele-Psych Collaborative Care – Fortney et al. https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2783602

A Model to Improve Behavioral Health Integration into Serious Illness Care <u>https://www.jpsmjournal.com/action/showPdf?pii=S0885-3924%2819%2930299-4</u>

Primary and Behavioral Health Care Integration Program: Impacts on Health Care Utilization, Cost, and Quality https://pubmed.ncbi.nlm.nih.gov/34484875/

Structural Components of Integrated Behavioral Health Care: A Comparison of National Programs

https://pubmed.ncbi.nlm.nih.gov/34496629/

### Section 5.4 Training

Deriving Competencies for Mentors of Clinical and Translational Scholars https://ascpt.onlinelibrary.wiley.com/doi/full/10.1111/j.1752-8062.2011.00366.x

### Section 5.5 Team-Based Care and Workforce

New Behavioral Health Workforce Database Paints A Stark Picture New Behavioral Health Workforce Database Paints A Stark Picture - Health Affairs

Cultural And Structural Features Of Zero-Burnout Primary Care Practices <a href="https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://www.healthaffairs.org/doi/full/10.1377/https://wwww.healthaffairs.org/doi/ful

Deriving Competencies for Mentors of Clinical and Translational Scholars <u>https://pubmed.ncbi.nlm.nih.gov/22686206/</u>

### Section 5.6 Connecting Research and Policymaking

Advancing Integration in Policy https://makehealthwhole.org/implementation/in-policy/

Poverty Action Lab at the Massachusetts Institute of Technology https://www.povertyactionlab.org/StateLocalEvaluationIncubator

Advancing the University Mission Through Partnerships with State Medicaid Programs <a href="https://pubmed.ncbi.nlm.nih.gov/24072113/">https://pubmed.ncbi.nlm.nih.gov/24072113/</a>

Assessing Cross-Sector Stakeholder Readiness to Advance and Sustain Statewide Behavioral Integration Beyond a State Innovation Model (SIM) Initiative Assessing Cross-Sector Stakeholder Readiness to Advance and Sustain Statewide Behavioral Integration Beyond a State Innovation Model (SIM) Initiative - Translational

**Behavioral Medicine** 

Multistate analysis of Medication Assisted Treatment for Opiate Use Disorder using data submitted by states participating in the Medicaid Outcomes Distributed Research Network

https://jamanetwork.com/journals/jama/article-abstract/2781858

Use of Medications for Treatment of Opioid Use Disorder Among US Medicaid Enrollees in 11 States, 2014-2018

https://pubmed.ncbi.nlm.nih.gov/34255008/

# APPENDIX 1. DRAFT STRATEGIC FRAMEWORK

# Strategic Framework to Guide AHRQ's PCORTF

Mission:		Overarching Vision:		Hig	h-level Goal:		
Synthesize and support the dissemination of evidence into practice and train the next generation of patient-centered outcomes researchers.	-	table whole-person care acros ifespan.	35	Improve health outcomes by promoting high-value, safe, evidence- based, integrated, coordinated, team- based, patient-centered care, with a focus on underserved populations.			
High-Level Priorities and Desired Outcomes							
		C. Patient, Family,	D. Hi	gh-Quality,			

A. Health Equity Im	revention and and Provi proved Care Experience of Patients With That Enhar nic Conditions Trust in t Healthcare S	f Care Sate Care Inat is Aligned With National Health Priorities	E. Primary Care Transformation
1. Reduced health disparities for AHRQ's priority populations       1. Ir or AHRQ's priority populations         2. Engagement of underrepresented communities in training & implementation initiatives       2. D implementation fir initiatives         3. Improved equity in access to needed care       2. C implementation initiatives         3. Improved equity in access to needed care       3. C implementation initiatives	red OutcomesDesired Outcomeshcreased uptake1. Improvedfevidence-patient/fanased preventiveengagemenervices, earlyand reportsntervention,experiencend secondarycarerevention2. Focus on vperceasedperson caragmentationto mentalf care forto mentalatients withhealth &shealth (SD3. ImprovedMCC)3. Improvedvo-design ofmovationsn care withretentionatients andommunities	1.Transformation of healthcare organizations into learning health systemsofinto learning health systemsof2.Increased uptake of evidence- based practices that strengthen healthcareocial oth oH)quality, safety, and valueOH)3.Improved outcomes for targeted	<ul> <li>Desired Outcomes</li> <li>1. Uptake of new models of primary care, leveraging digital healthcare</li> <li>2. Integrated team- based behavioral health</li> <li>3. Identification and provision of needed resources for comprehensive primary care and uptake of evidence</li> </ul>

#### Cross-cutting Strategies for Achieving Desired Outcomes

- Train and support the next generation of health service researchers with a focus on team science and advancing health equity.
- Develop and maintain the AHRQ infrastructure needed to synthesize and accelerate evidence to practice.
- Leverage and support innovation in digital health, clinical decision support, and new models of care.
- Build data, measurement, and analytic capacity to benchmark and evaluate uptake and use of evidence in learning health systems to improve outcomes that matter to patients.
- Accelerate the uptake of evidence in practice to optimize individual and population health and achieve health equity for all.
- Disseminate evidence to Federal/State/local healthcare decision makers with targeted communication strategies.
- Provide the evidence to inform policy changes needed for sustainable implementation and incorporation of evidence by healthcare systems, practices, and providers.
- Evaluate the impact of PCORTF investments on care delivery, quality, costs, health outcomes, and health disparities.

# **APPENDIX 2. SUBCOMMITTEE MEMBERS**

Suzanne Bakken, Ph.D., R.N., F.A.A.N., F.A.C.M.I. The Alumni Professor of Nursing and **Professor of Biomedical Informatics Columbia University** Director Precision in Symptom Self-Management Center Director **Reducing Health Disparities Through** Informatics Pre and Post Doctoral Training Program Editor-in-Chief Journal of the American Medical Informatics Association New York, NY (212) 305-1278 sbh22@cumc.columbia.edu

#### Nichola Davis, M.D, M.S.

Vice President and Chief Population Health Officer Office of Ambulatory Care and Population Health New York City Health + Hospitals Clinical Professor Department of Population Health NYU Grossman School of Medicine New York, NY (646) 694-7123 nichola.davis@nychhc.org

Hector Flores, M.D. Chair Department of Family Medicine Adventist Health White Memorial Medical Center Los Angeles, CA (323) 260-5789 floresh1@ah.org

### John Fortney, Ph.D.

Professor Director, Division of Population Health Department of Psychiatry and Behavioral Sciences School of Medicine University of Washington Seattle, WA 98195-6560 (206) 685-6955 fortneyj@uw.edu

#### Kevin Grumbach, M.D.

Hellman Endowed Professor and Chair Department of Family and Community Medicine University of California, San Francisco San Francisco, CA (628) 206-6892 kevin.grumbach@ucsf.edu

#### Romana Hasnain-Wynia, Ph.D.

Chief Research Officer Office of Research Denver Health Denver, CO (303) 602-3862 romana.hasnain@dhha.org

Jay Himmelstein, M.D., M.P.H. Professor Population and Quantitative Health Sciences, and Family Medicine and Community Health Chief Health Policy Strategist CommonWealth Medicine University of Massachusetts Chan Medical School Worcester, MA (508) 751-2478 jay.himmelstein@umassmed.edu

### Mireille Jacobson, Ph.D.

Associate Professor The Davis School of Gerontology Co-Director Aging and Cognition Program Schaeffer Center for Health Policy and Economics University of Southern California Los Angeles, CA (213) 986-6076 mireillj@usc.edu

#### Jonathan B. Jaffery, M.D., M.S., M.M.M.

Chief Population Health Officer UW Health President and CEO UW Health ACO Professor of Medicine University of Wisconsin – Madison Madison, WI (608) 263-6400 jjaffery@uwhealth.org

### Caprice Knapp, Ph.D.

Principal Health Management Associates (HMA) Salt Lake City, UT (385) 300-0937 <u>cknapp@nd.gov</u>

### Mai Pham, M.D., M.P.H.

President Institute for Exceptional Care Washington, DC (443) 996-7179 <u>maihpham@gmail.com</u>

### Harold A. Pincus, M.D.

Professor and Vice Chair Department of Psychiatry Co-Director Irving Institute for Clinical and Translational Research Columbia University New York, NY (917) 605-8040 harold.pincus@nyspi.columbia.edu

### Lucy A. Savitz, Ph.D., M.B.A.

Professor Health Policy & Management University of Pittsburgh Graduate School of Public Health Senior Advisor UPMC Health Plan Services Pittsburgh, PA <u>Iasavitz@pitt.edu</u>

### Charlene Wong, M.D.

Assistant Secretary for Children and Families North Carolina Department of Health and Human Services Associate Professor Pediatrics and Public Policy Duke University Durham, NC (919) 620-5333 <u>charlene.wong@dhhs.nc.gov</u>

### AHRQ Staff

Karin Rhodes, M.D., M.S. Chief Implementation Officer Agency for Healthcare Research and Quality (240) 463-0872 karin.rhodes@ahrq.hhs.gov

#### Kristin Dillon, M.D., F.A.A.F.P.

Subject Matter Expert and Subcommittee Chair Principal Consultant, Policy and Strategy Alder Canyon LLC (541) 387-4011 <u>kristendillonmd@gmail.com</u>

### Alaina Fournier, Ph.D., M.H.C.I.

Health Scientist Administrator Patient-Centered Outcomes Research Trust Fund Office of the Director Agency for Healthcare Research and Quality (301) 427-1982 <u>alaina.fournier@ahrq.hhs.gov</u>

#### Laura L. Sessums, M.D., J.D.

Chief Medical Officer Office of the Director Agency for Healthcare Research and Quality (301) 204-9271 <u>laura.sessums@ahrq.hhs.gov</u>

### Subcommittee Member Biographies

Suzanne Bakken, Ph.D., R.N., F.A.A.N., F.A.C.M.I., F.I.A.H.S.I. The Alumni Professor of Nursing and Professor of Biomedical Informatics Columbia University Director, Precision in Symptom Self-Management Center Director, Reducing Health Disparities Through Informatics Pre and Post Doctoral Training Program

Editor-in-Chief, Journal of the American Medical Informatics Association



Dr. Bakken is the Alumni Professor of Nursing and Professor of Biomedical Informatics at Columbia University. After she earned her doctorate in nursing at the University of California, San Francisco, she completed a post-doctoral fellowship in medical informatics at Stanford University. Her program of research has focused on the intersection of informatics and health equity for more than 30 years and has been funded by the Agency for Healthcare and Research Quality, the National Cancer Institute, the National Institute of Mental Health, the National

Institute of Nursing Research (NINR), and the National Library of Medicine. At Columbia Nursing, she leads the NINR-funded Precision in Symptom Self-Management (PriSSM) Center and the Reducing Health Disparities Through Informatics (RHeaDI) Pre and Post Doctoral Training Program. She also serves as co-lead of Columbia's FHIR Lab. She is currently funded as part of the National Institutes of Health's Rapid Acceleration of Diagnostics for Underserved Populations to develop a visualization toolbox to address COVID-19 testing and vaccination as a strategy for combating misinformation and hesitancy through community-engaged production of culturally congruent health-literate messages. Dr. Bakken's program of research has resulted in more than 300 peer-reviewed papers.

Dr. Bakken is a Fellow of the American Academy of Nursing, the American College of Medical Informatics, and the International Academy of Health Sciences Informatics, and is a member of the National Academy of Medicine. Dr. Bakken has received multiple awards for her research, including the Pathfinder Award from the Friends of the National Institute of Nursing Research, the Nursing Informatics Award from the Friends of the National Library of Medicine, the Sigma Theta Tau International Nurse Researchers Hall of Fame, and the Virginia K. Saba Award from the American Medical Informatics Association. Most recently, she was the first nurse recipient of the Francois Grémy Award of Excellence from the International Medical Informatics Association, and in 2021 she received the Virginia Saba Nursing Informatics Award from Sigma Theta Tau International. Dr. Bakken currently serves as Editor-in-Chief of the *Journal of the American Medical Informatics Association* and as a member of the Board of Regents of the National Library of Medicine. Nichola Davis, M.D., M.S. Vice President and Chief Population Health Officer Office of Ambulatory Care and Population Health New York City Health + Hospitals Clinical Professor Department of Population Health NYU Grossman School of Medicine



Dr. Davis is Vice President and Chief Population Health Officer at NYC Health + Hospitals, which is the largest public hospital system in the country. In this role, Dr. Davis leads the public hospital system's population health portfolio, which encompasses innovative care models, population health analytics, chronic disease prevention and management, and the social determinants of health. Dr. Davis co-chairs the Equity & Access Council at NYC Health + Hospitals. She previously served on the board for the Council on Black Health and is an associate

editor for NEJM Catalyst.

Dr. Davis received her medical degree from NYU Grossman School of Medicine and completed her residency training in primary care internal medicine at the Montefiore Medical Center. She obtained a Master of Science degree in clinical research methods at the Albert Einstein College of Medicine. Dr. Davis is board certified in internal medicine and obesity medicine. Her research and clinical work have focused on addressing obesity among low-income African American and Latino communities, particularly among those with diabetes.

Hector Flores, M.D. Chair Department of Family Medicine Adventist Health White Memorial Medical Center



Dr. Flores is a founding member of the Adventist Health White Memorial (AHWM) Medical Center Family Medicine Residency Program in Los Angeles. The residency program was established in 1988 with the purpose of providing a high-quality education to prepare physicians and physician assistants/nurse practitioners for practice in healthcare shortage areas and to contribute to diversity in the health professions. Dr. Flores also serves as Chairman of the AHWM Department of Family Medicine.

Dr. Flores is the Medical Director of the Family Care Specialists (FCS) Medical Group and the FCS Independent Physician Association (IPA), which collectively serve approximately 30,000 Medi-Cal, Medicare, and commercial coverage beneficiaries, including 6 percent who are uninsured. The FCS Medical Group is dedicated to improving the health status of its patients, their families, and the entire community by using culturally and linguistically competent services and by deploying performance standards that reduce or eliminate health disparities.

Dr. Flores and his colleagues at FCS continue to pursue vertical integration of their delivery system using the patient-centered medical home for the group with the FCS IPA and Adventist Health White Memorial through HMO contracts. Similarly, they established a partnership with the Aledade Accountable Care Organization for fee-for-service Medicare and commercial PPO/EPO plans. Their most recent affiliation is with Altais Clinical Services, a wholly owned subsidiary of Blue Shield of California.

John C. Fortney, Ph.D. Professor Director Division of Population Health Department of Psychiatry and Behavioral Sciences School of Medicine University of Washington



Dr. Fortney is a professor in the Department of Psychiatry and Behavioral Sciences at the University of Washington School of Medicine and the Director of the Division of Population Health. He is also a Research Career Scientist at the HSR&D Center for Innovation for Veteran-Centered and Value-Driven Care at the VA Puget Sound Health Care System and Director of the Virtual Care QUERI Program. For the past 32 years, Dr. Fortney's research has focused on issues of access to care, especially the delivery of mental health services in rural primary care

clinics. His research has been supported by the National Institute of Mental Health, the National Institute on Alcohol Abuse and Alcoholism, the Patient-Centered Outcomes Research Institute, and the U.S. Department of Veteran Affairs Health Services Research & Development Service.

Kevin Grumbach, M.D. Hellman Endowed Professor and Chair Department of Family and Community Medicine University of California, San Francisco



Dr. Grumbach is the Hellman Endowed Professor of Family and Community Medicine and Chair of the Department of Family and Community Medicine at the University of California, San Francisco (UCSF). He is a Founding Director of the UCSF Center for Excellence in Primary Care and Co-Director of the Community Engagement and Health Policy Program for the UCSF Clinical and Translational Science Institute. He served as Vice President for Population Health for the UCSF Health system from 2015 to 2018. His research and scholarship on the primary

care workforce, innovations in the delivery of primary care, racial and ethnic diversity in the health professions, and community health improvement have widely influenced policy and practice. With Tom Bodenheimer, he co-authored the best-selling textbook on health policy, *Understanding Health Policy—A Clinical Approach,* now in its 8th edition, and the book, *Improving Primary Care—Strategies and Tools for a Better Practice,* published by McGraw Hill. He received a Generalist Physician Faculty Scholar award from the Robert Wood Johnson Foundation, the Health Resources and Services Administration Award for Health Workforce Research on Diversity, the Richard E. Cone Award for Excellence and Leadership in Cultivating Community Partnerships in Higher Education, and the UCSF Chancellor's Public Service Award, and he is a member of the National Academy of Medicine.

Dr. Grumbach has been an advisor to congressional committees and government agencies on primary care and health reform and a member of the National Advisory Council for Healthcare Research and Quality; he also serves on the Steering Committee of San Francisco Health Improvement Partnerships. He was a founding member of the California Physicians Alliance and is a member of Physicians for a National Health Program. He practices family medicine at the Zuckerberg San Francisco General Hospital and the Lakeshore Family Medicine Center at UCSF Health.

Romana Hasnain-Wynia, Ph.D. Chief Research Officer Office of Research Denver Health



Dr. Hasnain-Wynia is Chief Research Officer at Denver Health, where she oversees research and sponsored programs through the Office of Research. She mentors junior and mid-career investigators at Denver Health and the University of Colorado, Anschutz Medical Campus. Before joining Denver Health, Dr. Hasnain-Wynia served as the director of the Addressing Disparities program at the Patient-Centered Outcomes Research Institute, where she provided strategic oversight and leadership for the program's national funding priorities. She also served

as the director of the

Center for Health Care Equity and Associate Professor at Northwestern University Feinberg School of Medicine, and she spent a decade at the American Hospital Association's Health Research and Educational Trust as Vice President of Research. Her research focuses on advancing equity in healthcare with an emphasis on developing and integrating equity measurement in health systems and payment models. She currently serves on the National Quality Forum's Disparities Standing Committee and on the Centers for Medicare & Medicaid Services committee to integrate equity measurement into payment and delivery models. She is Chair of the Board for the Colorado Health Institute. She also serves on the editorial boards of the journals *Health Affairs* and *Health Services Research*. Jay Himmelstein, M.D., M.P.H. Professor Population and Quantitative Health Sciences and Family Medicine and Community Health Chief Health Policy Strategist CommonWealth Medicine UMass Chan Medical School



Dr. Himmelstein is a Professor of Population and Quantitative Health Sciences and Family Medicine and Community Health and is Chief Health Policy Strategist for CommonWealth Medicine at UMass Chan Medical School.

His professional career in research policy development and service has been dedicated to improving healthcare and health outcomes for those served by the public sector. He has placed special emphasis on

Medicaid programs and health services for people with disabilities and is a nationally recognized physician educator and researcher. Dr. Himmelstein's most recent work has focused on the intersection of health policy and information technology, improving coordination of care, transitioning from fee-for-service to value-based payments in Medicaid programs, and leveraging university partnerships with Medicaid agencies to facilitate health system transformation.

Dr. Himmelstein has served as a health policy advisor and strategist at the State and national levels for more than 30 years. He was appointed as the physician representative to the Massachusetts Public Health Council by Governor Dukakis in 1988 and served as a Robert Wood Johnson Foundation National Health Policy Fellow on the health staff of Senator Edward M. Kennedy. Dr. Himmelstein has had an opportunity to participate in a variety of State and national health reform efforts focusing on expanding access and improving the quality and range of services offered to vulnerable populations and those with disabilities through policy, research, evaluation, and advocacy. An elected member of the National Academy of Social Insurance, Dr. Himmelstein has also served as an expert consultant to the Social Security Administration and to the Institute of Medicine.

Dr. Himmelstein first joined UMass Chan Medical School as an assistant professor in 1983 and has held numerous leadership positions, including Assistant Chancellor for Health Policy and Founding Director of the Center for Health Policy and Research. He has published more than 100 peer-reviewed articles and technical reports and has been the principal investigator on more than 40 grants and contracts from State and Federal sources while at UMass Chan Medical School. Dr. Himmelstein is board certified in internal medicine and occupational and environmental health/preventive medicine. He received his bachelor's degree from Johns Hopkins University, his medical degree from the University of Maryland Medical School, and his master's degrees in public health and physiology from the Harvard School of Public Health. Mireille Jacobson, Ph.D., M.A. Associate Professor The Leonard Davis School of Gerontology Co-Director Aging and Cognition Program Schaeffer Center for Health Policy and Economics University of Southern California



Dr. Jacobson is an associate professor in the Leonard Davis School of Gerontology, a co-director of the Program on Aging and Cognition at the University of Southern California's Leonard D. Schaeffer Center for Health Policy & Economics, and a research associate in the Health Care Program at the National Bureau of Economic Research. Dr. Jacobson received a Ph.D. and an M.A. in economics from Harvard University. She was a National Institute of Mental Health Post-Doctoral Fellow at Harvard Medical School from 2001 to 2002. She was also a Robert Wood

Johnson Foundation Scholar in Health Policy Research at the University of Michigan.

Dr. Jacobson has a diverse portfolio of research united by an interest in understanding how healthcare policies affect well-being. Much of her work focuses on the supply side of U.S. healthcare markets, analyzing the effects of direct supply changes (e.g., hospital closures) on access to care and the impact of Medicare reimbursement policy on cancer treatment and outcomes.

Jonathan B. Jaffery, M.D., M.S., M.M.M. Chief Population Health Officer UW Health President and CEO UW Health ACO Professor of Medicine University of Wisconsin – Madison



Dr. Jaffery is a faculty member in the Division of Nephrology within the Department of Medicine of the University of Wisconsin – Madison (UW). As Chief Population Health Officer, UW Health, and President/CEO, UW Health ACO, Dr. Jaffery provides strategic leadership for UW Health's transformation toward value-based care. Dr. Jaffery works to ensure UW Health provides access to high-quality, affordable, and equitable care and contributes to the health of the community. From 2008 to 2010, he served as Chief Medical Officer, State of Wisconsin's Medicaid program.

As a 2010 - 2011 Robert Wood Johnson Foundation Health Policy Fellow, Dr. Jaffery worked for the Senate Committee on Finance on a variety of issues related to delivery system and payment reform, and he continues to focus on these areas in his UW Health leadership roles. Since 2018, he has served as a commissioner on the Medicare Payment Advisory Commission (MedPAC), a nonpartisan agency that provides the U.S. Congress with analysis and policy advice on the Medicare program. A board-certified nephrologist, Dr. Jaffery is member of numerous professional organizations, including the American Association for Physician Leadership and the American Society of Nephrology, and he is a Fellow of the American College of Physicians.

Caprice Knapp, Ph.D. Principal Health Management Associates



Dr. Knapp joined Health Management Associates (HMA) in October 2022. A health economist and evaluator, she has more than 20 years of experience working on Medicaid and the Children's Health Insurance Program (CHIP) in the private sector, in State and Federal policymaking, and in academia. In the private sector, she was the federal policy director for Molina Healthcare, Inc. In academia, she was an associate professor in the Department of Health Outcomes and Policy at the University of Florida and conducted external quality review activities for

Texas and Florida Medicaid and CHIP programs and maternal and child health research. In the policymaking arena, she worked in the Governor's Office of State Planning and Budgeting in Colorado as well as on the U.S. House of Representatives Energy and Commerce Committee as a Robert Wood Johnson Foundation Health Policy Fellow. Most recently she was the North Dakota Medicaid Director (2019-2022).

Dr. Knapp's career has been focused on vulnerable populations, delivery system reform, and global health. Examples of her funded research topics include an assessment of Florida's Children's Health Insurance Program CHIP Reauthorization Grant; an evaluation of fertility-preservation decision making for adolescent girls with cancer; outcomes of concurrent models of pediatric palliative care; and an assessment of the quality, patient experiences, and costs of health and dental plans for children in Florida. Her global health projects also focus on maternal and child health and have been conducted in Africa, Asia, Europe, and South America. At the University of Florida, Knapp earned a Ph.D. in economics and completed postdoctoral training in health services research. She has authored more than 80 peer-reviewed publications, 60 government reports, and 2 books.

Mai Pham, M.D., M.P.H. President Institute for Exceptional Care



Dr. Pham is President of the Institute for Exceptional Care, a nonprofit organization dedicated to transforming healthcare for people with intellectual and developmental disabilities. Dr. Pham is a general internist and national health policy leader. She was Vice President at Anthem, responsible for value-based care initiatives. Prior to her work at Anthem, Dr. Pham served as Chief Innovation Officer at the Center for Medicare and Medicaid Innovation, where she was a founding official and the architect of foundational programs on accountable care

organizations and primary care. Dr. Pham has published extensively on provider payment policy and its intersection with health disparities, quality performance, provider behavior, and market trends. She serves on numerous advisory bodies, including those for the National Academy of Medicine, the National Advisory Council for Healthcare Research and Quality, and the Maryland Primary Care Program. Dr. Pham earned her A.B. degree from Harvard University, her M.D. degree from Temple University, and her M.P.H. degree from Johns Hopkins University, where she was also a Robert Wood Johnson Foundation Clinical Scholar. Harold A. Pincus, M.D. Professor and Vice Chair Department of Psychiatry Co-Director Irving Institute for Clinical and Translational Research Columbia University



Dr. Pincus is Professor and Vice Chair of the Department of Psychiatry and Co-Director of the Irving Institute for Clinical and Translational Research at Columbia University. Dr. Pincus is also a senior scientist at the RAND Corporation and National Director of the Health and Aging Policy Fellowship. Appointed to the editorial boards of 12 scientific journals, Dr. Pincus has published more than 500 scientific publications on health services research, science policy research, career development, and the diagnosis and treatment of mental disorders. He

has led national and international committees on healthcare quality measures, translational science evaluation, the World Health Organization's International Classification of Diseases, 11th Revision, and the Diagnostic and Statistical Manual of Mental Disorders IV.

#### Lucy A. Savitz, Ph.D., M.B.A. Professor, Health Policy & Management University of Pittsburgh Graduate School of Public Health Senior Advisor UPMC Health Plan Services



Dr. Savitz has more than three decades of experience in healthcare delivery and health services research. She is Professor of Health Policy and Management at the University of Pittsburgh Graduate School of Public Health and Senior Advisor for UPMC Health Plan Services. Previously she was Vice President for Health Research in the Kaiser Permanente (KP) Northwest Region and Director for the KP Center for Health Research in Oregon. Dr. Savitz has led numerous implementation and evaluation studies over her 30-plus year career with a focus on

quality, safety, and elimination of unwarranted variation (i.e., waste). She was acknowledged as an Examiner for the 2001 and 2002 Malcolm Baldrige National Quality Program, administered by the National Institute of Standards and Technology in the U.S. Department of Commerce and the American Society for Quality. Dr. Savitz served as faculty for the Institute for Healthcare Improvement for 10 years, leading improvement collaboratives. At AcademyHealth, she is immediate past Chair on the Methods & Data Council and now serves as the Inaugural Chair of the Data Subcommittee as part of the Committee for Advocacy in Public Policy; she is also a member of the Delivery System Science Fellowship Program Committee, co-leads the Learning Health Systems Interest Group, and is a board member of that group. In addition, She serves as a current board member and immediate past Chair for the Health Care Systems Research Network. Her current area of international thought leadership focuses on evolving the methods and metrics needed to accelerate the implementation of quality/safety interventions and realistic program evaluations that support learning health systems. She is committed to population health and leveraging health system resources to promote well-being through community engagement, health promotion, access, affordability, equity, and healthy lifestyles for all.

Charlene Wong, M.D. Assistant Secretary for Children and Families North Carolina Department of Health and Human Services Associate Professor, Pediatrics and Public Policy Duke University



Dr. Wong serves as the Assistant Secretary for Children and Families at the North Carolina Department of Health and Human Services (NCDHHS). In this role, she provides vision and leadership for supporting whole child and family health in North Carolina and oversees two divisions: The Division of Child and Family Well-Being and the Division of Child Development and Early Education. She is a practicing primary care pediatrician, specializing in adolescent and young adult medicine. She also serves as Executive Director of North Carolina Integrated Care for

Kids (NC InCK), an innovative model serving Medicaid-insured children in central North Carolina that integrates supports and data across healthcare, educational, and social sectors (e.g., schools, housing, food, early care and education, child welfare). Earlier in the COVID-19 pandemic, she served as Chief Health Policy Officer for COVID-19 at NCDHHS.

Dr. Wong is also Associate Professor of Pediatrics and Public Policy at Duke University. Her work has focused on healthcare transformation that supports a more holistic approach to health and well-being and health-related behavior change, leveraging principles from behavioral economics. She is a leader in value-based payment models for child and family health and employs person-centered research and policy practices. Her research and policy training includes fellowships at the Centers for Disease Control and Prevention and in the Robert Wood Johnson Foundation Clinical Scholars Program.

### AHRQ Staff

#### Karin Rhodes, M.D., M.S. Chief Implementation Officer Agency for Healthcare Research and Quality



Dr. Rhodes is Chief Implementation Officer at the Agency for Healthcare Research and Quality (AHRQ), in charge of strategic planning and oversight of AHRQ's Patient-Centered Outcomes Research Trust Fund investments and contributing AHRQ's practice improvement efforts. She completed an emergency medicine residency and the Robert Wood Johnson Foundation (RWJF) Clinical Scholar's Program at the University of Chicago. She was Director, Center for Emergency Care Policy & Research at Penn Medicine (University of Pennsylvania Health System).

At Penn Medicine, she was inaugural Chair of the Center for Emergency Care and Policy Research, where she led research teams testing emergency department innovations in screening/intervening for health-related social risks, improving transitions in care, and tracking the impact of Affordable Care Act insurance expansions on access to primary care. As Vice President for Care Management at Northwell Health, Dr. Rhodes designed and evaluated innovations to address the complex care needs and social determinants of health of patients across the continuum of care. In Washington, DC, she served as a RWJF Health Policy Fellow in both the Senate and House, after which she was Director of the Division of Public Health for the State of New Mexico. During the first wave of the COVID-19 pandemic in New York City (NYC), she organized Emergency Medicine All Threats (EMAT), an informal network of NYC-area emergency medicine leaders seeking to break down silos across competing health systems, share regional knowledge and actionable data, and improve health equity and public health preparedness. At AHRO, she hopes to build on these experiences and support Federal cross-agency teams to generate, synthesize, disseminate, and integrate evidence into clinical care, inform health policy, and give patients a voice in the complex process of health systems change.

Kristin Dillon, M.D., F.A.A.F.P. Subject Matter Expert AHRQ Subcommittee of the National Advisory Council on Patient-Centered Outcomes Research Trust Fund Investments Principal Consultant, Policy and Strategy Alder Canyon LLC



Dr. Dillon is a family physician with extensive experience in health policy, rural healthcare, and public health. She was most recently Senior Advisor to the Pandemic Response Unit for the State of Oregon, where she led strategy and implementation for COVID-19 vaccination statewide.

During 2020, Dr. Dillon was a Robert Wood Johnson Foundation Health Policy Fellow in the office of Speaker Pelosi. In that role, she was the

office's lead resource on the coronavirus pandemic related to workplace safety, policy, and communications. She also worked with the Senior Health Policy Advisor and other members

of the Speaker's staff in developing policy, drafting legislation, coordinating with committees of jurisdiction, and connecting with outside stakeholders.

Prior to the fellowship, she worked for PacificSource, a nonprofit regional health plan, as a medical director and the director of an Oregon Coordinated Care Organization (CCO). For the CCO, she led delivery of medical, mental health, addictions, dental, and transportation services for all Medicaid beneficiaries in the region. She implemented initiatives supporting advanced primary care, behavioral health integration, and value-based payment models. Her clinical experience encompasses 20 years spent providing the full spectrum of primary care through a rural private practice clinic, critical access hospitals, and nursing homes.

Dr. Dillon's community and State-level leadership work includes terms as the founding Chair of the State's Health Plan Quality Metrics Committee and as the Board Chair of her community's Federally Qualified Health Center. She was also the founding Medical Director of the Columbia Gorge's community-engaged research network.

Alaina Fournier, Ph.D., M.H.C.I. Health Scientist Administrator Patient-Centered Outcomes Research Trust Fund Office of the Director Agency for Healthcare Research and Quality



Dr. Fournier is a Health Scientist Administrator in the Agency for Healthcare Research and Quality's (AHRQ's) Office of the Director. She is responsible for managing the Patient-Centered Outcomes Research Trust Fund strategic planning and stakeholder engagement processes. During her 15 years at AHRQ, Dr. Fournier has worked in various capacities to encourage use of comparative effectiveness research, then patient-centered outcomes research in healthcare, cultivating expertise in shared decision making. Dr. Fournier began her career at AHRQ

supporting stakeholder engagement in the Effective Health Care Program. She also worked in AHRQ's Office of Communications leading several knowledge transfer projects for targeted dissemination of AHRQ's comparative effectiveness research and patient-centered outcomes research (PCOR) evidence-based tools and products. Dr. Fournier has led the development, implementation, and evaluation of AHRQ's SHARE Approach. Most recently, she worked in AHRQ's Center for Evidence and Practice Improvement, Division of Practice Improvement, where she led AHRQ's PCOR Dissemination and Implementation Initiative and a project to develop feasibility criteria for prioritizing implementation investments. Dr. Fournier received her B.S. from Trinity University in San Antonio, Texas, and her Ph.D. in pharmacology and a master's degree in healthcare innovation from the University of Pennsylvania.

Laura L. Sessums, J.D., M.D. Chief Medical Officer Office of the Director Agency for Healthcare Research and Quality



Dr. Sessums is a national leader in primary care health policy and the implementation of advanced primary care. She became the Chief Medical Officer, Agency for Healthcare Research and Quality (AHRQ), in August 2022. Prior to coming to AHRQ, she was the Chief Care Transformation Medical Director for value-based care at Anthem. While serving as the Director of the Division of Advanced Primary Care at the Center for Medicare and Medicaid Innovation for 5 years, Dr. Sessums oversaw the Comprehensive Primary Care (CPC) initiative, and then

developed and implemented CPC+, then the largest multipayer initiative in primary care payment and delivery redesign. Previously, she worked in academic medicine as a clinicianeducator, mostly at Walter Reed Army Medical Center (as a civilian), where she served as Chief of the General Medicine Section. Her professional activities have been in the areas of healthcare policy and advocacy, medical education, senior medical administrative leadership, and scholarship at the intersection of law and medicine. Her research has focused on primary care, particularly in the ethical and legal domains. She is a practicing general internist, providing care for the uninsured in the Washington, DC, area. Dr. Sessums completed her internship and residency in internal medicine at Duke University Medical Center and obtained her M.D. from Vanderbilt University Medical Center. Prior to starting her medical career, she obtained her J.D. from Vanderbilt University Law School and practiced law at Arnold & Porter for 7 years. She graduated from Duke University with a B.S. in psychology.