Primary Care Conditions

Patient-Centeredness

Community & Public Health

Digital Healthcare

Workforce

Healthcare System Innovation

Health Equity

Research Methods

AHRQ's 30th Anniversary Primary Care Research Conference: Proceedings

Agency for Healthcare Research and Quality

AHRQ's 30th Anniversary Primary Care Research Conference: Proceedings

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Contents

Introduction

In March 1990, the newly created Agency for Health Care Policy and Research (AHCPR) convened its first primary care conference, marking primary care as a high priority for the Agency. The meeting brought together primary care leaders from clinical practice, research, and policy realms, as well as leaders from other Federal agencies working in the primary care space. The outcome of the meeting was a primary care research agenda for the 1990s. (AHCPR, 1991a)

The research agenda for the 1990s proposed dozens of research questions across eight areas:

- The practitioner
- The patient
- The problem
- The clinical process of care
- The social structure
- The community
- The practice or program
- The healthcare system

A ninth area of interest involved development of research methods for primary care. This area was more fully developed during AHCPR's second annual primary care research conference held in 1991, which was focused on the theory and methods of primary care research. (AHCPR, 1991b)

This research agenda guided both intramural and extramural research funded by AHCPR through the 1990s, including the development of program announcements and other funding opportunities. In 1999, Congress recognized the important role of primary care research with the newly named Agency for Healthcare Research and Quality (AHRQ). AHRQ's authorizing legislation noted that the Agency's Center for Primary Care Research,

> "shall conduct and support research concerning— ''(A) the nature and characteristics of primary care practice; ''(B) the management of commonly occurring clinical problems; ''(C) the management of undifferentiated clinical problems; and ''(D) the continuity and coordination of health services."

During the 2000s and 2010s the Agency's primary care research agenda evolved in response to changes in research knowledge, primary care practice and policy, and staff and investigator interests.

The continued evolution of the organization and delivery of primary care, findings from new primary care research and various demonstration projects, and recognition of the importance of primary care in addressing broader social and health issues all served as part of the impetus to revisit AHRQ's primary care research agenda. To that end, in December 2020, AHRQ convened a 30th anniversary primary care research conference to bring together thought leaders with diverse perspectives to reflect on AHRQ's primary care research over the past 30 years. Discussions from this meeting will be used as a foundation for helping AHRQ create a primary care research agenda for the next decade.

The main goal of the meeting was to engage with the primary care community to identify the highest priority research questions that will allow AHRQ to invest in research of the greatest value to the field over the coming decade. Secondary goals were to identify innovative approaches to conducting primary care research and to maximize the impact of the AHRQ-funded research. The conference also provided an opportunity to recognize and acknowledge 30 years of primary care research at AHRQ.

The 2-day, invitation-only, AHRQ-led meeting was held virtually due to the COVID-19 pandemic. Participants included established and emerging primary care researchers, advocates for and consumers of primary care research, policy- and decision-makers from health systems, primary care workforce experts, and representatives from Federal agencies with an interest in primary care research.

Pre-work was assigned for attendees to complete prior to the meeting to make the most of the limited time available. Assignments included watching three recorded interviews of past AHRQ leaders and two video interviews—one of patients and one of primary care clinicians—reviewing documents that highlight AHRQ's significant primary care work over the past 30 years, and reflecting on several guided questions relating to the future of primary care research.

The meeting agenda included few presentations and was designed around seven activities that incorporated small- and large-group discussions. Each activity was designed to build upon previous ones or bring a different perspective into focus. The meeting facilitators captured the small-group discussions in structured templates that were collected and utilized for larger discussion. The facilitators worked to solicit input from all participants with extensive use of the meeting platform's "chat" function and some use of the annotation features available for online meetings. Diverse perspectives were sought, allowing a variety of voices and experiences to emerge from the participants. The conference was a highly interactive meeting, with everyone attending providing substantive contributions.

References

Agency for Health Care Policy and Research (AHCPR). (1991a). Nutting PA (editor). Conference Summary Report: A Research Agenda for Primary Care: Summary Report of a Conference. AHCPR: Rockville, MD.

Agency for Health Care Policy and Research (AHCPR). (1991b). Nutting PA (editor). AHCPR Conference Proceedings: Primary Care Research: Theory and Methods. AHCPR: Rockville, MD.

Activity 1: A History and a Future

Key events have influenced the evolution of primary care research in the context of American life and culture. In the first conference activity, participants were asked to identify three or more significant events impacting American life and culture in three different timeframes: the past (1990-2015), the present (2015-2025), and the future (2025-2040). These time periods were then placed across six event categories in a 3 x 6 table: society, economy, technology, healthcare, research, and primary care. Facilitators captured the completed tables during the active discussion of the small groups (each with 4-6 participants). Then, the groups came together for a large group report. Each group was asked to highlight 2-3 of the most salient events identified by their group, listed in Table 1.1.).

Below are key events across timeframes mentioned by several groups. Many areas crossed the time boundaries with emergence in the past or present timeframes and continuing into the present and future timeframes.

Key Events Across Time

Society – September 11 attacks, racism, Black Lives Matter movement, changing demographics of the United States, aging of the population, and COVID

Economy – Increasing inequity and disparities in income, the economic impact of the COVID-19 pandemic

Technology – Growth of the internet, universal cellphone usage and the invention of the smart phone, implementation of electronic health records (EHRs), interest in big data, and artificial intelligence/machine learning

Healthcare – COVID-19 and HIV/AIDS pandemics, the ongoing efforts at healthcare reform, rise and fall of new models of care delivery such as the chronic care model, managed care organizations and accountable care organizations, evolving models for payment of care, the impact of technology on healthcare, the move to more personalized care and self-care, and new methods to identify and use evidence

Research – Rise of qualitative and mixed methods research, growing use of dissemination and implementation science, learning health systems, use of embedded researchers, patient and community engagement in research, interdisciplinary research and research on teams, and the use of big data

Primary Care (PC) – Evolution of primary care as a specialty, seminal work of Barbara Starfield in defining the roles and functions of primary care, movement away from solo-independent practices to group practices and team-based approaches to care, more distributed and fragmented nature of primary care through use of retail clinics and loss of obstetrical and hospital practice, new role of telehealth, and a variety of workforce issues including: shortages of primary care clinicians, changes in team composition, changes to work hours, and infrastructure to support interdisciplinary care

Table 1.1 – Summary of Significant Events

	Past	Present	Future
Society	• September 11th attacks • Mass incarceration • Systemic racism • Welfare reform • Worsening disparities • Social media, email, and internet • Shift in demographics from rural to urban areas	• Systemic racism and Black Lives Matter movement • Effects of climate change • Political polarization • Worsening disparities • Change in connectedness due to social media and internet • Changing demographics • COVID-19 pandemic	• Sociodemographic shifts and population aging • Role of post-science/post-evidence environment • Social justice
Economy	• Cyclical downturns–recession of 2008-2010 • Increasing economic disparities and income inequality • Globalization • Resource-based relative value scale (RBRVS)	• COVID-19 recession • Continuing increases in economic disparities and income inequality • Increasing proportion of GDP in healthcare (18%) • Consolidation of delivery organizations	• Socialism • Healthcare representing same proportion of GDP but PC, social services, and prevention representing larger parts of that whole
Technology	• HITECH Act, Meaningful Use, EHR adoption • Widespread use of cell phones to smart phones • Increasing digital divide • Growth of the internet	• EHR adoption, interconnectivity, clinical decision support, overpromise of efficiency • Telehealth movement • Wearable devices and other health apps • 21st Century Cares Act • Impact of social media in transfer of knowledge • Artificial intelligence • Increasing digital divide • Cybersecurity • Big data	• Healthcare Effectiveness Data and Information Set (HEDIS) measures that do not require chart review • Patient-centered algorithms • Increasing use of telehealth • AI and machine learning • Increase use of wearables and other new technologies/apps
Healthcare	• Health maintenance organizations and managed care • Affordable Care Act • HIPAA • Evidence-based medicine movement, USPSTF and guideline development • Concierge practices • Direct-to-consumer advertising • Development of Chronic Care Model	• COVID-19 pandemic • Links between PC and public health • Shift from fee-for-service to value-based payment • Behavioral health integration • Patient-centeredness • Health inequities • Erosion of trust • Transition to telehealth • Workforce burnout	• Connection to where people live • Healthcare genomics and personalized medicine • Patient-centeredness • Focus on trust and relationship in medicine • Increasing use of telehealth • Big data aggregation • Remote monitoring • Improved distribution of provider work to decrease burnout

	Past	Present	Future
	• Crossing the Quality Chasm IOM report • NCQA certification begins • HIV/AIDS • Corporatization of medicine	• Increasing specialization of PAs and NPs • Consolidation	
Research	• Practice-based research networks (PBRNs) • Value of mechanistic models • D&I models and implementation science emerge • Mixed methods • Research synthesis • Lack of visibility of PC in research • Barbara Starfield's work on importance of PC • Focus on disparities • CMMI	• SDOH framework • Growth of D&I research • Interdisciplinary research • Community engaged research • Health disparities • Continued lack of visibility of PC in research • Embedded research • Workforce research • Data warehouses • Multiple chronic conditions and whole-person health • Risk adjustment • Patient engagement	• Real world evidence generation • Automated knowledge assessment and synthesis • Greater use of embedded research • Artificial intelligence • Structural drivers of inequality • Use of health equity as a measurement lens • Precision medicine • Growth of D&I • Learning Health Systems • Teams
Primary Care	• Advanced medical home • Burnout in healthcare workforce • Decreased OB care • Resident work hours • Affordable Care Act • Big data • Reauthorization of AHRQ with PC research • PBRNs • Resurgence and then decline of interest in PC • Erosion of rural and underserved workforce • Shifting scope of practice • Solo MD-centric to team-based care • Overload of information	• Community health outside walls of healthcare • Virtual care • Transition to group from individual practice • Health inequities • Disruption of small- and medium-sized practices with COVID-19 • Innovative care models to address PC shortages • Burnout • Relationship between PC and specialty care • Segmentation of care (urgent care) • Provider-based clinic structures • Engaging patients as team members	• Interdisciplinary workforce • Whole-person/whole-community approach • Integrating PC into lives with technology • Opportunity to redefine PC toward equity • Data, tools, and strategies to address reduced workforce and different infrastructure • Less funding • Clinical decision support informed by AI • Telehealth • Quality measures that focus on high-value PC • PC-centric future • Infrastructure that accounts for where we work, play, and live

Activity 2: Big Ideas

The purpose of the second activity was for participants, within the context of all the events highlighted during the Activity 1, to identify ideas that are important to the future of primary care and primary care research. The same 4-6 participants continued in their small groups for this activity and identified two or three "big" ideas for the future of primary care and primary care research. The groups reconvened into a plenary session and shared each of their big ideas, with facilitated discussion.

Big idea topics were most frequently in the areas of data, technology, defining and supporting primary care, creating and understanding teams and structures for delivering primary care (including coordinating with other care systems/entities), and payment structure. Within these theme areas, key features included the following:

Data to Improve Care – Gather the right data that informs the right questions; identify ways to organize and access data; make data available across systems; and especially make data accessible to patients

Technology to Enhance Relationships – Use technology to support relationship-centered care; make care more equitable as well as efficient and effective; and use electronic medical records that support patient care instead of billing

Structures for Primary Care Delivery and Coordination – Create connections between systems (like public health and other care delivery entities) to improve care quality; structure teams within primary care to optimize delivery and outcomes and determine who should do what in the primary care setting; and incentivize new models of care

Defining and Supporting Primary Care and Primary Care Providers – Focus on concepts of what is unique and important in primary care; define how to measure unique and important concepts; define how to support primary care as a public good; and support primary care physicians and teams so they can thrive

Payment Structures – Design payment to support attention to social determinants of health (SDOH) needs of patients and primary care; and engage employers in the creation of payment structures that are more appropriate for primary care services, including coordination of care.

Focus on Patients – Keep patient's needs and perspectives at the center of the conversation; and include patient engagement and appropriate data that drives patient-centered care

COVID-19 – Capitalize on specific ideas from COVID-19 pandemic studies and what it has revealed about primary care, especially with the vaccine rollout

Federal Support/Partnerships – Explore Federal agencies and structures involved in leading primary care efforts, and identify what is needed from agency and departmental leaders

Health Equity – Consider equity in the conversation on all matters including collecting data; center conversations on patient's needs; and keep equity as a lens to examine all issues

Workforce Development – Develop the pipeline for primary care clinicians and other healthcare professionals who are important to delivering comprehensive primary care; and encourage innovative models to engage and support primary care professionals

Research Methods – Include innovative methods in addressing the unique questions of primary care; involve user-centered design and behavioral economics; and use expanded designs that include embedded research, with rapid-cycle and iterative learning

Other – Collection of ideas around topics not represented elsewhere but expanded in the supporting statements below

Supporting statements slightly modified from the chat are included below.

Data to Improve Care

- Have a way that data is centralized so that it can be interoperable, like a primary care data/research space station. Include integration of medical and population health data, patient info, and intervention plans.
- Make sure that data is reliable, accurate, up to date, and useable. Have data systems that can help improve care, not just document and bill for care.
- Adopt big data and tech innovations to decrease provider workloads and increase patient health, while being equitable. From these data, develop metrics that are more valuable for assessing impact.
- Use the data to create evidence that is meaningful to practice and can generate reliability and dependability of data to put into point of care quickly and efficiently. Use the data to do cross-primary care system research on area-, organization-, team-, and provider-level data linked to quality of care and patient experience. Also, use data as a mechanism for healthcare policy morbidity and mortality reports.
- Make proprietary data in EHRs and other locations public so that they can be used to improve health. "Free the data" make medical data a public utility.
- Move forward with the idea of a real-time dashboard of health of the Nation. Use that National Dashboard as a messaging tool about what is important. For example, Scandinavian countries have national registries/databases of their entire populations.

Technology to Enhance Relationships

- Develop models that engage and connect patients through technology while strengthening relationships with primary care and achieving patient-centered outcomes. "Hey Alexa, what is primary care?" Allow patients to get their own data and interact with primary care.
- Using health information technology to make life easier for clinicians and patients. Use data derived to make best practice the easiest practice. We need to use AI to decrease cognitive load so clinicians can focus on relationships and can delivery trauma- and violence-informed care.
- Use technology to answer the how, when, and for whom is virtual care effective?
- Improve EHRs—push vendors to create clinician-centric tools to utilize AI and algorithms obtaining the right information, in the right amounts, and at the right time.

Structures for Primary Care Delivery and Coordination

- Develop models to support flourishing of patients and providers, while minimizing administrative burden for practices.
- Develop a primary care extension service.
- Get primary care and public health to work together to solve problems. Community resilience that includes integration of public health and HCS and develop a workforce that reflects communities.

- Design primary care teams that can use data while maintaining relationships. What does the provider need to do versus a team member?
- Precise and individualized access to primary care: virtual, home-based, or in the office…patients choose!
- Build infrastructure for primary care teams to be well and thrive as teams, individuals, and healers.
- Longitudinal, nationwide care coordination through a real-time electronic care plan exchange.
- Incentivize primary care collaborations with other (non-medical) sectors, e.g., housing, agriculture, etc.
- "Care Traffic Controller" may help in serving populations, leading teams, and managing flows of data from an increasingly diverse set of data sources.

Defining and Supporting Primary Care and Primary Care Providers

- Study primary care; use longitudinal and cohort study of primary care physicians. Define and establish primary care basic science. Support fundamental system science research on the generalist function in health and healthcare. Support primary care as a public good. Define how to optimally fund and structure for the public good and develop more data on primary care value.
- How might primary care or primary care–public health prevent or mitigate allostatic load?
- What is the role of relationship in grounding and healing?
- Invest in primary care that drives flourishing of people, communities, and clinicians as the main outcome.
- High-value primary care measures including continuity, comprehensiveness, trust, and hope.
- Support precision care, goal-oriented care.
- Address diversity, local circumstances, and heterogeneity.

Payment Structures

- Include SDOH funding and cross-sector funding authority (bridge AHRQ/CMMI divide) for new areas of research, workforce design, and payment models. Consider Stuart Butler's work from Brookings: Social Determinants Payment Models—Braiding and Blending.
- Test payment models for integrated care that includes integration with community-based supports for wellness, disease self-management, and basic needs.
- Replace FFS with population-based payments (or at least capitation). Standardize payment schemes, such as by defining high-performing systems and making all payers use those quality metrics.
- Payment structures need to engage employers in the conversation, since most health insurances are from them. There needs to be pressure on employers, payers, and clinicians to reform together.
- Research documenting unanticipated negative consequences of policy.

Other Topic Areas

- Utilize the opportunity to determine primary care response during COVID-19, especially related to use and rollout of the vaccine. Consider the value of primary care for behavioral health concerns post-COVID-19.
- Coordinating primary care research across HHS agencies, such as at the secretarial council, integrating primary care research into NIH, and using the Federal and State hub and spoke model for research and implementation.

- AHRQ should fund more K and F grants, create a strong voice for primary care "voice of angels," designate funding for primary care research, and help find other sources of funding for primary care research.
- Use equity as a measurement lens both to guide investigation and demonstrate value.
- Rethink/rework issues related to racism, other groups; and to follow from that—provide culturally competent and equitable care and how to accomplish that (mitigate racism and cultural biases, eliminate systemic racism). Structural competency.
- Support workforce development for primary care research that includes mentorship, training, and health systems support. Medical education that makes medical students chose primary care and stay there.
- Build a research pipeline, including medical education, mid-career professional development, more flexible funding, and a research track that does not require a PhD.
- Expand the workforce to include community health workers, peer advisors, and people for followup. Need to define competencies, who can do what in the primary care workflow, and who can train them. Goal: everyone works at top of licensure and be able to address SDOH.
- Primary care research must still move closer to practice through use of approaches such as embedded research, stakeholder-engaged research, and practice-based research. Rapid translation of research to practice and practice input to research.
- Use more human-centered/user-centered design and other methods for richer methodology. Need to develop methodology for distilling big data noise and for interpreting big data using small data, with regards to mixed methods research. Use behavioral economics in research to learn more about decisions and actions in primary care delivery (and patient choices).

Activity 3: Wicked Problems

In the third activity, participants worked in small groups to identify "wicked" problems in primary care. Wicked problems were described as issues that are difficult to define and frame, cannot easily be solved with old solutions, require the involvement of multiple individuals and different disciplines collaborating to solve, and have solutions that may lead to unforeseen consequences. Each group was asked to identify two to three wicked problems that affect primary care in the United States today. Small groups were then paired together to share their wicked problems and reflect on the other group's wicked problems.

Table 3.1 summarizes the wicked problems that the groups identified. Several common themes emerged from the discussions: the lack of a clear definition for primary care; the challenge of showcasing the value of primary care; the difficulty in quantifying the benefits of the relational aspects of primary care; the underpayment of primary care; the underfunding of primary care research; the lack of a common voice and bargaining power for policy and payment issues; and structural racism, including lack of diversity in the primary care workforce and the challenges in implementing evidence in diverse populations..

Table 3.1. Wicked Problems and Discussion Points from Small Groups

Wicked Problem	Discussion Points from Small Groups
	Definition, Scope, and Respect for Primary Care
Unclear definition and scope of primary care	• What are essential services in primary care? Who is primary care? • Heterogeneity of primary care makes it difficult to study and measure. • Unrealistic and growing expectations about what primary care can do with a shrinking workforce.
Lack of primary care political and market clout	• Independent primary care practices are closing.
Primary care is poorly understood and not valued in the U.S. healthcare system	• We do not have clear definitions of primary care. • Agents in primary care have given up our power, such as financial decisions or fighting between groups. • Primary care tries to be inclusive of everything, which results in the lack of a clear definition. • Primary care is too defined by transactional care.
Lack of ideal ecosystem of primary care	• What does ideal ecosystem look like? • How do we define the ideal workforce? • There are payment issues and a lack of incentives to address equity.
Lack of strong voice for primary care	• Primary care has lots of different associations and groups, but no common voice. Groups compete for members but have different priorities. • Primary care has limited power in political and economic arenas. • Patients lack an understanding of what "primary care" is and a lack of patient advocacy. • Competition within primary care workforce. • PBRNs demonstrate the value of research networks in primary care, but they are unfunded. Research and implementation are a feedback loop. Empower frontline providers and patients to identify problems and implement solutions. • How can we highlight, share, and implement research more effectively? • How do we "make research relevant"?

Wicked Problem	Discussion Points from Small Groups
	• There is a need to provide venues and resources for high-quality primary care research.
Healthcare Organization	
Healthcare system is the anti-system	• The healthcare system is really an anti-system for connections, with a lack of knowledge about what is paid for. • COVID-19 has demanded that attention is placed on healthcare and there is potential for leveraging this moment.
Consumer demand for care	• Both demand and supply factors drive unnecessary care. • With the culture of consumerism and induced demand, how can we improve decision making? • Primary care is separated from much of the care system. • Need for goal-oriented care, person-oriented care.
Patient-Focused Issues and Health Equity	
Relationship-based vs. transactional care	• People want access and convenience now, and it is hard for primary care to meet these expectations. • How can we help people feel cared for?
The patient is not a dirty window and 15 minutes is not enough to solve poverty	• Can't continue to overload the tiny visits. Should have more time to help the patient. Inconvenient for the patient. • Way we are doing things is not logical, sustainable, or providing good value. • What other sectors (e.g., justice, housing, and food systems) are important to be partners?
Inequities are multi-level and multi-component, and solutions are difficult	• It is difficult to harness data to identify where biases and disparities exist and where innovations could have an impact. • How do you make it feasible for a practice and/or system to address inequities and meet people where they are and address their needs? • How do you make an integrated care plan for each individual?
Structural racism in healthcare	• Inequalities in opportunities. • Unrecognized biases in healthcare. • Intergenerational issues. • Structures that perpetuate inequities. • Importance of complex network of services to address problems. • Potential solutions have a long-time horizon.
Baked in systemic racism	• Racism, poverty, and education are at the heart of societal matters. • For primary care and research, how does structural racism influence how the healthcare workforce is recruited, trained, and maintained/developed? • What are the impacts on how primary care is delivered and on outcomes? • How do we change the structures that perpetuate racism?
How to integrate and personalize care for whole people and communities	• The current approach isolates small problems while ignoring the system and structure that the problems exist in. • Care in the context of family and community. • Need bottom-up approaches to complement top-down approaches/solutions. • Stymied by current research and quality improvement methods. • How to connect to population health needs?

Wicked Problem	Discussion Points from Small Groups
	• One cannot put the whole responsibility for societal problems on primary care. How do we establish connections between primary care and broader community/society? • What payment system would support this approach? • How to connect primary care with social services, others?
Achieving enlightened equity in research, patient care, education, and community wellness	• Disparities need to be explicitly addressed. • Data and resources related to disparities remain weak, despite research and guidance. • There is a danger of medicalizing equity. How do we redirect healthcare resources upstream to tackle SDOH?
Function of Primary Care	
Complex, adaptive primary care delivery innovations are difficult to design, deliver, and evaluate	• Innovations show little or no effect. • Changes are difficult to measure due to the heterogeneity of system. • Primary care has not advocated for its needs well and has not communicated well.
How to improve all the facets of primary care all at once	• Balancing access with continuity, coordination, comprehensiveness, and outcomes often can work at cross purposes. • System is not designed to do this.
Poorly defined primary care delivery	• What do we expect to get out of primary care? • What do different stakeholders think we can expect to or want to achieve? • What measures capture outcomes that matter?
Mismatched responsibility and resources	• Primary care is an impossible task; the scope of responsibility is large and continues to grow. • There is a mismatch between expectations and resource allocation. • Need to pay for wellness, not sickness. • How can we appropriately bridge into communities?
Technology	
We have not been able to develop and leverage technology to assist researchers, clinicians, and patients	• Technology does not support the priority of improved health outcomes. • Data are not easily shared, linked, or used. • EHRs are not designed to support researchers, clinicians, or patients.
Workforce Issues	
No one wants to do primary care	• Health professions student are not crazy; they are very mission driven but do not want to burn out or have the income gap. • Primary care has a problem of recruitment and retention. • Other countries have figured it out. Note: this may not address access/distribution without additional measures.
Small practice survival	• The workforce implications are that it is hard to get people in the field when it is so difficult. • Resources are going toward satisfying administrative requirements instead of patient care. • Business requirements of primary care are crushing and are feeding consolidation. Lower resourced areas could end up with even fewer resources.

Wicked Problem	Discussion Points from Small Groups
Medical education and workforce for primary care	• How can we optimize medical education to create the best primary care workforce? • How much education and training are needed to deliver primary care? • Primary care needs to create a research pipeline.
Financing and Payment	
Financing is antithetical to primary care values/model	• Many specialists are very happy with current setup and have more power. • We pay for interventions, not mental work. • We have not figured out how to measure and value primary care work. • Primary care should be the hub for care, but it is not funded for it.
Perverse incentives in payment	• There is a need for more evidence showing that preventive care saves money. • Lack of appropriate insurance structures. • Diagnosis and procedure-based payment system does not keep the system accountable.
Perfecting payment, divvying up the pot	• How do you pay? How much do you pay? • There is no such thing as a strong healthcare system without strong primary care. • We want to redirect money from tertiary care to primary care. How do we negotiate that? • Is it a zero-sum game or should more be devoted to healthcare, given its broadening scope to include social needs? If zero-sum, who gives up money? What is the right transition model? • Focus on value and clinical quality. • The scope of primary care and payment have a fundamental mismatch. • There is a mismatch between expectations and resource allocation.
Healthcare financing	• If there is no budget cap, how can we support value-based care? • Challenges include strong healthcare lobby, employer-based subsidized coverage, gerrymandering, and current U.S. political system.
Research	
Only 1% of HHS research projects funded are in primary care	• No dedicated line of funding. • Program funding rarely builds focus over time and insufficient primary care training dollars. • Study sections often want novelty, but important problems are not new. • Applied research has insufficient funding.
Data	
Interoperability inertia	• Proprietary data, different data language, and different individuals entering data.
Drowning in data, data lust gone bad	• Unintended consequences to solutions such as solutions to legal and privacy concerns. • No silver bullet, although technologically feasible. • The more data we create, the more it drags us down. • Data often are inaccurate or conflicting and need cleaning and reconciliation.
Freeing data	• Privatization and monetization of health data leads to it not being used for public good. • Freeing data could help us link data sources together.

Activity 4: Wild Innovations

After pairing and sharing wicked problems with another group, participants returned to their initial group to imagine a wild innovation to solve those wicked problems for the fourth activity. Participants were prompted to imagine reading about their innovation in a decade (the year 2030) in a world-famous journal that describes the primary care-related innovation of the decade. Each group was asked to focus on one innovation, describe the innovation, how it worked, and how it impacted primary care, the healthcare system, public health, and society at large. The groups were tasked with describing the biggest obstacles to the innovation and how they were overcome. Finally, each group was asked to list 3-5 critical solutions that contributed to the innovation working. The solutions each group brainstormed were then collated for use in Activity 5 (Metamorphosis).

In the large group report-out, innovations coalesced around three broad areas: (1) the rise and enhancement of primary care; (2) the leveraging of technology and data to deliver patient-centered care; and (3) the achievement of health equity by focusing on education, stakeholder engagement, and community wellness.

Rise and Enhancement of Primary Care

For the rise and enhancement of primary care, groups discussed designing a system that supported comprehensive, high-quality primary care by fundamentally redesigning a system that is currently siloed by specialty, disconnected from patient-centeredness, and poorly resourced for primary care. The goal is to rebuild the healthcare system with primary care as its hub in a system where primary care clinicians are empowered to care for the whole person in the context of family and community. These critical solutions emerged from group discussions:

- Get everyone a primary care clinician.
- Design an effective, value-based payment mechanism that adequately pays for whole-person, integrated care.
- Focus on “flourishing” in primary care.
- Use patient-centered definitions and outcomes rather than intermediate, arbitrary outcomes.
- Quantify the value of primary care.
- Align safety-net primary care with the rest of primary care.
- Collaborate with disruptors and innovators outside of healthcare and learn from successful, mission-driven models outside of healthcare.
- Start a social media campaign for the public to help showcase the value and importance of primary care.
- Activate an advocacy strategy for primary care that is evidence-based.
- Require information sharing and connectedness.
- Develop a national database of primary care outcomes.
- Create networks of primary care research centers.
- Develop and promote innovative research methods in primary care.
- Use implementation science.
- Align payment models to promote continuity of care, person-centered care, wellness instead of sickness, and to reimburse value.

Leveraging Technology and Data to Deliver Patient-Centered Care

Groups discussed innovations that leveraged technology and focused on using data. The discussion revolved around the need for patients to control their own data. In addition, discussions focused on having

technology and data to support patient-centered care and improve communication, instead of causing burnout for clinicians and serving as a barrier to the patient-clinician relationship. One potential innovation is informing clinical practice by integrating clinical and social data within the electronic health record. Specific critical solutions included:

- Ensure all Americans have access to broadband internet and devices to access broadband.
- Make telehealth accessible to all by improving usability.
- Write advanced analytics on prioritizing and summarizing information and keep data that is important at forefront of displays.
- Free privatized and monetized data.
- Link data sources with a universal identifier.
- Engage local stakeholders and payers in making technology a priority.

Achievement of Health Equity

Several groups created innovations around eliminating health disparities or mentioned health equity as an essential component of their innovations. Problems identified included structural racism, lack of evidence for clinical care and implementation strategies in minority populations, and new technologies that potentially could unintentionally increase disparities across groups. Innovations leveraged medical education, research, community engagement, and data analytics to reduce health disparities. Critical solutions included:

- Reform payment to promote the reduction of disparities, access of care, and patient values.
- Incentivize partnerships with community organizations.
- Redesign primary care workforce to match patient populations.
- Leverage social data to understand health inequities and include measures that utilize health disparities.
- Use health data to identify the highest groups.

Activity 5: Metamorphosis

The goal of the fifth activity was to have participants begin to transform their innovative solutions into researchable questions. This activity built upon the two previous activities—identifying wicked problems and creating wild innovations with solutions to those problems. Following Activity 4, the planning team collated and reviewed all the groups' solutions and assigned them to one of five categories: patient-centeredness, clinician and practice, system and infrastructure, community and public health, and equity and disparities. The categories were informed by AHRQ's previous research agendas and adapted based on the solutions proposed. Some solutions crossed multiple categories.

A total of 40 different solutions were identified. Each group was assigned four solutions and asked to transform them into research questions that can potentially be addressed by AHRQ.

During the report-out session, each group presented two of their research questions using a standardized approach where they included the following information:

- Short title of solution.
- What is the problem this solution addresses?
- How would you frame the solution as a research question(s)?
- How will we know if the solution worked?
- Are there innovative research methods you would use to answer the question?
- Is this short-, intermediate-, or long-term research?

The 40 solutions addressed a wide variety of challenges for primary care. Notably, the groups identified some common cross-cutting problems being addressed across by multiple possible solutions. These problems included the role of insurance (lack of and under-insurance), mistrust of the healthcare system, health inequities, need for more patient engagement, inadequate data systems, and insufficient resources in primary care. Broader societal problems were also identified as having an impact on primary care, such as food insecurity, housing, transportation, access to healthcare, and trauma.

The groups also identified some commonalities in understanding whether the proposed solutions worked. Several groups framed this as the goals of the triple aim: improved health outcomes, better care team experience, and better patient experience. Other outcomes of note included reduction in unnecessary utilization, equity of information, better appreciation of primary care, improvement in social determinants of health, reductions in hospitalizations, improvement in patient-reported outcomes, and improved access to care when needed.

Several innovative research methods were identified. Common suggestions included mixed methods research, the study of exemplars, approaches that implement and test new models simultaneously, process engineering, use of adaptive leadership principles, social network analysis, asset or strength-based methods, system science approaches, behavioral economics, user-centered design or co-design, and agent-based modeling.

Other suggestions focused on more use of traditional health services research approaches, including systematic reviews, implementation science, stakeholder-engaged or participatory research, longitudinal cohort studies, expanded use of PBRNs, and pragmatic trials.

All the groups noted there were opportunities for research in the short, medium, and long term, and notably that while long-term investments were needed for in-depth understanding of what works to improve primary

care, much can be done in the short term to take advantage of existing natural experiments or rapid demonstration projects.

The table below lists by category the solutions that were addressed and the research questions associated with each solution.

Table 5.1 List of Solutions and Resulting Research Questions

Category: Patient-Centeredness	
Solution	**Research Question(s)**
Increase stability of patient-provider relationships irrespective of insurance	• How can insurance be structured to support the relationship between patients and providers? • How can payment for primary care be structured to support continuity for primary care?
Patient ownership of their own data	• How can we build effective, equitable models that enable patient engagement and actionable ownership of their health data in achieving their health goals?
Improve shared decision making (SDM) and sustain patient-provider relationships for care and well-being	• What works and what does not work with SDM tools? • What are some structures/processes to put in place to support SDM? • Can we use clinical decision support tools that would decrease clinician cognitive load? • What are the impacts of policy on primary care delivering equity-oriented processes? (e.g., comparative policy analysis). • What interventions could effectively support SDM and trust in primary care under varying environmental conditions?
Create models for including family and culture in clinical decision making	• What kind of workforce training and curricula lead to improvements in empathy and patient-centered clinical decision making? How and why does it work, using an implementation of a science-based evaluation? Utilize NASEM framework for implementing team-based care. • How are we defining culture (and who is defining culture) and does that align with the patient experience? • What is the cost component relating to long- vs. short-term costs?
Integrate patient-reported measures into care	• What are the measures that matter most to primary care patients, and what are their perceptions about how those are measured? Which patient-reported outcomes (PRO) measures should be used? • What does a parsimonious set of measures look like? • How do current patient-reported measures perform compared to the first question? • How do PROs relate to other outcomes (quality, costs, utilization, and equity)? • What are most effective approaches to integrating PROs into primary care practice?
Mission-driven primary care co-designed with patients and providers, supported by extension centers	• How can we refocus on the core mission of primary care (caring for whole people) rather than the currently fragmented, disease-specific approach? • How do we define flourishing? • What do patients expect from primary care? • What are the important outcomes?

Category: Patient-Centeredness	
Solution	**Research Question(s)**
	• How do we connect what matters to patients with what matters to payers/policymakers? • How do we measure success of primary care models? • How do we design primary care in a way that patients/communities are co-designers/co-producers? • What type of extension center model would be most effective in identifying and sharing best practices across primary care providers? • Where are the biggest gaps in primary care? • How does primary care fit in with the broader healthcare system and society? • What data do we need for effective research and advocacy?
Design an effective, value-based payment system that pays for whole-person care	• How can patient and clinician values be aligned into a payment system? • How can joy in practice be restored as an outcome? • How can payment shift toward consequential actions that enhance productivity? • How can we import international models of success into the United States?

Category: Clinician and Practice	
Solution	**Research Question(s)**
Optimize team composition to strengthen link between person-centered care and improved outcomes	• What team members are needed for various populations to best achieve health outcomes? • What team members are needed for each patient (right patient, right team, and right time)? • Do all team members engage in the balance between relationship and transactional care? • What are the optimal methods for team communication to assure good care and shared mental models, and with telehealth, and how does that work?
Develop models to address short- and long-term impact of COVID-19 on primary care	• What is the short- and long-term impact of COVID-19 on primary care? • What is primary care's role on contact tracing? • What is appropriate ambulatory care for COVID-19 patients who do not need hospitalization? • How to create appropriate community care and connections to address SDOH? • How to address the physical and emotional burden on providers, patients, and communities? • What are the criteria for in-person vs. telehealth visits? • What are integration models with public health and primary care? • What will be the impacts of long-haul COVID-19?
Implement models for coordinating care	• What can we learn from other systems (non-healthcare) about delivery and coordination? • How do you best balance the needs of patients and providers?

Category: Clinician and Practice	
Solution	**Research Question(s)**
Understand the value of primary care services from a payment perspective	• What is the nature of primary care-sensitive measures that are currently difficult to measure, and how do these longitudinal measures of primary care-sensitive services preform over time? • How do you measure whole-person care over time? • How do we best measure comprehensiveness, continuity, care-coordination constructs, data needs, and at what level (clinician, team, practice)?
Get everyone a primary care clinician (PCC)	• Is it supply or demand? • How can we design a better model of "precision care" (patient preferences—right care/right place/right time)? • How can we understand why people seek primary care? What are the expectations? • How do we better understand the supply pipeline (and why we fall short of the 40% primary care clinician goal)? • How do we protect the current workforce? • What does it take to recruit and retain a sufficient number of PCCs?

Category: Systems/Infrastructure	
Solution	**Research Question(s)**
Develop common data elements and data infrastructure to drive primary care change	• What else besides health information exchanges (HIEs) or how to get HIE's (or coupling with Community Information exchanges [CIEs]) to work to create a shared infrastructure? • What can be a common language that works for everyone/most? • What is the business model for data sharing? • What best captures primary care performance? • What best captures what primary care really is or is supposed to be? • How to create commonalities across geographies and what differences matter?
Develop innovative research methods	• How to deploy, integrate, and adapt methods developed elsewhere to improve and understand primary care (using new primary care big data)? • How do "big" and "little" data inform each other with mixed methods to focus on primary care?
Information equity	• What models exchange information and build relationships across primary care/behavioral health/public health can leverage technology to improve patient outcomes? • What are the barriers to information exchange? • How do we lower the activation energy for adoption of information exchange for small practices? • How do we help practices see the benefit and value (to patients, not just the cost)?
Define what primary care should be in 2025	• How should primary care be defined and measured from a shared stakeholder perspective?
Free up privatized and monetized data to improve health outcomes	• What is the impact of using these data sources to advance primary care practice?

	• Who would (or would not) be represented? How would equity be impacted?
Empower interoperability to enable information sharing	• What is the impact of the lack of interoperability on patients? • What is the cost and who pays it? What are the outcomes? What is the return on investment? • How would workflow change with interoperability? • What would an ideal EHR design look like that supports workflow, patient engagement, clinical decision support, etc.?
Support universal access to primary care	• How to increase workforce supply so that workforce mirrors population, and what is the value of concordance to patients? • What can other countries tell us about the impact of universal access on patients and healthcare organizations? • Do intermediate and long-term outcomes offset costs, including out-of-pocket costs to patients and social services expenditures? • How do you effectively partner between primary care and social services? • What are optimal access management strategies? How do you build trust in patients so that patients will access the care?
Develop a national database of primary care outcomes	• What are primary care outcomes that matter most to patients, physicians, and funding entities? How do these matter over time? • How do we set up a national primary care database? • Where do we best assess primary care outcomes with clinical outcomes, reduced hospitalizations, and/or mortality changes?

Category: Community and Public Health	
Solution	**Research Question(s)**
Share staff and resources across practices within a community	• Do community health teams reduce costs and improve quality? • Do deployable (e.g., rehire/redeploy people already in the system) human resources result in increased efficiency across communities? • What are the unintended consequences to various community personnel sharing models?
Create social support and social networks in improving health and healthcare	• What does analysis of social networks and assessment of assets and gaps in social networks reveal? • What are the characteristics of social networks that promote health?
Create State or regional primary care extension centers	• What strategies have been effective in creating sustainable State or regional extension service models?
Partner with community-based organizations	• What community-based organizations are highest value at improving patient outcomes? • What value does the primary care practice offer to community-based organizations at improving outcomes and minimizing burden on primary care?

Category: Equity and Disparities	
Solution	**Research Question(s)**
Engage local payers and stakeholders in addressing racism and health inequities	• How can measures that help illustrate and describe racism and health inequities be used to engage local payers and stakeholders? • What are payment models that can create infrastructure and support to target racism and health inequities? • What are contributors to racism inequities and what stakeholder groups need to be involved?
Identify data elements to understand health inequities	• What are the data elements that a practice could use to help them understand and address health inequities within their own population? • Given that many patients do not seek, or desire help for identified inequities, what are the effective models for addressing health inequities based on identified data elements?
Recruit diverse workforce in rural and urban underserved areas	• What are the deeper, identifiable factors that predict candidates going into primary care and underserved areas? • What are the means to overcoming the true deeper issues that de-incentivize going into primary care and underserved areas? • What would happen in terms of primary care choice and where to practice if medical student debt was not an issue? • Does exposure to different environments (or what else makes a difference) increase the choice of going into primary care and underserved areas? • What factors support researchers to do research in these areas? How to use the available options?
Linking clinical and social data sources to enhance equity	• What is the value added knowing social data to improve equity or SDM (not related to the exam room at individual level or community level, structure of healthcare, or individual/community stressors/trauma)? • What is the difference in paying for individual risk factors related to social determinants of health (SDoH) vs. community risk factors? • How we measure SDoH so that primary care can address them (individual vs. community)? • How do we determine impact of interventions directed to social drivers on clinical needs and the health of patients? • How can we create a dashboard combining different system interventions to advance health equity? • How do we understand the drivers of health inequities? • How can we use data to understand multi-level interventions? • How can we use data to learn about resilient individuals and communities? • How can we “shore up” both primary care and public health to enhance equity?
Create models for prioritizing equity and targeting care for those with the poorest outcomes	• What technological innovations will provide access to populations that currently do not have access and as a result have poor outcomes? • How can we target care without introducing stigma? • How do we improve equity-oriented and trauma- and violence-informed care? • How to create toolkits or PCORI-funded tools to increase equity-oriented processes?

Category: Equity and Disparities	
Solution	**Research Question(s)**
	• What are the interventions to get toolkits in place in practices? • How to improve access to appropriate care and appropriately trained providers? • How can we deliver care in places that people with poorest care trust?
Workforce looks like the community it supports and serves	• Who do patients want to deliver their care? • Who is the care team? • Will concordance improve communication, care, etc.? • What other characteristics are important other than concordance?

Several solutions were developed in Activity 4, which were not explicitly addressed by the groups or were folded into other solutions and research questions. These included:

- Aligning safety-net primary care with non-safety-net primary care practices.
- Leverage primary care's purchasing power to negotiate better solutions.
- Implement payment models based on value.
- Advocate for the importance of primary care health outcomes.
- Coproduce evidence with providers, patients, systems, public health, community-based organizations, and policymakers.
- Uncover approaches to better coordinate primary care and public health.
- Ensure cultural competency to improve outcomes in primary care.

Activity 6: Looking for Blind Spots

This session was held as a large-group session and was intended to provide a final check for undiscussed areas prior to the final session on building the research agenda. Participants were asked to use the chat to identify any key concepts or ideas for what might be missing in the conversations or not yet discussed. The moderator acknowledged the key statements raised in the chat and asked participants to provide a greater explanation of their point.

In contrast to the big-idea topics, there was much less emphasis on technology, COVID, health equity, and workforce development. Most of the discussion focused on defining and creating value for primary care, what patients really want, and centering primary care on what patients want and need. The discussion provided an important check to ensure all voices and issues were heard during the conference. Summaries of specific areas that were most discussed are below.

Data – Primary care should make better use of current data sources like National Ambulatory Medical Care Survey (NAMCS) to assess and improve primary care. In addition, creating new databases could help better identify, measure, and demonstrate the value of primary care. Primary care should be assessed with including qualitative data as well as big data. Assessment needs to be able to integrate data sources together.

Structures for Primary Care Delivery and Coordination – Primary care coordination should be between primary care and specialists/other care including eConsults. Care coordination should study effective teams and how that looks in the virtual environment, integrating and coordinating with public health, and reducing fragmentation in care.

Defining and Supporting Primary Care and Primary Care Providers – This topic area is probably described better as defining the value of primary care, especially from the patient's perspective. Patients may not value continuity, instead preferring short-term, timely care. A focus should be on understanding what patients and others do and "should" value from primary care, including whole-person orientation, relationship, comprehensiveness, and coordination. Consider revisiting Barbara Starfield's work in the current context. This area needs marketing to promote the value of primary care from the patient and system perspective.

Focus on Patients – Focusing on patients has a lot of overlap with the defining primary care category. Care should focus on engaging patients in defining primary care, what is of value to patients, and ways to measure that value.

Federal Support/Partnerships/Cross-Sector Relationships – There is a need for cross-sector collaboration and communication—at all levels. This requires a need for funding for small tests of change. In addition, there is an importance of alerting policymakers about primary care and the need for support.

Payment Structures – Ideas to study policy implications of payment structures include value-based payment, role of purchasers, comparative analysis across States, and effect of non-billable activities.

Research/Research Methods – Research methods should include qualitative work to understand issues, ways to provide feedback loops to inform practices, and ways to bring learning to scale.

Below is a list of general comments, ideas, and questions raised in the open-ended "blind spot" discussion

Data

- Can we pull NAMCS from National Center for Health Statistics to AHRQ to do a better job of assessing ambulatory care and particularly primary care, doing a better job on the quantitative, but also having a qualitative sample? Without good primary care databases and with few primary care researchers with big data skills, we are at increasing risk of not being able to tell primary care's story—the basic science, value, teams, and outcomes. Our country is largely blind to the sector that provides more than 35% of all care and more than half of all outpatient care. There needs to be a dedicated primary care database, not just NAMCS or Medical Expenditure Panel Survey (MEPS), but a revised or different NAMCS-like instrument.
- Freeing the data will encourage multiple stakeholders, across industries, to help answer some of our questions. What can we learn from the All of Us model, in which non-scientists can become investigators? Freeing data is an exciting door for patients to enter user-centered design conversations.
- A truly unified data aggregation infrastructure could give data back to practices.

Structures for Primary Care Delivery and Coordination

- Care coordination between primary care and other specialist care is important. eConsults have made getting specialist opinions and getting patients seen more rapidly, which has been fantastic. An example of a good model includes eConsults strengthen primary care by keeping the patient relationship within primary care but meet the patient's need to get additional support and input. However, eConsults still need substantial study.
- What does high-quality team-based care look like in a virtual setting? What technology platforms are effective in supporting it?
- Expand the Learning Health System work to explore the leadership of primary care in achieving health outcomes in such systems. Include both descriptive studies and then increased multilevel facilitation to bring primary care leadership to those efforts.
- What kinds of teams are most successful in advancing different groups of patients to improved outcomes? What processes support simultaneously sustainable reimbursement, patient- and care-team experience, and highly effective evidence-based care?
- How do we scale local care? Primary care is heterogeneous and provides remarkable heterogeneity of results. Sometimes it is necessary to reinvent the wheel; however, balancing individual community nuances with broader interventions should be considered.
- Look more deeply at public health and primary care integration. For a research question example, what have States done well with primary care and public health integration during the pandemic and effects on population health vs. States that did not have such integration?
- Study of high-functioning models of primary care and how to scale those models are needed (returning to the potential of extension agents).

Defining and Supporting Primary Care and Primary Care Providers

- Reductionist approaches and methods may miss what is important about primary care. An important problem is fragmentation. A vital part of the solution is primary care, which needs to be understood not merely as the sum of its parts but as a whole. A fundamental research question is:

how do you integrate, personalize, and prioritize care for whole people in their family and community context?

- A major gap includes understanding and acceptance of primary care and what it is; there is a sense of a marketing need. Ask most people what a "primary care medical home" is and they could not tell you. Primary care needs to be part of an essential component of living a healthy life, a natural touchpoint, and support; we are not there. This makes advocacy for primary care research, funding, payment transformation, and workforce development so much harder. How can the frustration with the importance of primary care be reconciled with how so many feel about lack of access (minute clinics), lack of continuity, and lack of trust? So, just like we need to update typography of primary care and the sense of what services are being delivered, we need to update what patients value. Primary care needs better models for "selling" and "packaging" services. One issue for improvement on more dissemination was tweeting and using social media for promoting how primary care works for patients.
- We need to define what primary care is for the world. Beyond cost-effective care, relationships, and comprehensive care, policymakers and the public need to be told what primary care offers that other specialties do not.
- Primary care basic science should include: observational work on what primary care is now (what works, why, and in what setting), horizontal integration working across specialties and services, a primary care scholar program that has a small percentage of funding for a specified number of years to think creatively, special instructions to a special study section to open the door for innovative work, and care-seeking behaviors such as why do people seek care and what are they expecting when they get there.
- Barbara Starfield's work on contribution of primary care to healthcare should be revisited. But others do not entirely agree with the notion that Barbara Starfield's work needs to be redone. So much has changed in terms of modalities, models, staffing configurations, and relationships to other provider types and models that the research that she conducted and summarized so effectively needs to be brought into the 21st century with an eye to the 22nd. It is not clear that the effects she found decades ago would still hold with the watered down, reduced scope primary care that is available in many places now, and in the current social context.
- Ideally, primary care lays hands (literally and virtually?) on every person in the land every year; that is a huge opportunity for messaging in addition to medicine. We have tools for both messaging and medicine we never had before. Do we know what we expect of primary care for the next 10 years? If we know what we expect, we can hone in on what science can do in service to those expectations.
- While the contents of medicine have changed, the core aspect of primary care is the same: relationships. There is a lot to know; luckily primary care clinicians are committed to knowing all this science and applying it to the individual person. Points to consider include the human connection in the face of advancing technology, ways in which big data institutionalizes inequities and how to work against them, the equivalent of EMILY's list, and information mastery.

Focus on Patients

- How would patients redesign primary care and how would they interact with it? What is the consumer's view of high-value care and how does that match up against our view of high-value care? Impressed by the Peterson Center's support for a high-value primary care evaluation, can we do one more focused on patient engagement and benefit? Much more needs to be known about how to integrate goals, values, and preferences into primary care workflow and drive care based on these desires.
- Ask employers, patients, and others what they think of primary care. What are their perceptions about barriers and facilitators (because we have made a lot of assumptions)?

- There should be a method to understand why patients seek different care types. A qualitative cohort study of a sample of patients could be helpful for understanding how patients access care and how they decide to seek care. This could be a supplemental approach to the ecology of care, thereby expanding to not just numbers, but the why of care? For example, what made someone decide to see a massage therapist, chiropractor, or family physician/general internist for low back pain? More participatory research to bring in patients and families as partners and advocates.
- The United States is participating in the OECD Patient reported Indicator Survey: PaRIS—practice-based PREMs/PROMs. This will start to link the data. This could be an opportunity for AHRQ to start collecting better data from PREMs/PROMs and practices.

Federal Support/Partnerships/Cross-Sector Relationships

- Questions about AHRQ: What portion/percentage of the AHRQ work on primary care research was represented over the past 2 days? What is the scope and role of ARHQ in cross sector collaborations such as for payor, community, CBOs, or educational institutions? The "problems" that have been enduring (e.g., fragmentation, burnout) can only be addressed by systems-oriented interventions. How does AHRQ act as a "connector" between stakeholders: community, individuals, schools, payors, CBOs?
- Funding supports analysis of natural experiments. Many insurers and employers are piloting new models, but not studying the implementation or the benefits that are derived. Funding should support learning evaluations, like that conducted during EvidenceNOW.
- There is possible interest in boosting Medicare payments to primary care and expanding value-based payment arrangements. The AHRQ workgroup's goal was to make the case for primary care as a priority for the current administration in areas including workforce supply, education, diversity, and payment reform to make the specialty more desirable and effective (Bob Berenson, an Urban Institute fellow who participated in the advisory group).
- Small grant investments could go to advance innovative new research methods, such as app development.

Payment Structures

- Value-based payment is urgently needed, especially with COVID. Value-based payment should include not only how and what to pay, but also how to measure most important things.
- A mental model or other modeling about what the impacts on health and costs would be without primary care would be a shocking representation of the value taken for granted.
- Do not forget the role of purchasers and what they want to buy; they need to be at the table in these primary care discussions to help educate as well as learn.
- How do the policies impact primary care? The United States is essentially a bunch of independent States. What would comparative policy analysis reveal?
- Payment structures need to evaluate the effect of non-billable activities on care, such as phone calls, community health workers, emails, and educational materials.

Research Methods/Research Strategies

- Research areas should include how to translate research findings into policy, or else it is just cool research.
- A qualitative prospective cohort study could include medical anthropology, sociologist, or someone who understands qualitative data collection well. It would be fascinating to better understand the patient's perspectives on how they deal with all the health problems in their lives.

- A high priority is an acceleration for study, translation, dissemination, and feedback to scientists from practice.
- Scientific rigor must be balanced with the speed of science. What are innovative methods for this balance?
- There is a treasure cove of 'practice-based' information regarding adaptation of research to practice that does not have a good pathway for scaling.

Other Topics Less Frequently Mentioned (Health Equity, Workforce Development)

- In the context of health equity, setting the standard for quality is important. A powerful message would be if AHRQ sets an expectation that all data should be stratified (e.g., by race) and understood from an equity perspective. Equity is not clearly defined—operationally and in terms of measurement. If we are going to use equity as an important outcome and frame, we need to be clearer.
- Missing: How do we support and sustain the non-licensed members of the primary care team to prevent burnout, turnover, and fully leverage their relational/lived knowledge of patients and communities?
- Two issues in primary care are 1) two-way communication and 2) decision making on both sides (e.g., SDM), cultivated in an atmosphere of intellectual humility (open-mindedness and a willingness to admit being wrong).

Activity 7: Building a Research Agenda

This activity used the outcome of Activity 5 (Metamorphosis), where the small groups were each given four solutions to wicked problems in primary care. Each solution was in one of five domains: patient-centeredness, clinician and practice, system/infrastructure, community and public health, and equity and disparities. The teams transformed those solutions into research questions. Those research questions were collected and collated into lists for each of the five domains. Closely related questions were then combined, and duplicates were removed. In addition, questions that emerged from the discussion from Activity 6: Looking for Blind Spots were added to the list of research questions if they filled a gap. A final list of nearly 40 research questions resulted from this process.

In a large-group session, a facilitated discussion engaged all participants in a consensus-building exercise to determine the research questions they felt should be the highest priority for AHRQ. The consensus-building had two components to it. First, participants voted through the Zoom annotation tool on what they felt were the three highest priority research questions that AHRQ should address in each of the five domains. Then, using the chat function, participants were asked to answer three questions:

1. Why should this topic be a priority for AHRQ research?
2. What innovative methods can be brought to bear on this research question?
3. How do we maximize AHRQ's impact?

Patient Centeredness

The following eight questions were in the domain of Patient Centeredness. The "*" questions were rated the highest priority by group.

1. *How do we refocus on the core mission of primary care (caring for whole people) rather than the current fragmented, disease-specific approach?
2. *How do we align what matters to patients and clinicians into a payment system? How do we inform policymakers and payers about patient and clinician values?
3. *How do we design primary care in a way that patients and communities are co-designers and co-producers?
4. What are the most effective approaches to integrating patient-reported outcomes into primary care practice?
5. *How do we build effective, equitable models that enable patient engagement and actionable ownership of their health data in achieving their health goals?
6. What workforce trainings/curricula lead to improvements in empathy and patient-centered clinical decision making?
7. What interventions and tools could effectively support shared decision making and trust in primary care?
8. *Why do people seek primary care and what expectations do patients have?

Clinician and Practice

The following six questions were in the domain of Clinician and Practice. The "*" questions were rated the highest priority by group.

1. *What are the short- and long-term impacts of COVID-19 on primary care? How are primary care patients and providers supported regarding the physical and emotional burden of COVID-19?

2. *How can we design a better model of “precision care” to address patient preferences (right care/right place/right time)?
3. *What is the nature of primary care-sensitive measures currently difficult to measure and how do these longitudinal measures of primary care-sensitive services perform over time?
4. What infrastructure and incentives are needed to increase workforce supply so that workforce mirrors populations?
5. Does concordance in culture and identity between patient and provider improve communication, care, and outcomes?
6. What models best restore joy as an outcome?

System/Infrastructure

The following nine questions were in the domain of System/Infrastructure. The “*” questions were rated the highest priority by group.

1. *What are the most effective investments that we can make in PBRN infrastructure to enable them to develop unique research methodologies that account for pragmatic and adaptive systems and to understand and improve primary care?
2. What is the impact of the lack of interoperability on patients in terms of cost and outcomes?
3. How would workflow change with interoperability, and what EHR design could ideally support this workflow?
4. *What type of extension center model would be most effective in identifying and sharing best practices across primary care providers?
5. *How should primary care be defined and measured from a shared stakeholder perspective?
6. What can primary care learn from other non-healthcare systems about delivery and coordination?
7. How can health information exchanges coupled with community information exchanges work to create a shared data infrastructure with a common language that best captures primary care performance?
8. How might primary care make use of privatized and monetized data to advance primary care practice if it were freely available?
9. *How can primary care in the United States learn from international models of success?

Community and Public Health

The following seven questions were in the domain of Community and Public Health. The “*” questions were rated the highest priority by group.

1. What community-based organizations have the highest value at improving patient outcomes?
2. *What value does the primary care practice offer to community-based organizations at improving outcomes and minimizing burden on primary care?
3. *What models to exchange information and build relationships across primary care/behavioral health/public health can leverage technology to improve patient outcomes?
4. What are characteristics of social networks that promote health?
5. *Do community health teams reduce costs and improve quality? What are the unintended consequences to various personnel-sharing models?
6. How does primary care effectively partner with social services?
7. What have States done well with primary care and public health integration during the pandemic? What effects does integration have on population health outcomes?

Equity and Disparities

The following seven questions were in the domain of Equity and Disparities. The "*" questions were rated the highest priority by group.

1. *What are the data elements that a practice could use to help them understand and address health inequities within their own populations?
2. *What are payment models that can create infrastructure and support to target racism and health inequities?
3. Given that many patients do not seek or desire help for identified inequities, what role do primary care clinicians play in addressing health inequities, and what are effective models for addressing health inequities based on disparities identified on screening?
4. What is the difference in focusing on and paying for individual vs. community social determinants of health risk factors?
5. *What technological innovations will provide access to populations that currently do not have access to care?
6. How can we create toolkits or patient-oriented tools to increase an equity-oriented processes?
7. What are the deeper, identifiable factors that predict primary care clinicians working in rural and urban underserved areas? What are means to overcome deeper issues that de-incentivize working in these areas?

Table 7.1: Research Questions Selected to Discuss by Categories

Research Question	Summary Statement	Key Points/Quotes
	Patient-Centeredness	
How do we re-focus on the core mission of primary care (caring for the whole person) rather than the current fragmented, disease-specific approach?	AHRQ is the only Federal agency that focuses on whole-person care. Summing up the various diseases from the disease-specific approach that is used by the NIH does not equate to primary care.	• Caring for the whole person is core to what primary care is as a discipline and why it is different from other disciplines. ▶ "Whole people, not fragmented—nowhere else in NIH can we do that work." • Primary care has a holistic model that is not a sum of the various parts. ▶ "Because primary care isn't simply the sum of a lot of diseases and conditions." • Primary care considers patient values and preferences. ▶ "Because it gets patient priorities solidly in the mix."
How do we align what matters to patients and clinicians into a payment system, and how do we inform policymakers and payers about patient and clinician values?	New payment methods and incentives are needed since payment drives the care and the models of care that are delivered.	• Align value-based payment with patient/clinician values. ▶ "Care is too often driven by payment, due to the need to stay in business." ▶ "This will help us design primary care that people will use." • Financial incentives are needed to drive redesign and actually change practice. ▶ "This will help us design primary care that people will use." ▶ "What gets paid gets done, financial incentives can actually change practice." • The need to improve outcomes. ▶ "Financial incentives enable primary care to make positive change while being sustainable."
How do we design primary care in a way that patients and communities are co-designers and co-producers?	Engaging both patients and communities in designing and producing models of primary care will ensure that patients receive care they want and also help reduce inequities.	• Employ user-centered design principles and processes. ▶ "User-centric design will increase the success of the next model of primary care." • Meet needs driven by community needs. ▶ "Providers and patients are both the consumers of primary care, and thus, we need to know what their priorities and visions are." ▶ "We need to make our work patient-centered rather than telling people what they should do." • While challenging, engaging patients and communities will be beneficial in redesigning primary care. ▶ "I worry that this is too heavy a lift, at least the community engagement portion. Co-designers among patients could be hugely beneficial though in rethinking and recrafting our priorities." ▶ "The 'system' has been designed around the needs of providers and does not take into account what's important to and works for patients and communities."

Research Question	Summary Statement	Key Points/Quotes
		• It will help address structural inequities. ▶ "This will enable translation into communities and will address structural inequities we might not be able to realize on our own."
How do we build effective, equitable models that enable patient engagement and actionable ownership of their health data in achieving their health goals?	Patient ownership of data can help with activation and engagement; however, disparities in access to technology could lead to further disparities if not attended to explicitly.	• Encourage free information exchange. ▶ "Free the data is a good concept, but we also have to make sure the data are free of bias, that everyone can interact with data in a meaningful way, and there is a way to receive feedback." • Recognize that patients spend most of lives outside of the healthcare system. ▶ "Because so much of our time is outside the healthcare system and is self-managed care." ▶ "Engage patients more directly in their own health." • Need to address racism and inequities to access. ▶ "Racism is so pervasive, and the country is demanding approaches that will resolve racism in this country." ▶ "Built-in inequities in access to technology need to be recognized and addressed." • New models need to engage patients in care. ▶ "If we want to impact outcomes, we need a different model/understanding of patient activation and engagement." ▶ "Using journey mapping to re-design the patient experience."
Why do people seek primary care, and what expectations do patients have?	Why people seek primary care has changed and is different by demographic group. Understanding why people seek care can help design primary care around the things that matter to patients and clinicians. It can also help to advocate for and promote primary care.	• Both provider and patient perspectives are important. ▶ "Providers and patients are both the consumers of primary care, and thus, we need to know what their priorities and visions are (it sounds like we don't know this)." ▶ "All primary care research seems to depend on understanding why it matters for patients." ▶ "Communities have important questions and important solutions." • Support marketing and messaging about primary care to advocate for who we are/what it is. ▶ "Encourage patient-centered design." ▶ "Do most people even know what primary care is? Not sure if others think about it as much as we do." ▶ "Help with our messaging and advocating about who we are." • Expectations need to be continually revisited and need to be recognized as different for different patients. ▶ "We cannot rely on historical data to understand current utilization patterns and the prevalence of conditions people are coming to primary care with."

Research Question	Summary Statement	Key Points/Quotes
		▶ "This has changed dramatically, and we need to understand where patients are–this should be cut by demographics."

Research Question	Summary Statement	Key Points/Quotes
		Clinician and Practice
What are the short- and long-term impacts of COVID-19 on primary care? How are primary care patients and providers supported regarding the physical and emotional burden of COVID-19?	The COVID-19 pandemic has created extreme challenges but also unique opportunities to rethink primary care of the future. While COVID-19 is a short-term problem, it will have long-term ramifications for primary care.	• Lessons learned about pre-existing vulnerabilities of primary care. ▶ "PCPs are burning out and closing. There will be major setbacks in the overall primary care network in this country if we cannot keep the infrastructure in place." • We need to leverage the moment to learn how primary care can be redesigned. ▶ "The current 'natural experiment' is a uniquely valuable opportunity to develop new insights, and many changes will persist such that early research will be helpful." ▶ "A unique time and place to demonstrate value of primary care." • Current COVID-19 research is focused on acute, tertiary care settings and ignores the longer implications of COVID-19 for primary care. ▶ "COVID-19-related research is going to be short-term and not make the fundamental evidence-based changes we need for the field of primary care research. The vast majority of funding around COVID-19 is specialty- and hospital-based."
How can we design a better model of "precision care" to address patient preferences (right care/right place/right time)?	Incentives are needed to align patient preferences to "precision care." Different patients have different needs and preferences, so a one-size-fits-all model may not work.	• Different patients have different needs. ▶ "Precision care vs. precision medicine means addressing patient needs in a timely way. Care must be personalized to be effective—one size rarely, if ever, fits all." ▶ "Not everyone needs the full complement of services; matching services and needs is important for efficient allocation of resources." • Payment reforms could enable clinicians to provide precision care. ▶ "Comprehensive and prospective payment would provide the platform for clinicians to tailor care to their patients." ▶ "Make best practice the easiest practice. Proven clinical decision supports tools using data." • Precision care could lead to better outcomes. ▶ "The combination of patient benefit with their goals and preferences will produce much better outcomes." • Consider new models of primary care. ▶ "Rather than proving that primary care as it is currently constructed works, let's reconsider primary care in a more connected, digital environment." ▶ "This question gets to the more foundational question of what we expect to achieve through primary care: what are the outcomes we expect from primary care?"

Research Question	Summary Statement	Key Points/Quotes
What is the nature of primary care-sensitive measures, currently difficult to measure, and how do these longitudinal measures of primary care-sensitive services perform over time?	Current measures are focused on what can be measured rather than what matters. Measures in primary care should be holistic, seek to understand the patient experience, and consider the longitudinal nature of primary care.	• Lack of primary care-focused measures results in undervaluing primary care. ▶ "We don't have enough primary care-focused measures; primary care remains undervalued and over-measured as a result. Lack of holistic measures that capture primary care performance; most measures are too granular." • Measures needed that capture individuals' experiences and preferences. ▶ "We need better measures to understand patient experience and what maximizes patient function and joy." • Longitudinal, holistic measures needed. ▶ "Primary care is complex and adaptive; we need longitudinal measures that reflect and capture this." • Primary care-centric measures could help demonstrate value of primary care. ▶ "To demonstrate value, we need to measure that which matters. Current measures look at what can be measured rather than what should be measured."
		Systems/Infrastructure
What are the most effective investments that we can make in practice-based research network (PBRN) infrastructure to enable them to develop unique research methodologies that account for pragmatic and adaptive systems and to understand and improve primary care?	PBRNs are recognized as a valuable but not fully tapped mechanism for generating practice-based evidence. New funding models are needed to sustain the infrastructure.	• PBRNs help research focus on real-time, important issues to those in primary care. ▶ "Learning from those in the trenches is critical. PBRNs are a viable tool for experimentation and testing." ▶ "Practice-based, embedded research is critical for developing valid insights." • Infrastructure support is critical for PBRN sustainment. ▶ "PBRNs require infrastructure to be efficient, replicable, and reproducible." ▶ The project-to-project funding does not allow PBRNs to function as stable labs for primary care research." • Support is needed for PBRNs to work well and to share information, develop new methods and be agile. ▶ "Shared information exchange to drive research questions and agendas, support research training within non-academic settings." ▶ "Allow new research areas, allow new methods, approve IRB exemptions, create additional funding lines, create specific real-world evidence research funds to providers on the ground." ▶ "Make PBRNs agile and responsive to real-time issues."

Research Question	Summary Statement	Key Points/Quotes
How should primary care be defined and measured from a shared stakeholder perspective?	Stakeholder engagement is an important first step and should be conducted broadly across communities, especially minority communities. Rethink primary care, starting with meaningful outcomes, and building back to achieve them.	• Stakeholders can add value to primary care. ▶ "First need to identify shared stakeholders, primary and secondary. Then need to work with each group to identify value to that group from primary care and messages that resonate. Must be perceived as adding value." • New methods are needed to engage stakeholders. ▶ "The starting point should support user-centered design and participatory methods. Do qualifying exploration first, then perhaps consensus building." ▶ "Base measures in stakeholder answers and engagement; use crowd sourcing. Measurement focuses attention, and we need to focus attention back to the integrated care of the whole person from the current reductionist and fragmenting measures and incentives." • Engage minorities and communities as stakeholders. ▶ "Talk to visible minorities, talk to communities."
How can primary care in the United States learn from international models of success?	While there are lessons to be learned about how primary care and specialty care are balanced and how patient voices are incorporated into care from other countries, especially those with strong primary care systems, there is doubt about whether the United States is willing to learn from them.	• Other countries have primary care models with better outcomes. ▶ "Other countries have primary care hub national models of care and thus another 10-20 years of experience in what works and what the threats are, as well. Innovation and creativity require the broadest possible experience; many non-U.S. health systems have more advanced primary care infrastructure than ours." ▶ "Other countries have figured out a better balance of primary and specialty care." • Cross-national comparisons challenge previously held assumptions. ▶ "Cross-national comparison exposes tacit assumptions and potential solutions to previously intractable obstacles." • Unclear if the United States is willing to learn from other countries. ▶ "It is really inefficient to continue to reinvent the wheel. The downside is the American superiority complex, thinking that we do everything better than anyone else. But I think this [learning from other countries] is a key value added." ▶ "Policymakers are more open to cross country analyses than previously. There are great primary care models in other countries, and they show us the art of the possible."

Research Question	Summary Statement	Key Points/Quotes
		Community and Public Health
What models to exchange information and build relationships across primary care/behavioral health/public health can leverage technology to improve patient outcomes?	The integration with behavioral health and public health is an important part of the holistic nature of primary care. However, current systems for integration of providers and data across systems are inadequate and in need of innovation.	• Integrating primary care/behavioral health/public health is necessary to the whole-person model of care. ▶ "Would increase the way to a 'portrait' of primary healthcare, not just the fragments; need to address fragmentation." ▶ "Need to break silos and create whole-person models of care." • Shared vision between primary care, behavioral health, and public health. ▶ "The shared vision of primary care and public health can actually make a difference in the world, local communities, and individual patients." • Effective information exchange is necessary to integrate primary care, behavioral health, and public health. ▶ "We need to understand how other providers file and utilize information." ▶ "There is a real challenge in sharing of information across clinical, public health, and CBO settings."
Do community health teams reduce costs and improve quality, and what are the unintended consequences to various personnel-sharing models?	Understanding how to link primary care with community resources is important for addressing social determinants of health and reducing disparities. It should be core in primary care research.	• Finding evidence that community health teams as a public resource shared across settings/payers produces better outcomes would be critical for decision makers. Studies on team-based care needed. ▶ "This is one of several potential team-based care model studies that help to understand what actually works and what unintended consequences may be." ▶ "There is some evidence that community health workers help us address health inequities; we need to build up the evidence in this area." • Flexibility is needed in team-based care. ▶ "Need flexible ways to expand teams when practices cannot afford hiring a full complement of the primary care team." • Need ways to measure impact of integrating community health into primary care, ▶ "High focus on community health in primary care, but not well understood how to measure impacts and integrate with primary care structure." • Community health teams could support the increasing burden on primary care. ▶ "Primary care doctors need more support to handle the increasing amount of work coming downstream. Primary care has the promise of enhancing strength and centrality of the system."

Research Question	Summary Statement	Key Points/Quotes
How does primary care effectively partner with social services?	Primary care cannot do everything on its own, so partnerships are needed. Improved information exchange, bi-directional communication and feedback are needed to maximize benefits.	• Lessons could be learned from behavioral health integration. ▶ "We could consider some of the lessons learned from behavioral health integration." • Helps to recognize the importance of SDOH and expands comprehensiveness. ▶ "Mission driven to address social inequities, but what is the ideal mix of social service and primary care support? SDOH is linked and important to us all." ▶ "This can be thought of as an expansion of the concept of 'comprehensiveness' with primary care at the hub of services for a population." • Open information exchange is necessary. ▶ "Information exchange is important. Social service agencies change over time, and sometimes there are new ones that come up." ▶ "Need linked data sources and information exchange." • Partnerships are essential to improve outcomes. ▶ "Community partnerships are critical for improved care and outcomes. Research is needed to evaluate and guide new partnerships and approaches to collaboration and coordination." ▶ "To address SDOH, primary care cannot do everything on its own; partnerships are needed. The challenge is communication, collaboration, and feedback."
		Equity and Disparities
What are the data elements that a practice could use to help them understand and address health inequities within their own populations?	Collecting and presenting social determinants of health (SDOH) data points can be useful to primary care practices, especially if there are systems in place that can help the practice address SDOH.	• Collecting and presenting data related to health equity helps practices examine ways they can help reduce inequities. ▶ "This makes the topic of health equity real to practices—just reporting Healthcare Effectiveness Data and Information Set (HEDIS) measures by race is a way to start." • Standardized measures are needed for SDOH. ▶ "Basic community vital signs such as housing, employment, food insecurity." ▶ "Need to standardize SDOH, demographics, and other social determinants, then need to implement these widely and train teams on how to ask, how to use. This must be actionable, otherwise we demoralize the patient and the team." • Data collected and presented must be actionable. ▶ "Practices dislike SDOH screening if they don't have ways to address them." ▶ "Difficult to address inequities if you aren't measuring and capturing data."

Research Question	Summary Statement	Key Points/Quotes
What are payment models that can create infrastructure and support to target racism and health inequities?	Fundamental payment changes are needed to create systems of payment that encourage behavior change that focuses on reducing racism and health disparities.	• Incentives are needed to increase diversity in primary care workforce. ▶ "The primary care workforce needs to more closely represent the population—payment and outreach can help with that." • To improve health equity, improve care quality. ▶ "Health equity and quality of care go hand in hand." • Change is difficult without dedicated resources. ▶ "Contributors to racism/inequity are diverse and efforts to reduce racism must address all contributing factors, requiring resources that are not readily available in the absence of innovative payment arrangements." • Payment incentives are needed to change behavior. ▶ "Because payment often drives care, practices respond to payment incentive. Payment incentivizes health system leaders and groups to make changes. Payment is a driver of performance and focus." • Incentives to support addressing SDOH could influence outcomes. ▶ "Payment could help reward safety net providers for improvement and better understanding of the SDOH that influence outcomes."
What technological innovations will provide access to populations that currently do not have access to care?	Technological innovations risk further exacerbating disparities. Lack of broadband access in rural and underserved populations further limits essential services to these communities.	• Lack of broadband access in underserved populations worsens health disparities. ▶ "Broadband use in rural and underserved populations needs to be addressed. These communities need broadband for healthcare (and other key services). Universal broadband is critical." • Health disparities are expanding with technological innovations. ▶ "The digital divide risks accentuating existing inequities as we move to more virtual care." ▶ "Innovations often go to people with resources as opposed to people who would benefit the most." • Help is needed to connect patients to care in their preferred way. ▶ "We need a variety of ways to connect with people in the way that they prefer such as by the phone, in person, and digitally." • Focus on improving both health and technological literacy. ▶ "Need to add work on health literacy and how to improve it."

Summary

In summary, over fifty participants engaged in AHRQ's 30th Anniversary Primary Care Research Conference. Participants represented a wide variety of perspectives on primary care research, including clinicians, researchers, patients, State and Federal policymakers, and leaders of professional associations. Over the course of 2 days, participants reflected on AHRQ's past work in primary care research and provided guidance to AHRQ on the priorities in developing a primary care research agenda for the next decade.

The conference had three goals: (1) engage primary care stakeholders and thought leaders on the highest priority research questions that will allow AHRQ to invest in primary care research of the greatest value to the field over the coming decade, (2) identify innovative approaches to conducting primary care research and maximizing the impact of the research it funds, and (3) recognize and acknowledge ARHQ's leadership role in funding primary care research over the past 30 years.

The conference was constructed using a design thinking approach that engaged participants in a variety of interactive, small-group, thought activities to progressively consider issues from the broadest perspective to bringing into focus research priorities. During those activities, participants reflected on the historical context of primary care research, brainstormed "big ideas" to rethink primary care research, identified the "wicked problems" impacting primary care, developed innovative approaches to overcoming those problems, and transformed those innovations into impactful research questions. Participants engaged in a hybrid nominal group technique to gain consensus and prioritize research questions. Interactivity was encouraged throughout the meeting through the small group design, as well as sharing comments verbally and through the chat function of the virtual platform in larger group gatherings.

The conference closed with reflections from current and former AHRQ leaders with a focus of optimism for the future of primary care research, and participants reflected on what AHRQ's leadership of this work has meant for them.

Overarching Themes

During the conference, several themes emerged across all the activities including the need for—

- Keeping patients and communities at the center of primary care research.
- Defining the expansive scope of primary care and understanding its value.
- Collaborating across silos within a fragmented system.
- Incorporating social determinants of health.
- Increasing funding for the infrastructure of primary care research, including the research workforce.

Participants expressed interest in harnessing the dramatic changes brought on by COVID-19 as an opportunity to redesign primary care to connect with patients, the community, and public health more fully. Clinicians will need support to make the necessary changes to adapt to the post-pandemic environment. Evidence from research can help guide payment, policy, and practice initiatives to improve the way primary care organized and delivered.

Research on how to create partnerships between primary care, public health, social services, mental and behavioral health, and other community-based organizations can help provide more holistic and comprehensive care. Engaging communities more directly to provide input and help design new approaches to primary care will help strengthen primary care's connection with the community. These community

connections can be leveraged to address health disparities and health equity. Standardized approaches to data collection, measurement, and reporting are needed to measure progress on health inequities. Throughout the discussions, participants noted the importance of not only what questions to research, but how to do the research through the use of innovative methods and non-traditional ways to fund the research.

Many themes were not necessarily new but are issues that are yet to be resolved or need new solutions/innovative approaches to resolve. For example, PBRNs have existed since the first report, but there was interest in repositioning them and the value they bring to primary care research by utilizing them in new ways, with different funding models and producing more rapid, practice-based results. Conversely, there were some completely new topics that resulted from current demands, such as how primary care may be influenced by precision medicine and more advanced technologies than ever before.

The conference demonstrated that primary care needs to continue to demonstrate its value to the larger health system. There are many unanswered questions in primary care on patient-centeredness, clinicians and practices, systems/infrastructure, community and public health, and equity and disparities. In addition, the iterative nature of the activities and discussions allowed some themes and issues to emerge repeatedly, even when considered from different perspectives. Even given the constraints of time and the use of a virtual meeting platform, there was a rich discussion of research priorities, and the resulting list is reflective the participants' expertise, values, and priorities.

Next Steps

Using the themes and research priorities identified by participants during the conference, AHRQ is developing a research agenda for the next decade that will have been informed by patients, families, communities, clinicians, researchers, and policymakers in order to advance primary care so to support the Nation's health and well-being.

Acknowledgements

The successful convening of this conference and its summary would not have been possible without the contributions of many people. First, the planning team would like to thank all the participants who gave their time and intellectual energies to 10 hours of virtual conference sessions over 2 days. They defied the notion of "Zoom fatigue."

Second, the innovative approach to small-group conversations would not have been possible without the assistance and collaboration skills of our 10 facilitators. Thanks to our AHRQ colleagues for agreeing to undertake this effort, including Cindy Brach, Jan DeLaMare, Jodi Holtrop, Keith Kanel, Elisabeth Uphoff Kato, Therese Miller, Justin Mills, Mary Nix, Brent Sandmeyer, and Sebastian Tong.

We want to thank everyone who participated in our video interviews, which helped set the stage for our participants. Special thanks to our former AHRQ leaders, Carolyn Clancy, Helen Burstin, and David Lanier for their thoughtful reflections on primary care research.

Thanks to our colleagues at Capital Consulting Corporation for their logistical, administrative, and editorial support, including Jennifer Adona, Don Cunningham, and Shira Gordon. Special thanks to Amy Rabin for her advice and assistance that started on planning day number one. The conference would not have happened without her. Thanks also to Geri Goins, our COR for the project, who rolled with the constant changes brought on by COVID.

Thanks to AHRQ's leadership, Gopal Khanna, David Meyers, and Arlene Bierman, for their ongoing support and enthusiasm for this conference and its goals.

Finally, we wish to recognize the dedication and sacrifice of the primary care clinicians working in practices large and small and in frontier, rural, suburban, and urban areas on whose shoulders falls the health of the Nation. Their work inspires and drives us, and our hope is that the research that comes forth from the ideas presented during this conference can help make providing high-quality care for their patients and families easier and more fulfilling.

Bob McNellis, Agency for Healthcare Research and Quality
Jodi Holtrop, University of Colorado
Sebastian Tong, Agency for Healthcare Research and Quality
Conference Planning Team and Proceedings Editors

Table of Appendices

Appendix A: Conference Agenda

AHRQ's 30th Anniversary Primary Care Research Conference

Day 1: Monday, December 7, 2020 *(All times below are Eastern.)*

11:45 a.m. – 12:00 p.m.	Participant Login and Introductions
12:00 p.m. – 12:30 p.m.	Gathering Together
	Welcome remarks by Director Gopal Khanna and Arlene Bierman. Outline of meeting and ground rules by Bob McNellis.
12:30 p.m. – 1:15 p.m.	Session Activity 1: A History and a Future
	Breakout groups to identify most significant events impacting American life and culture over the past 30 years.
1:15 p.m. – 2:00 p.m.	Session Activity 2: Big Ideas
	Breakout groups to identify and create a list of big ideas that are the most significant, interesting, and/or the most important for the future of primary care and primary care research.
2:00 p.m. – 2:50 p.m.	Break
2:50 p.m. – 4:00 p.m.	Session Activity 3: Wicked Problems
	Breakout groups to identify various wicked problems that affect how primary care is currently delivered in the United States.
4:00 p.m. – 5:00 p.m.	Session Activity 4: Wild Innovations
	Each breakout group will brainstorm on a wild innovation to solve wicked problems, how the innovation impacts primary care, etc., how the innovation grew, biggest obstacles and how they were overcome, and critical solutions. These innovations will then be presented by each group in the main session.
5:00 p.m. – 5:05 p.m.	Summary of the Day
5:05 p.m.	Adjourn for the day

Day 2: Tuesday, December 8, 2020 *(All times below are Eastern.)*

11:45 a.m. – 12:00 p.m.	Participant Login and Introductions
12:00 p.m. – 12:15 p.m.	Overview of Day One and Plan for Day Two
12:15 p.m. – 2:00 p.m.	Session Activity 5: Metamorphosis *Breakout groups will take solutions identified in yesterday's wicked problems activity and transform them into research questions that can be addressed by AHRQ.*
2:00 p.m. – 3:00 p.m.	Break
3:00 p.m. – 3:30 p.m.	Looking for Blind Spots *The group looks at all the research questions that were gathering and looks for anything that was missed that should be included for consideration on AHRQ's research agenda for the 2020s.*
3:30 p.m. – 4:30 p.m.	Building a Research Agenda *In this session, determine which topics the group thinks should be of the highest priority, and then understand their meaning and application. Included in this session is a discussion of some of the most highly prioritized topics.*
4:30 p.m. – 4:45 p.m.	Celebrating 30 Years of Primary Care at AHRQ *This session connects AHRQ's past, present, and future work with the work done during this conference.*
4:45 p.m. – 5:00 p.m.	Summary of Day Two and Next Steps
5:00 p.m.	Meeting Adjournment

Appendix B: Pre-Conference Materials

In preparation for the upcoming conference, we ask that you complete a few activities as part of the pre-work. These activities will serve as a way to level set across our group and give everyone familiarity with AHRQ's primary care research foci over the years.

Activity 1 (Essential)

Assignment: Read the Executive Summary of "Mapping the Agency for Healthcare Research and Quality's 30-Year Investment in Primary Care Research" by Michelle Rockwell. Optionally, scan or read the section on Selected Accomplishments.

This report summarizes the key highlights and important accomplishments from AHRQ's 30 years of investments in primary care research.

Expected time: 15-45 minutes

Questions to consider from the reading:

- What KEY ISSUES was AHRQ involved in around primary care?
- What were the biggest IMPACTS AHRQ made in primary care?
- What QUESTIONS did this reading raise for you?

Activity 2 (Essential)

Assignment: Watch the video interviews of AHRQ's Past Leaders

During these interviews three of AHRQ's past leaders in primary care research (Helen Burstin, Carolyn Clancy, and David Lanier) are asked to reflect on the most significant primary care research accomplishments during their time at AHRQ, what they wished they could have done, and what guidance they have for us as we craft an agenda for the future.

Expected time: Approximately 50 minutes

Questions to consider from the videos:

- What THEMES did you hear about AHRQ's accomplishments across the three interviews?
- What struck you as the KEY OPPORTUNITIES AHRQ has for primary care research in the future?
- What QUESTIONS did these videos raise for you?

Activity 3 (Essential)

Assignment: Watch two videos of Patients and Primary Care Practice Members

During these interviews a group of patients and a group of primary care practice members share their thoughts about AHRQ's role in supporting primary care and primary care research.

Expected time: 20-30 minutes

Questions to consider from the videos:

- Not based on what the patients or practice members in the video said, but rather on how the questions they answered prompt your thinking, what do you think are KEY PRIORITIES for AHRQ for the next 10 years?
- What are your ideas on METHODS and STRATEGIES for achieving success in these key priorities?
- What QUESTIONS did watching these videos raise for you?

Activity 4 (Recommended, but optional)

Assignment: Read the Summary (pages x – xix) of "Health Services and Primary Care Research Study: Comprehensive Report" by Peter Mendel et al. at RAND Corporation.

This congressionally mandated report provides an independent assessment of the current breadth, scope, and impact of health services research (HSR) and primary care research (PCR) supported by the U.S. Department of Health and Human Services (HHS) and the U.S. Department of Veterans Affairs (VA). The study sought to identify research gaps and propose recommendations for maximizing the outcomes, value, and impact of HSR and PCR investments, including strategies for better coordination and potential realignment of research agendas.

Expected time: 15-20 minutes

Activity 5 (Optional for additional contextual and historical background)

Assignment: Briefly review any of the historical documents on the history of AHRQ's primary care research included below.

Expected time: Approximately 1 hour

Conference Summary Report: A Research Agenda for Primary Care: Summary Report of a Conference, 1991. (13 pages) This report presents AHRQ's (as its predecessor Agency for Health Care Policy and Research, AHCPR) first primary care research agenda based on the March 1990 national conference, "Primary Care Research: An Agenda for the 90s." That conference was the inspiration for this current conference.

Putting Research into Practice: Report of the Task Force on Building Capacity for Research in Primary Care, 1993. (20 pages) This is the report of a task force commissioned by AHCPR in 1990 to address the pressing need for research on the patient care problems that primary clinicians address. The task force makes recommendations on how to support primary care research.

Health Care Reform, Primary Care, and the Need for Research. Franks, Nutting, Clancy. JAMA, 1993. (5 pages) This article written during the Clinton Administration's discussion of health care reform makes the case for why primary care is critical to reform efforts and the importance of research in understanding the fundamental components of primary care.

Primary Care: America's Health in a New Era. Chapter 8: Research and Evaluation in Primary Care. Institute of Medicine, 1996. (31 pages) This is the research chapter from the IOM's seminal report on primary care. Unlike most of the other references listed here it is not an historical document from AHRQ, but this chapter's recommendations on research are still remarkably relevant to AHRQ today.

AHCPR Health Services Research – Program Announcement, 1998. (9 pages) This announcement from AHCPR was intended to alert the research community to the Agency's research agenda. The specifics about the primary care research agenda are on page 4.

Update From Funders: Center for Primary Care Research and Agency for Healthcare Research and Quality. Burstin and Lanier. Medical Care, 2001. (3 pages) This article frames the transition from AHCPR to AHRQ and describes the core primary care research interests.

Research Agenda for the Center for Primary Care Research, 2002. (2 pages) This document briefly highlights AHRQ's Center for Primary Care Research current areas of research interest.

Primary Care: Where Research and Practice Meet, 2002. (2 pages) This is a companion document to the 2002 research agenda and describes the Center's vision and major research activities. It is notable for the topical inclusion of Clinical Preparedness for Bioterrorism—many of the tools created then could have been helpful with the COVID-19 pandemic.

Primary Care Practice-Based Research Comes of Age in the United States. Lanier. Annals of Family Medicine, 2005. (3 pages) This article by David Lanier describes the importance of PBRNs and the story behind AHRQ's support of them.

Primary Care: Too Important to Fail. Meyers and Clancy. Annals of Internal Medicine, 2009. (2 pages) This article, written during the Obama Administration's discussion of health care reform, essentially lays out AHRQ's primary care research priorities through the 2010's with its focus on helping smaller practices transform to medical homes.

Developing a Policy-Relevant Research Agenda for the Patient-Centered Medical Home: A Focus on Outcomes. Rittenhouse, Thom and Schmittdiel. JGIM, 2010. (8 pages) This article presents the results of 2009 conference funded by AHRQ in collaboration with several primary care associations.

AHRQ's National Center for Excellence in Primary Care Research (NCEPCR). NCEPCR was created in 2014 and serves as the intellectual home for primary care research at AHRQ. The website provides evidence, practical tools, and other resources for researchers and evaluators, clinicians and clinical teams, quality improvement experts, and healthcare decision makers to improve the quality and safety of care.

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