Systems for Action

Systems and Services Research to Build a Culture of Health

Research Agenda

Delivery & Financing System Alignment for a Culture of Health

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EXECUTIVE SUMMARY

Rationale: Health is shaped by a complex web of social, economic, and environmental conditions and experiences that extend far beyond the reach of the medical care system. A large and growing body of evidence demonstrates how these nonmedical determinants such as housing, education, transportation, and involvement with the criminal justice system influence health and health equity for individuals, families and communities. Unfortunately, the social services and community supports designed to address these determinants are often disconnected from the medical services and public health programs tasked with improving health. As a result, medical and public health interventions often fall short in improving health and health equity because they fail to address underlying social, economic and environmental conditions. Guided by the Robert Wood Johnson Foundation's Culture of Health Action Framework, the ***Systems for Action (S4A) Research Program*** works to discover and apply new evidence about effective mechanisms for aligning medical, social, and public health systems in ways that improve health and health equity.

Methods: A stakeholder-engaged expert panel process was used to identify initial research priorities for the S4A research program in 2015. An interdisciplinary group of 13 expert panelists and community representatives were recruited to serve on the S4A technical advisory committee, and a series of expert panel methods were used sequentially to identify S4A research priorities, including: (1) an initial virtual meeting to discuss general research areas of interest and existing evidence bases; (2) a three-stage online Delphi process to nominate and rate candidate research topics; (3) a rapid synthesis of existing published research relevant to the nominated research topics; (4) a two-day in-person expert meeting to discuss Delphi results and to refine and prioritize identified research areas; and (5) follow-up communications to refine descriptions of priority research areas.

In 2019 a multi-staged process was used to review and update the S4A research agenda, including: (1) a review of more than 300 research proposals submitted and 25 proposals funded through the S4A program's three successive call-for-proposal processes; (2) a review of the progress and findings from 25 S4A studies funded during 2016-2019; and (3) an expert panel process with an interdisciplinary group of 8 members of the S4A National Advisory Committee to review and rate existing S4A research priorities and nominate new priorities.

Results: Four overarching areas for research were identified through the 2015 research agenda-setting process: (1) investigate the implementation and impact of strategies designed to achieve alignment across delivery and financing systems; (2) investigate the implementation and impact of strategies designed to promote health equity through system alignment; (3) investigate the effectiveness and efficiency of information and decision support strategies in achieving alignment across delivery and financing systems; and (4) investigate the role of incentives in achieving alignment across delivery and financing systems.

A review of the current portfolio of S4A research studies revealed five overarching patterns: (1) most studies focus on organization and implementation issues rather than financing and incentives for system alignment; (2) most studies address health equity in some way, but offer limited direct evidence about the impact of system alignment strategies on health equity; (3) most S4A studies examine system alignment mechanisms that are designed and implemented principally within the medical care sector rather than the social or public health sectors; (4) many studies focus on system alignment mechanisms that have limited or ambiguous roles for public health systems; and (5) most S4A studies focus on the impact of system alignment mechanisms on patients, with limited attention given to system-level change.

Updated Priorities for 2019-2020: Based on this review, the S4A program will prioritize several important topics within the existing S4A research agenda that are under-represented in current studies but viewed as highly important for building a Culture of Health. These priorities include:

(1) Testing system alignment mechanisms that are designed and implemented principally in the social service sector and/or public health sector rather than the medical care sector, and that have explicit roles for social and public health systems;

(2) Testing approaches for financing and incentivizing system alignment;

(3) Evaluating the impact of system alignment strategies on explicit measures of health equity; and

(4) Testing alignment mechanisms that are designed to achieve system-level change by modifying how delivery and financing systems operate.

I. Background and Rationale

The Robert Wood Johnson Foundation's Culture of Health Action Framework calls for a national movement toward better health and well-being for all Americans. The Framework's four action areas emphasize that improving health and health equity require (1) making health a shared value, (2) fostering cross-sector collaboration to improve well-being, (3) creating healthier, more equitable communities, and (4) strengthening integration of health services and systems (Figure 1).[1] The Framework targets systemic problems that hold the nation back from realizing its full potential in health, and it acts through interdependence among the many social, economic, physical, and environmental factors that drive health and well-being. Operationalizing this framework requires new mechanisms for collective action that support alignment, collaboration and synergy across the diverse constellations of institutions, services and sectors to promote health and well-being in American communities.[2]

Health is shaped by a complex web of social, economic, and environmental conditions and experiences that extend far beyond the reach of the medical care system. A large and growing body of evidence demonstrates how these nonmedical determinants such as housing, education, transportation, and involvement with the criminal justice system influence health and health equity for individuals, families and communities. Unfortunately, the social services and community supports designed to address these determinants are often disconnected from the medical services and public health programs tasked with improving health. As a result, medical and public health interventions often fall short in improving health and health equity because they fail to address underlying social, economic and environmental conditions.

Figure 1: Culture of Health Action Framework

Delivery and financing systems for medical care, social services, and public health services frequently operate in isolation from each other despite pursuing common goals and serving overlapping populations. These systems interact in complex and poorly understood ways through fragmented funding mechanisms, information systems, governance and decision-making structures, implementation rules

and strategies, and professional practices. As awareness about the importance of social determinants of health continues to grow, increasing numbers of health care providers, social service organizations, and government agencies are taking steps to intervene on these determinants by building stronger connections among the medical, social, and public health sectors. Unfortunately, relatively few research-tested models and tools exist that can inform this work in multi-sector systems alignment. Moreover, very few organizations currently engaged in systems alignment work are able to rigorously evaluate the implementation and impact of their work.

Health services research (HSR) and public health services and systems research (PHSSR) have fueled the production and application of evidence about how to organize, finance, and deliver medical care and public health strategies across the U.S.[3-5] The studies in these fields typically focus narrowly on a single service line, professional area of practice, or class of service providers, rather than investigating interactions, synergies, and spill-over effects across multiple sectors and services. Focused studies and "reductionist" research designs allow researchers to isolate the implementation and impact of a specific intervention or approach while holding other factors constant (ceteris paribus). These studies typically fall short in revealing how multiple services, delivery systems, and financing streams converge and interact—or fail to do so—in supporting population health. To achieve a Culture of Health, strong scientific evidence is needed about how to realize coordination, collaboration and synergy across the broad constellation of institutions, services and delivery systems that shape health and well-being in American communities, including but not limited to the public health and medical care sectors.

The Program

Systems for Action (S4A) is a signature research program of the Robert Wood Johnson Foundation (RWJF) that helps to build the evidence base for a Culture of Health by rigorously testing new ways of connecting the nation's fragmented medical, social, and public health systems. Studies conducted through the S4A program test innovative mechanisms for aligning delivery and financing systems for medical, social, and public health services, with a focus on the effects of these mechanisms on health and health equity. S4A uses a wide research lens that includes and extends beyond medical care and public health to incorporate social service systems such as housing, transportation, education, employment, food and nutrition assistance, child and family support, criminal and juvenile justice, and economic and community development. Research studies supported through S4A must: (1) focus on solutions to high-priority system alignment problems that involve medical, social, and public health services; (2) test the effectiveness of these solutions using rigorous scientific methods: and (3) engage stakeholders from medical, social, and public health systems in the design and conduct of the research, so that findings can be readily used in practice.

II. Cross-cutting Principles and Concepts

Five overarching principles guide the S4A program's research agenda:

1. Studies should generate findings that promote innovation and transformational action at national, state, and local levels.

2. Engagement with community, practice, and policy stakeholders throughout the research process increases the likelihood that research studies ask the right questions and produce findings that can be put into action.[6] Studies should include collaborations with underserved populations, service providers, policy decision-makers, community-based organizations, practice-based research networks, and other stakeholders relevant to population health and wellbeing.[7] Research should draw from and support the academic and community infrastructure that allows diverse stakeholders to participate in the scientific process by helping to identify evidence needs, cultivate information and data sources, contribute experiential knowledge about program and community mechanisms, and promote understanding and application of research findings.[8]

3. Achieving health equity is an overarching goal of the S4A research program. Studies should seek to identify innovative system strategies that improve health outcomes for underserved and high-risk population groups, including but not limited to racial and ethnic minorities, low income persons, populations residing in rural and remote geographic areas, and persons with chronic and complex health conditions, including mental health and substance abuse disorders, physical disabilities, and cognitive deficits.

4. In examining health disparities and fundamental determinants of health, S4A studies should recognize and account for the complex ways in which historical developments, institutions and social norms shape contemporary causes and effects of health disparities, often with long and persistent lag times. System-level studies should recognize and respond to the time-dependent and path-dependent nature of relevant social and health phenomena.

5. S4A studies should incorporate culturally and linguistically appropriate approaches to addressing the environmental, social, economic, and behavioral determinants of health and promoting improved outcomes in health and well-being.

Additionally, the S4A program uses several core concepts regarding sectors, systems, and alignment mechanisms in shaping its research priorities.

Medical, Social, and Public Health Sectors

The S4A program focuses on systems alignment across the medical, social, and public health sectors because all three of these sectors address key determinants of health but

often through fragmented rather than coordinated efforts. The S4A program uses broad and inclusive definitions for each of these three sectors, as follows:

- **Medical sector**: The medical sector includes the organizations, programs, and services that help individuals obtain access to personal health services that prevent, treat, or manage diseases and injuries, including services for physical health conditions, mental health conditions, substance abuse, and developmental disabilities. This sector includes the providers, purchasers, and payers of these services as well as the suppliers of associated products and technologies, such as pharmaceutical products and health information technologies.

- **Social services sector**: The social service sector includes the organizations, programs and services that work to address fundamental human needs and promote social well-being. This sector includes organizations and programs that provide education, housing, income support, employment assistance, diversity and inclusion initiatives, food assistance, transportation, child and youth development, recreation and physical activity, legal assistance, disability support services, violence prevention, arts and cultural programming, criminal justice and juvenile justice services, and community and economic development.

- **Public health sector**: The public health sector includes the organizations, programs and activities that work to create the conditions in which people can live healthy lives, including activities to prevent disease and injury and promote health for the population at large. This sector includes governmental public health agencies working at local, state, and federal levels, as well as nongovernmental organizations that pursue a public health mission. A defining feature of the public health sector is its focus on actions designed to protect and improve health at a population level rather than purely at an individual level through delivery of personal health services. Actions implemented within the public health sector have characteristics associated with public goods—meaning that they produce benefits that accrue broadly in society and that cannot easily be restricted to the entities who help to produce or pay for these actions. Similarly, the public health sector focuses on activities that generate positive or negative externalities in health for society at large—such as the social harms created by second-hand smoke and industrial pollution, or the social benefits of herd immunity created by vaccinations.

Delivery and Financing Systems

The S4A program focuses on delivery systems as well as financing systems when studying strategies to align medical, social, and public health systems. A **delivery system** comprises the organizations, people, policies, and resources that allow a set of services or activities to be implemented for members of a target population. Similarly, a **financing system** consists of the financial resources, funding mechanisms, funders, and payment policies that support implementation of a set of services or activities.

System Alignment Mechanisms

Studies funded through the S4A program must test a specific **system alignment mechanism** that engages all three of the broad sectors of interest in this program-medical care, public health, and social services. This program defines system alignment mechanisms broadly to include any action that an organization, network, or community may undertake to reduce fragmentation and improve coordination in the delivery of medical, social, and public health services.

III. Review of Current Research Studies and Topics

A review of more than 300 research proposals submitted to the S4A program and the 25 proposals funded during 2016-2019 reveals several key patterns:

- **Most studies focus on implementation and organization issues.** The most prevalent research topics addressed by both proposed studies and funded studies include: (1) design and implementation issues in system alignment mechanisms; and (2) organizational issues in system alignment mechanisms.

- **Fewer studies focus on system alignment financing and incentives**. The least prevalent topics addressed by proposed and funded studies include: (1) economic and financing issues in system alignment mechanisms; and (2) effectiveness of financial and non-financial incentives in promoting system alignment.

- **Most studies address equity in some way, but results to date offer few specifics**. Most of the funded S4A studies propose to address the topic of examining the role of system alignment strategies in reducing health inequities as a primary or secondary aim. However, a review of the research in progress produced by these studies through 2018 indicates that most existing S4A studies have not produced specific findings regarding impact on health equity.

- **Inside-out approaches to system alignment are most prevalent.** A majority of the funded S4A studies during 2016-19 examine system alignment mechanisms that are designed and implemented within the medical care sector with the intention of connecting to the social and public health sectors – a strategy we label as "inside-out" approaches. Fewer studies examine "outside-in" alignment mechanisms that are designed and implemented in the social or public health sectors with the intention of connecting to medical care systems.

- **Public health system roles are often limited or ambiguous.** In a majority of the funded S4A studies during 2016-18, the system alignment mechanisms under study give primary focus to medical and social service system alignment, with less focus and/or less clarity on the role of public health systems.

- **A focus on system-level impact is limited in most studies.** Most S4A studies focus on the impact of system alignment mechanisms on individual-level patient outcomes, with limited attention given to system-level change.

In 2019, members of the S4A National Advisory Committee reviewed and rated the importance of the 28 research topics currently included on the S4A Research Agenda (see full descriptions in Section V), and also proposed new topics. Results from this expert panel process reveal several key patterns:

- Seven of the top 10 research topics rated as most important by committee members focus on financing issues and incentives for system alignment;

- Two of the top 10 topics rated as most important by committee members focus on the impact of system alignment strategies on health equity;

- 15 of the 18 new or modified research topics nominated by committee members focus on the roles of the social and public health sectors in system alignment mechanisms ("outside-in" approaches), including mechanisms based in employers, schools, and the justice sector.

- One-third of the new topics nominated by committee members include a focus on how system alignment strategies impact health equity.

IV. Updated Research Priorities for 2019-2020

Based on this review, the S4A program will prioritize several important topics within the existing S4A research agenda that are under-represented in current studies but viewed as highly important for building a Culture of Health. These priorities include:

1. Testing system alignment mechanisms that are designed and implemented principally in the social service and/or public health sectors rather than the medical care sector, and that have explicit roles for social and public health systems;

2. Testing approaches for financing and incentivizing system alignment;

3. Evaluating the impact of system alignment strategies on explicit measures of health equity; and

4. Testing alignment mechanisms that are designed to achieve system-level change by modifying how delivery and financing systems operate.

V. Research Topics Included in the S4A Research Agenda

Four broad topic areas of research have been identified for the S4A program:

(1) Investigate the implementation and impact of system alignment mechanisms, including issues of design, organization and financing;

(2) Investigate the effects of system alignment mechanisms on health equity;

(3) Investigate the effectiveness and efficiency of information and decision support strategies in achieving system alignment; and

(4) Investigate the role of incentives in achieving system alignment.

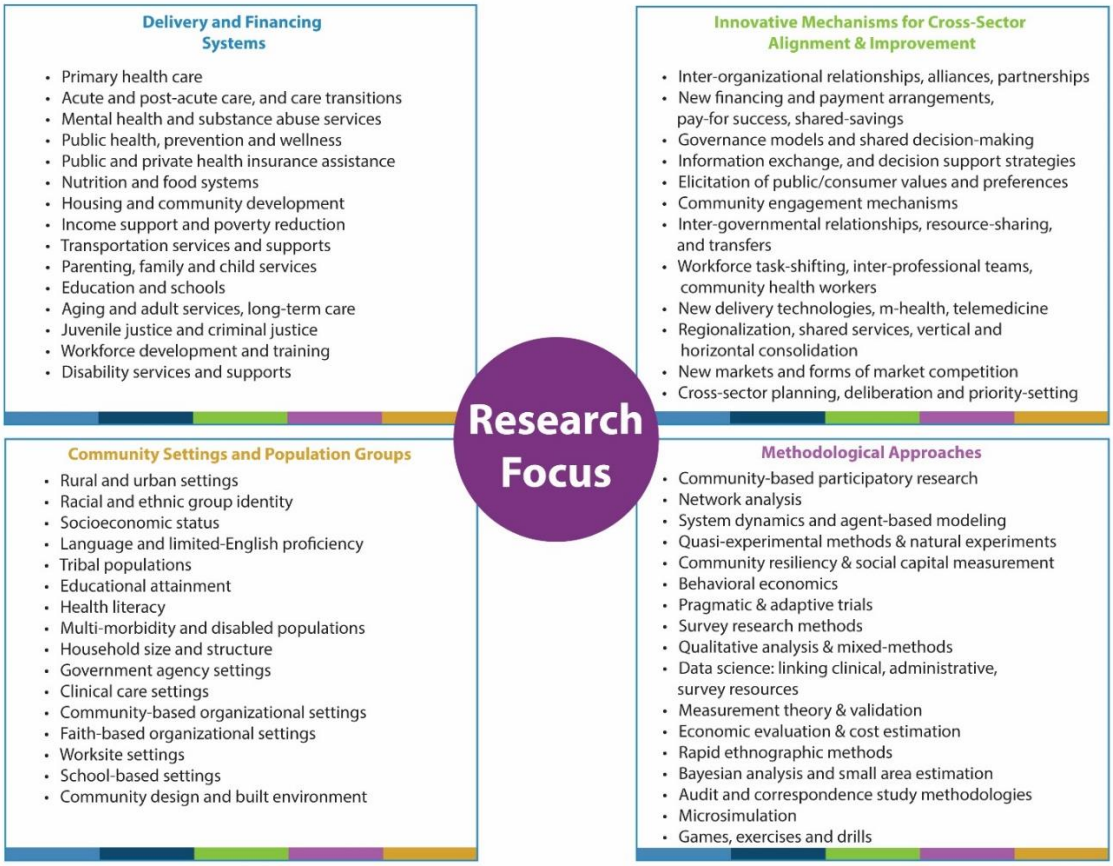
Within each priority area, specific research topics have been identified that reflect selected combinations of (a) implicated delivery and financing systems; (b) mechanisms for cross-system alignment, collaboration and synergy; (c) population groups and practice settings of interest; and (d) methodological approaches (Figure 2).

Topic Area #1: Investigate the implementation and impact of system alignment mechanisms

A growing body of evidence suggests that coordinated efforts to identify and meet the social needs of patients and population groups can lead to improved health status and well-being as well as lower health care utilization and costs. Studies suggest that well-targeted delivery of social services and community supports such as transportation, housing, nutrition, income support, parenting and child care support, and caregiver support can produce significant health benefits for individuals and communities.[9,10] Related research suggests that improved integration of mental health and substance abuse services into health care delivery models offers significant health and economic benefits for individuals and communities. Similarly, improved integration of public health and prevention services into health care delivery models may offer health and economic benefits for communities, including services that address infectious disease risks, chronic disease prevention, and environmental health problems. [11-13]

New research is needed to determine the specific combinations of health care, social services, and public health services that yield desired outcomes for specific population groups. Similarly, research is needed to identify the most effective organizational models and financing strategies that support coordinated medical, public health and social services delivery, as well as how optimal models and strategies vary based on community resources or other contextual factors. Specific research questions of interest relate to design and implementation issues, organizational issues, and economic and financing issues as specified below.

Figure 2: Components of Systems for Action Research Studies



1.1 Design and Implementation Issues

- Which strategies for aligning medical, social, and public health and prevention services have the largest effects on health and well-being at both the individual and population levels? Service combinations of interest include primary care, mental health, substance abuse, chronic disease prevention, nutrition, transportation, housing, income support, education and training, parenting and child development, caregiver support, physical activity and recreation services. What is the optimal mix, intensity, and timing of service combinations for population groups of interest?

- Which strategies successfully optimize service delivery across the full continuum of health and social services, ranging from prevention, self-care and informal care to primary and specialty health care services and social services and supports delivered through outpatient, institutional and community settings?

- Which population groups benefit most from integrated health care and social support delivery, and which targeting and tailoring mechanisms most effectively improve health outcomes?

- What mechanisms most effectively match unmet social support needs with specific combinations of services to improve health and well-being?

- How do community development programs and policies impact health and well-being? Under what conditions are these strategies most effective at improving health, and what are the most important components of these strategies?

1.2 Organizational Issues

- What organizational models promote quality, efficiency, and sustainability in integrated health and social services delivery, including umbrella agencies, coalition and alliance structures, referral agreements, accountable care organizations, accountable health communities, and community trusts?

- What are the most important dimensions of organizational and system coordination and integration, and what methods most accurately measure these dimensions?

- What types of institutions are best positioned to perform integrator roles in linking people to needed medical, social, and public health services?

- Which workplace-based, school-based, and community-based models are most effective and efficient in supporting integrated health and social services delivery?

1.3 Economic and Financing Issues

- What types of health and social investments produce the largest health and equity gains per dollar invested, ranging from improving health care access and quality to expanding prevention, education, urban design, poverty reduction, and violence prevention? What is the optimal portfolio of investments across health care, social services, prevention and public health interventions for a community given its socio-demographic characteristics and population health needs? How does the value of these investments vary across communities based on multi-level characteristics and risk factors, including health condition prevalence, social, and economic characteristics?

- How do health and social spending interact at the community level to influence population health status? In communities with greater social investment is there better health status per dollar of health expenditures?

- How does the availability and quality of social services, prevention and public health services in the community influence medical care utilization and costs? Are there medical cost offsets attributable to nonmedical public health and social services, and if so, how do offsets vary based on the extensiveness, intensiveness, and quality of available nonmedical services and programs?

- How cost-effective are integrated health care and social service delivery models, and what time periods are required to realize health improvements and cost reductions or cost offsets associated with these models?

- What mechanisms most effectively provide sustainable and equitable financing for integrated health and social support service delivery models, such as shared-savings models, hospital community benefit expenditures, pay-for-success arrangements, and social impact bonds?

- What mechanisms are most effective in aligning payment systems across multiple service providers and sectors to improve coordination in service delivery and health outcomes? What is the comparative effectiveness and efficiency of alternative models to align cross-sector payment systems, such as the State Innovation Models (SIMs) supported through the Affordable Care Act?

Topic Area #2: Investigate the effects of system alignment mechanisms on health equity

The health consequences attributable to unmet needs for social, medical, public health and prevention services fall disproportionately on racial and ethnic minority groups, persons living in poverty, and other underserved populations. Health inequities based on educational attainment, gender, sexual orientation, immigration status, disability status, income status, food security status, housing status, and rural/urban geographic areas of residence are also linked to unmet needs for social, medical, and public health services.[14] New research is needed to identify innovative strategies to align and coordinate delivery and financing systems for medical care, social services, and public health and prevention services, so as to reduce health inequities over the life course. Specific research questions of interest include:

- How do differences in the combined availability and accessibility of medical, social, and public health services across communities contribute to health disparities based on race, ethnicity, socioeconomic status, and geographic area of residence? How do these actual disparities in service delivery compare to the perceptions of policymakers and healthcare and public stakeholders?

- Which combinations of medical, social, public health, prevention, and community services and supports are most effective in reducing health disparities based on race, ethnicity, socioeconomic status, and geographic area of residence?

- Which strategies are most effective in targeting and tailoring the delivery of medical, social, public health, prevention, and community services and supports to population groups that experience the largest disparities in health outcomes, including those based on race, ethnicity, socioeconomic status, and geographic area of residence?

- Which organizational and financing strategies are most effective in expanding the reach of integrated medical, social, public health, prevention, and community services and supports to population groups that experience health disparities?

- Which communication, engagement and motivational strategies most effectively increase community awareness of health equity issues and community participation in health equity solutions, including participation by the medical, social, and public health and prevention sectors?

Topic Area #3: Investigate the effectiveness and efficiency of information and decision support strategies in achieving system alignment

The delivery and financing systems for medical care, public health, prevention and social services share common goals in improving health and well-being and serve overlapping target populations with defined needs and risks. Lack of coordination in the information and decision support infrastructure used across these systems may contribute to gaps in service delivery effectiveness, efficiency, and equity. Coordinated decision support processes and infrastructure—such as combined community needs assessment initiatives, shared practice guidelines and protocols, and integrated data systems—may present opportunities for strengthening ties among public health agencies, health care systems, social service providers, and other community partners. Coordination and collaboration may be beneficial to multiple information and decision-making processes, including: the collection, analysis, and exchange of information through electronic records; the development of practice guidelines and clinical decision aides; the implementation of community assessment, planning and priority-setting processes; the development of performance measurement, performance feedback and public reporting initiatives; and the implementation quality improvement initiatives. Specific research questions of interest include:

- How are service delivery decisions and outcomes affected by information systems that integrate a core set of community-level public health and health status indicators into electronic health records? To what extent do these information systems influence transitions across care settings, chronic disease care management and self-care strategies, as well as the integrated delivery of social and public health services?

- Which strategies most effectively link electronic health record and client record systems across health care, social services, and public health delivery systems in order to facilitate shared access, information exchange, and data use for clinical decision-making and community-wide quality improvement initiatives? How can data elements at multiple levels of aggregation—including person-level health information and small area or neighborhood-level measures of risk factors for major diseases, individual behavioral practices, and health care accessibility indicators—be obtained and used by health and social service professionals to inform clinical practice?

- What is the comparative effectiveness of alternative information system redesign strategies that use decision support capabilities, electronic health records, and personal health records to increase adherence to evidence-based guidelines and to inform patient and provider decision making? To what extent does access to social information during medical care encounters, such as the inclusion of information on social determinants in electronic health records, impact the outcomes of medical care?

- Which decision support strategies most effectively communicate information about the potential health and economic benefits and costs of investments in medical, social, environmental, and public health interventions operating across diverse sectors of a community? How does the dissemination of local estimates about the comparative value of health and social investments shape clinical, policy, and business decisions, implementation strategies, and health outcomes? Decision support strategies may include health impact assessments (HIAs) and interactive system dynamics modeling.

Topic Area #4: Investigate the role of incentives in achieving system alignment

A growing body of evidence from the field of behavioral economics suggests that many health and social problems derive from small decision errors and cognitive biases that lead people to make choices that are contrary to their personal, professional and social interests related to health and well-being.[15] Well-designed incentives can help to align choices with broader objectives in health, well-being, and equity. Most of the existing health research in behavioral economics focuses at the individual patient level, and considerable uncertainties exist regarding the most effective incentive designs and strategies to support collective actions across multiple service providers, funders, payers, sectors, population groups, and communities.[13,16] Specific research questions of interest include:

- What novel financial and non-financial incentives are most effective in expanding access to services, improving continuity and quality of care, and constraining the costs of care across individual care settings and episodes? How do health and social service providers and consumers respond to different types of incentives using behavioral economics and other models of human behavior? Incentives may include gains as well as losses, immediate vs. delayed realization, large vs. small rewards and penalties, self-centered vs. altruistic motivations, and individual vs. group realization.

- What new financial and non-financial incentives most effectively support collective actions across service providers and sectors that allow for coordinated delivery of medical care, social services, and public health and prevention services? Incentives may include shared-savings models, pay-for-success models, social impact bonds, global budgeting, and other shared accountability models.

- How do performance measurement, public reporting, and pay-for-performance strategies influence coordinated delivery of medical care, social services, and public

health and prevention services, and how might these incentives be aligned to optimize outcomes in population health, well-being, and health equity?

- What types of financial and non-financial incentives are most effective in reducing health inequities based on race, ethnicity, socioeconomic status, and geographic area of residence at the individual, group, and community levels?

VI. Relevant Methodological Approaches

Applying *Systems for Action* evidence in transformative ways requires scientific knowledge not only about *what* strategies are successful in achieving alignment, collaboration and synergy across delivery and financing systems, but also about *how* and *why* these strategies work under certain conditions. Producing this evidence requires a variety of methodological approaches that draw on system science and stakeholder engagement approaches, including but not limited to:

- natural experiments and quasi-experimental methods that examine the population health effects of changes in the organization, financing, and/or delivery of health and social services;

- agent-based modeling, game theory, and related methods for exploring system behavior, complexity, and collective actions and their downstream outcomes;

- network analyses examining patterns of interaction between and among the institutions, service providers, and consumers involved within medical, social, and public health service delivery systems;

- economic evaluations that elucidate the benefits, costs, productivity, and efficiency of delivery and financing system innovations;

- action and participatory research approaches that incorporate experiential knowledge from service providers, community organizations, program and policy officials, and community members about delivery and financing system behaviors and outcomes;

- rapid ethnographies designed to enhance understandings of environmental and organizational drivers of cross-sector collaboration and integration;

- comparative effectiveness research that analyzes the relative benefits and costs of alternative system-level approaches to improving health;

- positive deviance studies that elucidate the strategies and mechanisms by which exemplary systems and system innovations improve population health outcomes; and

- grounded theory approaches that develop and enhance the knowledge base for what works across systems under what conditions to improve population health.

Studies that triangulate findings using mixed-method approaches and data sources are likely to yield robust and broadly applicable evidence, particularly when nonrandom sample selection and/or small sample sizes limit the inferences that can be supported from individual study components. Additionally, successful studies on S4A research priorities are likely to require advances in the measurement of key constructs such as those related to system alignment, collaboration, and synergy. Such measurement advances may include innovations in linking and combining multiple data sources and in constructing measures at multiple levels of aggregation.

VII. Dissemination and Translation of Findings

Peer-reviewed scientific publications are an essential component of building a durable, credible and replicable knowledge base for the Culture of Health Action Framework. Nevertheless, disseminating and translating S4A research findings into actions that advance a Culture of Health requires additional mechanisms that reach a broader spectrum of knowledge-users on a more timely and ongoing basis, including health and social service providers, policy-making bodies, community organizations and leaders, advocacy organizations, funders, employers, and industry.[17] S4A studies should reach these stakeholder audiences through a variety of available channels, including discussion papers, research briefs, social media, blogs, professional and trade publications and meetings, government reports, and the popular press. Early releases of interim findings and research in progress should be used to ensure timeliness of research dissemination and to build interest in final results. Studies should develop, implement, and evaluate linguistic and culturally appropriate approaches to translating findings to communities of practice. Where possible, S4A studies should incorporate policy translation strategies that explicitly reference the value and cost implications of the system strategies under study, including potential spillover effects on other delivery systems and services.

APPENDIX 1: AGENDA DEVELOPMENT PROCESS

The Robert Wood Johnson Foundation (RWJF) appointed a Technical Advisory Committee in February 2015 to develop a research agenda for a new ***Systems for Action*** (S4A) national research program. The Committee included ten representatives with relevant expertise in areas that include medical care, nursing, health policy and management, economics, community and stakeholder engagement, social and organizational systems, and health equity. Because the committee members were geographically dispersed across the U.S., research agenda development was completed from March through July using a variety of deliberation mechanisms, including electronic communications, two virtual meetings, and one in-person meeting.

Committee members recommended engaging additional stakeholders to enrich discussion of potential topics for the S4A research agenda, and members were subsequently invited to nominate additional stakeholder participants to participate in agenda setting activities. Three additional stakeholders joined the agenda and priority-setting process representing diverse perspectives, including two representatives having experience in community development and engagement with underserved racial and ethnic groups in health research, and one representative having experience with stakeholder engagement of health care professionals and interest groups in quality measurement and reporting activities.

As background for identifying research priorities, committee members were provided with an overview of the RWJF Culture of Health action model and with a series of evidence summaries covering recent studies on the delivery and financing systems for health care, public health, and social services.

A three-stage Delphi survey process was used to identify and prioritize S4A research topics with participation by the committee members and stakeholders (n=13), RWJF representatives (n=2), and key project staff (n=3). A secure electronic survey tool was used throughout the process. In the first stage, potential topics and research areas were solicited by asking each person to submit between three and twelve candidate research topics, considering these four criteria:

1. The potential for research on the topic area to generate knowledge that leads to significant improvements in health status and health equity through relevant components of RWJF's Culture of Health Action Model, i.e. health as a shared value, cross-sector collaboration, healthy and equitable communities, and integrating health and health care systems;

2. Relevance to the S4A general theme of aligning and integrating services and delivery and financing systems that impact population health, including public health, medical care, and social and community services;

3. The potential for research on the topic area to generate **new** knowledge and evidence that does not already exist; and

4. The potential for research on the topic area to complement and be synergistic with—and not duplicative of—research supported by other funders and funding mechanisms.

Nominated topics were solicited from committee members and stakeholders using the secure electronic survey tool, and a total of 55 topics were received during the first stage solicitation.

In the second stage, committee members and stakeholders were asked to rate each of the 55 nominated topics on a 10-point scale, ranging from "Very Important" to "Not Important," considering the same criteria listed above. Respondents also were invited to nominate up to five additional topics for consideration. During this rating process, nominated topics were not edited, combined, or divided except in obvious cases of duplication, so there was some overlap in topic areas that were addressed later in the research agenda-setting process. After the second stage ratings were completed, rating results were disseminated back to the respondents, including individual rater results as well as statistics for central tendency, range, coefficient of variation, and other measures of agreement in ratings.

In the third stage, the panel reviewed the group and individual ratings of the first 55 topics and were prompted to confirm or change their ratings for each topic after having reviewed the ratings of other panelists. In addition, panelists rated the importance of 11 new topics recommended in the second stage survey, using the same 10-point scale as above.

With the third stage ratings completed, standardized rating scores and measures of agreement were calculated for each of the 66 topics. Topics were ranked from most important to least important, based on the standardized mean score. Committee members and stakeholders received the rank-ordered topic list with detailed results on ratings. Results of the Delphi ratings are available in a separate report.[18]

Panelists were provided with research evidence summaries completed in 11 broad areas related to the nominated topics, including research on delivery systems for social services, community development, and poverty reduction. Summaries, while not comprehensive evidence reviews, were designed to stimulate further thinking and dialogue about S4A research priorities. These summaries are available in a separate report.[19]

An in-person meeting of committee members and stakeholders was used to refine, consolidate, de-duplicate, and prioritize the list of 66 research topics. Committee members who were not able to attend the meeting were interviewed individually to gather their opinions into the process. The ten topics with the highest mean standardized importance ratings identified in the third stage Delphi survey were used as a starting point for the convergence discussion, with additional items grouped accordingly. Some topics were deemed more fitting as guiding principles, methodological approaches, or dissemination and translation recommendations.

After the in-person meeting, written descriptions of priority S4A research agenda items were developed, reviewed and refined through three waves of written comments and telephone conference calls held with committee members and stakeholders.

In 2019 a multi-staged process was used to review and update the S4A research agenda, including: (1) a review of more than 300 research proposals submitted and 25 proposals funded through the S4A program's three successive call-for-proposal processes; (2) a review of the progress and findings from 25 S4A studies funded during 2016-2019; and (3) an expert panel process with an interdisciplinary group of 8 members of the S4A National Advisory Committee to review and rate existing S4A research priorities and nominate new priorities.

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