

IMPACT AND OPTIMIZATION OF THE RESEARCH-TO-POLICY MODEL: TESTING AN APPROACH TO IMPROVE THE USE OF EVIDENCE

Proposal to the William T. Grant Foundation
Use of Research Evidence Priority Area

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*This proposal includes an explicit
definition of research evidence in the
proposed project.*

Major Questions

While there is growing bipartisan interest in using scientific evidence to inform legislation (i.e., evidence-based policy),¹⁻³ it remains unclear how best to facilitate the uptake of research findings by policymakers.^{4,5} A growing body of literature emphasizes major barriers to the use of research evidence in decision making, including (1) lack of interaction between researchers and policymakers, and (2) difficulty crafting legislation informed by scientific evidence—that executive agency staff can successfully execute.^{1,6-8} Without direct interaction between legislative offices and researchers, legislative staff’s ability to access, distil and use scientific evidence will remain limited.⁴ Yet, even efforts characterized by productive researcher-policymaker collaborations still experience difficulties incorporating research evidence into legislative language (i.e., proposed bill provisions and enacted statute).^{5,9,10} Thus, there is a need to *simultaneously* address these core interrelated obstacles.

This proposed project seeks to evaluate the effectiveness of an intervention for improving the use of evidence in policymaking, known as the Research-to-Policy Collaboration (RPC). This model supports productive researcher-policymaker interactions and facilitates development of legislation that leverages empirical evidence—particularly related to preventing child maltreatment in the United States. This proposed work aligns directly with the William T. Grant Foundation’s priority to *test actionable strategies to improve the use of existing research* because it aims to enhance understanding around evidence use in law making, as well as validate and strengthen a strategy to promote federal lawmakers’ use of evidence. Ultimately, this project will contribute to an actionable science around improving policymakers’ use of evidence for investing in youth.

*The Foundation welcomes proposals
testing interventions that build off
prior empirical research and test
whether and how to create the
conditions to improve the use of
research evidence. This paragraph
explicitly connects the proposed
project to the Foundation’s priorities.*

Aligning with the Foundation’s definition, research evidence is conceptualized here as information derived from empirical studies employing systematic research methods and analyses. This definition includes both experimental evidence from “gold standard” randomized controlled trials (RCT) and other forms of evidence (e.g., cost, implementation) that supplement and contextualize efficacy findings.¹¹ Evidence beyond RCTs, such as effectiveness trials, is increasingly recognized as valuable for informing the scaling-up of programs outside highly controlled contexts.¹² Additionally, there is

utility in translating early evidence (e.g., cost analyses)—particularly for pressing issues where research remains underdeveloped.¹¹ This issues where research remains underdeveloped.¹¹ This sometimes involves translating the “best available” evidence,¹³ including evidence relevant to policymakers’ constituents (e.g., epidemiologic and etiologic findings) and practitioner experiences with implementation—in a manner that allows policymakers to understand the quality and generalizability of the current literature.¹³⁻¹⁵ From this point forward, the use of “evidence” and “research” is described interchangeably.

To test and optimize the RPC model’s effectiveness for increasing policymakers’ use of research, we propose a three-year study of the ways in which the model facilitates interactions between researchers (including basic researchers, program evaluators and research-oriented practitioners) and federal policymakers (congressional members and their staff). Further, we will look at how those interactions might strengthen policymakers’ use of research evidence in bills they sponsor and cosponsor, their official statements, as well as social media posts. This work assesses both processes for collaboration and policymakers’ use of research within a randomized controlled trial (RCT) employing a mixed methods approach—including quantitative and qualitative evaluation of impact. These findings will inform the optimization of the RPC by identifying best practices, translating those into practice tools, and integrating those tools into an optimized RPC model that would then be evaluated within a second RCT. The proposed project will be guided by three overarching questions (see corresponding research questions in Exhibit 1):

- (1) How does the RPC impact researchers, legislative staff, and legislative activity?
- (2) How might perceptions and experiences of collaboration through the RPC relate to different forms of evidence use among researchers and policymakers?
- (3) Can an optimized RPC model, including a model legislative language template for crafting evidence-based policy and additional guidance on supporting productive researcher-policymaker interactions, further improve policymakers’ use of evidence?

Theoretical & Empirical Rationale

The RPC model is based on the growing use of evidence literature. Below, we highlight key theoretical and empirical work the RPC’s creation and guides our proposed evaluation and optimization of the model. In particular, key work by John Kingdon¹⁶ highlighted that rapidly evolving, narrow windows of opportunity for public policy change are guided by socio-political factors such as public opinion, media coverage, national crises, and the priorities of elected leaders. Policymakers often turn to “experts” when addressing issues that are part of a political agenda. This presents an opportunity for researchers to influence what policy solutions are considered for addressing social issues—identifying those with the greatest evidence of effectiveness. However, successfully leveraging such opportunities requires recognition of the dominant values that dictate what solutions are deemed acceptable by current elected officials and their constituents.¹⁶

Reviewers look for proposals that build from existing theory and empirical research. In this section, the proposal makes explicit the assumptions behind the proposed study and theoretical grounding for those assumptions.

Building on this theory are studies that point to the need for research evidence that is relevant to current policy priorities and available in real time so that it can be leveraged within discrete policy windows.¹⁴ Contributing to what is known about the dynamic nature of policymaking comes from research demonstrating the influence of interpersonal relationships on policymakers’ use of evidence. In fact, a systematic review suggests that a prominent facilitator for policymakers’ use of research is the translation of relevant scientific findings in the context of trusting relationships

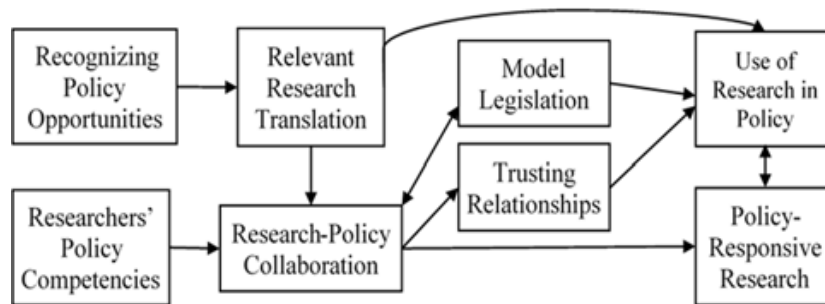
with researchers.⁷ This forms the theoretical basis of the proposed project (Figure 1), which emphasizes the need to cultivate positive interactions and collaborations between the research and policy communities in the context of pressing policy issues.

Theoretical Framework

The two-communities theory suggests that researchers and policymakers are embedded in unique cultures characterized by different values and languages.¹⁷ Some argue for additional “linking” mechanisms that could systematically introduce social science to policymakers in useable forms at critical times, and that researchers could filter science-based information according to policymakers’ interests and needs. However, the facilitation of such interactions must be tactful to avoid potentially aversive and/or ineffective interactions resulting from misunderstanding one another’s divergent cultures. Positive interactions critical to developing trusting relationships across communities often requires increased empathy, understanding of how policymakers use research, and attention to ideological dimensions of decision-making.¹⁷

This section provides a strong example of how to connect the proposed work with prior theory and empirical research.

Figure 1: Theory of Change



Overcoming Barriers to Collaboration. This research particularly indicates the need to support researchers’ development of knowledge, awareness, and relevant skills around interacting with policymakers in order to support key cultural competencies¹⁸ and reduce cultural “clashes” that contribute to miscommunication and mutual mistrust.^{19,20} Researchers generally receive little training on legislative processes, norms, and strategies, which remains a barrier to effective translational efforts.²⁰⁻²⁴ Training in policy and effective research translation may help researchers overcome cultural barriers by adapting to the policy context.^{19,20,23,25} It can also be instructive to convey common pitfalls and stereotypes that exist, such as the often held perception of researchers as overconfident or studies as self-serving.^{20,23,25} While researcher-policymaker connections are a primary facilitator in policymakers’ use of evidence, interactions must be carefully scaffolded to facilitate positive interactions, and researchers could benefit from training and coaching in developing trusting and enduring relationships

Facilitating Researcher-Policymaker Interactions through Collaboration

Training researchers can support successful researcher-policymaker collaboration, but alone is insufficient for successful researcher engagement with policymakers. Ideally, such training should be reinforced through structured opportunities for interacting and collaborating with policymakers. In this context, collaboration produces cooperative interactions between stakeholders, making it possible to work together toward a common goal. Not only can collaboration encourage policymakers’ use of research, but future research may be informed by and become responsive to the policy context.^{7,26-30} Lessons drawn from community-based participatory research suggest that

collaborative processes have the potential to build trusting and mutually respectful relationships where there is effective communication, information-sharing, as well as joint and equitable decision-making—in which both parties are valued for their unique expertise.³¹ Therefore, respectful collaborative processes can support the development of interpersonal trust and strengthen perceived credibility, which in turn guides policymakers' inquiry, acquisition, and use of information.^{7,20,32,33}

Trusting Collaborations. Trust is recognized as critical to successful working relationships, as is respect and the latitude to share diverse ideas. These interpersonal conditions strengthen the breadth of solutions that are considered and allow collaborators to learn from one another.³⁴ A culture of learning is key to researcher-policy maker collaborations since making sense of research evidence is an iterative process that involves discussing, achieving consensus, and reflecting on how knowledge may be relevant for specific situations.^{29,35,36} Discussion allows stakeholders to jointly draw conclusions and develop strategies that address specific problems or circumstances.³³ Furthermore, discussions and partnerships can be strengthened by effective communication strategies, such that information is clear, relevant, timely, and respectful.^{20,34,37}

Collaboration to Craft Evidence-Informed Legislative Language. To further strengthen researcher-policy maker collaborations, it is critical to overcome the inherent difficulties in integrating evidence into legislation and to understand how provisions are interpreted and implemented by the executive branch.^{1,6-8,36} Prior work has shown that legislators frequently pull from other sources when writing legislative language, including existing laws and drafted language offered by advocacy organizations.³⁸⁻⁴¹ Given the reuse of existing text (e.g., model legislation), a template of model legislative language for leveraging research would be a valuable tool. In addition to drawing on existing legislative language, an office's interactions with external and internal sources influence what makes it into a bill's provisions, meaning that interactions are a key vehicle for supporting the inclusion of research evidence in new laws. For instance, prior work shows researcher-policy maker collaboration has supported the development of provisions that have written evidence-based strategies into law (e.g., Maternal, Infant, Early Childhood Home Visiting Initiative; Teen Pregnancy Prevention).¹ This suggests that a model legislative language template should be used in the context of collaborative interactions to offer guidance by providing common language for researchers and policymakers to use when beginning to discuss how existing evidence may influence legislative language and be executed if it becomes statute.

Anticipated Outcomes from Collaboration

Policymakers' Use of Evidence is shaped by information consumption and multiple decision-making processes. The increased consumption or uptake of research can occur through researcher-policy maker interactions that are structural (e.g., increased opportunities for information exchange) or proximal (e.g., not only physical proximity, but also through trust and mutual understanding—relational proximity) in nature.⁴²⁻⁴⁴ Once knowledge is transferred, decision-making processes determine if and how it is used. Several conceptual models have attempted to explain those decisions. The traditional knowledge-driven model posits that policymakers passively consume objective facts; however, this overlooks interpersonal factors.^{45,46} Other theoretical models emphasize using research for solving specific problems, serving a political purpose (e.g., supporting a predetermined agenda), justifying inaction or rejection of a policy, corresponding with information obtained through interpersonal connections, or affecting policies over time through accumulated knowledge.^{36,45,47} Interpersonal mechanisms may be most impactful because interactions support the transfer of knowledge that is embedded in researchers' skill sets.⁴⁷

Policymakers can decide to use research evidence in many ways, varying by intent (e.g., political) or format (e.g., verbal, written). While researchers deplore the confirmation bias involved in justifying an existing position purely for political use (sometimes referred to as tactical use), there are ways policymakers can use evidence that are more agreeable to many researchers, including instrumental use (i.e., directly informing policy decisions), conceptual use (i.e., indirectly impacting the way policymakers think about issues, problems, or solutions), or imposed use (e.g., funding requirements based on level of evidence).^{33,46,48,49} Instrumental use is often the most overt and observable in public statements and in legislation itself. Although difficult to detect and measure, conceptual use is also important to understand.^{16,47,50} Further, some use of research occurs in informal discussions among elected officials and their staff. *This highlights the need for a multi-method approach for assessing policymakers' research use.*

It is good practice to connect the types of use of research evidence that are the focus of this project and then connecting those types to the proposed methods and measures.

Policy-Informed Research. While policymakers' use of research is the primary focus of this work, often neglected are ways in which research should be informed by policy and practice.^{51,52} Few supports are in place to help researchers proactively consider policy and practice implications prior to study development, even though research that is responsive to policymakers' needs may be more likely to be used by policymakers in the future.⁵¹ Policy-informed research adjusts to prevailing policy priorities, shaping the questions that are investigated and how results are interpreted and communicated.^{19,27} A cultural shift toward more policy-informed research is needed, including the way it is produced, interpreted, and communicated—and opportunities for researcher-policymaker collaboration may support this shift.^{27,29} Some studies have shown that co-creation of research knowledge can strengthen the utility of findings for policymaking and implementation.⁴³ In particular, researcher-policymaker partnerships that include designing, executing, and interpreting research results from start to finish might accelerate shifts toward policy-informed research.

Prior Efforts to Bridge Research and Policy

Literature on the significance of researcher-policymaker interactions is articulated in multiple translational strategies, including some that aim to bring these groups together.^{26,28,30,42-44} Key distinctions are evident in the intent or scope of strategies that aim to translate research for policymakers. For instance, there is often an emphasis on “pushing” research into policy, implying that high-quality research will be used if it is clear and accessible (e.g., policy briefs). Another strategy is improved communication, dissemination, and marketing of research. However, these efforts may achieve limited success if the needs and demands of policymakers are not recognized.³³ Some efforts to synthesize existing research have been adapted to address current policy priorities by first assessing decisionmakers' needs and questions before engaging in a rapid response to synthesize research.^{53,54} While rapid response research synthesis is more relevant than “push” approaches, research reviews may be insufficient if not coupled with active communication involving joint interpretation of research in the context of interpersonal relationships.^{7,11,32,55}

Connecting Researchers and Policymakers. Interactive approaches are often considered one of the best methods for translating research for policymakers.⁵² This requires a shift toward strengthening connections between research and policy communities.³³ While written research synthesis is important for translation, it also can guide active communication efforts carried out through in-person connections or collaboration with policymakers.^{11,32} Such interactions are necessary because policymakers “read people” rather than reports.^{20(p167)} Moreover, active communication can support a contextualized interpretation process by which conclusions and implications are

jointly drawn through dialogue between researchers and policymakers.¹¹

Knowledge Brokering. One approach to research translation in the context of trusting, working relationships with policymakers is knowledge brokering. This involves developing a mutual understanding of one another's cultures, assessing current policy priorities, and responding quickly to policymakers' needs by reviewing relevant research to jointly determine implications of findings.²² Knowledge brokering holds promise for translating research relevant to current policy priorities in the context of socio-political values and interpersonal relationships—particularly for issues affecting youth. This approach may be applied by individual researchers; however, intermediary organizations (i.e., civic organizations that broker partnerships between community members and government) are often uniquely positioned to broker relationships between policymakers and individual researchers who can then directly share their expertise and knowledge. Intermediaries as brokers have strong potential benefits because they can leverage existing trusting relationships and insight on current policy priorities.^{1,14,29,33,56,57} The RPC model aligns with this notion of a blended individual-organizational role because the RPC intermediary supports brokering trusting relationships between legislators and researchers.

Mobilizing Researchers as Knowledge Brokers. Responding to the need to guide, mentor, and direct researchers' capacity for involvement in policy,²⁴ researchers' ability to broker knowledge can be cultivated to prepare them for engaging with policymakers. This network-based approach recruits researchers who have expertise relevant to current policy priorities. In contrast to deploying independent knowledge brokers or agencies, individuals with direct subject-matter expertise may best contextualize research findings and share personally relevant narratives from their experience.²⁰ Voluntary contributions also reduce the learning curve for distilling an unfamiliar body of research, which may be more efficient than hiring paid staff alone since the costs of active communication efforts are considerable.¹¹

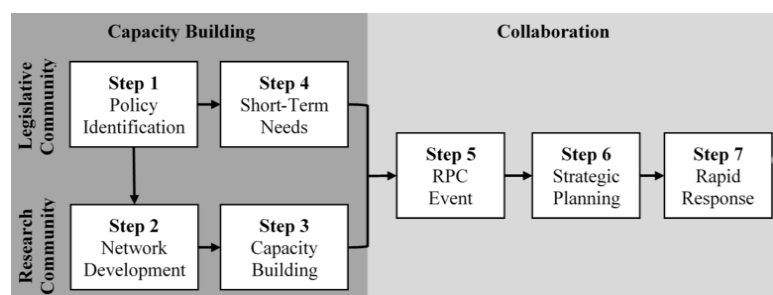
The Research-to-Policy Collaboration Model (RPC)

The theoretical and empirical literature suggests the need to (a) translate research relevant to current policy priorities, and (b) facilitate productive interactions between policymakers and researchers. The RPC is a manualized model implemented by an intermediary organization that cultivates relationships between researchers and legislative offices. The RPC is implemented in two phases involving a series of seven interrelated activities (Figure 2). During the capacity-building phase, the RPC simultaneously aims to support researcher's development of policy competencies (e.g., training, coaching), while also conducting iterative needs assessments with congressional offices regarding their current priorities and desire for research evidence. In the collaboration phase, researchers with relevant expertise are coalesced into rapid response teams that are matched with legislative offices. Through a scaffolded series of interactions, the RPC model is used to cultivate productive researcher-policymaker relationships and support responses to legislative requests. Evaluating and optimizing the effectiveness of the RPC is the focus of the proposed work (matched funding will cover all implementation costs—see budget materials). The RPC model is described in detail in the Implementation Manual available [here](#). Briefly, the seven steps of the RPC model include:

(1) *Federal Policy Identification.*

The RPC model begins with initial outreach to legislative staff around priority areas for the congressional session. A list of general areas is generated based

Figure 2: Research-to-Policy Collaboration



on priorities identified (sexual abuse, human trafficking, foster care youth, etc.). These priorities are elicited through a semi-structured needs assessment

protocol, which asks (1) *How would you like to prevent the issue of focus (e.g., human trafficking)?*, (2) *how might researchers or practicing consultants be of value to your work?*, and (3) *In what ways might your work have implications for future research?* The needs assessment engages staffers in conversation rather than operating like an impersonal interview. Follow-up questions are asked based on initial responses.

- (2) ***Develop Rapid Response Researcher Network.*** An interdisciplinary rapid response network is developed first through strategic resource mapping to assess researcher willingness and experience for engaging federal policymakers. This includes inventorying and cataloguing researcher core expertise in different areas. First, membership records from existing professional networks (e.g., American Psychological Association, National Prevention Science Coalition, Prevention Economics Planning & Research Network and Society for Prevention Research) are used to invite researchers with relevant expertise to join the rapid response researcher network. Those willing to join are asked to submit additional information about their experience, level of commitment, and expertise in the previously identified federal policy areas.
- (3) ***Build Network Capacity.*** Few scientists have received formal training about the legislative process, outreach strategies, or how to translate their work for a legislative audience.^{21,22} The RPC model employs a strategic training approach to build researcher capacity. Training aims to increase competencies related to policy engagement and interactions with legislative personnel. One-hour sessions are delivered over a six-week period. Sessions include (1) introduction to the RPC model, (2) developing trusting relationships with congressional offices, (3) engaging in the legislative process, (4) understanding lobbying regulations, (5) knowledge brokering during a live practice session with legislative staff, and (6) developing a strategic plan for collaboration. These sessions are offered via video conference media, allowing participants to see trainers and each other. Further, researchers can ask questions and participate in discussions via both voice- and text-based messaging (i.e., ‘chat’). All sessions are recorded; recordings are made available to the participants for reference.
- (4) ***Assess Legislative Short-term Needs.*** Current legislative needs and priorities are tracked through a second semi-structured needs assessment conducted with legislative staff, which (1) revisits previously discussed priorities, (2) specifies the issues legislators want to prioritize for rapid response, and (3) solicits specific suggestions or requests regarding how a team of research experts might support the legislator’s efforts. Compared to *federal policy identification*, this needs assessment seeks to establish a topic of focus for the rapid response event and is more action-oriented regarding specific activities for rapid response. This process is carried out within three weeks prior to completing the Rapid Response Team Event to be responsive to policymakers’ needs in real-time. Such responsiveness is known to facilitate use of evidence in policy.⁷ Furthermore, information on the most current priorities strengthens the match between legislative office priorities and researchers who have relevant expertise.
- (5) ***Hold Rapid Response Team Event.*** Since direct discussions of research can reinforce relationships deemed necessary to advance evidence-based policy,^{22,23} the RPC organizes face-to-face meetings between Rapid Response Team members, legislative staff and members of Congress. Additionally, deliberation during meetings can support the development of

implications, as research interpretation is a formative and iterative process.^{33,37} During this period, the researcher response team travels to Washington, DC to: (1) respond to initial legislative requests, (2) interpret research based on the current need, and (3) plan for next steps supporting legislative offices (e.g., briefings, testimony, request for legislative language). This event includes meetings with personal or committee staff, as well as informal social gatherings with researchers, staff, and congressional members. Participating researchers are selected based on involvement in trainings, willingness to commit time for rapid response, expertise related to legislators' interests, and geographic location (e.g., same congressional district as a congressional member).

- (6) ***Strategic Planning for Response.*** Immediately following event meetings, strategic planning for rapid response commences. The strategic planning approach employed for the RPC draws upon public relations, communication and healthcare triage models.^{58,59} RPC staff and participating research experts meet to summarize goals and objectives, determine next steps, and identify point person(s) for follow-up with each office. Legislative requests are prioritized according to the congressional office's needs. This plan guides the subsequent rapid response.
- (7) ***Rapid Response to Legislative Requests.*** Following the event, the research network (including those not in attendance) are engaged in a rapid response to address legislative requests. Rapid response includes: (a) collecting and summarizing relevant resources for offices, (b) soliciting professional networks for consensus on topics or information related to specific requests (c) planning congressional briefings to be sponsored by a congressional office(s), (d) supporting the organization of congressional hearings that include researcher testimony and (e) reviewing or providing draft legislative language.

Key to the RPC model is the collaborative nature of processes with legislative offices and among an interdisciplinary group of researchers. In particular, the RPC allows researchers to fulfil interdisciplinary evidence requests and support appropriate generalization of findings to issues of importance to policymakers.

RPC Pilot Findings

The implementation of the RPC model was piloted over an eight-month period with the 114th Congress—during which all seven core model activities were carried out. An evaluation examined the feasibility and cost of implementing the RPC. The findings for this pilot were recently published in the journals *Public Administration Review* and *Prevention Science*.^{11,60} Additionally, this pilot allowed the research team to refine and validate a battery of survey scales about. Evaluation findings indicated that the RPC model was able to:

- (1) Strengthen researchers' perceived skills and efficacy in engaging in the policymaking process (e.g., policy-related, knowledge, control self-efficacy). Pre- and post-RPC surveys responses completed by pilot participants found significant improvements in policy knowledge and efficacy for intervening ($p < .05$).
- (2) Mobilize researchers' policy engagement. Researchers spent 288 hours engaging with legislative offices around their area of expertise and responding to legislative requests. Researchers participating in the research network devoted about 6 hours to capacity-building efforts. Those invited to participate in the rapid response event spent an additional 26.7 hours, on average.
- (3) Connect legislative offices with researchers. Researchers spent 70 hours of direct interaction with 10 legislative offices. Legislative offices received an average of 29 hours of researchers' time.
- (4) Information requests – A total of

Figure 3: Frequency of Legislative Requests in the Pilot

79 unique requests were received for child and youth oriented evidence via literature reviews, policy briefs, hearing support, congressional briefings, and review of proposed legislative language (Figure 3).

Request Type	Frequency	Percentage
Review Preventive Intervention Strategies	29	37%
Summarize Etiologic Evidence	18	23%
Identify Likely Prevention Impact on Public Systems	15	19%
Support Analysis of Administrative Data	5	6%
Prepare Policy Brief	5	6%
Offer Legislative Language	4	5%
Hold Congressional Briefing or Support Hearing	3	4%
Total Requests	79	

These findings indicate that the RPC can effectively connect researchers with legislative offices based on current policy priorities, and elicit requests for research evidence to be used in legislative activity (e.g., briefings, hearings, bill language or support). Initial cost-effectiveness analyses indicate that the RPC is an efficient approach to legislative outreach compared to traditional advocacy and lobbying costs—feasible for support by professional societies, non-profit research institutes and university units.⁶⁰ These analyses revealed it costs about \$1,600 to provide the RPC to a congressional office and elicits a request for scientific evidence to support policy development for about \$444. As a result of this initial success, Senators Chuck Grassley and Sheldon Whitehouse invited the RPC team to hold a congressional briefing to discuss the model. Senior legislative staff provided testimonials on RPC utility and impact (i.e., quotes at beginning of proposal; October 13, 2016).

Contributing to the Limited Empirical Base

The proposed study seeks to address key gaps in the literature regarding research evidence use by federal legislators and the extent to which structured opportunities for collaboration might support policymakers' use of research or generation of policy-responsive research. The proposed study will contribute to this research base using both qualitative and quantitative approaches. Moreover, the impact of the RPC model for fostering researcher-policymaker connections needs to be tested, including potential impact on research use in legislative language.⁴ The proposed work seeks to build on a largely descriptive empirical base by evaluating and refining a replicable model linking policymakers and researchers.^{23,52}

This section demonstrates a clear discussion of how the proposed project will add to the existing knowledge base.

Understanding How to Build Trust and Improve Evidence-Use. The need for actionable information is a pervasive theme in discussions of what is known about facilitating researcher-policymaker relationships. In addition to testing the impact of models that broker such connections, more information is needed on how such processes might cultivate trust and impact behavior.^{15,52} Little is known about when, why, and how personal contact or research relevance impacts policymakers' behavior.⁷ Moreover, few studies have investigated how to improve federal lawmakers research use when crafting family policy in an experimental context.¹⁹ The proposed work seeks to shed light on these issues by using multiple methods to assess collaborative processes and research use in federal, child and family policymaking.

Identifying Best Practices for Writing Evidence into Legislative Language. The lack of clear best practices for writing evidence-based policy remains a pressing area of need for understanding how to improve the use of scientific evidence. For example, according to recent estimates, the phrase "evidence-based" appears 122 times in the United States Code, frequently without clear meaning.² This creates confusion and lack of alignment in execution. Statutes may address research methodologies, systematic reviews, and definitions of evidence. Every word in statute is critical, as oversights can lead to legal loopholes or unintended consequences^{61,62}. This increases the salience of effective statutory design. Additionally, applications of empirical evidence in law are

sometimes misaligned with best practice; for example, some recent legislation (i.e., Families First Prevention Act of 2016)⁶³ require studies to show statistical significance even though overreliance on p-values alone is widely discouraged by methodology experts when clinical significance is lacking.⁶⁴ Statutory language that creates unintentional barriers or complications can limit successful execution and the attainment of societal outcomes. Ultimately, understanding best practices in writing legislative language can support researcher-policy maker collaborations and more effective execution of evidence-based statutes.

Current Opportunities to Support Research Use in Policy

An area ripe for bipartisan compromise among federal legislators is around the prevention, treatment, and sequelae of child maltreatment—currently defined in US statute (42 U.S.C. §5101)⁶⁵ as:

“At a minimum, any recent act or set of acts or failure to act on the part of a parent or caretaker, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act, which presents an imminent risk of serious harm.”

This will be the area of focus for the RPC implementation that would coincide with this proposed project with the WT Grant Foundation. Specifically, child abuse and neglect represents one of the most salient and detrimental threats facing children. An estimated 3–6 million children are involved in reported, suspected cases of maltreatment each year,^{66,67} 270,000 children may be removed from their families annually, and approximately 4.8 children per day become fatal victims of maltreatment.^{66,68} In addition to addressing the trauma itself, maltreatment prevention and treatment can reduce various interrelated negative outcomes for children and society, including worse physical and mental health, inferior academic performance, and unemployment and homelessness.^{67,68} This effort considers broad issues related to children and families, including risk factors related to maltreatment (e.g., poverty) and circumstances that could increase the likelihood of trauma or exploitation (e.g., incarceration, homelessness).

Research on child maltreatment and related issues has increased substantially in the last three decades.⁶⁷ Yet, much of this research does not reach or is not used by practitioners or decisionmakers.^{69,70} Policymakers have actively legislated on child welfare for decades, regardless of the extent of the research base. There are a few key examples of research use in federal, family policies, such as the Maternal Infant Early Childhood Home Visiting program (MIECHV).¹ Not only did this effort demonstrate that existing evidence bases could be effectively leveraged in public policy, but also that federal grant programs have the potential to strengthen the evidence base by requiring rigorous evaluation of strategies that have yet to demonstrate effectiveness.

While some issues pertaining to child welfare have a substantial evidence base (e.g., trauma-informed therapy for victims; parent education and support), many strategies of interest to policymakers are only beginning to develop an empirical literature (e.g., prevention of child trafficking; reunification and permanency).^{55,66,67,71-74} The best available evidence needs to be translated as policy decisions will be made with or without a robust evidence, and policymakers may struggle to draw implications from a mixed body of evidence. In addition to interpreting existing evidence, researcher-policy maker interactions may help researchers to better align future studies with policymakers’ questions²⁷ or reveal federal programs that could be rigorously evaluated in ways that grow the evidence base and guide future reauthorization decisions.⁶⁷

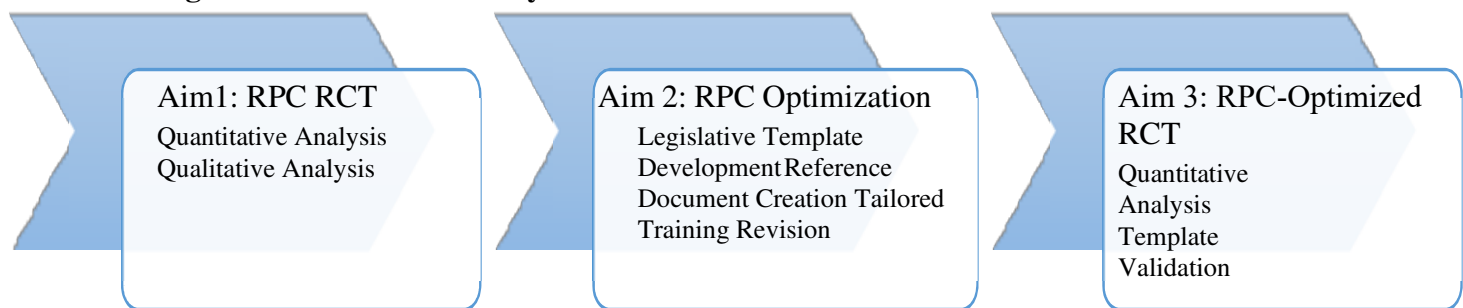
The current work focuses on federal legislation because over 40% of child welfare funding is provided by federal programs.⁶⁷ Historically, federal policy has shaped child welfare system reform.⁶⁸ Additionally, the broad focus on issues related to child maltreatment is notably bipartisan

and allows the RPC to adapt to a range of current policy opportunities. While predicting specific future policy priorities is difficult, our connections with legislative offices (e.g., members of House and Senate Foster Youth Caucuses) have provided critical insight into priorities at the time of this proposal's submission. Based on these staff's predictions, specific federal issue areas likely to be identified during the RPC's implementation will include parent support services (e.g., home visiting; substance abuse treatment), foster care (placement permanency, adoption, crossover youth, and aging out), child trafficking, and victim services. Legislators may maintain some of these interests, and new priorities related to children and families will likely emerge over time.

Research Methods

For this project, we propose an iterative process to test and optimize the RPC model within three project aims (Figure 4). These include (1) test the RPC's effectiveness through experimental design (randomization) using qualitative and quantitative assessments of researcher-policymaker interactions and impact; (2) leverage initial evaluation findings to optimize the RPC's ability to facilitate productive researcher-policymaker interactions around the use of evidence in legislation; and (3) evaluate the impact of an optimized RPC model. All implementation costs will be covered by matched funding (see Exhibit 6 and Budget Justification).

Figure 4: Overview of Study Aims



A. Aim 1: Evaluate the Impact of the Research-to-Policy Collaboration Model

A.1. Overview of Evaluation Design & Sampling Framework

The first aim of this project will examine RPC model effectiveness within a randomized controlled trial (RCT) employing both qualitative and quantitative analyses of survey, interview, and observational data. Legislators' research use will be assessed with multiple methods, including qualitative interviews, legislative activity (i.e., introduced bills, official statements, and social media posts), and self-report via a survey protocol. Additionally, interviews and surveys will assess researchers' reported efficacy, skill and engagement in public policy, and the extent to which their work is informed by the policy process. Research questions for each aim are specified in Exhibit 1, as well as their respective sections, A.3. and A.4. This multi-method evaluation will yield data-driven feedback for optimizing the RPC during Aim 2 so that the optimized RPC can be implemented and evaluated in Aim 3.

Reviewers appreciate clear articulation of how the outcome of interest is measured.

A.2.a. Sampling Framework

The proposed quantitative (cf. A.3.) and qualitative analyses (cf. A.4.) would draw upon randomized samples (Exhibit 2). Since the RPC brings together two populations (researchers and congressional offices), separate randomization of each group is necessary. Specifically, to avoid spill-over effects on the control groups, researchers will be randomized to participate in the RPC model or comparison group prior to involvement in a rapid response network ($N = 60$; see Figure 1). Congressional offices ($N = 60$) will be randomized prior to federal policy identification (i.e., initial needs assessment; Figure 1) to the RPC or comparison group. Both researcher and legislative comparison groups *will not* receive RPC support. The congressional office comparison group will receive a traditional engagement model that provides basic contact with a university policy outreach staff member, but does not provide any of the capacity- and relationship-building components of the RPC model. This minimal level of engagement will allow research staff to maintain contact with offices to conduct data collection. Researchers in the control group will not receive any RPC training or materials.

Reviewers also appreciate clear discussion of the study's proposed sampling.

A.2.b. Mixed-Methods Study Design

This evaluation will include (1) quantitative analysis of survey and observational data, and (2) a qualitative study, including in depth-interviews and unstructured observations (Figure 5). Mixed-methods studies offer numerous advantages for evaluating strategies for improving the use of evidence. For instance, the use of multiple types of data would be used to validate findings across multiple sources.³³ This

study will use prospective data collections as well as archival records. This approach will help to minimize the challenges that arise in retrospective studies, which can suffer from recall bias and "post-hoc reconstruction of events".^{33(p8)} Ultimately, no singular approach can provide adequate characterization of the dynamic process around the use of evidence in legislative contexts. Each

Figure 5: Mixed Method Evaluation Data



methodological approach and data source offers unique and complementary insights.⁷⁵ Knowledge gleaned from these multiple methods will be integrated by comparing findings that correspond with the below research questions (also see Exhibit 1). When findings converge across methods, the validity of conclusions that can be drawn are strengthened.⁷⁵ Further, the process of reconciling inconsistent findings will identify future research priorities related to improving the use of evidence.

Reviewers appreciate when researchers offer a clear and thorough explanation of why mixed methods are necessary and how the data will be integrated to answer the research questions.

The proposed RCT is designed to formally test the impact of the RPC model and its hypothesized theory of change. Quantitative methods assess policymakers' use of research evidence with two indicators, including self-report (staff survey) and documented legislative activity (i.e., research use observed in archived and prospective official statements, social media, and written legislation). Surveys will capture research use that is not documented in written form—and may be more sensitive to change compared to evidence use observed in legislation and communications. Policymakers' use of research evidence will be further assessed through qualitative interviews. The weight of evidence across the three methods of assessing policymakers' use of evidence will guide the interpretation if there is an inconsistent pattern of results. Collaborative processes and changes among researchers (e.g., how policy experiences may shape research activities) will also be assessed with both qualitative interviews and quantitative surveys. Recognizing the novelty of measurement in this area, and because the survey protocol may not exhaustively tap key experiential processes of participants, the qualitative findings will receive relatively greater weight in interpretation. In particular, qualitative results may explain unexpected quantitative findings or provide contextual information that was not obtained from quantitative measures.⁷⁵ Ultimately, convergent findings across methods will be the most valuable and provide the greatest confidence in results. Below we describe these quantitative and qualitative methods in greater detail.

A.3. Quantitative Evaluation of RPC Impact on Researcher-Policymaker Interactions

A quantitative evaluation will test change among RPC participants compared to control groups. In particular, based on the above literature and pilot findings, we hypothesize that participating:

- (1) Researchers will report improved policy competencies and motivation for conducting policy-relevant research (*Self-Report*).
- (2) Legislative staff will report increases in positive attitudes toward, knowledge of, intended application, and actual use of research evidence (*Self-Report*).
- (3) Congressional offices will increase their use of research evidence in legislative activities (*Observation of bills, official statements, and social media*).

A.3.a. Design and Data Collection Methods: Self-Report

Structured Survey Protocols. A structured survey will be used to assess researchers' ($n = 60$) capacity for engaging in public policy processes. A corresponding survey protocol will assess legislative staff's ($n = 60$) attitudes, knowledge, intent, and reported behavior regarding the use of research evidence. Both researchers and legislative staff will be asked about the nature of their collaborative interactions with one another. Surveys will be conducted every three months at (1) baseline (prior to the first legislative needs assessment or rapid response network development), (2) prior to the RPC event (following researcher training), (3) immediately following the RPC event, and (4) following rapid response completion. All interviews will be conducted within a week and half before or after the targeted interview date (3-week window). Researchers and legislative staff participating in the RPC will be asked to complete the survey at each time point, and control groups of researchers and legislative staff will be asked to complete the survey at

corresponding time periods. Researchers will receive \$15 per survey completed; however, no compensation will be provided to legislative participants due to congressional ethics regulations.

A.3.b. Measures & Data Sources: Self Report

Multiple measures will assess a range of constructs. The protocol will adapt previously validated measures and indicators derived from in-depth, qualitative research. These include individual scales for legislative staff and separate scales for researchers that are completed at each time period, as well as overlapping scales on collaboration to be completed by both staff and researchers once collaboration begins (i.e., will not be asked during capacity-building). The complete, 50-item protocol can be deployed with legislative staff in about 10 minutes (32 staff items and 18 collaboration items). The 61-item survey for researchers takes an average of 18 minutes to complete (43 researcher items and 18 collaboration items).

Table 1: Survey Scales	Items	Reliability
Legislative Staff		
Value of Research (<i>Seeking, Engaging with, and Evaluating Research</i>) ⁴⁶	12	($\alpha=.85$)
Evidence Use Input (<i>Standard Interview for Evidence Use</i>) ⁴⁶	20	($\alpha=.80$)
Researcher		
Reported Policy Knowledge ⁷⁷	9	($\alpha=.93$)
Policy Control ⁷⁸	9	($\alpha=.81$)
Policy-Related Self-Efficacy ⁷⁷	10	($\alpha=.97$)
Policy-Informed Research ⁷⁹	8	($\alpha=.94$)
Prior Collaboration with Policymakers ³⁷	7	($\alpha=.95$)
Collaboration Experiences of Staff and Researchers		
Satisfaction with Collaboration ⁸⁰	8	($\alpha=.91$)
Impact of Collaboration ⁸⁰	6	($\alpha=.87$)
Trust and Respect ⁸⁰	4	($\alpha=.75$)

A.3.b. Sampling Framework: Self-Report

A.3.b.1. Congressional Office Sample & Randomization. Prior to randomization, this study will use an a priori, data-driven approach to identify the population of relevant legislative offices (Senate and House) based on the number of relevant bills the legislator has (co)sponsored. Offices that were previously engaged in the RPC pilot will not be sampled. When working with a Committee Chairman or Ranking Member, committee staff will be the target of RPC engagement and evaluation sampling. Under those circumstances, the personal office will not be sampled. Based on public information of bills introduced to Congress, we maintain a list of all lawmakers that have co-sponsored legislation in a variety of areas (e.g., child welfare, juvenile justice), which is ranked in descending order based on the number of relevant bills they have (co)sponsored (see Exhibit 3). To identify the sample, offices will be randomized from these lists starting with the most active offices in this area and then moving down the list. In this manner, we can increase the likelihood of balance between the control and intervention groups around not only demographic factors, but also relevant legislative activity. Recruitment will begin by requesting a meeting with congressional staff regarding the legislator's child welfare interests (e.g., child trafficking, sexual abuse, parental rights). The sample is expected to be representative of the current Congress (e.g., members of the 115th Congress are primarily Republican (54.3%), White (78.7%), and male

This section and the next are an example of a clear and specific discussion of proposed sampling and recruitment processes.

(79.9%).⁸¹ *Congressional staff* includes personal staff (hired by a member of Congress) and committee staff (hired by a chairperson or ranking member of a committee staff). The average number of staff per office is 10.8 in the House and 33.4 in the Senate. This sample will not engage institutional, agency, or executive branch staff who are generally unaffiliated with legislative offices.

A.3.b.2. Researcher Sample. This project will recruit researchers (including research-oriented practitioners and program evaluators from both academic and non-academic settings) who are interested in sharing their expertise with policymakers by inviting their participation in a rapid response network. Network participants are identified through membership within professional societies or referred from affiliated organizations and enlisted to join the network. Based on the demographic characteristics of the pilot sample, most researchers will have a Ph.D. in a behavioral health discipline. Researchers who agree to participate in the network will be randomized to receive the RPC or the control condition.

A.3.d. Data Analysis Plan: Self-Report

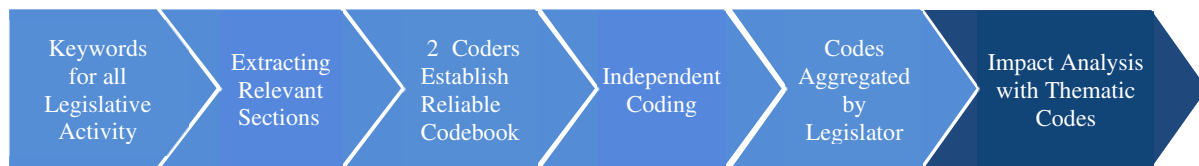
Surveys from researchers and legislative staff will be evaluated longitudinally by modelling change across 4 time points—including repeated measures and multilevel growth curve models (MLM) using *MPlus*.⁸³ MLM is preferable because it can handle missing data or uneven observations. This analytic method allows individual trajectories to be estimated over time by nesting multiple observations for each participant (i.e., slope), which can then be predicted by fixed characteristics of the individual or the nature of the collaboration.⁸⁴ Missing data will also be handled with multiple imputation because this is best practice when data are not missing at random.⁸⁵ This method will be guided by Lee and Colleagues' approach to multiple imputation for multilevel data.⁸⁶ These analyses will allow us to examine whether RPC participation is associated with increases in (1) researchers' reported efficacy to engage with policymakers, (2) legislative staff's interest and willingness to use research evidence, and (3) both researchers' and policymakers' positive sentiment toward working together. Longitudinal analyses will further allow us to explore the trajectory of outcome variables over time (e.g., improved researcher competencies, legislators' use of research)—specifically modelling change in evidence use and other outcomes of interest. Analyses of researcher and legislative staff outcomes are all powered at least at a 90% level to detect effect sizes of 0.2 or greater (power analysis conducted with *Optimal Design plus Empirical Evidence*).

This paragraph is strong for several reasons. First, it discusses the specific planned analysis and the rationale for those proposed analyses. Reviewers appreciate a discussion of how the proposed analysis will answer the research questions of interest. Second, the Foundation asks that quantitative analyses include a detailed power analysis. It is particularly helpful to include information on the magnitude of the anticipated effect sizes based on prior empirical work.

A.3.e. Design and Data Collection Methods: Observed

This work will examine use of research by congressional offices ($n = 60$) in three forms of legislative activity: (1) introduced legislative bills or enacted statute, (2) official statements (i.e., floor or hearing statements, press releases, dear colleague letters, office newsletters, or constituent letters), and (3) social media posts (i.e., Twitter, Facebook, Medium, Instagram, and YouTube). Data will be selected, extracted, and coded following the process depicted in Figure 6.

Figure 6: Quantifying Research Use in Legislative Activity



All introduced, published, or spoken legislative activity within a year prior to or following RPC implementation will be identified based on their use of keywords and phrases indicative of research use. These data will be collected via *Quorum*,⁸² a data platform that provides highly organized, time-stamped, searchable full-text bills, official statements, and social media posts. Relevant documents will be identified using Boolean searches of keywords for both child welfare and research use (e.g., “empirical evidence”, see Exhibit 4 for examples). Those that are identified are expected to reflect the most overt research use by congressional offices. Based on current rates, it is expected that around 300 bills, 3,000 topic-specific official statements (~50 per office), and 1,000 social media posts (~16 per office) about child welfare related issues will be generated from keyword searches and coded during the trial period. Employing the *Quorum* data platform, our team can identify documents containing keywords and prepare a research file within a few hours. Since each bill will comprise more text than is feasible to code with traditional qualitative methods, relevant provisions will then be extracted prior to coding (those containing key words). Further, all subsection titles for each sampled bill will be reviewed for potential relevance and extracted if research evidence is used but not captured otherwise by keywords. Based on the research team’s experience with this data, it is expected that the legislative provision extraction process will take approximately 10-30 minutes for each bill.

A.3.d. Data Analysis Plan: Observed

A.3.d.1. Coding of Legislative Activity. The research team will use an inductive document review protocol to systematically code official statements, social media posts, and extracted provisions.⁸⁷ Inductive approaches employ an open-coding scheme to generate a list of concepts that are grouped together into themes.⁸⁸ Each official statement and social media post will be

It is recommended that proposals provide detailed descriptions of proposed coding methods and any protocols for interviews or focus groups.

dichotomously coded to indicate presence of evidence use. In contrast, bills will be both dichotomously coded and each extracted section will be dichotomously coded for the presence of each identified theme indicating research utilization to estimate the proportion utilization in the overall bill. Specifically, thematic codes for each section will be converted into a score for each bill to indicate a proportion of sections that evidence is used out of the sum of sections in the bill. The reliability of thematic codes will be strengthened using an approach described by Campbell and colleagues.⁸⁹ This involves the lead investigator will first develop a detailed codebook informed by prior work⁴⁶ and by inductively coding 10% of legislative activity data from the sample, selected at random. Subsequently, expert consultants and coding staff will discuss and refine the initial coding scheme prior to two staff coding 10% of the sample for the first time period. Then consultants and investigators will meet again to refine the codebook based on discrepancies and disagreements. This process will continue until intercoder reliability reaches at least .70 (recommended for studies such as the proposed work) and 30% of the sample for the first time period has been coded by two coders. Afterwards, trained coders will code the remaining documents individually. The Principal Investigator will randomly sample 10% of these to ensure consistency in coding quality. Based on a trial run, it is expected that two coders can complete the coding process in approximately 6 weeks (~450 hours).

A.3.d.2. Analysis of Impact on Legislative Activity. We will assess the impact of the RPC on all three forms of legislative activity. Specifically, we will assess changes in the use of research evidence as identified through thematic coding schemes. Since the continuity of relevant legislative activity may be inconsistent between short intervals due to Congressional recesses (e.g., 3-month survey timeframes), legislative activity will be analyzed annually and compared between two time periods: one-year before RPC implementation (baseline) and one-year following RPC implementation (post-assessment). Indicators of evidence use will be aggregated by legislator prior to quantitative analyses. Since each bill is sponsored and cosponsored by multiple offices, and those involvements are not mutually exclusive, separate indicators for sponsorship and co-sponsorship will be aggregated for each sampled legislator. These data will be used to create a quantitative profile of each congressional office's legislative activity. The project team has substantial experience working with these data in past work. For instance, in a recent invited paper, the study team coded legislators' official and social media statements for attributions around poverty and found that these attributions were predictive of their voting behavior.⁹⁰

The indicators for evidence use in this project will reflect counts or instances of research use and are not likely to be normally distributed; therefore, multivariate Poisson regression analyses⁹¹ will assess change in research use in thematic codes of (1) bills, (2) official statements, and (3) social media posts between the RPC intervention and control conditions. Moderation analyses will further explore the extent to which changes in legislative activity depend on the nature of collaboration experiences, other survey data (e.g., policymakers' perceptions of the value of research), and legislator characteristics (e.g., party affiliation, years of age).

A.4. Qualitative Evaluation of RPC Impact on Researcher-Policymaker Interactions

The qualitative component of this study is closely linked with the quantitative evaluation. Using participatory and ethnographic methods,^{92,93} data will be collected from two sources: (1) semi-structured interviews of trial participants and RPC staff, and (2) observations of researcher trainings and researcher-staff meetings. These methods aim to answer the following:

- (1) How do researchers and policymakers perceive and experience the process of collaboration within the RPC?
- (2) What forms of interactions (e.g., formal/informal, organizational/ opportunistic) occur between researchers and policymakers participating in the RPC?
- (3) What helps or hinders collaboration between researchers and policymakers, and do any of those barriers or facilitators shift following the RPC?
- (4) How do researchers and policymakers perceive the risks and benefits of interacting with one another, and do perceptions shift following the RPC?
- (5) What types of evidence have researchers and policymakers used, hoped to use, and considered most relevant to their work, and does use of certain types of evidence change following the RPC?

A.4.a. Sampling Framework

A.4.a.1. Participant Interviews. The proposed qualitative interview will sample from groups of RPC participants, including researchers ($n = 10$), legislative staff, ($n = 10$), and RPC facilitators ($n = 4$) prior to RPC implementation. Conducting interviews pre- and post-implementation with the same participants will allow us to qualitatively assess change in both research and policy participants' perceptions about engaging with one another and how their work has been impacted. Research participants will be selected at random. Legislative participants will be selected purposively with a data-driven approach, using *Quorum*⁸² network data to identify which legislators who are more influential or peripheral, ensuring that sampled legislative offices

represent a range of influence based on network analysis data (See Exhibit 5).

A.4.a.2. Observation of Capacity Building and Collaboration Activities. All researcher trainings ($n = 6$) and 10 collaborative meetings between researchers and legislative staff will be observed to provide additional qualitative data on the forms of interactions, relationships, and/or use of research evidence. Collaborative meetings will be sampled purposively to reflect a range of substantive topic areas of focus and to ensure representation of a range of research participants.

A.4.b. Measures & Data Collection

A.4.b.1. Semi-structured interviews are a versatile method of qualitative data collection—incorporating enough structure to ensure key research questions are addressed, while still including open-ended dialogue. In line with best practice, interviews will begin with open-ended questions and move towards more theoretically driven probes as the interview progresses.⁹⁴ This method provides the opportunity for participants to add new and unexpected context to the study, and for researchers to think critically about responses and probe accordingly.⁹⁵ Pre- and post-RPC interviews will elicit (a) how legislative staff and researchers perceive the utility of collaboration with each other, (b) what helps or hinders collaboration, (c) what forms of interactions they experience, and (d) what types evidence they perceive as most relevant to their work. Interviews will also ask about their attitudes towards evidence use, their participation in policy or research processes, and their experiences collaborating with researchers/policymakers to compare responses before and after the RPC occurs.

Each interview will last about one hour. All participants will be explicitly reassured that the researcher is not ‘doing an audit’ or evaluating them in any way that will be made public to ensure that they feel comfortable with disclosing their activities. Participants will be asked if the interview can be confidentially recorded so that de-identified, complete, and verbatim transcriptions can comprise study data. While likely to be rare, the political context may heighten staff’s sensitivity to and avoidance of recorded conversations. We have encountered this reluctance in a few cases and developed a procedure based on stenographic best practices for field researchers.^{96,97} Specifically, we employ both a meeting facilitator and a skilled notetaker so that the interview can be conducted and documented without audio-recording. Notetakers use shorthand that is later clarified, and transcribe salient quotes to the extent possible. These notes will form the basis of qualitative data under circumstances that participants are unwilling to be recorded. Recordings and notes will be transcribed, transcripts will be checked, adding and changing punctuation, phrasing and emphasis as understanding develops. The wording of responses will not be changed, and the transcripts will be edited only to aid understanding.

A.4.b.2. Unstructured observations of key meetings and training events will be conducted by a trained ethnographer to enrich the interviews with more information about how attendees interact and how they respond to the RPC. These data will be collected and analyzed within an interpretive and critical perspective.⁹⁸⁻¹⁰¹ This method aims to explore how the different actors participate in the policy process, how the social context influences participants, how evidence is conceptualized and used in discussion, and the processes underlying successful RPC implementation. The protocol for ethnographer participation and field notes is derived from a distillation of recommendations and identified best practices.¹⁰² The ethnographer will disclose his/her role to participants because it is expected that RPC participants will perceive little threat to an observing researcher since participation is voluntary and researchers abiding by rules of confidentiality are not likely to be perceived as undercover journalists; therefore, the observation is unlikely to be construed as evaluating or auditing performance. The ethnographer will be immersed in implementation activities in order to experience the dialogue and interactions unfold in real time. Field notes will come from two sources: (1) a notetaker that supports RPC implementation will take detailed notes to capture each participant’s input during discussion, reflect how decisions are made, and

summarize action steps; (2) the ethnographer will take fewer, chronological notes regarding interactions, experiences, and internal reflections in real time in order to obtain a deep intuitive sense of the experience during live interactions while making initial records when memories are most accurate. The ethnographer will flesh out these notes immediately following each training or meeting to make them comprehensible to an outsider. Reflexive notes will allow the ethnographer to capture potential sources of bias from prior experiences. At the end of each meeting day, the ethnographer will reflect on broad patterns across multiple meetings.¹⁰²

A.4.c. Data Analysis Plan

We will develop a conceptual frame that will be refined as researchers conduct interviews and attend observations.¹⁰³ Specifically, we will employ framework analysis, an applied qualitative analytic method for social policy research because it can produce actionable results (e.g., informing improvements to the RPC) and systematically make within-subject or between-subject comparisons.¹⁰⁴ Framework analysis combines advantageous features of many qualitative approaches, as it is grounded in the data, dynamically amended throughout analysis, is systematic and comprehensive, enables retrieval of original text so that others can access and judge interpretations, and allows comparisons to be made between and within cases. This method follows five distinct, interconnected stages beginning with the ethnographer's familiarization with and immersion in a sample of the data to note recurrent themes that can begin to construct a thematic framework. That initial sample will ensure a range of cases, sources, and time periods are reviewed prior to beginning a categorization or indexing schema for labelling transcripts and observation data. After coding the initial sample, the indexing schema will be reviewed with expert consultants and another coder will review the data to check the analyst's assumptions made at this stage of the framework development. After additional refinements are made, those indices will be systematically applied to all text, and the thematic framework will continue to be refined with the input of a second coder. Once all data is indexed using the headings and subthemes from the conceptual framework, abstracts of the data are inserted into charts that organize data by each participant to make within-subject comparisons. Finally, the data is interpreted as a whole by mapping out systematic processes based on patterns found in the data.¹⁰⁴

In sum, the framework will be iteratively updated to include new relevant subthemes identified throughout data collection and analysis. Each transcript will be coded exhaustively using *NVivo*¹⁰⁵ to identify main themes based on the framework; and a random third of all transcripts will be co-coded by qualitative staff. The data will be analyzed in a number of ways. First, we will describe participants' perceived risks and benefits, as well as barriers and facilitators, of interacting with one another, which is expected to yield implications for improving the RPC that guide strategy development (cf. B.2.). Typologies will be developed to categorize interactions that occur and the types of evidence elicited during the RPC. A number of comparisons will be made with pre- and post-interviews, including an assessment of changes in participants' perceptions regarding collaboration and their reported use of evidence valued by the other in their work. Another comparison will be made to assess differences in perceptions and experiences with collaboration between researchers and policymakers. Then associations between participants' experiences and interaction types will then be explored. The sum of these analyses will contribute to developing a theoretical framework regarding the processes of collaboration that may contribute to policymakers' use of evidence and researchers' consideration of policy implications in their work.

A.5. Maximizing Survey Completion

While all studies using surveys should develop a protocol to maximize participant response rate, the proposed work has further considered ways to minimize attrition among participating legislative offices because experience has shown that this population can be difficult to reach at times. A paid staff member will be responsible for tracking and persistently requesting interviews with both sets of participants. Both groups will be contacted for an interview via email, and a

follow-up email will be sent within four business days. Unresponsive participants will be called. This process will begin two weeks prior to the targeted date of completion and will repeat for one month until the interview is completed or declined outright. Additionally, drop-in visits at legislative offices will occur for non-respondents. All legislative staff's contact information is updated monthly (email, phone, and office number) through *Quorum*.⁸² While researchers will be given the opportunity to complete surveys online, they also may complete the survey with project staff by phone. All legislative interviews will be done in person because prior experience suggests that timely electronic responses would be unlikely. Pilot interviews with legislative staff suggest that interviews be conducted during periods of recess, when possible, and that a flexible interview location (in- or out-of-office) would improve their participation. Ultimately, this protocol is expected to enhance participation, yet additional methods for handling missing survey data and for drawing on objective, public data (e.g., *Quorum*) will reduce the impact of attrition on findings.

A.6. Data Protection Plan

All data collected as part of this proposal will be stored on password-protected servers or in locked filing cabinets, and accessed only by the interviewer and project investigators. Surveys and interviews will not be directly identifiable as ID codes will be used that are only identifiable by the research team. Data from interviews with RPC team members will be stored by the ethnographer alone. Prior to interviews, all participants will be informed of the purpose of the study, confidentiality of their responses, risks and benefits of their participation, and asked for their consent, which will be documented with a written agreement. We will not publish any identifiable data or quotes in papers or reports. This data protection plan will be maintained by the Institutional Review Board at Pennsylvania State University.

B. Aim 2: Leverage Findings from Evaluation to Optimize the RPC

This evaluation of the RPC will not only provide an assessment of the model's effectiveness, but also a deeper understanding of the RPC's mechanics and how impact can be achieved. In this context, the second aim involves a formal optimization process based on Aim 1 findings to augment the RPC's impact on research-policy interactions and strengthen its effectiveness in translating research evidence into legislative language (i.e., both bill provisions and enacted statute). This process includes (1) assessing how research can be used in written legal language, (2) identifying best practices and developing corresponding tools and strategies for supporting the use of evidence, and (3) integrating new tools and strategies into an optimized RPC model.

B.1. Model Legislative Language Template

While the RPC is expected to support researcher-policymaker collaboration, similar to findings from the pilot trial, difficulties crafting legislative language that leverages the empirical literature may remain without further guidance. We will conduct a review of 10 years of federal legislative language that references, incentivizes, requires, or funds evidence-based strategies for supporting children and families. In this review, we will catalogue the different ways in which evidence has been written into legislative language. Additional consultations with staff will elucidate the extent of alignment between legislative intent and executive branch execution of statutes leveraging evidence. During this process, we will develop a list of best practices for incorporating evidence into federal policy. This list will address ways legislative language might incorporate study design and analysis (e.g., not relying solely on statistical significance, following American Statistical Association policy,⁶⁴ as well as language that supports effective implementation by the executive branch. Based on this work, a flexible legislative language template, annotated with guidance for congressional offices, will be developed to provide guidance for writing research evidence into bills. The template aims to be adaptable for use in various contexts and will include a robust glossary of terms, explanations and considerations for each decision-point, such as those found in the Key Components in State Anti-Bullying Laws.¹⁰⁶

The legislative template will be disseminated to federal lawmakers and integrated into the RPC technical assistance material. The template will be refined with feedback from expert consultants and initial users. To better understand the design and execution of the varying statutory frameworks for evidence use by both legislative and executive branch staff, we will conduct a set of strategic consultations with legislative and executive staff. These consults will probe for rationale regarding how evidence has been written into legislation, as well as the ways specific legislative language facilitates or inhibits use of evidence by the executive branch. This information will provide knowledge about best practices for crafting legal language. This work seeks to answer:

- (1) In what ways are evidence requirements written into legislation?
- (2) What are legislative staff's goals for inclusion of evidence in bill provisions?
- (3) How do executive agency staff interpret statutory evidence requirements?
- (4) How are evidence requirements executed by the executive branch?
- (5) Can the provision of template legislative language increase the inclusion of evidence requirements in legislation (both proposed and enacted)?

B.1.a. Measures & Data Sources

This work will examine recent legislation that leverages empirical evidence and related secondary documents (including prior, external reviews of evidence-based policies and executive branch responses to passed laws). Additionally, semi-structured consultations will be conducted with legislative and executive staff who have developed or interpreted sampled legislation. Contrasting with interviews conducted for the qualitative evaluation in the RPC trial (cf. A.4.), these targeted consults stem from a review and analysis of key legislation inclusive of the evidence base.

B.1.a.1. Federal Legislation. Bills either introduced or enacted from the last 10 years (2007-2017) will be identified through *Quorum*⁸² based on keywords that suggest research use (cf. A.3.e.) and pertain to children, youth, or families. This time span was selected because the movement around evidence-based policymaking began around a decade ago⁹⁴ and a recent timeframe increases the likelihood that those who had a role in relevant legislation will be available to participate in consultation. The search will be limited to legislative provisions around specific programs, enacted legislation, legislation that was not enacted but passed the House or Senate, and appropriation bills. Sections specifically related to research use will be isolated, extracted and coded (cf. A.3.e.).

B.1.a.2. Secondary Documents. Additional, external data will come from two types of secondary documents:

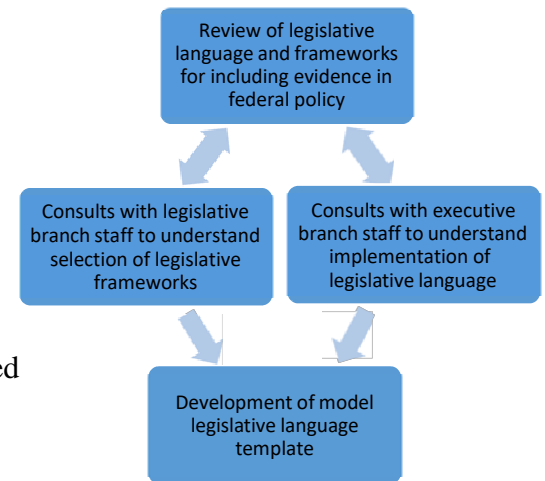
- (1) Prior analysis of evidence-based policies by respected policy organizations, including Results for America¹⁰⁷, Pew Charitable Trusts¹⁰⁸, Heritage Foundation², and Brookings Institution⁹⁴. These efforts have explored legislative language and define frameworks for evidence-based policymaking. A document review of these sources and their categorizations of evidence in legislation will ensure that legislation that was not codified will also be included in the review and that our coding scheme is responsive to current work in the field.
- (2) Executive branch agency guidelines or responses to enacted laws, including but not limited to regulations, dear colleague letters, and issued grant opportunities. These documents will guide consults with executive agency staff regarding their interpretation of statutes that leverage research evidence.

B.1.a.3. Consultation Protocol. Following the review of federal legislative language, we will employ semi-structured consultative discussions that contextualize (1) legislative staff's intent

and development of legislative language and (2) executive staff's interpretation and execution of the provisions selected in the initial legislation coding process. These consults will follow an open-ended format with theoretical and critical probes for additional information. The transcription protocol will be the same as that of the qualitative component of the RPC evaluation (cf. A.4.b.1.). Semi-structured consults will assess specific research questions and capture situational nuance. In addition to direct questions about writing or executing evidence-based legislation, the consults will also use concurrent "think-alouds" where respondents are asked to talk through their process using the actual legislative language. This process will help respondents recall the process and elicit deeper reflection.¹⁰⁹

- *Legislative staffers* will be asked about how they used scientific evidence when crafting the specified evidence-based legislative language. Specific sections of sampled legislation will be discussed to understand their goals and rationale for utilizing specific language. Consults are expected to highlight where language originated (previously drafted bills, generated by the office, external source).
- *Executive staffers* will be asked about how they approached interpretation of specific federal legislation when working on regulations or other agency guidance. In addition to reviewing the original legislation, secondary documents that reflect executive branch responses (e.g., regulatory guidelines) will elicit consultee reflection.
- *Both groups* will be asked a series of open-ended questions to explore the different processes and mechanisms for including evidence in the legislation uncovered through the review. We will also directly inquire about whether and how a model legislative language template could support the inclusion of evidence in legislation.

Figure 7: Creating Legislative Template



B.1.b. Sampling Framework

B.1.b.1 Legislative Review. A random, stratified sample of 10 bills will be developed prior to coding and analysis. Bills that are more recent, have passed into law, have had corresponding executive branch actions (e.g., written regulations), and have previously been analyzed by a respected policy^{2,94,107,108} will be prioritized for the sample. This prioritization will strengthen the sample by increasing the compatibility of the bill with data on executive branch interpretation and by drawing on prior work regarding the evidence-based policy movement. While prior reviews have captured bills salient to the evidence-based policy movement¹, they have yet to explore what specific legislative language supports a systematic shift to the use of evidence via public policy. Bills will be sampled at random and categorized to represent different ways scientific findings are leveraged in evidence-based policies, including: (1) funding requirements for programs to meet an evidence standard (e.g., *Maternal, Infant, Early Childhood Home Visiting*¹¹⁰), (2) the use of specific evidence or research to guide programmatic funding decisions (e.g., *Workforce Innovation Fund*¹¹), (3) funding to support program evaluation (e.g., *Teen Pregnancy Prevention*¹¹²), or (4) support for states or localities use of data in decision-making (e.g., *Supporting Effective Educator Development*¹¹³). Randomly sampled bills will be scanned for their fit with categorization criteria – those that do not expand beyond fulfilled criterion will be dropped and subsequently replaced at random until there is adequate representation of the criterion. Similarly, bills that focus on similar social issues will be removed and replaced to ensure representation of a range of child and youth policy areas (e.g., education, child welfare, teen pregnancy prevention, home visiting).

B.1.b.2. Consultations. The sampled bills will guide recruitment to ensure all consulted staff have experience either writing or interpreting legislation that is reviewed and coded. The lead individual(s) who either drafted or would have drafted original provisions, or played a role in developing the executive response, will be identified through written materials (e.g., secondary documents) and interpersonal connections. If no lead staff are available or willing to meet, another bill will be sampled and guide the identification of corresponding staff. Two different samples will be consulted:

- *Legislative staff* ($n = 10$) involved in the creation of the sampled provisions will be recruited with purposive processes to include staff who were most directly involved in writing evidence-based legislative language.
- *Executive staff* ($n = 20$) involved in executing evidence sections within sampled bills will be recruited. Often the executive branch staff will need to involve someone from a research office and someone from a programmatic office to develop and execute evidence-based policy. One programmatic and one research office staff will be recruited purposively for each sampled bill based on the relevance of their role to the interpretation of the sampled legislative language and to ensure representativeness across type of staff (e.g., career, appointed).

B.1.c. Data Analysis

The analysis draws on multiple sources of qualitative information by employing a document review⁸⁷ that assesses how evidence has been written into law and interpreted, and semi-structured consultations to further understand best practices for writing evidence-based legislative provisions. Two coders will analyze these data and use a negotiated agreement approach⁸⁹ to discuss disagreements and attempt reconciliation. Inter-coder agreement will be computed to indicate the percentage of remaining disagreements.

B.1.c.1. Coding Legislative Provisions. Federal legislative language will be coded for presence and type of evidence-based language, including funding requirements for evidence, incentives for evidence use, what type of evidence is prioritized, and requirements or funding for building an evidence base.

B.1.c.2. Coding Secondary Documents. Policy documents related to sampled, enacted statutes (e.g., funding opportunity announcements, regulations, systematic review requirements, etc.) will be coded to assess the relationships between statutory language and final policy execution.

B.1.c.3. Coding Consultations and Integrative Analysis. Consultation transcriptions or notes (cf. A.4.b.1.) will be imported into NVivo¹⁰⁵ software for data organization and coding. Data will be coded and analyzed for emerging themes and to compare alignment of legislative intent and executive branch interpretation. Researchers will code statute individually and then come together as a collective and individual process of open coding, which allows for consensus on themes to emerge. The legislative and executive branch staff consultations will be coded separately to develop an understanding of each group's perspective. The themes from the two groups then will be compared to assess the alignment between each group's perspective and approach to evidence language in policy development. Next, the consultation data will be used to contextualize and corroborate the document review, as well as provide insight into the reasons for selecting specific language around evidence, how different legislative uses of evidence are interpreted after the law is codified, and challenges in both developing and executing legislative provisions. The codes and frameworks developed through consultation data analysis will be compared to the language utilized in the document review (including bills and executive agency responses) to develop recommendations for best practices.

Legislation reflective of evidence-based policymaking will be cross-referenced with themes found in a secondary document review (e.g., administrative regulations stemming from the implementation of a law) and findings from consultations with staff involved in writing or implementing enacted evidence-based policy. Each of these methods will provide unique insight regarding the use of evidence in policymaking. In particular, legislative review findings reflect how bills *have been written*; secondary documents reflect how bills *have been interpreted*; and consultations may indicate how legislative language *could be improved* to align with intent and administrative execution. Findings will be compared such that the weight of the evidence for determining best practice is placed on consultations that shed light on mechanisms for incremental improvement. This in turn will guide optimization of the RPC model as described below.

B.2. Best-Practice Identification and Strategy Development

Building on the insights derived from the mixed-method RPC evaluation (Aim 1) and the process of developing a model legislative language template, practice briefs will describe best practices for (1) supporting researcher-policymaker interaction and (2) crafting evidence-based legislative language. Three key audiences will be solicited for their review and feedback on these best practices before briefs are finalized, including (1) legislative staffers, (2) executive staff experienced in executing evidence-based statute, and (3) expert consultants and other researchers with legislative expertise.

These briefs on best practices will inform the development of practice tools that will guide strategies during future RPC implementation. We will solicit additional feedback from legislative and executive staff, researchers, and expert consultants on these products' utility and structure, and revise materials accordingly. These practice tools include:

B.2.a. Reference Documents. Drawing from findings in the first RPC trial and above legislative review, quick-reference tip sheets for researchers will be developed to guide researchers' interactions with legislative staff (e.g., communication style, format, timeliness).

B.2.b. Tailored Training Revisions. In response to findings about staff needs and skills to support legislative language development, the RPC training modules for researchers will be adapted to reflect best practices. This will entail full review of training content and delivery based upon findings from Aim 1 and incorporation of the model legislative template and best-practice reference documents.

B.3. Tool Integration into the RPC

Modules and tip sheets will be integrated into researcher capacity-building activities. The model legislative language template will be integrated into protocols for engaging congressional offices.

C. Aim 3: Evaluate the Effectiveness of the Optimized Model

The third project aim will evaluate—in a second trial—whether the optimized RPC model is more effective than the original model. This will include new cohorts of researchers ($n = 80$) and legislative participants ($n = 60$), and employ randomization at the same points. Assessment within this evaluation will be streamlined to focus on assessing observable impacts of the RPC model, replicating the methods described in the quantitative analysis of RPC impact (Aim 1; cf. A.3.).

C.1. Replication of Self-Report and Observed Findings

Replication and optimization of interventions such as the RPC are key to validating and improving the effectiveness of models for improving the use of evidence. Quantitative measurement and analyses will be repeated to collect survey data on both researcher and congressional office outcomes, and observational data on legislative activity (cf. Aim 1, A.3.). Further, as the same

measures will be collected for both trials, differences in RPC effectiveness before and after optimization will be directly tested (in addition to comparison to a control group).

C.2. Validation of Model Legislative Language Template

Legislative language produced during the second RPC implementation will be evaluated according to best practices identified in Aim 2.A. First, the legislative language template will be incorporated into materials used by RPC participants and additional information will be gathered about the template's utility and ease of use. Second, legislative language produced by participating legislative offices will be reviewed using *Quorum*⁸² to track the usage of the template language in introduced legislation for 18 months following template dissemination. We will employ the *text reuse* approach to track the template language, which includes tracking both word frequency and word sequencing.⁴⁰ This approach is similar to that used in plagiarism detection software. The text reuse analysis is inclusive enough to match the flexibility of the template. Therefore, after tracking text reuse through *Quorum*⁸², researchers will further examine whether the usage of template language in introduced legislation aligns with best practices for incorporating evidence into policy. Using *NVivo*¹⁰⁵ software, following prior methodology,⁴⁰ researchers will assign codes to the legislative provisions identified through the text reuse approach to indicate whether they meet each best practice identified in Aim 2.A. Segments will be double-coded to ensure interrater reliability. Any disputed codes will be negotiated and reconciled.

D. Anticipated Products & Engagement Plan

A number of core products will be produced from research activities within each strategic aim, including both practice tools and scholarly contributions. Practice-related products include: an optimized RPC model, reference tools and briefs that guide RPC participation, strengthening researcher training and coaching, and a model legislative language template may guide researcher-policymaker collaborations that consider how research can be leveraged in legislation. Scholarly contributions include peer reviewed publications and conference presentations on: (1) the RPC model as a prospective approach for improving policymakers' research use and policy-informed research, (2) mechanisms underlying more or less successful researcher-policymaker collaboration, (3) the theory of change regarding improving policymakers' use of evidence and researchers' development of policy-informed research, (4) the dynamics of using evidence in decision-making and written law, (5) the alignment of legislative intent and executive branch interpretation of evidence-based policy, and (6) the extent to which a legislative language template for evidence-based policy could or has been used by federal legislators. This includes, but is not limited to, submitted manuscripts on (1) the RPC's effectiveness as assessed through the above mixed methods process, (2) the creation of a template for evidence-based legislative language, and (3) the optimized RPC models' effectiveness as compared to both the control group and findings from the previous trial.

E. Timeline & Staffing

Redacted from this proposal is a detailed description of the proposed research team and the skills and experiences they bring to the specific activities in the project.

	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Aim 1												
Implementation of RPC												
Quantitative Analysis												

[illegible]

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Exhibits

Exhibit 1: Guiding Questions and Corresponding Research Questions

Exhibit 2: Randomized Controlled Trial of the RPC Model

Exhibit 3: Congressional Offices by Number of Co-Sponsored Child Welfare Bills

Exhibit 4: Keywords for Research Evidence Use and Child Maltreatment Prevention

Exhibit 5: 115th Congress Legislator Network for Family Policy-Related Bills

Exhibit 6: Implementation Funding Match Letter of Support

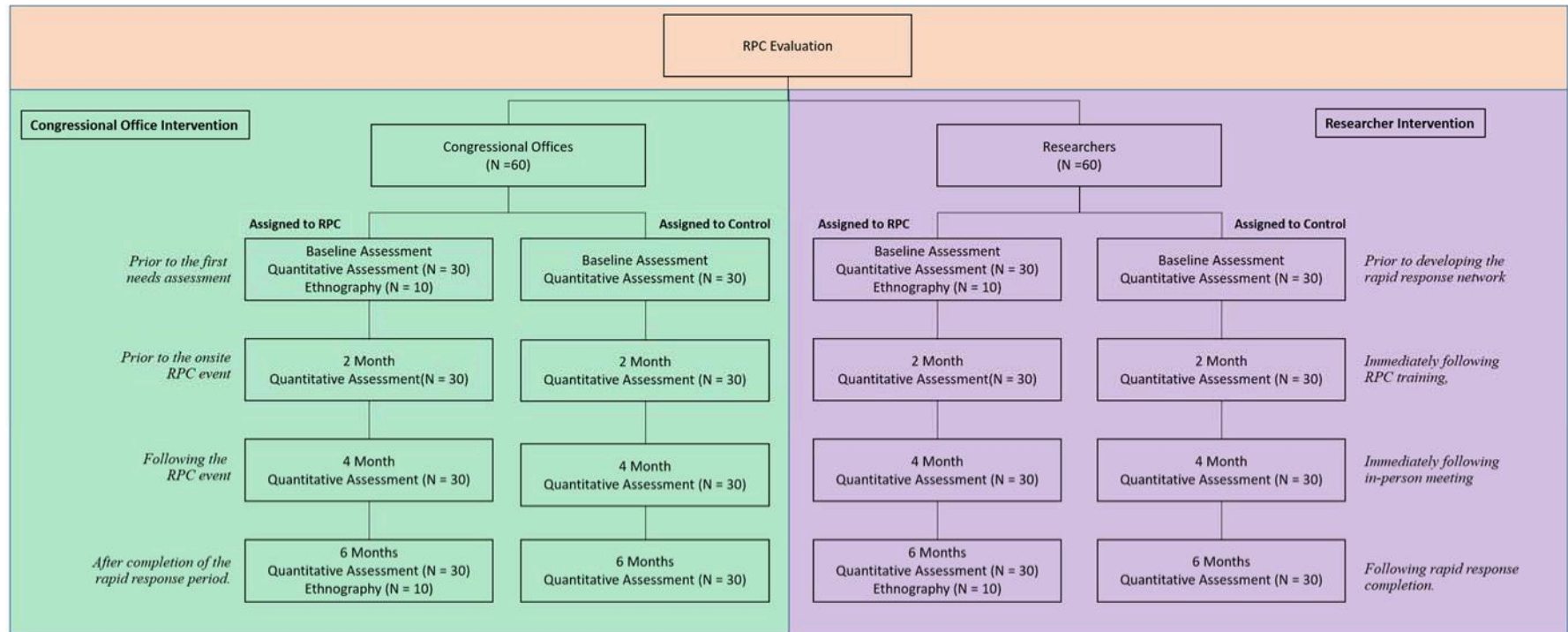
Redacted from this proposal is a funding match letter to protect private information.

Exhibit 1: Guiding Questions and Corresponding Research Questions

Reviewers appreciate the including the proposed interview protocols and other proposed measures.

1. How does the RPC impact researchers, legislative staff, and legislative activity?
<ul style="list-style-type: none"> a) Will researchers participating in the RPC improve in policy competencies and motivation for conducting policy-relevant research? (Self-Report) b) Will legislative staff report increases in positive attitudes toward, knowledge of, intended application, and actual use of research evidence? (Self-Report) c) Will congressional offices increase their use of research evidence in legislative activities (i.e., bills, public statements, and social media posts)? (Observation)
2. How might perceptions and experiences of collaboration through the RPC relate to different forms of evidence use among researchers and policymakers?
<ul style="list-style-type: none"> a) How do researchers and policymakers perceive and experience the process of collaboration within the RPC? b) What forms of interactions (formal/informal, organizational/opportunistic) occur between researchers and policymakers participating in the RPC? c) What helps or hinders collaboration between researchers and policymakers, and do any of those barriers or facilitators shift following the RPC? d) How do researchers and policymakers perceive the risks and benefits of interacting with one another, and do those perceptions shift following the RPC? e) What types of evidence have researchers and policymakers used, hoped to use, and considered most relevant to their work, and does use of certain types of evidence change following the RPC?
3. Can an optimized RPC model, including a model legislative language template for crafting evidence-based policy and additional guidance on supporting productive researcher-policymaker interactions, further improve policymakers' use of evidence?
<ul style="list-style-type: none"> a) What is the best practice for applying an empirical basis into legislative language? <ul style="list-style-type: none"> i. In what ways are evidence requirements written into legislation? ii. What are legislative staff's goals for inclusion of evidence in bill provisions? iii. How do executive agency staff interpret statutory evidence requirements? iv. How are evidence requirements executed by the executive branch? b) Can the provision of a model legislative language template increase the inclusion of evidence requirements in legislation (both proposed and enacted)? c) Are changes associated with RPC participation greater in the optimized RPC compared to the original RPC?

Exhibit 2: Randomized Controlled Trial of the RPC Model



**Note: Qualitative interviews will also be completed with 4 RPC staff.*

Exhibit 3: Congressional Offices by Number of Co-Sponsored Child Welfare Bills (First 120)*Note:* The counts of bills reflected below are not mutually exclusive because most bills are cosponsored by multiple legislators. Counts include all bills across all terms each legislator has been a member of Congress.

Office	Number Co-Sponsored	Office	Number Co-Sponsored
Rep. Sheila Jackson Lee (D-TX-18)	296	Rep. Collin Peterson (D-MN-7)	86
Rep. Jim McGovern (D-MA-2)	273	Rep. Frank Pallone (D-NJ-6)	86
Rep. Barbara Lee (D-CA-13)	257	Rep. Ken Calvert (R-CA-42)	85
Rep. Raul Grijalva (D-AZ-3)	252	Sen. Amy Klobuchar (D-MN)	83
Rep. Jan Schakowsky (D-IL-9)	234	Rep. Brad Sherman (D-CA-30)	83
Rep. Carolyn Maloney (D-NY-12)	225	Rep. Adam Smith (D-WA-9)	80
Rep. John Conyers (D-MI-13)	220	Rep. Judy Chu (D-CA-27)	80
Rep. John Lewis (D-GA-5)	215	Rep. Yvette Clarke (D-NY-9)	80
Rep. Alcee Hastings (D-FL-20)	212	Sen. Sherrod Brown (D-OH)	79
Rep. Rosa DeLauro (D-CT-3)	212	Rep. Diana DeGette (D-CO-1)	79
Rep. Danny Davis (D-IL-7)	211	Rep. Jared Polis (D-CO-2)	79
Rep. Zoe Lofgren (D-CA-19)	203	Sen. Maria Cantwell (D-WA)	78
Rep. Luis Gutierrez (D-IL-4)	183	Rep. Lloyd Doggett (D-TX-35)	77
Rep. Jose Serrano (D-NY-15)	181	Rep. Mike Doyle (D-PA-14)	76
Rep. Eliot Engel (D-NY-16)	178	Sen. Chuck Grassley (R-IA)	75
Rep. Louise Slaughter (D-NY-25)	173	Rep. Albio Sires (D-NJ-8)	75
Rep. Bobby Rush (D-IL-1)	164	Rep. Linda Sanchez (D-CA-38)	74
Rep. Earl Blumenauer (D-OR-3)	160	Sen. Kirsten Gillibrand (D-NY)	73
Rep. Jerry Nadler (D-NY-10)	160	Rep. Andre Carson (D-IN-7)	73
Rep. Elijah Cummings (D-MD-7)	153	Rep. Debbie Wasserman Schultz (D-FL-23)	72

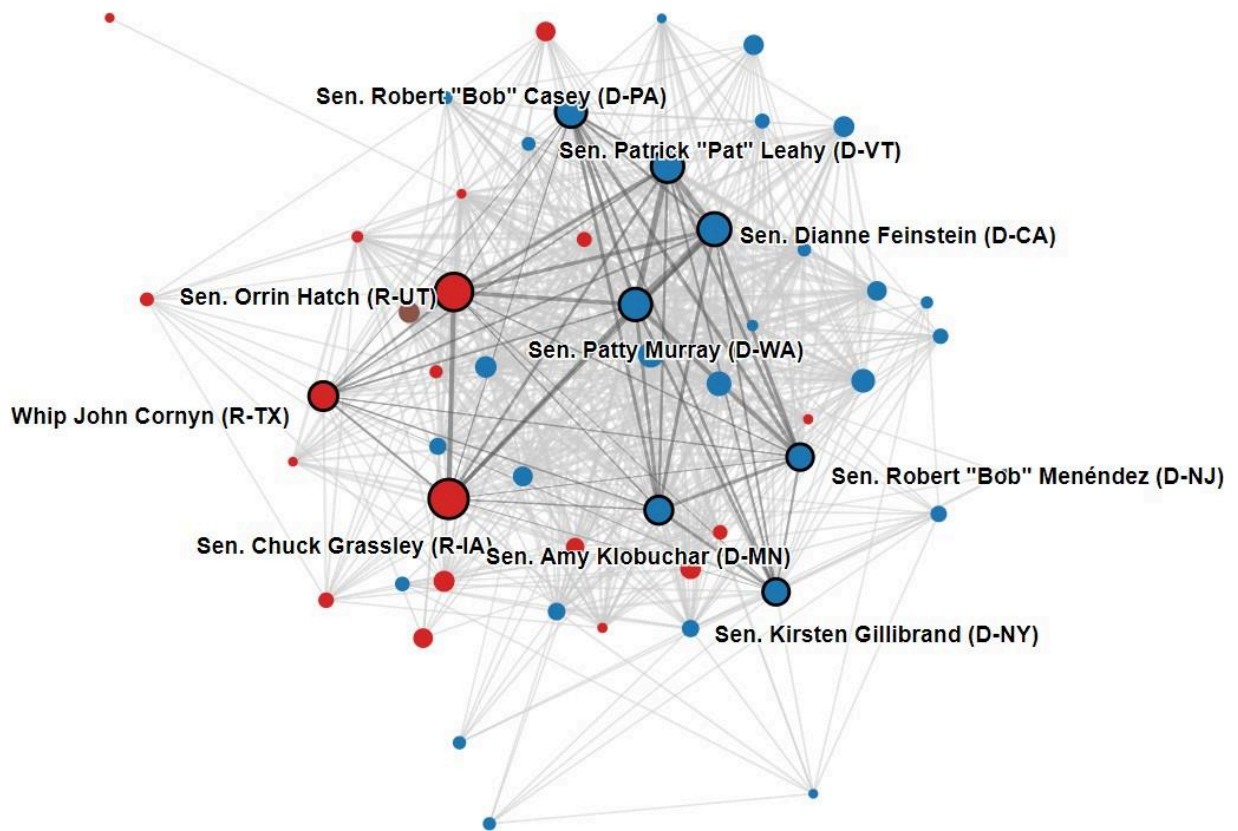
Rep. Grace Napolitano (D-CA-32)	152	Rep. Hank Johnson (D-GA-4)	72
Rep. Eddie Johnson (D-TX-30)	151	Rep. Fred Upton (R-MI-6)	71
Sen. Patty Murray (D-WA)	146	Rep. Pete King (R-NY-2)	69
Rep. Bobby Scott (D-VA-3)	143	Rep. Doris Matsui (D-CA-6)	68
Rep. Marcy Kaptur (D-OH-9)	141	Rep. James "Jim" Clyburn (D-SC-6)	67
Rep. Nita Lowey (D-NY-17)	141	Rep. John Larson (D-CT-1)	66
Rep. Betty McCollum (D-MN-4)	137	Sen. John "Jack" Reed (D-RI)	65
Leader Nancy Pelosi (D-CA-12)	136	Sen. Robert "Bob" Casey (D-PA)	65
Sen. Dianne Feinstein (D-CA)	132	Sen. Ron Wyden (D-OR)	65
Leader Charles "Chuck" Schumer (D-NY)	129	Rep. David Cicilline (D-RI-1)	65
Rep. Steve Cohen (D-TN-9)	129	Sen. Debbie Stabenow (D-MI)	64
Rep. Lucille Roybal-Allard (D-CA-40)	128	Rep. Tim Ryan (D-OH-13)	64
Rep. Gene Green (D-TX-29)	124	Rep. Dave Loebsack (D-IA-2)	63
Rep. Gregory Meeks (D-NY-5)	121	Rep. Ron Kind (D-WI-3)	63
Rep. Gwen Moore (D-WI-4)	120	Sen. James "Jim" Inhofe (R-OK)	62
Rep. Maxine Waters (D-CA-43)	120	Sen. Richard "Dick" Blumenthal (D-CT)	62
Rep. Keith Ellison (D-MN-5)	118	Sen. Robert "Bob" Menéndez (D-NJ)	61
Rep. Pete DeFazio (D-OR-4)	118	Rep. Joe Courtney (D-CT-2)	61
Sen. Orrin Hatch (R-UT)	109	Rep. Ted Poe (R-TX-2)	61
Rep. David Price (D-NC-4)	109	Sen. Alan "Al" Franken (D-MN)	60
Rep. Anna Eshoo (D-CA-18)	107	Sen. Sheldon Whitehouse (D-RI)	60
Rep. Michael "Mike" Capuano (D-MA-7)	106	Rep. Joe Wilson (R-SC-2)	59
Rep. Nydia Velazquez (D-NY-7)	106	Rep. John Shimkus (R-IL-15)	59
Rep. Adam Schiff (D-CA-8)	105	Rep. Al Green (D-TX-9)	58

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Rep. Joseph "Joe" Crowley (D-NY-14)	104	Rep. Steve Chabot (R-OH-1)	58
Sen. Chris Van Hollen (D-MD)	102	Rep. Frederica "Freddi" Wilson (D-FL-24)	57
Rep. Ileana Ros-Lehtinen (R-FL-27)	101	Rep. Stephen "Steve" Lynch (D-MA-8)	57
Rep. Bill Pascrell (D-NJ-9)	97	Sen. John McCain (R-AZ)	55
Rep. Sandy Levin (D-MI-9)	97	Rep. Gerry Connolly (D-VA-11)	55
Sen. Susan Collins (R-ME)	95	Rep. Lamar Smith (R-TX-21)	55
Rep. Jim Langevin (D-RI-2)	94	Rep. Peter Welch (D-VT-1)	55
Rep. Robert "Bob" Brady (D-PA-1)	94	Rep. Jim Cooper (D-TN-5)	54
Rep. Susan Davis (D-CA-53)	94	Rep. Pete Sessions (R-TX-32)	54
Rep. Bennie Thompson (D-MS-2)	92	Whip Steny Hoyer (D-MD-5)	53
Rep. Chris Smith (R-NJ-4)	91	Rep. Jim Sensenbrenner (R-WI-5)	52
Rep. Lacy Clay (D-MO-1)	91	Rep. John Yarmuth (D-KY-3)	52
Sen. Patrick "Pat" Leahy (D-VT)	89	Rep. Rick Larsen (D-WA-2)	52
Rep. Richard "Richie" Neal (D-MA-1)	89	Rep. Walter Jones (R-NC-3)	52
Rep. Sanford Bishop (D-GA-2)	89	Rep. Bob Goodlatte (R-VA-6)	51
Sen. Thad Cochran (R-MS)	87	Rep. Emanuel Cleaver (D-MO-5)	51

Exhibit 4: Example Keywords for Research Evidence Use and Child Maltreatment Prevention

Research Evidence	Adjectives	Verbs	Child Welfare
Evidence	-Informed	Demonstrate(s)	Child -maltreatment, abuse, neglect, trauma, or exploitation
Research	-Based or based on	Suggest(s)	Parenting, home visiting, or families
Studies or study	-Driven	Found or find	Child protective services, victim rights or services
Scientific(ally)	Experimental	Show(s)	Foster, kinship, relative, or congregate care
Data	Peer-reviewed	Illustrate(s)	Permanency, normalcy
Empirical(ly)	Rigorous	Replicate	Child trafficking, smuggling, or labor
	Randomized		Title IV-E

Exhibit 5: 115th Congress Legislator Network for Family Policy-Related Bills



Note: Size of legislator connection (lines) indicates number of co-sponsored family bills. Size of nodes indicates ability of legislator to convince other legislators to co-sponsor bill. Color of node indicates political party.