

# Co-Creating the Conditions to Sustain the Use of Research Evidence in Public Child Welfare

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A case study secondary data analysis methodology is used to assess how to support the use of research evidence by leveraging relationships among evidence-based model developers, service providers, and public child welfare agency staff. Findings demonstrate the structure and intensity of mutual consultations between these groups contributes to the development of products and processes to optimize the use research evidence. Implications for public child welfare are discussed.

Implementation science and knowledge translation and utilization frameworks have identified key functions and structures that need to be developed and installed to support the integration of science into practice. Examples of these infrastructure supports include decision-support data systems that promote continuous quality improvement of research evidence in practice settings, implementation teams that address barriers to the use of evidence in new service contexts, and coaching strategies to continue to build leadership and staff competencies around the translation of evidence into day-to-day practices to achieve outcomes (e.g. Damschroder et al., 2009; Livet, Courser, & Wandersman, 2008; Saul et al., 2008; Fixsen et al., 2005; Nutley & Homel, 2006). These key functions and structures are described as “filling the gap” between research and practice. A challenge of these frameworks is the assumption that there is an empty space situated at the nexus of research to practice waiting to be filled, rather than a sphere populated by interconnected stakeholders acting on knowledge and driving decisionmaking every day. Moving away from a gap perspective to one of co-creation allows for a focus on assessing and understanding how various actors and groups must build trust and pathways for the use of research evidence to improve child welfare outcomes.

This study will provide information on the types of interactions that promote effective communication, negotiation, and mutual adjustment among stakeholders to promote the use of research evidence. Specific research questions include:

1. What processes contribute to leveraging relationships among evidence-based program developers, private service providers, and the public child welfare agency to support the use of research evidence?
2. How can relationships among evidence-based program developers, private service providers, and the public agency help to establish the conditions necessary for optimizing and sustaining the use of research evidence?

## Literature Review

In business, co-creation is “collaboration for the purpose of innovation” (Kristensson, Matthing, & Johansson, 2008, p. 475), noting that the inclusion of stakeholders in the process of product development allows for contextualization and increased value of the product among multiple users (Chatholth, Altinay, Harrington, Okumus, & Chan, 2013). Contextualization ensures there is a match between the intervention or product components and the values, needs, skills, and resources of those who deliver and experience the intervention or product (Horner, Blitz, and Ross, 2014). Co-creation for public services refers to the active involvement of stakeholders in all stages of the production process (Vargo & Lusch, 2004) resulting in a shared body of usable knowledge across scientific, governance, and local practice boundaries (Kerkhoff & Lebel, 2015; Metz & Albers, 2014). From this perspective, the use of evidence is often a result of “iterative, messy, and dynamic” interactions (Nutley, Walter, & Davies, 2007, p. 39) among public agencies, policymakers, researchers, intervention developers, practitioners, communities, and families (see Figure 1).

**Figure 1.**  
**Co-Creation and the Use of Evidence**



## Processes to Leverage Relationships

Collaboration has been found to be critical to the implementation of evidence-based practices in child welfare. Interpersonal contacts within and between stakeholder groups have been demonstrated to be important influences on the adoption of research evidence in child welfare systems (Palinkas et al., 2011). As individual stakeholders self-organize through interactions, these interactions produce opportunities for co-learning and collaborative problem-solving of complex systems challenges. Successful interactions take the shape of iterative mutual consultations that mediate the use of research evidence in complex service systems and political contexts. Mutual consultations—where both parties are advising each other based on their experiential and content knowledge—represent an interactive model of stakeholder involvement informed by experience-based *co-design models* (Bates & Robert, 2005; Robert, 2013) and *co-creation models* (Bason, 2010).

Systematic reviews of co-creation (Voorberg, Bekkers, & Tummers, 2014) yield important factors to consider for leveraging relationships among child welfare stakeholders. Evidence for specific processes that support relationship development identifies the following: (1) the extent to which a communication infrastructure (e.g., written communication protocols, formal meeting structures that support information sharing and feedback loops) facilitates interactions among stakeholders; (2) the attitude of stakeholders to involve others as valuable partners; (3) the willingness of users of research (e.g., ) evidence to participate in the co-creation of such evidence; and (4) the presence of social capital, or valuable social networks, required to create sustainable relations and productive benefits among stakeholders.

## Conditions Necessary for Stakeholder Involvement in Research Use

Co-creation models outline necessary conditions for involving stakeholders in creative and translational processes to support and sustain the use of research evidence. Conditions include:

- *reconfiguration of the problem space* (so that multiple perspectives are taken into account when defining problems);
- *jointly developing prototypes* of analytic tools through *iteration and learning*;
- “*zooming in*” on the needs of users of research evidence; and
- “*zooming out*” to promote systems thinking among key stakeholders.

Conditions for effective co-creation are also related to recent findings on the use of research evidence. For example, the process of prototyping tools, protocols and products that support research translation allow for the ongoing testing of research evidence and tailoring of evidence for new contexts. This type of “contextualization” has been demonstrated to make a difference in the use of research evidence by child welfare policymakers (Palinkas et al., 2014).

## Methods

### *Study Context*

New York City’s Administration for Children’s Services (ACS) operates one of the largest and most diverse arrays of evidence-based and evidence-informed preventive programs in any municipal child welfare jurisdiction, with 11 service models and more than 3,000 annual slots, and the capacity to serve more than 8,000 families per year. In 2012, providers of preventive services were given the opportunity to respond to a Request for Interest (RFI) to convert treatment as usual prevention service slots to evidence-based (EBPs) or promising program slots. They were asked to do this in a cost neutral way. Providers were given the opportunity to select an EBP that best suited their population needs. About one third of New York City’s preventive providers voluntarily responded to this RFI in January 2012.

Implementation of EBPs began in March 2012. This emphasis on the use of evidence in practice has required major changes in policies, program standards, training, business processes, and data systems to ensure that research evidence is used effectively to support positive outcomes. For example, ACS revised performance standards and indicators to align with practice expectations for selected EBMs, developed a web-based referral process to match families with specific EBMs based on level of risk, and developed communication protocols and formal meeting structures to promote feedback loops among service providers, model developers, and ACS.

### *Participants*

Table 1 details the total number of participants of the interviewees in this study. To understand the types of interactions that promote the use of research evidence, there were three primary groups who were interviewed which included participants from ACS included staff, supervisors, managers, and leadership involved in the direct support of evidence-based model implementation. Model developers included expert representatives and researchers across 11 evidence-based models that were implemented in NYC. Service providers included representatives from the 22 preventive service providers using evidence-based programs.

### *Data Management and Analysis*

A case study secondary data analysis methodology was used to study the co-creative processes among three key stakeholder groups including ACS staff and leadership, evidence-based model developers and researchers, and child welfare preventive service providers. It should be noted that the study is retrospective as data were initially collected for technical assistance purposes to inform implementation planning and continuous improvement strategies for the initiative (see Table 1). Although no identifying information was collected from respondents

at any time, stakeholder groups participating in technical assistance activities remained the same from 2012 with 2014 and thus interviews were categorized and coded at the group level. Data were originally recorded from the interviews through detailed process notes, as well as audio recorded in order to corroborate and verify the process notes. In order to analyze co-creative processes we used the concept of “action arenas” (Ostrom, 2005) from institutional analysis. For the purpose of this study, a “co-creative arena” is where stakeholders in the child welfare system interact in a situation to support the use of research evidence. Therefore, the first round of coding involved identifying the arena in which the co-creative processes had occurred and detailing which stakeholder groups were involved.

Following the coding of arenas, a deductive coding approach was used to assess key aspects of the “interactive model” for research evidence use as described by Nutley, Walter, and Davies (2007). Table 2 operationalizes mutual consultations according to major, minor, or absent levels of interactions (Prager & McKee, 2015; Edelenbos, Van Buuren, & Van Schie, 2011). These levels incorporate the processes for leveraging relationships (Question 1) and the conditions necessary for co-creative processes (Question 2). Based on the action arenas, two investigators coded 20% of the process notes simultaneously to assess the level of mutual consultation present between the action arenas. The coders used the coding scheme identified in Table 2 and took detailed notes as to why interactions among stakeholders were coded at a particular level. The two coders discussed the initial coding and resolved any discrepancies. Independently co-coding and meeting to discuss discrepancies promotes the validity and reliability of the analysis (Padgett, 2008). Subsequently, investigators divided the remaining process notes for coding and reviewed each other’s coding of process notes to ensure agreement. The investigators then met to review how all of the interactions were coded and determined a single score for each stakeholder group based on the majority of codes categorized by major, minor, or absent consultation. While program

**Table 1. Data Collection for Preventive Evidence-Based Model Initiative**

Group	N <sup>1</sup>	Timeframe	Purchase of Interviews
Interviews with Evidence- Based Model Developers	11 <sup>2</sup> (28)	Fall 2012	An analysis of best practices related to "implementation drivers" (Fixsen et al., 2005; Metz & Bartley, 2012) was conducted in order to assess the extent to which evidence-based model developers contributed to infrastructure development.
Semi-Structured Group Interviews with ACS public agency staff and service providers	5 <sup>3</sup> (60)	Winter/ Spring 2012	Interviews documented strengths and gaps in the implementation infrastructure to support evidence-based models.
Semi-Structured Group Interviews with ACS public agency staff and service providers	5 (60)	Spring/ Summer 2014	Interviews identified major changes organizationally and system-wide to support EBM implementation, as well as strengths and gaps related to capacity building, policy-practice alignment, and evaluation and monitoring. Roles and functions of key stakeholders to support and sustain the evidence-based models were also described.
Interviews with Evidence-Based Model Developers	11 (28)	Summer/ Fall 2014	Interviews identified strengths and gaps related to capacity building, policy-practice alignment, and evaluation and monitoring. Roles and functions of key stakeholders to support and sustain the evidence-based models were also described.

<sup>1</sup> Sample sizes are based on number of groups. The number of respondents across groups is also included in parentheses.

<sup>2</sup> Developer interviews included leaders of national organizations that deliver the different models, as well as consultants supporting implementation in New York City.



### Sample Questions

Do you think current feedback loops among developers, providers, and ACS are adequate for receiving information? What could be improved?

How do you support provider agencies to do the following....

- Develop an Implementation Team to resolve challenges to implementation?
- Develop communication protocols to facilitate information sharing between policy and practice levels?
- Develop or revise policies, processes, and procedures to support the new way of work and reduce internal administrative barriers to high fidelity service?
- Conduct readiness assessments for practitioners, supervisors, managers, and leadership?
- Develop plans to garner buy-in and increase readiness throughout the provider agency?

Can you describe your process for the following:

- Interviewing program developers to understand what they provide in terms of implementation support
- Assessing providers' implementation capacity and readiness to implement EBMs with fidelity
- Collaborating with program developers to ensure that ongoing support is delivered to provider agencies as needed
- Supporting provider agencies to develop the infrastructure needed to support effective, sustainable implementation

Has ACS leadership demonstrated commitment to what is needed for implementation?

- Have policies or procedures been developed or modified to create hospitable organization and systems environments to promote implementation at practice level?
- Have data systems and documentation requirements been developed or modified to facilitate implementation of EBMs?

Can you comment on whether progress was made in these areas and whether additional work needs to be done?

- Capacity building
- Policy-practice alignment
- Evaluation and Monitoring

Do you think current feedback loops among developers, providers, and ACS are adequate for receiving information? What could be improved?

Same as above

<sup>3</sup> ACS interviews included leaders and staff across divisions including Policy, Planning and Measurement where innovations are incubated and then later monitored, as well as programmatic areas such as protection, prevention, and permanency. Service providers included a purposeful sample delivering the different EBPs.

**Table 2. Levels of Mutual Consultation Characteristics**

<b>Levels of Mutual Consultation</b>	<b>Characteristics</b>
Major Consultation; Two-Way Communication	<ul style="list-style-type: none"> <li>• Joint activities to develop common understanding of the problem space</li> <li>• Receptive to other insights, sources of knowledge, and perspectives on the use of research evidence</li> <li>• Knowledge differences and perspectives on use of research evidence are displayed through process of communication, negotiation, and mutual adjustment</li> <li>• Explicit attention for bringing together knowledge from different domains by using formal communication processes and structured feedback loops</li> <li>• Develop formal products, processes, or procedures to support use of research evidence through highly interactive process characterized by iterative, dynamic, and gradual progress</li> </ul>
Minor Consultation; One-Way Communication	<ul style="list-style-type: none"> <li>• Joint activities are conducted symbolically or strategically without the commitment for developing common understanding of the problem space</li> <li>• Not receptive to others insights, sources of knowledge or perspectives on use of research evidence</li> <li>• Meet as issues arise, but not on a regular schedule</li> <li>• One way communication and interactions focused on convincing the other of own assumptions and values</li> <li>• Formal processes, products or procedures to support use of research evidence are not developed or used by all system actors</li> </ul>
Absent Consultation	<ul style="list-style-type: none"> <li>• No joint activities are conducted to co-create a common understand of the problem space</li> <li>• No explicit intention to creating common knowledge and perspectives on use of research evidence</li> <li>• Disagreement and/or mutual misapprehension</li> <li>• Do not succeed in developing common understanding of others' perspectives on use of research evidence</li> <li>• Interactions take the form a priori excluding certain values and perspectives</li> <li>• No formal products, processes or procedures are developed to support the use of research evidence</li> </ul>

developers provided varying levels of support, this study generalized findings for developers, ACS, and providers as distinct stakeholder groups.

Additional document review processes were used to assess the specific products, processes and procedures that were developed through co-creative processes among stakeholder groups that were referenced in the interview processes notes. Investigators had access to all documents through their role as technical assistance providers from 2012 to present.

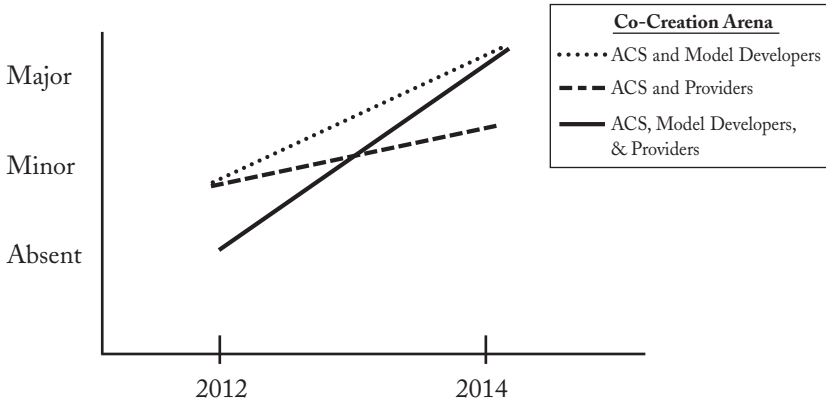
## Results

Based on interview data analysis and document review, we identified three distinct arenas where co-creative processes were facilitated through varying levels of mutual consultation (see Table 3) including:

1. ACS and evidence-based model developers.
2. ACS and preventive service providers.
3. ACS, evidence-based model developers, and service providers.

Note that other potential arenas may exist (e.g., service providers and evidence-based model developers; service providers and families), but not enough data were collected during technical assistance activities to yield information on co-creative processes in these arenas. Findings are presented by co-creation arena, and within each arena, levels of mutual consultation are assigned based on data collected in 2012 and 2014 (see Figure 2). Table 3 includes the frequencies of codes for the assigned level. Frequencies were determined based on the overall proportion of codes assigned for the co-creative arena. Overall, minor levels of mutual consultation were found in 2012 for both two-way interactions between stakeholder groups, however mutual consultation was initially absent from three-way interactions among ACS, model developers, and service providers.

**Figure 2.**  
**Changes in Levels of Mutual Consultation by Co-Creation Arena**



Increases in mutual consultation were found for all co-creation arenas, with interactions between ACS and model developers and three-way interactions reaching major levels of mutual consultation, while two-way interactions between ACS and service providers increased to only minor/major consultation. Each of the arenas is describe in further detail below.

### **Co-Creation Arena 1: Model Developers and ACS**

#### ***Level of Mutual Consultation***<sup>4</sup>

Interactions between model developers and ACS met criteria for minor consultation in 2012 and major consultation in 2014. In 2012 ACS staff and model developers identified misalignment between ACS preventive service standards and fidelity criteria for evidence-based models. ACS staff did not fully understand the individual

<sup>4</sup> Quotation marks indicate direct quotes from stakeholder groups for each co-creation arena.

**Table 3. Changes in Levels of Mutual Consultation by Co-Creation Arena**

Year	ACS and Model Developers	ACS and Providers	ACS, Model Developers and Providers
2012	Minor (9, 90%)	Minor (7, 70%)	Absent (16, 100%)
2014	Major (8, 72.7%)	Minor/Major (11/12)	Major (7, 87.5%)

fidelity criteria for each of the evidence-based models, and model developers did not fully understand the preventive service standards or how their models were to fit within this service context. The complexities of service standards and fidelity criteria across so many models added to the challenges of developing common knowledge and understanding of the problem space.

Interview findings show that *ad hoc* consultations in 2012 were taking place as these misalignment challenges were identified. Early consultations were characterized by one-way, unstructured communication to convince the other of one's own assumptions and values. For example, model developers emphasized changes ACS would need to make to accommodate for the use of evidence-based programs in the child welfare preventive service system. Specifically, developers noted that ACS would need to "provide more visible and consistent support for the use of evidence-based models," "reduce paperwork and reporting requirements for provider agencies using evidence-based programs," and "provide greater clarity on accountability and outcomes."

By 2014, interactions between model developers and ACS increased in intensity with at least two formal, planned interactions with ACS per month, along with additional contacts to resolve implementation challenges. The quality of consultations also changed over time. Interview findings demonstrate that interactions emphasized explicit attention for bringing together evidence and knowledge from different domains by using formal feedback loops and communication processes to realize open dialogue and equal

participation of both stakeholder groups. In 2014 interviews, developers reported that ACS demonstrated a “deepening understanding of the underlying logic of the individual models” and the complexities of implementing evidence-based models. Specifically, developers noted, “ACS has been incredibly willing to listen and educate themselves on the models” and “ACS Program Development staff have extended themselves to know the models.”

All model developers noted improved feedback loops among developers, providers, and ACS staff. Developers described the monthly calls as “indispensable” and noted that these calls are representative of a commitment to supporting communication among the key stakeholders involved in implementation. Developers noted that the monthly calls increased trust among the key parties and that ACS’s emphasis on problem solving helped to “normalize” implementation challenges common in early stages of implementation. One developer noted, “Troubleshooting has been helpful and more flexible than imagined.” ACS staff also noted that an increase in communication with model developers resulted in better resolution of implementation challenges. These findings indicate a shift from simply exchanging information, to exchanging information in service to the development a common perspective on challenges and potential solutions for using research evidence.

### ***Products and Processes to Support the Use of Research Evidence***

Increases in the level of mutual consultation between model developers and ACS were associated with the development of formal processes, products, and procedures to support the use of research evidence. These included:

- *Service Connect Instrument* — A structured decisionmaking tool for referrals that uses predictive analytics to match families to

programs and practices that can meet their needs and links real time capacity data to ensure that treatment slots are available.

- *Preventive Standards and Indicators Addenda* — As mutual consultation rose to the “major” level, ACS revised its Preventive Standards and Indicators to reflect the unique features of each evidence-based model currently in use in the child welfare services continuum.

## **Co-Creation Arena 2: Service Providers and ACS**

### ***Level of Mutual Consultation***

Interactions between service providers and ACS met criteria for minor consultation in 2012 and minor/major consultation in 2014. Consultations in early 2012 were taking place as challenges were identified, but not through regularly planned meetings with structured feedback loops. Interview findings suggest that service providers were seeking more two-way communication with ACS in the early months of implementation of the evidence-based models. For example, in 2012 service providers requested “increased dialogue with ACS” regarding data reporting requirements, policy-practice alignment challenges, and workforce challenges. Service providers described their “confusion over roles and authority related to evidence-based model implementation.” Specifically, service providers sought clarity regarding “who” they were accountable to when implementing evidence-based models—the developer or the public agency. Providers noted that sometimes they felt “in the middle of ACS and the developers” and sought to determine their role in this relationship. Initial consultations between service providers and ACS were characterized by a lack of understanding of roles and functions of key stakeholders and did not include formal, structured opportunities for creating a shared understanding of the challenges associated with using research evidence in practice settings and potential solutions.

Service providers called attention to similar issues of misalignment between preventive service standards and fidelity criteria as model developers described.

The intensity of consultations between ACS and service providers increased after early challenges were identified. In 2013, ACS began biweekly calls with service providers to negotiate challenges associated with evidence-based model implementation. These biweekly calls were guided by a formal protocol to engage service providers in an active exchange related to the following key areas: staff recruitment and training; supervision and consultation; fidelity monitoring; case contacts and case practice; agency leadership; referrals and service utilization; policy-practice alignment; and decision-support data systems.

Providers noted that biweekly calls helped to keep providers connected with ACS and created a structure for implementation support that did not exist prior to evidence-based model implementation. Provider agencies reported a shift at ACS that demonstrated a deeper understanding of “what it takes” for provider agencies to implement evidence in practice. For example, providers appreciated ACS leadership addressing referral issues and liaising with referral sources when needed. Provider agencies also reported a shift in their own perspectives on using research evidence. For example, provider agencies reported that their role involves “...more than training and includes developing the context to support evidence-based model implementation.”

While findings demonstrate a deepening in open dialogue between service providers and ACS, there are still areas that could benefit from increases in mutual consultation strategies. For example, both stakeholder groups have asked for an increase in data sharing for continuous improvement. ACS staff and provided agencies described their need for cross-model, cross-provider data that can help them determine the impact EBMs are having on their own practice and outcomes. This is an area that will be discussed further in Co-Creation Arena #3.



## ***Products and Processes to Support the Use of Research Evidence***

A key product in this co-creation arena includes the development and delivery of Learning Modules to support evidence-based model implementation. The National Implementation Research Network developed a series of Learning Modules on a range of key implementation topics that were identified based on the needs of stakeholders. Topics included using data to guide decisionmaking, developing a sustainable infrastructure, assessing and building readiness, collaborating with key stakeholders, and leading change. These modules were delivered on a regular basis (every two to three months) for all service providers using evidence-based models or promising practices in preventive services, along with ACS staff who were responsible for the monitoring of provider agencies using evidence-based models for the first 18 months of implementation. The Learning Modules included content delivery, opportunities for application, and assessments. Providers remarked that these learning modules were timely and essential in providing opportunities to communicate with ACS and apply strategies to support implementation of evidence-based programs.

### **Co-Creation Arena 3: ACS, Model Developers, and Service Providers**

#### ***Level of Mutual Consultation***

Three-way interactions among ACS, model developers, and providers met criteria for absent consultation in 2012 and major consultation in 2014, representing the largest increase in mutual consultation. Interview findings demonstrate that a three-way feedback loop structure had not yet been created in 2012, so that consultations took the form of one-way communications and no joint activities among the three stakeholder groups were conducted.

By 2014, major shifts took place in the intensity and quality of the three-way interactions. ACS developed a formal three-way feedback loop to take place once per month at service provider meetings. At these meetings, service providers using the same evidence-based model convened with ACS and the model developer. ACS also used information collected from model developers and service providers to develop action plans for sustainability of the evidence-based models. In many ways, ACS evolved into the hub for supporting effective communication, negotiation, and mutual adjustments by model developers, service providers, and ACS itself to support the optimization of evidence-based models in the child welfare context.

### ***Products and Processes to Support the Use of Research Evidence***

ACS led efforts to develop key products and processes to translate and sustain the evidence-based model in a child welfare context. Two such products include the Fidelity Desk Guide and logic models.

- *Fidelity Desk Guide* — A guide that summarizes fidelity measures, domains, unit of analysis data source; frequency of fidelity assessments; reporting schedule to ACS, and key domains assessed for each evidence-based model. It also specifies the context, compliance and competence (Fixsen et al., 2005) across measures.
- *Logic Models* — A series of logic models developed in collaboration with program developers to translate the underlying logic of all 11 evidence-based programs into a child welfare context.

## **Discussion**

In this study, we unpacked the two-way and three-way interactions by assessing levels of mutual consultation among three co-creation

arenas including: ACS and evidence-based model developers, ACS and service providers, and ACS, service providers, and evidence-based model developers. Overall, findings from this study suggest:

- Dialogue is needed among public agencies, model developers, and providers to effectively create a shared space, or “hub,” for evidence to be contextualized and sustained
- Mutual consultation processes among stakeholder groups can change and improve over time for all stakeholder groups;
- The intensity and the structure of interactions can hinder or support mutual consultation;
- Higher levels of mutual consultation are associated with the development of products or processes to use research evidence more than lower levels of mutual consultation.

This study offers a critical perspective on how major stakeholders come together to integrate, optimize and sustain the use of research evidence in child welfare. As noted by Tseng (2012), “the call for evidence-based policy and practice is ubiquitous” (p. 117), but sustaining evidence over time requires more than adhering to manualized curricula and practice guidelines. Research demonstrates that successful uptake of evidence requires genuine interaction among researchers, service providers, policymakers, and other key stakeholders (Flaspohler, Meehan, Maras, & Keller, 2012; Palinkas et al., 2011; Wandersman et al., 2008).

### ***Research Question 1: Processes to Leverage Relationships***

Findings shed light on the processes that contribute to leveraging relationships among evidence-based program developers, private service providers, and the public child welfare agency to support the use of research evidence (Figure 3). There appears to be a relationship

between the intensity of interactions and the levels of mutual consultation. A minimum of regularly scheduled monthly activities was associated with major levels of mutual consultation. These findings align with other recent findings that frequent and inclusive communication are a key factor of successful implementation, while limited and exclusive communication has been shown to negatively impact implementation efforts (Hurlburt et al., 2014). Frequent, structured communication can help to diminish power imbalances that can occur through informal discussions and sidebar conversations that are not transparent or inclusive of all stakeholders. These findings also align with systematic review evidence on the factors that support effective relationship building among stakeholders (Voorberg, Bekkers, & Tummers, 2014), including a formal infrastructure for communication and the willingness of stakeholders to actively participate in communication. The willingness to participate in co-creative processes is related to the social capital required to build and maintain relationships resulting from the dedication of resources to support communication and feedback loops. In this case, all three stakeholder groups dedicated time to communication.

**Figure 3.**  
**Facilitators of Co-Creative Process**



***Research Question 2: Conditions Necessary for Stakeholder Involvement in Research Use***

The practice-to-policy communication loop structure between service providers and ACS also seemed to be a key aspect of successful

and were associated with major levels of interaction. For example, planned meetings with formal protocols for sharing information were associated with higher levels of mutual consultation compared to ad hoc meetings when challenges arose. Regular feedback from service providers provides public agency leaders with practice-based data to inform decisionmaking and alter components of the service system to be more hospitable to new ways of work (Fixsen, Blase, Metz, & Van Dyke, 2012). Feedback loops also promote iterative and cyclical improvements and modifications to evidence use, a hallmark of co-creation and co-design models (Bason, 2010).

The data also suggest a relationship between the intensity and structure of interactions, level of mutual consultation, and the development of products and processes to support the use of research evidence. These findings align with models that specify conditions that promote co-creative processes including the co-development of products and resources. One limitation is that these data do not indicate whether intensive and structured interactions lead to the development of formal products and processes to support the use of research evidence; or whether the development of formal products and processes call for more intensive and structured interactions. Further studies can provide information on the sequencing of these activities. However, this study suggests that highly structured and intensive interactions among public agencies, researchers and service providers, with a focus on product development, might support the use of research evidence to achieve better outcomes for children and families.

Co-creation is possible among key stakeholder groups in child welfare to support the use of research evidence. Through co-creation, relationships are valuable not only at the beginning (i.e., during the decision to uptake research evidence) but through every step of implementation (Bason, 2010). The trusting relationships among key stakeholders, including administrators and research throughout the decisionmaking processes are important to the uptake of research (DuMont, 2015). Assessing relationships through the co-creation lens provides another layer of understanding as to how trust is engendered.

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