Activating Evidence:

Combining Core Components and User-Designed Systems to Build the Next Generation of Evidence-Based Policy

Jennifer L. Brooks, Jason Saul, and Heather King[1]

IMPACT GENOME PROJECT®

Introduction

The current approach to Evidence-Based Policy and its cousin, Evidence-Based Practice (referred to collectively as EBP here) has been highly focused on documenting extant evidence while minimally focused on the use of that evidence. This model is static – sharing information about pre-packaged programs with little information on key elements of effective practice. Moreover, rarely are these approaches designed with the end-user in mind, allowing them to deeply engage with the evidence to customize it to their needs.

There are two steps necessary for advancing the use of EBPs. First, we need to begin by building evidence that is more aligned with the types of information that users need. Second, we need methods of sharing the evidence that give end-users the power to view the data in different ways and tailor it to their unique needs. This paper elaborates on these ideas, sharing examples of how one system – The Impact Genome Project – is advancing the field.

Two Steps for Advancing the use of Evidence Based Policy (EBPs):

1. Build evidence aligned with the types of information users need.

2. Develop methods for sharing the evidence that give end-users the power to view the data in different ways and tailor it to their unique needs.

The Status Quo: A Static Approach to Evidence

The rationale behind EBP is strong. It assumes that by allowing science to guide policy or practice, we will achieve better outcomes in our work. The concept is not new. Federally funded registries of EBPs in juvenile justice and mental health have been around since the late 1990s. In fact, there are so many registries of EBPs in the U.S. that the Pew Charitable Trusts has created a registry of registries to help users navigate the seemingly discrepant findings across evidence reviews[2]. States have also been highly active on this front. Pew conducted a review of state legislation between 2004 and 2014 and found that states had passed 100 pieces of legislation related to Evidence-Based Practice during this period.[3]

Between 2008 and 2016, the Obama Administration and Speaker of the House Paul Ryan, among others, further advanced EBP by embedding it in federal legislation. For example, the Maternal Infant and Early Childhood Home Visiting (MIECHV) Program, authorized under the Affordable Care Act, offers resources to states for implementing evidence-based home visiting models. Likewise, the Social Innovation Fund and the Investing in Innovation (i3) grant programs, out of the federal AmeriCorp agency and the Department of Education, respectively, provided dollars both to grow the evidence base in their relevant fields and to incentivize non-profits and schools to implement EBPs.

Yet, for all the effort put into EBP, it is not clear what it has bought us as a nation. In their review of state statutes, Pew documented that state legislation requiring or incentivizing the use of EBPs did indeed increase the use

of what were deemed to be evidence-based practices. But the evidence for improved outcomes is scarce. For instance, an evaluation of i3 found that less than half of the program models that were slated for replication or scaling demonstrated positive impacts on student outcomes. This despite the fact that most of those models were well implemented and all had at least some prior evidence of effectiveness.[4] The evaluation showed that i3 was most effective for improving the evidence base; that is, developing better evaluations of education interventions, which was one goal of the program. It was less effective at improving those outcomes or even substantially increasing the set of evidence-based practices available for practitioners to implement.

A national evaluation of the MIECHV Program – the evidence-based home visiting funding stream – also showed mixed results. After 15 months of implementation, states demonstrated that they were able to implement the evidence-based home visiting models effectively, but there were limited benefits for children and families. Moreover, where benefits for children and families were identified – in quality of the home environment, frequency of emergency room visits, for example – the size of the differences were so small as to be of questionable significance to society.[5] The MIECHV evaluation is ongoing – these were just the early results – but so far, there is little evidence to think that our current approach to EBP works to meaningfully improve outcomes.

Rethinking the Approach:

The rational behind EBP is strong. It posits that by allowing science to guide policy or practice, we will achieve better results, but so far there is little evidence to think that our current approach to EBP works to meaningfully improve outcomes.

The Tyranny of the RCT

One of the strengths of the current EBP movement – its focus on methodological rigor – has in some ways stunted this movement's usefulness. Current EBP approaches have privileged one aspect of study quality called causal inference above all else. Causal inference is the ability to ensure that the practice being studied is what caused the outcomes observed, and is best achieved by a small number of research methodologies, most prominently the randomized control trial (RCT.)

RCTs are indeed the best approach for drawing causal inference, but the problem is that their near domination in the fields of evidence-based practice limited the actionability of information available to end users. RCTs are most often used to study packages of practices – what we will call packaged program models. So, for instance, an education researcher might develop a new math curriculum that has multiple components to it. It includes a curriculum composed of lesson plans, exercises, vocabulary lists, and other materials. The curriculum is also accompanied by a new math assessment and multi-pronged teacher training system that includes virtual and in-person training sessions as well as individualized coaching. An evaluation of this packaged model will tell us how those elements – the curriculum, the assessment, and the teacher training – TOGETHER improve outcomes for students. But because the causal inference only applies to the full package of elements, this study would not identify how specific components of that package independently affect

outcomes. Thus, we would have little information about the "active ingredients" in the model – those which are necessary vs. those that might be nice to have. The study is essentially a "black box", telling us little about why the model worked or did not work.

From the perspective of a school principal, though, this information will be of limited use unless the principal has the resources and capacity to implement all the components of this model exactly as it was originally studied. But what about the principal that already has an evidence-based math curriculum and simply wants to enhance his/her teacher training model? What about the principal that has mandated assessments or curricula from his/her district? Or what about the principal that wants to implement the entire model eventually, but for budget or change management reasons needs to implement it gradually? An RCT of the packaged model offers little guidance in these situations.

The Next Phase of EBP: Making Evidence Actionable

The reason that EBP has not been successful, either in take-up or in achieving outcomes, is because it was never designed with end-users in mind. Current EBP models have led with the evidence base – what do studies with strong causal inference tell us and how can we share that information with people? Little consideration was given to what information practitioners want or need.

Two shifts are required to make evidence more useful to practitioners:

1. We must break open the black box of program evaluation to better understand the effectiveness of individual components of practice;

2. We must share evidence in a way that meets the needs of the end-users and reflects the wide variability in those needs.

Step 1: Breaking open the black box by focusing on core components

There is a movement afoot in the world of EBP to better attend to elements of practice, or what is commonly called "core components." This movement is not new[6], but it is gaining traction in the face of the limited success of EBP. Riley and Rivera (2014) make this case:

An extensive literature has established the effectiveness of various behavioral interventions…but this literature often fails to isolate the intervention components that are more or less effective. Therefore, despite numerous controlled trials of various interventions for a given problem, the field has little guidance on how to improve upon previously studied interventions, adapt them to specific populations, contexts, or delivery mechanisms, or streamline them to facilitate use in real-world settings with constrained resources. Behavioral intervention research cannot become a cumulative science…until intervention studies can answer not only if the intervention changed behavior, but also how…and which intervention components were most effective in changing behavior (p. 234).[7]

The ad-hoc analysis of core components, however, is not sufficient to drive use and move the EBP field forward. We must find a way to standardize core components, so that they can be studied systematically. Standardizing core components has significant implications for how we catalogue studies and how information is shared.

Second, we must rethink how we source core components and what evidence is used to analyze them. Restricting core components studies to those meeting strong causal inference standards is likely to lead to a nearly empty database. That is because there are far fewer RCTs that examine elements of practice than there are RCTs of packaged program models. And an empty database will not only be of no use to practitioners and funders, but it may also actually increase resistance to and frustration with the ideals of EBP.

Moreover, we must also develop new methods to evaluate the efficacy of core components. Traditional

meta-analytic techniques fall short for several reasons. First, traditional meta-analyses are themselves static – large databases built from research studies are developed in silos by academic researchers, with each new field or area of study generating a new meta-analysis. The data are proprietary, non-standardized and are rarely updated as the field progresses. The information gleaned from the meta-analysis is presented in a set of papers – locked inside of pdfs – giving practitioners, funders, and even other researchers no ability to query the data or analyze it to address other questions.

To advance EBP, instead, we will need to find a way to build a common language to taxonomize studies – breaking them down into parts that can be standardized across studies and fields. Information about their interventions, their samples, their contexts, and their design can be coded using a common dictionary. This will prevent the need for a "clearinghouse of clearinghouses", as Pew did, to address the siloed nature of the analyses. Standardization – combined with public access to the data and standardized coding – will also make it easier to update the evidence base over time.

A standardized approach to coding core practice components can also address one of the most pernicious challenges in the EBP field: the lack of information about variability in the effectiveness of key practices. Our current reliance on RCTs of packaged program models has meant only a handful of studies are available for each program model, with too little data to understand how the impact of that model might vary across populations or contexts. By standardizing research across studies and fields, and looking at individual practice components, there will be a larger body of evidence base to inform us about variability. There are a finite number of means to change behavior and outcomes – incentive systems, therapeutic models, pharmacologic models, training, etc. As such, most program models have commonality in their approaches, even as they address a wide array of issues and outcomes. Standardization would allow us to learn about – say – how different approaches to individual therapy affect outcomes, whether that therapy is aimed at addressing depression, eating disorders, or marital difficulties. By leveraging these commonalities, we will have a larger variety of studies from which to understand how results vary based on elements of the study context.

To advance EBP we need to find a way to build a common language to taxonomize studies - breaking them down into parts that can be standardized across studies and fields.

Step 2:
Giving practitioners and other end users the ability to access information in a way that addresses their questions

The wealth of data available through a standardized core component approach will only benefit end-users if it is accompanied by tools that allow them to make best use of it. To date, the primary approach to sharing information about EBP has been evidence registries. Those registries are minimally interactive – anyone that goes to the registry to find information will see the exact same thing. The information is contained in written reports or syntheses, with little opportunity to get information tailored to one's needs. In effect, these registries are like stagnant pdfs – with the information locked inside of whatever format the registry developer deems best.

To make the core components information most useful, we need to move from this more static approach to sharing information to a more dynamic one. We can find

examples from other industries. For instance, think of the difference between a website that lists mortgage interest rates versus an app or tool that allows potential homebuyers to estimate their own interest rate. The latter utilizes information provided by the potential homebuyer – their credit score, down payment amount, length and type of loan, zip code – to provide more meaningful information specific to that homebuyer. Homebuyers then can use the tool to compare different scenarios and determine what is best for them, for instance, understanding how much their monthly payment will change if they put more money down. Other examples include Ancestry.com and 23andMe, companies that have harnessed the science of the human genome and use that science to create tailored information for its users.

We need approaches to EBP that look less like a pdf and more like an app. The information needs to be available for query by end-users, allowing them to tailor the questions they ask of the evidence to the questions that they need to have answered. In effect, we need to democratize the evidence, giving access to a broader range of stakeholders to use it however they need.

Making Core Components Actionable for Practitioners: The Impact Genome Project

The ideas presented above are what motived the founders of the Impact Genome Project (IGP). Inspired by the standardization used in the Human Genome Project, combined with the use of algorithms to tailor information for clients on apps such as Pandora, the IGP standardizes information about practices, populations, contexts and outcomes from research papers and other sources. The IGP mines the core components of practice found across thousands of studies – those small, bite-size, implementable pieces of information that are more easily translated for practitioners, funders, and policymakers.

To avoid the siloing of evidence we have seen to date, the IGP model aims to isolate and identify the "genetic code" (so to speak) that makes interventions more or less effective. This allows the IGP to break down that finite list of practices or approaches common across fields both from each other, and from the content addressed in those approaches. For instance, it allows us to learn about features of more and less effective cash incentive systems, separate from whether the cash incentive is used to promote weight loss or school attendance. By using this approach, the IGP can pull evidence and data from a wide array of sources, ensuring cross-disciplinary learning, and expanding the evidence base that can be brought to bear on any given problem of practice.

The IGP relies on taxonomic meta-analysis, which uses the component as the unit of analysis, rather than packages of components or interventions. Taxonomic meta-analysis is empirically driven, meaning that the taxonomy itself is derived from the literature base, rather than established a priori from theoretical frameworks. Because the taxonomy is not dependent upon discipline-specific theoretical frameworks, it can provide a common language for components that can cut across fields of research.

We need approaches to EBP that look less like a pdf and more like an app. The information needs to be available for query by end-users, allowing them to tailor the questions they ask of the evidence to the questions that they need to have answered. In effect, we need to democratize the evidence, giving access to a broader range of stakeholders to use it however they need.

IGP Case Study

The Childhood Obesity Genome:
Addressing Scalability and Replicability Using Core Components

With support from the National Institutes of Health, Office of Behavioral Social Science Research, The Impact Genome Project engaged a panel of top tier experts to develop an impact taxonomy for childhood obesity. The experts worked collaboratively to agree on a set of core components for coding all the studies in the field. This work led to a meta-analysis of 58 studies on 51 interventions—the most comprehensive meta-analysis in this field to date, which was published in two peer reviewed journal articles. The analysis found that three distinct intervention components were most closely correlated to improved Body Mass Index in young children between 2 and 5 years of age. These components were parents or caregivers using positive praise for children's healthy choices, teaching parents about limiting screen time, and involving pediatricians or other health care providers in the interventions. Training caregivers about screen time had the greatest connection to reduced BMI. This provided the field with synthesized analysis – from many studies – regarding which components of obesity prevention are most likely to lead to successful outcomes.

The Impact Genome Project has conducted similar analyses for other fields, including Early Childhood Education, K-12 Education, STEM Education, College and Career Readiness, and Financial Health. Across these efforts, taxonomic coding was applied to maximize the ability for cross-disciplinary analysis.

Table 3. Childhood Obesity Evidence Base Project Taxonomy of Components Identified, Frequency, and Impact on the Overall BMI across the 58 Interventions Included in the Analyses

		Impact on BMI			
		Immediate		Final	
Intervention components	**%**	**B (SE)**	***p***	**B (SE)**	***p***
Activities to support behavior change		0.03 (0.01)	0.024	0.01 (0.02)	0.743
Implement structures of accountability	28	0.06 (0.04)	0.117	0.09 (0.09)	0.334
Incorporate implementation of self-reflection strategies	19	0.02 (0.05)	0.678	-0.03 (0.08)	0.723
Implement media campaigns	2	0.18 (0.11)	0.098	-0.03 (0.10)	0.781
Incorporate financial incentives	19	0.03 (0.04)	0.446	0.03 (0.08)	0.663
Engage caregivers in praise/encouragement for positive behavior	22	**0.09 (0.05)**	0.049	0.34 (0.19)	0.092
Engage caregivers in goal setting	31	0.07 (0.04)	0.122	-0.03 (0.08)	0.689
Engage caregivers to serve as role models for children	19	0.05 (0.04)	0.234	-	-
Engage facilitators in praise/encouragement for positive behavior	9	-0.03 (0.05)	0.476	-	-
Instructional strategies		-0.01 (0.01)	0.286	-0.01 (0.02)	0.486
Provide toys/books/games/stickers for child engagement	34	-0.04 (0.04)	0.308	-0.11 (0.08)	0.187
Utilize arts and music	24	-0.01 (0.04)	0.840	-0.06 (0.07)	0.421
Utilize games, imaginitive play, or storytelling	29	0.01 (0.04)	0.809	-0.08 (0.07)	0.311
Utilize a stepped-intensity approach	14	-0.03 (0.07)	0.732	0.08 (0.08)	0.381
Utilize written activities	10	-0.00 (0.05)	0.924	-0.04 (0.08)	0.626
Utilize modeling/demonstration	22	0.06 (0.04)	0.116	0.12 (0.12)	0.342
Utilize media for instruction	16	-0.07 (0.06)	0.287	-0.08 (0.11)	0.452
Utilize hands-on approach	34	-0.06 (0.03)	0.069	-0.11 (0.08)	0.203
Utilize reflective listening	7	-0.00 (0.07)	0.988	-0.02 (0.09)	0.860
Utilize discussion	24	-0.05 (0.04)	0.207	-0.01 (0.08)	0.895
Utilize role-playing for instruction	12	-0.05 (0.06)	0.428	0.04 (0.13)	0.782
Utilize group instruction	41	-0.03 (0.03)	0.354	0.09 (0.08)	0.248

Table 3. *Excerpt of the COEB taxonomy. This table shows specific components and correlations to the outcome of BMI. This figure shows a handful of the roughly 100 components derived from the childhood obesity prevention literature. The components range from the instructional activities for children, childcare providers and caregiver, to including training for program facilitators, instructional strategies, supports for caregivers, and activities to support behavior change.*

Source: https://www.nccor.org/projects/childhood-obesity-evidence-base-test-of-a-novel-taxonomic-meta-analytic-method/

The separate coding of practices, contexts, outcomes, and target populations across fields also allows the IGP to dig more deeply into the nuanced question of "What works best for whom, under which conditions, and why?" For example, analyses can focus on behavior change, attitude change, culture change, or all the above. They can examine how each of those strategies – or the combination of strategies – work with different populations in different contexts. They can also look at practices based on the type of change they aim for, whether targeting individuals, organizations, or geographically defined populations.

This latter point is critical if we want to address historic inequities both within the evidence base and through using EBPs. To date, most evidence registries have focused on interventions targeted at changing the behavior of individuals – teachers, parents, students, clients. Yet, many of the social problems in the U.S. reflect long-standing systems-level issues that individual-focused interventions alone cannot overcome. The design of the IGP will allow it to analyze the interaction between systems-level levers of change (policy, public private partnerships, advocacy, community organizing) and individual-level levers of change (individual-focused therapy, training, behavioral interventions.) By coding and standardizing all these elements, we can begin to understand not just the components that drive outcomes, but also which combinations of components can magnify our impact.

Bringing the End Users into the Mix

As noted, advancing evidence use will not be solved solely by standardizing the evidence base – we must also shift our focus to sharing evidence with users in a more dynamic and interactive way. By breaking evidence into components, the IGP has set the foundation for a more dynamic approach to interfacing with the evidence base. It does this in two ways: 1) by publicly sharing their coding infrastructure for others to use and add to; and 2) supporting that infrastructure with user-friendly tools to interact with the evidence base. Like the example of the home mortgage app, end-users enter information about their program of interest – using the standardized IGP codes to identify the practices, target population, outcomes, and contexts that are relevant to them – and IGP tools can return information on studies or peer programs that focus on those same elements. This is in sharp contrast to current approaches to sharing evidence, which display the same information for everyone.

The importance of standardizing the coding of studies has been discussed. But in addition to standardizing that information, both the information and the coding schemes must be made available to researchers, practitioners, and funders. This step allows for better connections between the evidence base and the strategies of the end users. Like in the example of the home mortgage app, this is what allows users to describe themselves in ways that promotes the tailoring of information to their context. This is quite different to how meta-analyses are typically developed, where coding structures are fragmented, hidden behind pay walls, and may change over time. It allows practitioners to benchmark their programs to the evidence base and generate scenarios that could strengthen their impact. This approach can also be used by funders to estimate the likelihood of positive outcomes from proposed strategies or to compare strategies to one another.

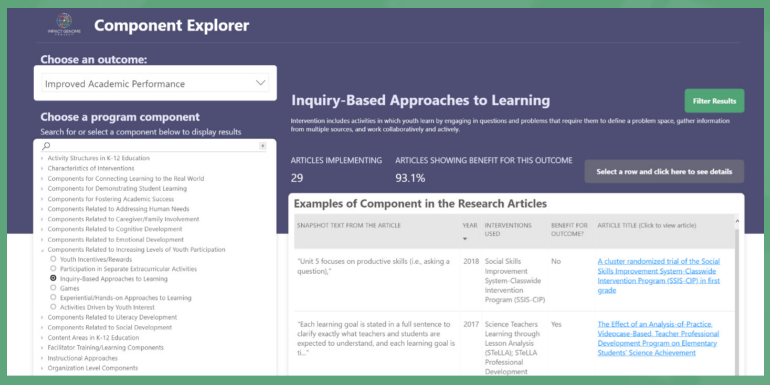
By developing a user interface like the one in the IGP, researchers can provide a simple tool for practitioners to ask tailored questions of the evidence base and get reports that relate to their unique circumstances. In doing so, they can democratize the evidence base, putting it in the hands of those we want to use it. For instance, funders and practitioners can leverage information to explore how different scenarios – such as extending the duration of a program, adding new features, or dropping components in favor of others – affect their likely impact. Moreover, interfaces that work with information provided by funders and practitioners will also provide more insight into the needs of the field, such as which questions are of greatest interest or which components of practice are most common.

IGP Case Study

The Component Explorer:
Matching the Evidence to User Needs

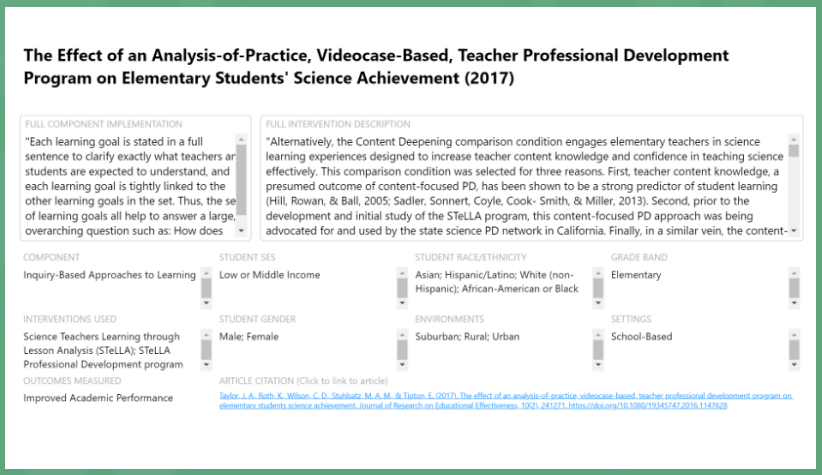
With support from the Chan Zuckerberg Initiative, the IGP is being used to delve deeper into the evidence base for one of the most extensive evidence registries, the Institute for Education Science's What Works Clearinghouse (WWC.) IGP is using the WWC evidence to create user-oriented tools designed to address key priorities identified through interviews with potential evidence users.

One of these tools is the "IGP Component Explorer" (here). The Component Explorer enables users to quickly discover evidence-based strategies or components of interventions relevant to their own work and contexts. This tool connects the strategies non-profits may already use to evidence generated by rigorous research on or evaluations of K-12 interventions, allowing them to understand and communicate how their programs align with empirically supported approaches. In addition, users can see how components are described and implemented across research studies and program evaluations, learn in what cases, and how often evidence of benefit was found for outcomes, and link directly to research articles relevant to their work if they want to learn more. Because this approach gives more organizations the ability to demonstrate their likely impact, it reduces some of the current inequities in EBP, where only large, well-funded organizations can use rigorous data to understand or communicate their impact.



The IGP Component Explorer tool offers users the ability to identify interventions that use specific components that are described in research studies. Users can select their desired outcome and the component of interest, and the tool displays the range of articles in the evidence base that mention that component and which articles show evidence of benefit for that intervention.

The IGP Component Explorer enables users to view the actual captured text of an intervention component within individual research articles, to see the ways in which that component has been implemented in context. The tool also displays the characteristics of the beneficiaries and elements of the study context, including setting, environments, and grade band. The IGP Component Explorer is being used as a beta application with evidence from the Institute of Education Sciences' What Works Clearinghouse. Each article has been coded using the IGP taxonomy for outcomes, components, beneficiary, and context.



The Future of EBP

As we look to the future of EBP, we must remember that the primary goal of EBP is to improve outcomes through the greater use of evidence. While it is important to enhance the number of rigorous studies and share the evidence from those studies, this approach is not sufficient to promote evidence use. The future calls for more innovative approaches to synthesizing evidence, updating information, and sharing information with end users. The field is on the right track with its emphasis on core components analyses. But, alone, that shift will not meaningfully enhance evidence use. Rather, we will need to revisit how we systematically review research evidence, how we keep it updated over time, and how we make the information accessible and useful to practitioners, funders, and policymakers.

Luckily, researchers do not have to do this alone. We are experts in building and implementing research studies, but we are not necessarily experts at making information available and useable to different audiences. We should leverage the expertise of app developers, data scientists, and others to tailor our evidence systems to those we aim to reach. We should investigate how machine learning can help reduce the cost and delay inherent in our current labor-intensive approaches to analyzing the evidence base. If we can agree on a common language for coding evidence, new articles could be coded by the authors as they are published, so that they can be included in the evidence base in real-time.

Most importantly, we must engage with end users to find out how to make evidence more actionable. There must be deep engagement with funders, policymakers, and practitioners – anyone that we anticipate using the evidence – to ensure that they can easily query the data and get answers to their questions. For it is only by addressing the needs of the end users that we will truly reach our primary goal, improving outcomes through evidence use.

We need to revisit how we systematically review research evidence, how we keep it updated over time, and how we make the information accessible and useful to practitioners, funders, and policymakers.

[1]Jennifer Brooks is an independent consultant working with governments, philanthropy, and non-profits. Jason Saul is CEO of the Impact Genome Project and Executive Director of the Center for Impact Sciences at the University of Chicago. Heather King is Vice President for Evidence & Implementation and Chief Ontologist at the Impact Genome Project.

[2]Results First Clearinghouse Database | The Pew Charitable Trusts (pewtrusts.org)

[3]Legislating Evidence-Based Policymaking (pewtrusts.org)

[4]The Investing in Innovation Fund: Summary of 67 Evaluations (ed.gov)

[5]A Summary of Results from the MIHOPE and MIHOPE-Strong Start Studies of Evidence-Based Home Visiting (hhs.gov)

[6]For example, see Embry and Biglan's notion of "evidence-based kernels": Evidence-based Kernels: Fundamental Units of Behavioral Influence (nih.gov)

[7]Riley, W. T., & Rivera, D. E. (2014). Methodologies for optimizing behavioral interventions: introduction to special section. Translational Behavioral Medicine, 4(3), 234–237. https://doi.org/10.1007/s13142-014-0281-0

IMPACT GENOME PROJECT®

info@impactgenome.com
5113 South Harper Avenue, Suite 2C
Chicago, IL 60615

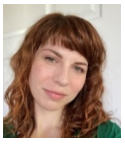
About the Authors

Jennifer Brooks, PhD
President, Jennifer Brooks, LLC
jlbrooksconsulting@gmail.com

Jennifer Brooks serves as an independent consultant and a senior impact advisor at Project Evident, where she supports Project Evident team members in developing Strategic Evidence Plans, bringing particular expertise in measurement and evaluation. In her role as a consultant, Dr. Brooks provides advice and support to philanthropy, non-profits, and governments on using evaluation, metrics, and evidence-based practice to strengthen the impact of programs for children and families. Dr. Brooks has significant experience in large foundations and in government. She served as Senior Program Officer at the Bill and Melinda Gates Foundation, helping to shape the foundation's strategic investments in high quality public early learning programs and playing an active role in the foundation's P-16 working group. She joined the foundation after overseeing human services, workforce, and economic development initiatives at the National Governors Association. Prior to that, she spent ten years in the federal government. There she led the Head Start research portfolio at the U.S. Department of Health and Human Services, Administration for Children and Families, and advised on the Obama administration's efforts in evidence-based policy making and performance management at the Office of Management and Budget. She began her career in think tanks, studying the impact of the 1990s state welfare waiver programs on children. Dr. Brooks is respected in the fields of evaluation, evidence-based practice, and early childhood education. She served on a National Academy of Sciences panel evaluating methods for promoting better use of economic evidence in social programs for children. Dr. Brooks earned a Ph.D. and M.Sc. in Human Development and Family Studies from Penn State University and a M.A. in Public Policy from the University of Chicago.

Jason Saul
CEO, Impact Genome Project | Executive Director, The Center for Impact Sciences at the University of Chicago
jsaul@impactgenome.org

Jason Saul is one of the world's leading experts on measuring social impact. Jason is the founder and Executive Director of the Center for Impact Sciences at University of Chicago, which makes evidence more actionable for policymakers. As CEO of Impact Genome Project, Jason has worked with some of the world's largest government agencies, foundations, corporations, and NGOs. For the past 25 years, Jason has been a pioneer in the field, developing new methods to standardize, benchmark and predict social outcomes. Jason co-founded The Impact Genome Project®, the world's leading social impact data standard. Jason also served on the Advisory Board of the Data Foundation, a non-profit think tank based in Washington, D.C. that seeks to improve government and society by using data to inform public policymaking. Jason is an award-winning author of books on measurement and social strategy, including Benchmarking for Nonprofits, Social Innovation, Inc., and The End of Fundraising. Jason has been recognized by Bloomberg/Businessweek as one of the Nation's 25 Most Promising Social Entrepreneurs and included by Crain's Chicago Business as a "40 under 40" business leader. Jason holds a B.A. in French Literature and Government from Cornell University; a Masters in Public Policy from Harvard's Kennedy School of Government; and a J.D. from The University of Virginia School of Law.



Heather King, PhD
Vice President, Evidence & Implementation and Chief Ontologist, Impact Genome Project
hking@impactgenome.org

Heather is the Vice President of Evidence & Implementation and Chief Ontologist at the Impact Genome Project. Heather began her career as a research scientist at the University of Chicago where her work in evolutionary biology made international news. Heather has been passionate about improving education since working with a Chicago nonprofit to help middle school girls learn about science and see themselves as scientists. After earning her doctorate, she transitioned to Outlier Research and Evaluation at University of Chicago, studying how education programs are implemented in practice – as opposed to how they are designed – and how this affects student and teacher outcomes. Heather then served as the National Director of Evaluation for Spark, a career exploration and self-discovery program for middle school students. Heather is now the VP of Evidence & Implementation and Chief Ontologist for the Impact Genome Project (IGP). The goal of the IGP is to standardize the outcomes and program activities used by nonprofits and others focused on social impact. This allows "apples to apples" comparisons between programs that may seem very different on the surface, but are in fact trying to solve the same problem. Without standardization, it is difficult to know what benchmarks on progress toward and cost of specific outcomes, which strategies are most likely to lead to desired outcomes, and how to scale successful programs. In her dual roles as VP and Chief Ontologist, she leads all research and development efforts at the IGP.=