Opening Remarks

Kathy Newcomer, Ph.D.
Board Member, Data Foundation & Professor of Public Policy and Public Administration, George Washington University / @gwtrachtenberg
Informing Infrastructure Improvement Decision-making with the Best Available Science

Ed Kearns, Ph.D., Chief Data Officer, First Street Foundation and former Chief Data Officer at National Oceanic and Atmospheric Administration / @edward_j_kearns
Informing Infrastructure Improvement Decision-making with the Best Available Science
Dr. Ed Kearns, First Street Foundation
What is First Street?

First Street is a nonprofit formed to communicate risks from climate change to individual Americans - starting with flood risk in 2020, and followed by wildfire, heat and other climate perils in 2022.

We recognize an urgent need for consistent, property-level, publicly-available climate risk information for the entire United States to inform decision-making at all levels.

By using Open Science practices and democratizing this scientific, peer-reviewed climate risk data, First Street empowers Americans to take action.

First Street seeks partners to make climate information useful to individuals, governments, and businesses.

We especially hope that First Street data can be used to screen for where public funds may be best spent to address climate risk.
Which issues are First Street and its data addressing?

1. Communicating hazards, physical risk and probabilities
2. Enabling people to take informed action
3. Making climate risk information highly specific and actionable
4. Democratizing access to climate risk information
5. Help direct Federal funding towards areas with the most climate risk

#5 - for example, Executive Order (13690) implementation of the Federal Flood Risk Management Standard (FFRMS) from 2015 that requires any federally-funded construction to meet the specified standards:

- **Climate Informed Science Approach (preferred)** The flood hazard area that results from using the best-available, actionable hydrologic/hydraulic data and methods that integrate current and future changes in flooding based on climate science.
We distill many different data sources into consumable information, using Open Science and best available science and climate data.

Data inputs from:
- Government
- Businesses
- Academics

Hazard model

Spatial and economic analysis

Climate models

Property and damage claims information

Every property is assigned:
1. Risk Score 1-10
2. Expected Losses as $

Information outputs from:
First Street
U.S. Government open data makes this value chain possible.

Open data are rapidly transformed using Open Science methods into publicly available data under both commercial and noncommercial licenses.

NOAA: Wx Reanalyses, Precipitation Frequency Data (Atlas 14), Tide Gauges, HURSAT hurricanes

USGS: LandSat, Stream Flows, National Elevation Database

USFS: LANDFIRE

USDA: NAIP

USACE: National Levee Database

LISFLOOD ELFMIRE Hazard model

IPCC CMIP5 MACav2 IPCC CMIP6 Climate models

FEMA: Aggregated claims data, Flood Zones

USFS: WildfireRisk.org

USACE: Depth-Damage Curves, National Structure Inventory

Data simplified as understandable information:

1. Risk Score 1-10
2. Expected Losses $
Using open data inputs, we generated our hazard layers which estimate flood data for the entire country at a 3 meter resolution.

PFM's model (an implementation of the open access LISFLOOD 2D model) is driven by NOAA and USGS data, and accounts for the topography of an area, where buildings/streets are located, the expected capacity of the sewer systems to stop flooding, and any extra protection from adaption features. The model was run at 30m resolution for different rain/storm likelihoods (probabilities) to know where we would expect water under each scenario and then downscaled to show an associated depth of that water at 3m horizontal resolution.
We then used our patented technology to apply our flood layers to calculate the depth of flooding - traceable to the best available science - to the building footprint and associated damage based on the specific building characteristics.

Property Parcel Outlines (Polygons)

- Building footprints (Outline of structure)
- Flood layer ex. 1% for 2022
- Max depth calculated to the building
Comparing First Street Foundation results to FEMA.

Pluvial and climate components account for most of the differences - along with differences in methodology.

Comparison of properties with known risk

8.6 million FEMA identified

16.1 million Flood Factor identified

*Comparison of count of properties within a Special Flood Hazard Area calculated by Woodspring Inc. versus those with an annual flood from the First Street Foundation Flood Model.
Climate change is introducing more risk over the next 30+ years.

The model uses CMIP5 RCP4.5 results to estimate how flood risk will change as the climate changes. In 2050 overall, the model shows an additional 10.9% or 1.6 million properties as having 1% or greater annual risk of flood by 2050.

* Substantial risk is calculated as inundation 1 cm or more to the building in the 100-year return period (1% annual risk).
We estimated risk to infrastructure, applying operational thresholds by infrastructure type - can this be used to assess risk to future projects?

We applied an operational threshold that is unique to each type of infrastructure. This is calculated as the level of water that would render the infrastructure inaccessible or inoperable. These definitions are created by each governing body responsible for the industry they are associated with.
Can these estimates be trusted? Yes - unfortunately our validation opportunities are plentiful.

We have validated against over 50 historical flooding events, using high-water estimates from NOAA and USGS. After our launch at the end of June, 2020 we also began validating against new flood events to track the accuracy of our model. In July, Hurricane Isaias was the first flood event which validated our accuracy of not only locations but expected depths of water.

In the Oak Park neighborhood of Lake Charles, LA we were able to validate our model twice, once in August when Hurricane Laura caused significant flooding in non-FEMA flood zones and then again in October when Hurricane Delta caused the same neighborhood to flood again.
Property specific, climate risk statistics - open and transparent methods, traceable to IPCC climate models.
With climate-adjusted risk analyses for flood, wildfire, heat, etc., we can present property-specific data that makes those risks easier to understand, more widely understood and actionable for citizens, government and industry.

These data are also available to partners in bulk, which allows a wide range of analyses.

We have established data sharing agreements with many Federal government agencies to help facilitate climate action.

What are the best pathways for data and information products (particularly climate products) that have been created by the private sector and academia?

How can the creation of these information products be fostered and sustained?

What are the obstacles for 3rd party products for Federal use?
Thank you.
An Iterative Approach to Developing, Conducting, and Using the Department of Homeland Security Capacity Assessment

Coreen Farris, Ph.D., Senior Behavioral Scientist, RAND HSOAC / @RANDCorporation

Brodi Kotila, Ph.D., Senior Political Scientist, RAND HSOAC / @BrodiKotila

Rebecca Kruse, Ph.D., Assistant Director for Evaluation, Department of Homeland Security / @DHSgov
An Iterative Approach to Designing, Implementing and Using the Department of Homeland Security Capacity Assessment

Rebecca Kruse, Ph.D., U.S. Department of Homeland Security
Brodie Kotila, Ph.D., RAND Corporation
Coreen Farris, Ph.D., RAND Corporation

The material presented herein is based on a third-party assessment conducted under contract #HSQDC-15-00007 Task Order 70RDAD21FR0000014.

The contents of this presentation do not necessarily reflect the views or policies of the Department of Homeland Security, nor does the mention of trade names, commercial products, or organizations imply endorsement of same by the U.S. Government.
"...an assessment of the coverage, quality, methods, effectiveness, and independence of the statistics, evaluation, research, and analysis efforts of the agency"

<table>
<thead>
<tr>
<th></th>
<th>Coverage</th>
<th>Methods</th>
<th>Quality</th>
<th>Independence</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Statistics</strong></td>
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<tr>
<td><strong>Research</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
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</tbody>
</table>

**Dimensions**

**Coverage:** What evaluation, statistics, research, and analysis activities are happening and where are they happening?

**Methods:** What methods are being used for these activities? Do activities apply appropriate methods; do these methods incorporate the necessary level of rigor?

**Quality:** Are data used of high quality with respect to utility, objectivity, and integrity?

**Independence:** Are activities carried out free from bias and undue influence?

**Effectiveness:** Do the activities meet their intended outcomes? Do they serve stakeholders needs? Are findings disseminated?
Fiscal Year (FY) 2020 interim capacity assessment

<table>
<thead>
<tr>
<th>WHO</th>
<th>HOW</th>
<th>WHAT</th>
<th>WHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components</td>
<td>Component-level Focus Groups</td>
<td>Describe evidence building, data governance, and learning culture activities</td>
<td>Learn about “evidence” in DHS context</td>
</tr>
<tr>
<td>Program and Evidence Offices</td>
<td>Office-level Questionnaire</td>
<td></td>
<td>Preliminarily characterize capacity</td>
</tr>
<tr>
<td>Evidence and Data Leaders</td>
<td>Polling at Council Meetings</td>
<td>Describe staff, customers, collaborators, study foci, use, and needs</td>
<td>Inform a fulsome FY21 assessment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Identify priorities for FY21 capacity building</td>
</tr>
</tbody>
</table>
Lessons learned and planned changes

- Lack of shared understanding and language for evidence building activities
  - Define, bound, and socialize evidence building activities
  - Clarify who should participate

- Initial framework, methods, and data sources provided a limited view of capacity
  - Use established frameworks/tools
  - Expand methods and data sources

- Lack of standardized scales and response options limit benchmarking
  - Standardize data collection and analysis
  - Couple with a maturity model

- Components’ identifications were masked
  - Build Component-level profiles
  - Highlight strengths and areas for improvement

- Components were uncertain how to use the assessment
  - Provide expectations for maturity
  - Facilitate Components’ use of assessment findings
Evidence building activities example

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity assessment focused on:</td>
<td>- Audits</td>
</tr>
<tr>
<td>- Evaluation of programs, policies, regulations, or organization evaluation, including formative, process/implementation, outcome, impact, economic evaluation.</td>
<td>- Continuous process improvement (Lean Six Sigma, Agile)</td>
</tr>
<tr>
<td>- Project evaluation required by DHS grantmaking programs.</td>
<td>- Compliance screening and inspections</td>
</tr>
<tr>
<td></td>
<td>- Investigations for law enforcement or security purposes</td>
</tr>
<tr>
<td></td>
<td>- “Test and evaluation” (of materials, devices, systems, etc.)</td>
</tr>
</tbody>
</table>
Component Level Capabilities (CLC) example

Coverage: What evaluation, research, analysis, and statistical activities are happening and where are these activities happening?

- **Human Capital: leaders**
  - Leadership for evidence building in key roles

- **Funding**
  - Budget for evidence building

- **Infrastructure**
  - Data infrastructure (e.g., IT systems/tools)*

- **Governance**
  - Policy and procedures for evidence building activities
  - Policy and procedures for data governance*
  - Data strategy/open data plan*
  - Comprehensive data inventory*

- **Human Capital: staff**
  - Internal staff with sufficient expertise to conduct and commission
  - Occupational groups
  - Grades
  - Years experience
  - Professional learning/development opportunities
  - Supports (time, support staff, training, other resources)

- **Activities and operations**
  - Type and subtype of evidence-building activity
  - Component/office leading study
  - Question(s) addressed
  - Focus of study (program, policy, etc.)
  - Strategic objective
  - Equity

*Not included in FY21 assessment
<table>
<thead>
<tr>
<th>SCORE</th>
<th>MATURITY LEVEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>OPTIMIZING</td>
<td>The capability was fully embedded into the Component’s operational structure and culture at the time of the FY 2021 capacity assessment and the Component was focused on continuous improvement in this area</td>
</tr>
<tr>
<td>4</td>
<td>COMPLETED</td>
<td>The capability was fully implemented at the time of the capacity assessment and long-term resources for that capability had been identified</td>
</tr>
<tr>
<td>3</td>
<td>IMPLEMENTING</td>
<td>The plans for that capability were finalized and approved as of the FY 2021 capacity assessment, initial resources were identified, and relevant activities were underway</td>
</tr>
<tr>
<td>2</td>
<td>IN PROGRESS</td>
<td>Some progress was underway to create that capability at the time of the capacity assessment</td>
</tr>
<tr>
<td>1</td>
<td>NOT INITIATED</td>
<td>Initial planning for that capability was not initiated at the time of the FY 2021 capacity assessment, or ad hoc activities were performed</td>
</tr>
<tr>
<td>0</td>
<td>NO BASIS FOR JUDGEMENT</td>
<td>When Component representatives provided no information about that capability for a particular evidence-building activity they identified as a most significant activity (e.g., in the context of group discussions), when a Component did not submit relevant plans or documents for assessment, or when ten or fewer responses were received to the two surveys described below.</td>
</tr>
</tbody>
</table>
Overall capacity assessed across three levels using five methods

DHS capacity

Component-level capacity: human capital, funding, infrastructure, governance

Evidence-builders

Evidence-users

Evidence-building activities

Capacity Assessment Methods

1. Facilitated discussion groups/interviews
2. Review of Evidence-Building Plan (Learning Agenda), Annual Evaluation Plan and Performance Plan
3. Individual survey
4. Inventory of studies
5. Structured study review
Individuals invited to participate in capacity assessment

Leaders Whose **Primary** Role/Responsibility is:

**Supervising or Overseeing Evidence Building, Disseminating, or Support for Use of Evidence**
- supervise personnel who build evidence
- have authority, budget, and staff
- formulate guidance, policy, plans, and/or strategy relating to evidence-building
- formulate or oversee budget and expenditures
- oversee or manage data infrastructure and governance structures

Staff Whose **Primary** Role/Responsibility is:

**Evidence Building, Disseminating, Support for Use of Evidence**
- conduct or manage research, evaluation, analysis and/or statistical activities
- engage with internal or external stakeholders relating to evidence building and use
- disseminate evidence and related data to stakeholders
- provide facilitation or other support for evidence use

**Capacity Assessment Methods**
1. Discussion groups
2. Plan review

3. Individual survey
4. Inventory of studies
5. Study review
Support to Components

**READHEADS AND FAQS**
HSOAC and PA&E provided readaheads and FAQs to answer questions relating to data collection methods and scope.  
April-June

**LUNCH AND LEARN SESSIONS**
HSOAC and PA&E convened webinars to explain data collection methods and answer questions.  
May-June

**OFFICE HOURS**
PA&E held office hours to field questions relating to the Evidence Act implementation.  
May-June

**EMAIL ALIAS**
HSOAC monitored an email alias to answer questions relating to surveys.  
May-June
U.S. Department of Homeland Security
FY 2021 Capacity Assessment

- Published report available at:
  - Evaluation and Evidence Plans | Homeland Security (dhs.gov)
  - Evaluation.gov | Capacity Assessments for Statistics, Research, Evaluation, and Other Analysis
Published Findings and Recommendations

**Coverage:** Uneven and insufficient resources (staff, funding) and policies across the Department
- Dedicate funding
- Hire, train, and support qualified staff
- Assess need for additional policies and plans, fill high-priority gaps

**Quality:** Limited standards, compliance mechanisms and monitoring of quality
- Establish standards and monitor compliance
- Focus on continuous improvement

**Methods:** Methods may not be sufficient for summative purposes of causal claims
- Ensure specialized expertise is available to maximize rigor and scientific integrity

**Independence:** Most studies free from inappropriate influence though conducted by internal staff
- Establish resources for third-party evidence building
- Ensure independence and autonomy

**Effectiveness:** Most studies not disseminated; use not tracked
- Establish dissemination mechanisms
- Engage stakeholders and promote evidence use
Lessons Learned and Planned Changes

- Lack of shared understanding and language for evidence-building activities
  - Promote the importance of evidence-building
  - Foster shared understanding through common terms and concepts

- Participants’ availability and preparation required down scoping assessment
  - Expand timeframe for data collection
  - Prepare participants in advance, and provide support

- Missing perspective of evidence users
  - Survey perspectives of evidence users to understand needs and effectiveness
  - Align evidence-building to meet needs

- Included operations research without clear definitions, standards, or practices
  - Focus on statutory evidence-building systems with clear standards and practices

- Objective, independent assessment of evidence building and data quality requires resources
  - Deepen understanding of activities underway, funding, personnel, infrastructure
  - Use consultants or expert panels in each of the assessed areas
Increasing Component evaluation and evidence capacity

- Reviewed capacity assessments with Component staff
- Briefed the capacity assessments for DHS overall and 11 Components
- DHS Deputy Secretary issued the Policy Statement for Evaluation
- Conducted 12 Evaluation Capacity Building Workshops
  - Assigned pre-workshop readings
  - Collaborated to develop high-level plans to advance evaluation
  - Provided planning guides and worksheets to scaffold Components as they planned for implementation
- Planned Getting To Outcomes ® and Evaluability Assessments
- Additional PA&E-led or facilitated capacity building
Strategic action planning workshops to advance evaluation capacity

1. Review current capacity and assess needs
2. Identify target goal and objectives
3. Identify team members and resources
4. Identify stages and tasks for objectives
5. Revisit challenges and success factors
6. Review and next steps
Support for implementation planning

Capacity-building guide and worksheets

Task 1
Refine the objective

- To develop your implementation plan, start by defining the objectives clearly.
- Parse your objectives into smaller, measurable tasks.
- Ensure the objective is specific, measurable, attainable, relevant, and time-bound (SMART).

Worksheet 2
Develop basic task list and action plan

Worksheet 3
Assess existing resources and gaps

Available resources

Tasks

Task specifications: who, how, what

Gaps

How to close gaps

- Staff
- Leadership and institutional support
- Funding, materials, and other resources

CFO/PA&E
Building program evaluation capacity

GETTING TO OUTCOMES®

- GTO is a user-friendly ten-step process for comprehensive:
  - planning,
  - implementation, and
  - evaluation of programs.
- Designed to help organizations run programs well and achieve their goals
- Provides training and technical assistance that teaches teams how to build an evidence-based program and conduct their own evaluations
Building program evaluation capacity

EVALUABILITY ASSESSMENT

Evaluability Assessment is a systematic method for determining:

- Whether a program (and its parent organization) is ready for evaluation
- The type of evaluation most suitable to assess the program
- The changes that are needed to increase readiness

Study the program history, design, and operation

Watch the program in action

Determine the program's capacity for data collection, management, and analysis

Assess the likelihood that the program will reach its goals

Show why the evaluation will or will not help the program and its stakeholders
Building enterprise evaluation capacity

**EVALUATION OFFICER COUNCIL**
- Coordination for Administration priorities
- In-government evaluation and research service providers
- Academic researchers’ perspectives
- Peer strategy sharing

**ENTERPRISE WEBINARS, WORKSHOPS, AND TOOLS**
- Literature reviews
- Dissemination tools
- Engaging stakeholder perspectives
- Human Research Protections
- Equity and evaluation
- Evaluation Bootcamp
- 45+ evaluation process tools/templates

**FACILITATING PARTICIPATION IN OTHER OPPORTUNITIES**
- Evaluation Community Training and Events calendar
- APPAM Agency-Researcher matchmaking
- Multi-agency hiring
For questions or more information

Mike Stough
DHS Evaluation Officer
U.S. Department of Homeland Security
michael.stough@hq.dhs.gov

Rebecca Kruse, Ph.D.
Assistant Director for Evaluation
U.S. Department of Homeland Security
rebecca.kruse@hq.dhs.gov

Brodi Kotila, Ph.D.
Senior Political Scientist
RAND Corporation/Homeland Security Operational Analysis Center
bkotila@rand.org

Coreen Farris, Ph.D.
Senior Behavioral Scientist
RAND Corporation/Homeland Security Operational Analysis Center
cfarris@rand.org
5-minute Break

Event will resume at 11:35 a.m. ET
Understanding Human Capital Needs for Expanding Data and Evidence Culture Using a Federal Data and Digital Maturity Survey

Maddie Powder, Research Associate, Partnership for Public Service / @publicservice
Understanding Human Capital Needs for Expanding Data and Evidence Culture in Government

Results from a Federal Data and Digital Maturity Assessment
About the Partnership for Public Service

We are:

• Nonpartisan
• Nonprofit organization

Our Mission:

• Building a better government and a stronger democracy
# FDDMI Survey Methodology

## Data and Digital Government Strategy and Mission

### Digital Outcomes in core areas

<table>
<thead>
<tr>
<th>Policy</th>
<th>Delivery</th>
<th>Customer interaction</th>
<th>Enterprise functions</th>
<th>Re-imagine Government</th>
</tr>
</thead>
</table>

### Ecosystems

- Data and analytics

### Technology

- People and organization

## Human capital deep dive

- People strategy
- Talent acquisition
- People development
- Performance, rewards, and engagement
- Leadership & cultural change
- Labor & employee relations
- Organizational transformation
We are among the top organizations for digital employer branding and hiring digital talent. We can share, hire, or contract talent from ecosystem partners as well as match the skills of our internal talent to the optimal roles faster. Also, we are continuously assessing our skill sets and needs to identify gaps to be filled.

We have a dedicated people strategy to attract, develop, and retain digital talent. We do not have the ability to predict skill needs and adjust in real-time. We contract external talent but do not share talent, either across departments or externally.

We are addressing digital talent recruitment with a few initiatives, but we do not have a strategic workforce plan. We are reactive and ad-hoc in our approach. Also, we do not have a systematic workforce plan to retain critical talent.

We have no partners in our talent ecosystem outside the organization to support us with the skills that we need on-demand. We have not thought strategically about how to hire, build, contract, or bring back talent to our organization. There is no (continuous) assessment of skill gaps in our current workforce.

Is your organization a leader in attracting and hiring digital talent and creating a talent ecosystem?

Starter
We have no partners in our talent ecosystem outside the organization to support us with the skills that we need on-demand. We have not thought strategically about how to hire, build, contract, or bring back talent to our organization. There is no (continuous) assessment of skill gaps in our current workforce.

Literate
We are addressing digital talent recruitment with a few initiatives, but we do not have a strategic workforce plan. We are reactive and ad-hoc in our approach. Also, we do not have a systematic workforce plan to retain critical talent.

Performer
We have a dedicated people strategy to attract, develop, and retain digital talent. We do not have the ability to predict skill needs and adjust in real-time. We contract external talent but do not share talent, either across departments or externally.

Leader
We are among the top organizations for digital employer branding and hiring digital talent. We can share, hire, or contract talent from ecosystem partners as well as match the skills of our internal talent to the optimal roles faster. Also, we are continuously assessing our skill sets and needs to identify gaps to be filled.
Overall Data and Digital Maturity Scores

- **Starter**
  - Often unclear vision
  - Isolated initiatives

- **Literate**
  - Clear vision/strategy
  - Roadmap defined

- **Performer**
  - Key data and digital capabilities
  - Digitalized processes
  - Strong data mindset and agile culture

- **Leader**
  - Data visionaries
  - Most citizen interactions digitized

Current overall score: 36
Aspired overall score: 75
Human Capital Deep Dive Findings: View on current vs. aspired maturity

<table>
<thead>
<tr>
<th>Current</th>
<th>Aspired</th>
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</thead>
<tbody>
<tr>
<td>People Strategy</td>
<td>People Strategy</td>
</tr>
<tr>
<td>29</td>
<td>67</td>
</tr>
<tr>
<td>Talent Acquisition</td>
<td>Talent Acquisition</td>
</tr>
<tr>
<td>29</td>
<td>66</td>
</tr>
<tr>
<td>People Development</td>
<td>People Development</td>
</tr>
<tr>
<td>26</td>
<td>66</td>
</tr>
<tr>
<td>Performance, Rewards, and Engagement</td>
<td>Performance, Rewards, and Engagement</td>
</tr>
<tr>
<td>28</td>
<td>66</td>
</tr>
<tr>
<td>Leadership &amp; Cultural Change</td>
<td>Leadership &amp; Cultural Change</td>
</tr>
<tr>
<td>30</td>
<td>68</td>
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<tr>
<td>Organizational Transformation</td>
<td>Organizational Transformation</td>
</tr>
<tr>
<td>25</td>
<td>70</td>
</tr>
</tbody>
</table>

**Current human capital score**: 28

**Aspired human capital score**: 67

**Data & digital maturity score**

<table>
<thead>
<tr>
<th>Category</th>
<th>Starter</th>
<th>Literate</th>
<th>Performer</th>
<th>Leader</th>
</tr>
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<tbody>
<tr>
<td>0-7</td>
<td>8-15</td>
<td>25-32</td>
<td>41-49</td>
<td>75-82</td>
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<td>8-15</td>
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<td>50-57</td>
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<tr>
<td>25-32</td>
<td>41-49</td>
<td>83-90</td>
<td>91-100</td>
<td></td>
</tr>
</tbody>
</table>

Source: FDDM! survey; n = 111 for Federal Government
Human Capital Deep Dive: Key Takeaways

- Human Capital Scores Lag Overall Maturity Scores
- Government Has Ambition to Improve Human Capital Scores Drastically in the Next 5 years
- Leadership and Cultural Change Category had the highest current score in the Human Capital deep dive
- Organizational Transformation Category had the lowest current score in the human capital deep dive, but the highest target score.
Strategies to Improve Recruitment and Retention of a Data Workforce

- Utilize Creative Hiring Authorities
- Get Young People Into Government and Empower Them
- Promote Government’s Mission
- Create Experiential Onboarding Programs
- Invest in the Current Workforce Through Upskilling and Reskilling Programs
Read Our Full Issue Brief
PARTNERSHIP
FOR PUBLIC SERVICE

OURPUBLICSERVICE.ORG
An FAA Experience: Applying Intervention Research as a Change Management Approach to Implement Evidence-Based Management

Bob Young, Senior Advisor, Strategy, Risk & Engagement, Federal Aviation Administration Security & Hazardous Materials Safety Organization / @FAANews
Research Study:

Applying Intervention Research as a Change Management Approach to Implement Evidence-Based Management (EBMgt)

A design-based Intervention Study Leveraging Nexus Analysis and Interdiscursivity

Bob Young
Senior Advisor
FAA Security & HAZMAT Safety
The Case Setting

- Legislation compounding but agency executives saw no pathway
- Needed org. change without draining cognitive attention
- Role as lead practitioner/researcher
- Case Study research methods most suitable
The Challenge

Evidence-Based Management
Making decisions through the conscientious, explicit, and judicial use of the best available evidence from various sources by asking, acquiring, appraising, aggregating, applying, and assessing to increase the likelihood of a favorable outcome

(Baba & HakemZaheh, 2012; Barends & Rousseau, 2018)
Three primary objectives where to answer these questions:

1. How could our leaders best determine whether System 1 (intuitive) or System 2 (rational & deliberative) thinking would be most effective?

2. What organizational intervention could we use to integrate evidence-based management as the means to strengthen strategic decision-making?

3. How could we assess our collective readiness to adopt evidence-based management?
The thinking behind the methodology

**Organizational Intervention.**

The intentional decisions undertaken by organizational members leading to actions that aim to reduce the distance between the organization and its environments while considering constraints (Harrison, 1970; Sarta, et al., 2020).

** Intervention Research.**

A methodology seeks to design changes through mediated action within organizations by enumerating the dynamics by which such changes are contextualized and formalized as an organizational routine (Jones, et al., 2017; Radaelli, et al., 2014).
How the work was unfolded

Semiotic cycle is the node in the dialectic chain of actions that facilitate the making of meaning by the actors (participants) in the relevant context (Jones et al., 2017). Interdiscursivity involves elements from one discourse and practice with institutional and organizational meaning, being absorbed into subsequent discourse and practice (Scollon, 2000).

(Young, 2021)
Findings & Recommendations

1- Emphasize the **benefits achieved beyond just the process**. Throughout this journey, trust became pivotal. Lose the hearts; you lose the will to change.

2- Evidence alone will not persuade others. The new evidence should be presented in such a way as to **legitimize their change in rational judgment**.

3- Begin with a **baseline recognition of existing strengths**. Otherwise, the effort becomes a check-the-box activity with the most promising EBMgt practices not being captured.
Findings & Recommendations - continued

4- An organization’s culture becomes primed to absorb EBMgt when those practices are surfaced and recognized. **Structured strategic discussions can lead to strategic outcomes.** It is not by happenstance.

5- Formal instruction and experiential learning can be helpful **but only to a point.**

6- The analysis identified the benefit of how leaders are **making meaning during the shared experience.** Applying the analytical path of intervention research workflow proved beneficial.

7- Implementation leaders should restrain the urge to express their perception at the outset, to avoid simply pushing “the only right answer”. It’s about **nudging and choice architecture.**
Findings & Recommendations - continued

8- Leaders are increasingly unaware of external forces breaching their spheres of expertise. Such a condition imposes risk and diminished effectiveness when leaders assume the breadth and depth of their expertise without realizing other expert domains have crept into their praxis.

9- Outside expertise or internal developed capabilities can help.
Closing thoughts, comments, or questions from you?

Dr. Robert A. Young, GRCP, GRCA
Bob.young@faa.gov
202-805-1063
15-minute Break
Event will resume at 12:30 p.m. ET
Welcome back!

12:35 p.m. – Advancing Equity through Evidence-Building, Data Integration, and Research Partnerships: A Local Government's View from “The Other Washington”

1:35 p.m. – Assessing the Quality of Impact Evaluations at USAID

1:50 p.m. – 5-minute break

1:55 p.m. – Approaches to Assessing Agency Capacity for Evidence Building

2:55 p.m. – Opportunity for Partnership – A Budget and Program Perspective on the Learning Agenda and Evidence Building Activities

3:55 p.m. – Closing remarks

@data_foundation | #DataLive
Advancing Equity through Evidence-Building, Data Integration, and Research Partnerships: A Local Government’s View from “The Other Washington”

Claire Evans, Research Specialist, King County Metro Transit / @KingCountyMetro

Truong Hoang, Deputy Regional Administrator, Region 2, Washington State Department of Social and Health Services / @waDSHS

Maria Jimenez-Zepeda, ORCA Reduced Fare Project Program Manager, King County Metro Transit / @KingCountyMetro

Christina McHugh, Housing and Adult Services Evaluation Manager, King County Department of Community and Human Services

David Phillips, Associate Research Professor, Wilson Sheehan Lab for Economic Opportunities, University of Notre Dame / @LEOatND
Advancing Equity through Evidence-Building, Data Integration, and Research Partnerships
A Local Government’s View from “The Other Washington”

Truong Hoang
Washington State Department of Social and Health Services
Deputy Regional Administrator - Community Services Division, Economic Services Administration

Christina McHugh
King County Department of Community and Human Services
Housing and Adult Services Evaluation Manager - Performance Measurement and Evaluation Unit

Maria Jimenez-Zepeda
King County Metro Transit
Reduced Fare Program Manager, Mobility Division

David Phillips
Wilson Sheehan Lab for Economic Opportunities, University of Notre Dame
Associate Research Professor
Assessing the Quality of Impact Evaluations at USAID

Irene Velez, Director, Monitoring Evaluation Research Learning and Adaptation (MERLA), Panagora Group / @irene_velez
ASSESSING THE QUALITY OF IMPACT EVALUATIONS AT USAID

Irene Velez, Study Team Leader

June 22, 2022
IMPACT EVALUATIONS AT USAID

• 2011 Evaluation Policy drew greater attention to IEs within USAID

• Growing number of IEs → need for a formal quality review

Number of IE Reports, FY12-19
ASSESSING IMPACT EVALUATION QUALITY

- Developed **review instrument** to assess whether quality elements are included in IE report
- Removed subjective judgement about **adequacy** of these elements
- Inclusion of quality elements → IE provides credible information that can be used to make decisions

Six Domains

1. Sample size considerations
2. Conceptual framing
3. Treatment characteristics and outcomes definitions and measurement
4. Data collection and analysis
5. Common threats to validity
6. Reporting of findings
KEY FINDINGS: Meeting USAID’s IE Definition

- Improvements post-2011 but decrease in 2019
- # of IEs that did not provide a credible counterfactual increased in the past two years
KEY RECOMMENDATIONS

• Ensure IEs are conducted only when a credible comparison group can be established and that statistical justification for validity of the comparison group is included

• Update guidance on specific elements that should be included in final IE reports (e.g., power calculations, theory of change, defined outcome measures, common threats to validity, discussion of null effects, practical significance of effect size)

• Develop standard IE report template and review checklist

• Commission external peer reviews to assess quality of IE designs and draft reports when there are gaps in internal capacity

• Integrate implementation fidelity monitoring into IE SOWs

• Report more information to disentangle and explain effects

• Integrate ethical considerations as an IE standard to align with its Scientific Research Policy

• Integrate the Evaluation Policy’s call for cost effectiveness as an IE standard
USAID RESPONSE

• Revisions to USAID’s ADS 201 – program cycle operational policy
  – Expand on USAID’s IE definition by explicitly stating that IEs must use an experimental or quasi-experimental design, both of which require comparison groups.
  – Explicit mention of specific elements that an evaluation report should include
  – Explicit mention of a cost-analysis for impact evaluations

• In process of developing an IE report template and review checklist (different from the PE template and checklist)
FOR MORE INFORMATION

Final Report: Assessing the Quality of Impact Evaluations at USAID
https://pdf.usaid.gov/pdf_docs/PA00X78R.pdf

Action Recommendations Memo
https://pdf.usaid.gov/pdf_docs/PA00X7P5.pdf

Thanks to:
Management Systems International
USAID Bureau for Policy, Planning, and Learning
5-minute Break

Event will resume at 1:55 p.m. ET
Approaches to Assessing Agency Capacity for Evidence Building

Tania Alfonso, Senior Evaluation Specialist, U.S. Agency for International Development / @USAID

Danielle Berman, Senior Evidence Analyst, Office of Management and Budget / @OMBPress

Susan Jenkins, Evaluation Officer, U.S. Department of Health and Human Services / @HHSGov

Christina Yancey, Chief Evaluation Officer, U.S. Department of Labor / @USDOL
Opportunity for Partnership – A Budget and Program Perspective on the Learning Agenda and Evidence Building Activities

Darreisha Bates, Federal Portfolio Manager, Tyler Technologies & Former Director of Intergovernmental Relations, U.S. Government Accountability Office / @tylertech

Ed Brigham, Executive Consultant, Federal Consulting Alliance & AABPA Board Member / @AABPA

Jon Stehle, Councilmember, City of Fairfax, Virginia / @JonStehle

Courtney Timberlake, President, American Association for Budget and Program Analysis / @AABPA
OPPORTUNITY FOR PARTNERSHIP – A BUDGET AND PROGRAM PERSPECTIVE ON THE LEARNING AGENDA AND EVIDENCE BUILDING ACTIVITIES
Speakers

- **Courtney Timberlake**, President, American Association for Budget and Program Analysis (AABPA) & Senior Vice President, The Craddock Group LLC
- **Ed Brigham**, Executive Consultant, Federal Consulting Alliance & AABPA Board Member
- **Darreisha M. Bates**, Federal Portfolio Manager, Tyler Technologies, Former Director of Intergovernmental Relations, U.S. Government Accountability Office & AABPA Board Member
- Moderator **Jon Stehle**, Councilmember City of Fairfax VA & AABPA Board Member
Who is AABPA

- AABPA was founded almost 50 years ago to elevate the profile of the Federal workforce, broaden their focus, and meet important mid-career needs, including professional interaction.
- AABPA partners with the Association for Budgeting and Financial Management (ABFM) to produce the Public Budgeting & Finance Journal, exploring key topics in the field.
- We work with the academic world to strengthen the profession by exposing both public and students and early-to-mid-career government employees to the complex issues surrounding budgeting, and providing forums for exchange of ideas.
Evolution of the Budget Profession

- Lens of a Budget Analyst
- Technology Impact – moving from process to analytics
- Laws followed actions – locking in the use of data
Data and Budget in Process

- Data – where was it, where it has grown to
- Economic models
- Audit community – use of data within the process

Table 3: Frequency with which groups use integrated budget and performance information

<table>
<thead>
<tr>
<th>Group</th>
<th>Frequency of use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Often</td>
</tr>
<tr>
<td>Budget and financial managers and analysts</td>
<td>34%</td>
</tr>
<tr>
<td>Program managers and analysts</td>
<td>30%</td>
</tr>
<tr>
<td>Executive leadership</td>
<td>28%</td>
</tr>
<tr>
<td>External stakeholders</td>
<td>24%</td>
</tr>
</tbody>
</table>

“[Integrated budget and performance information] is probably the most important, little-used information in government.”
Working with Leaders on Data

- Interpretation - not a common experience
- Responding to questions
- Technology impact
- State and Local Lens
How Skills have been Met

- Role of a collaborative community
- Budget Line of Business experience
- Trainings

**FIGURE 18**

<table>
<thead>
<tr>
<th>What are the ideal attributes of new budget professional hires? (Select top 3)</th>
<th>2013</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic ability</td>
<td>81%</td>
<td>80%</td>
</tr>
<tr>
<td>Ability to write concisely and clearly</td>
<td>64%</td>
<td>56%</td>
</tr>
<tr>
<td>Ability to work cooperatively under pressure</td>
<td>38%</td>
<td>44%</td>
</tr>
<tr>
<td>Facility with numbers and Excel</td>
<td>36%</td>
<td>34%</td>
</tr>
<tr>
<td>Ability to communicate orally</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>Understanding how government works</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Some work experience in budgeting</td>
<td>12%</td>
<td>11%</td>
</tr>
</tbody>
</table>
Summary

1) How has the evolution of the Budget profession highlighted the need for more analytical skills and how have those skills been met?

2) How have advancements in using data and data analytics impacted the budget process and the budget profession?

3) What lessons have budget and program analysts learned in working with both Congressional and Executive Branch leaders around data?
The “Road Forward”

- Data matters – understanding data for programs is helpful in supporting agency leadership in the budget process – providing solid justification for priorities.

- Use of data, despite some examples, analytically is significantly greater than years ago, and it’s an ongoing process – getting better year by year, even if there is variation.

- Importance of the diversity of thought and view – the lens we look at information – what we pick and choose will continue to be a focus.
Links

- Links to Surveys

- www.aabpa.org
Join us tomorrow for Day 2!

- 10 a.m. - 3:15 p.m. ET
- Same Zoom link
- 8 presentations
- ICF, Census Bureau, Black Equity Coalition, California Policy Lab, and more!
Thank you for tuning in to Day 1 of our Virtual Research Symposium!

Learn more at datafoundation.org, or follow us on social media @data_foundation