

## **A Peer Discussion and Learning Exchange on Predictive Analytics**

Tuesday, March 12 , 2019



ADMINISTRATION FOR  
**CHILDREN & FAMILIES**

## **Carlis Williams**

Regional Administrator – Region IV  
Administration for Children and Families

**US Department of Health and Human Services**



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## Christina Becker, JD

Health Policy & Program Associate / National Collaborative for  
Integration of Health & Human Services

**American Public Human Services Association**



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## Analytics in Human Services Agencies

Christina Becker JD

*Health Policy & Program Associate, National Collaborative for Integration of Health & Human Services*

*Policy Liaison, IT Solutions Management for Human Services (ISM)*



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BUILD  
CONNECT**

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## Our Vision

Thriving Communities Built on Human Potential



## Our Mission

APHSA advances the well-being of all people by *influencing* modern approaches to sound policy, *building* the capacity of public agencies to enable healthy families and communities, and *connecting* leaders to accelerate learning and generate practical solutions together.

## Analytics: The National Landscape

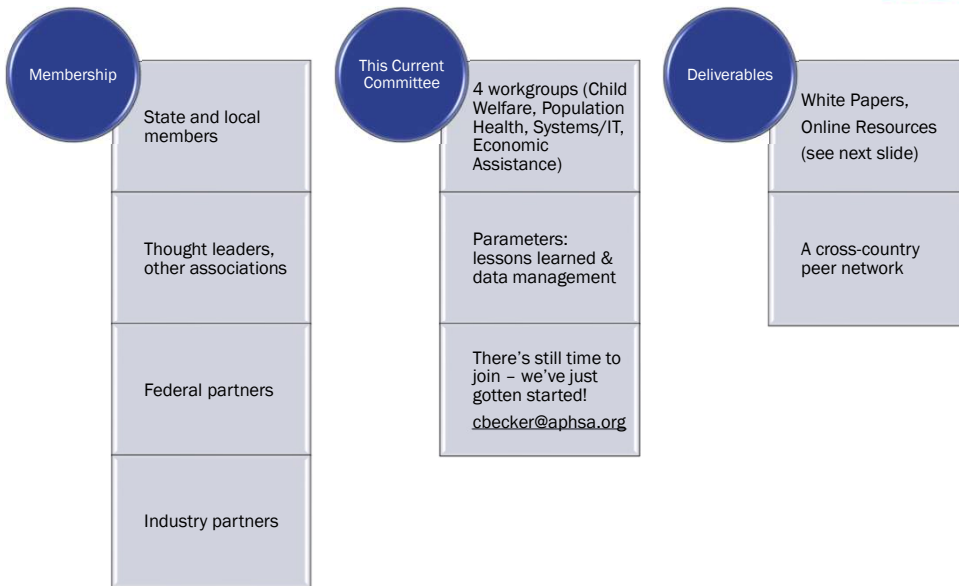
### Some Examples: How health and human service agencies are currently using data analytics

- Track equity of access and resource allocation
- Identifying individuals in one program who may be eligible but are not accessing other supports in another program
- Create dashboards re operations and fraud detection
- Caseload projections for budgeting and resource allocation purposes
- Use analytical data for GIS mapping
- Help transition participants to self-sufficiency
- Do family reunification studies to improve outcomes
- Measure against 24 performance measures (aka "Indicators of Success") to track organizational progress
- Determine outcomes for contracts and for contract monitoring

### What Challenges Remain

- Accessing data outside of your program/agency
- Sharing data
- Data Security and Privacy
- Data governance

# APHSAs Analytics Committee



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# APHSAs Analytics Committee



Our Work Products So Far

Available here: <https://bit.ly/2VN5QWU>

**Analytic Capability Roadmap 1.0 for Human Service Agencies**

A White Paper by the APhSA National Workgroup on Integration Analytics Committee

**Roadmap to Capacity Building in Analytics**

White Paper  
By the APhSA National Collaborative for Integration of Health and Human Services Analytics Committee

**Guide to Data Management, Privacy & Confidentiality, and Predictive Analytics**

*Full Committee Report* – We thank everyone who volunteered their time and expertise to help create this body of work.

**I. Data Management & Proven Data Governance Practices**

This section of the NCAC was charged with (1) the identification of jurisdictions with successful examples of data sharing and management, and (2) the development of practical templates of data governance structure. Here you will find use cases, definitions and graphical representations of various agreements (see MOU, MOA, etc.), and a list of barriers to data sharing with proposed mitigation strategies.

- Presentation on Data Management & Proven Data Governance Practices
- Inventory of Barriers & Enablers to Data Sharing/Governance slide 4
- Executed Agreements (slide 39)
  - MOA for Data Sharing between NJ State Agencies
  - Multi-agency MOU for Commonwealth of Pennsylvania data sharing and linking
  - MOU between APhSA and a State for the National Electronic Interstate Compact Enterprise (NEICIS)
  - Data Use and Reciprocal Support Agreement (DURSA)
  - eHealth Enhanced MOU – Virginia
  - Agreement for Electronic Access to Protected Health Information – Washington State
- Use Cases (slide 43)
  - Chapin Hall – Multistate Foster Care Data Archive Web Tool
  - Pennsylvania – Workforce Data Quality Initiative
  - Virginia Department of Social Services Foster Care Outcomes
  - Virginia Department of Social Services IANF Employed Clients
  - Washington – PRISM, a Web-based Clinical Support Application

**II. Privacy & Confidentiality Impact on Data Sharing**

This section of the NCAC was charged with identifying or developing practical tools for states/localities to assist in making the legal case for data sharing (and consent). Here you will find a resource compendium of consent agreements and data sharing statutes, and an FAQ and resource collection for data governance.

- Models & Resources for Data Exchange
- Data Governance Practices & FAQ
- Inventory of Statutes Concerning Data Sharing

**III. Predictive Analytics & Modeling**

This section of the NCAC was charged with developing case studies on current and cross-usage by states/localities of predictive analytics. Here you will find an introduction to predictive analytics, and five case studies from states all along the "analytics curve" – presenting their work and lessons learned.

- Introduction & Acknowledgement

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# Predictive Analytics Case Studies

1. FD CARES: The Puget Sound Regional Fire Authority Washington State
2. Tennessee Department of Children's Services
3. Montgomery County (MD) Department of Health and Human Services
4. Michigan Department of Health and Human Services
5. Tennessee Division of TennCare

Available here: <https://bit.ly/2VN5QWU>

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Guide to Data Sharing, Privacy & Confidentiality, and Data Management



Table 1: Case Study Common Themes

<b>Business Objectives</b>	<ul style="list-style-type: none"> <li>Improving quality of physical and mental health</li> <li>Shift towards value-based care</li> <li>Integrated care delivery</li> <li>Minimizing or reducing costs</li> <li>Addressing regulatory changes</li> <li>Improving data access and integration while reducing cost to manage</li> <li>Using an analytics maturity curve to understand if an organization is prepared to do analytics</li> </ul>
<b>Frameworks &amp; Best Practices</b>	<ul style="list-style-type: none"> <li>Roadmaps to improve an organization's capabilities – common components of data, organization/governance design, technology</li> <li>Conducting both short-term quick win and longer-term analytics projects and strategies</li> <li>Use case prioritization framework</li> <li>Data governance framework</li> <li>Privacy policies and frameworks</li> <li>Data sharing agreements</li> <li>Project management frameworks</li> </ul>
<b>Data Sources &amp; Preparation</b>	<ul style="list-style-type: none"> <li>Longitudinal patient/child databases</li> <li>Medical claims data</li> <li>Data aggregation and de-identification</li> <li>Multiple data sources requiring data integration and matching of individuals across an episode of care</li> <li>Use of data sources crossing continuum of care and behavioral and physical health</li> <li>Improving quality of the data quality (see lessons learned)</li> <li>More than one method of analytics applied ranging from descriptive to prescriptive and with some projects using all methods</li> <li>Population risk adjusted or risk based methods</li> <li>Descriptive and diagnostic analytics were often used to prepare the data and used as an input for the predictive modelling</li> <li>Agile like approach which required adaptive technologies and methods</li> <li>Visualizations</li> </ul>
<b>Analytic Methods</b>	<ul style="list-style-type: none"> <li>Most Common: <ul style="list-style-type: none"> <li>Business/health/child providers</li> <li>Business data analysts</li> <li>Database architects</li> <li>Visualization designers</li> <li>Information Technology</li> <li>Finance department</li> </ul> </li> <li>Not as Common: <ul style="list-style-type: none"> <li>Optimization consultants</li> <li>Health economists</li> <li>Policy strategists</li> <li>Legal counsel</li> </ul> </li> </ul>
<b>Resources &amp; Capabilities</b>	
<b>Tools</b>	<ul style="list-style-type: none"> <li>Most of the cases used a vendor purchased tool for analytics and engaged a consulting service to assist the state/agency with the project</li> </ul>
<b>Timeframe</b>	<ul style="list-style-type: none"> <li>Time frame is not comparable given the difference each case study was in the analytics project lifecycle, whether completing an analytics capability evaluation to full implementation of data warehouse and analytics.</li> <li>Project timeframes ranged from 2 months to 36 months</li> </ul>

Guide to Data Sharing, Privacy & Confidentiality, and Data Management



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Richard Gold, JD

Consultant on Confidentiality and Data Sharing  
Project Director

IJIS Institute



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# Ginger Griffeth

Director of Child Welfare Continuous Quality Improvement  
Office of Child Welfare

Florida Department of Children and Families



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Department of Children and Families  
Chronicity Project

## What is the Chronicity Project?

### Project Description

The Project is a multi-phase initiative to gather and collate information to supplement decision-making efforts during the pre-commencement phase of the child welfare practice.

### How is this Project different?

The Project is the first to specifically focus on identification of alleged perpetrators linked to intergenerational maltreatment early in the investigation to better inform CPIs as they initiate investigation activities and services to families.

### What are the intended outcomes?

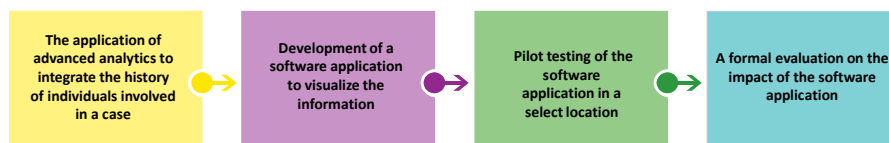


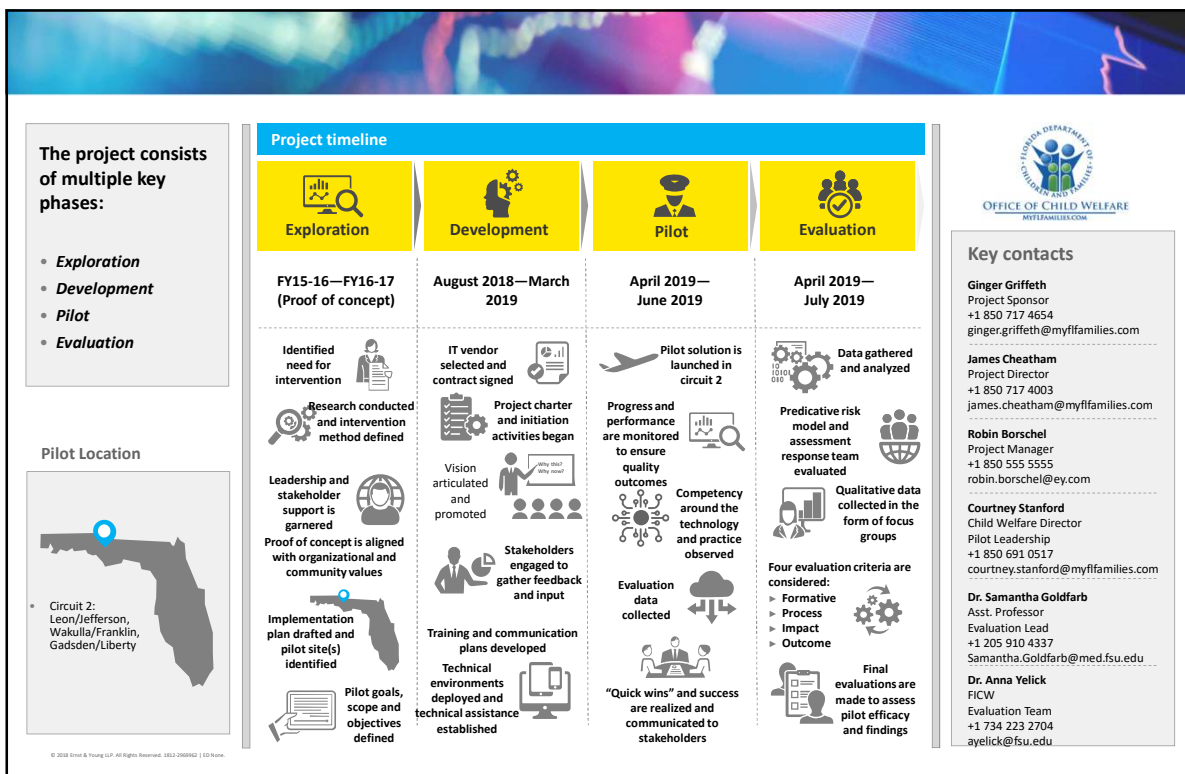
- Assist CPIs in identifying trends regarding alleged perpetrator behavior
- Provide enhanced decision making support for CPIs
- Disrupt the cycle of intergenerational abuse
- Reduce the number of families returned to the child welfare system
- Inspire further research around intergenerational abuse and how child welfare practices can be amended to stop the cycle

### Who's involved with the Project?



### What are the Chronicity Project components?





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National Conference of State Legislatures

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National Conference of State Legislatures



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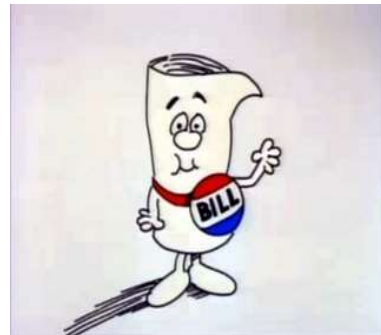
## PREDICTIVE ANALYTICS IN HUMAN SERVICES

STATE TRENDS



## NATIONAL CONFERENCE OF STATE LEGISLATURES

- Bipartisan, membership organization
  - Each of the 50 states and all territories
    - 7,383 state legislators
    - 30,000+ state legislative staff
- Research, education, technical assistance
- Mission:
  - Improve the quality & effectiveness of state legislatures
  - Promote policy innovation and communication among state legislatures
  - Ensure states have a strong, cohesive voice in the federal system





## BIG DATA RESEARCH AT NCSL

- Why it matters
- Where to find it
- Challenges to harnessing data to inform policy decisions
  - Data silos
  - Capacity (human and technical)
  - Privacy



## DATA SHARING EFFORTS

- Chief Information/Data Officers
- Partnering with outside organizations
- Data-sharing agreements
- Agency/department initiatives



## CHALLENGES AND CONCERNS AROUND PREDICTIVE ANALYTICS

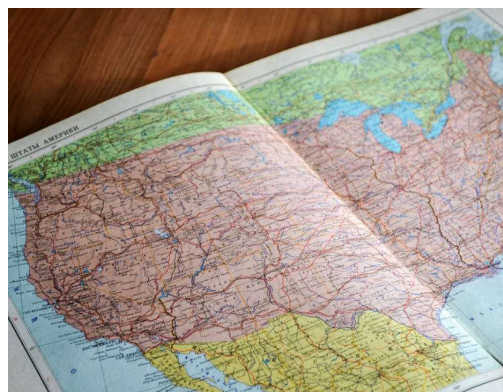


- Capacity
  - Financial, technical, and human
- Data
  - Availability and accuracy
- Impact
  - Inequities and implementation



## STATE EFFORTS

- California
- Nebraska
- Rhode Island
- Wisconsin



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## QUESTIONS?

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## Laura Radel

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Office of the Assistant Secretary for Planning and Evaluation

**US Department of Health and Human Services**



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# Predictive Analytics in Child Welfare

Reports Available from  
HHS's Office of the Assistant Secretary  
for Planning and Evaluation

Laura Radel  
Senior Social Science Analyst  
Division of Children and Youth Policy



## What is ASPE?

- Policy Advisor to the Secretary of HHS
- Leads Special Initiatives and Manages Cross-Departmental Activities
- Conducts Policy Research and Evaluation to Inform Policy Making
- The mission of ASPE's Office of Human Services Policy is to provide research based policy solutions that promote the well-being of America's most vulnerable populations





## Our Work on Predictive Analytics

ASPE in 2016 contracted with the MITRE Corporation to explore:

- How predictive analytics is beginning to be used in child welfare
- What successes and challenges early adopters are encountering
- The potential this field has to improve child welfare outcomes
- Ways the federal government could facilitate progress



## Products Available

- An Assessment of Current Efforts, Challenges, and Opportunities
- An Introduction for Administrators and Policy Makers
- Web-based Decision Tool Illustrating Conditions Necessary for Predictive Analytics to Be Useful in Child Welfare
- Considerations in Contracting Vendors for Predictive Analytics



Documents are available at:

<https://aspe.hhs.gov/predictive-analytics-child-welfare>

Questions? I can be reached at:  
laura.radel@hhs.gov or  
202-730-3927

## **Robert E. Putt**

Executive Director  
Office of Health Data and Analytics

**Cabinet for Health and Family Services  
Commonwealth of Kentucky**



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## Office of Health Data and Analytics

Cabinet for Health and Family Services

- Division of Health Benefit Exchange (SBE-FP)
- Division of Health Information Exchange (HIE/HIX)
- **Division of Analytics**
  - Chief Analytics Officer, Maik Schutze
- Cabinet Privacy Program
  - Chief Privacy Officer, Kathleen Hines
- Cabinet Telehealth Program



## Division of Analytics

Office of Health Data and Analytics

(from Executive Order 2018-325; SB-167 to amend KRS 12.020)

- Coordinate data analytic initiatives of departments within the Kentucky Cabinet for Health and Family Services that regulate health care and social services.
- Ensure policy is consistent with the long-term goals across the Commonwealth.
- Identify best practices, conduct Cabinet project and data governance, and perform comprehensive cross-cabinet need assessments.
- **GOAL:** The consolidation of the oversight of policy and research matters of healthcare and social services allow the Commonwealth to be more readily able to address systemic drivers impacting these program areas for its citizens.



## Division of Analytics

### Office of Health Data and Analytics

To be an analytics center of excellence for Kentucky's health and human services programs.

- **Policy & Procedures**

- Governance of analytic initiatives across Cabinet – Medicaid Services, Behavioral Health, Developmental & Intellectual Disabilities, Public Health, Inspector General, Community Based Services, Aging & Independent Living
- Governance of university research grants – UK, UofL, NKU
- Data use agreements, privacy, regulatory compliance

- **Platform**

- Enterprise Analytics Platform - procurement and implementation

- **People**

- Roles, skillsets, responsibilities

- **Partnership**

- UK KIPRC, UK CDAR, UPENN CHIBE, UPENN PSM, NORC@UofC, Education & Workforce Cabinet, Justice & Public Safety Cabinet, Finance & Administration Cabinet, Administrative Office of the Courts



## Division of Analytics

### Office of Health Data and Analytics

- **Recent/current studies and projects:**

- Medicaid MCO Pharmacy Benefit Manager (PBM)
- Kentucky Opioid Response Effort (KORE) data summit
- Medicaid 1115 Waiver SUD Monitoring Plan
- In Residence OUD Treatment Outcomes (HB-124)
- Actuary Data for Foster Care Children in new MCOs
- Predictive analytics for second near-fatal OUD over doses
- All-payer hospital discharge reporting
- Hospital survey for Certificate of Need
- Annual diabetes reporting
- Medicaid 1115 Waiver Kentucky HEALTH Monitoring Plan

- **Past 3 month period – 40 new requests to backlog, 32 requests completed.**

- **Emphasis on scientific team to provide evidence based research and program evaluation starting with child welfare.**

