## Welcome

Actionable Intelligence for Social Policy (AISP) School of Social Policy & Practice University of Pennsylvania



## Plenary 4

Key Topics in privacy-preserving technologies: What is PPT and how can it support integrated data sharing efforts?



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## Key Topics in Privacy Preserving Technology

What is PPT and how can it support integrated data sharing efforts?

Dr. Amy O'Hara, *Georgetown University* Aaron Bean, *Asemio* 









## DEFINITION

What are privacy preserving technologies?

#### PRIVACY PRESERVING TECHNOLOGIES (PPTs)

Also referred to as privacy-enhancing technologies (PETs), PPTs are technical approaches that **minimize use of and need for personal data**, including identifiers, **while supporting record linkage through privacy techniques**.

## VALUE PROPOSITION

Where do PPTs fit into the privacy landscape? By more *quickly* meeting compliance, legal, and security concerns for extremely sensitive data:

#### **REGULATORY** SENSITIVITY

Examples: 42 CFR Part 2 entities, HIPAA/FERPA crossovers

#### **SOCIAL** SENSITIVITY

Examples: Domestic violence and legal service organizations

#### **POLITICAL** SENSITIVITY

Examples: Tribal, State, and Federal crossovers

## **Different Methods**

#### **Different PPT Methods**



LESS USEFUL

## Broader Landscape

#### Privacy Preserving Technology Landscape



Graphic Credit: Datavant

## Application to Government



## CASE STUDY

#### WORKING AT THE FEDERAL LEVEL

### Background

- Push for inter-agency data sharing
  - The Federal Data Strategy (FDS)
  - Foundations for Evidence-Based Policymaking Act of 2018 (H.R.4174)
- Hampered by privacy policy, statute, and practice of agencies
- Current privacy approaches carry risks
- Solution → Privacy Preserving Technologies (PPTs)
  - Secure Multiparty Computation (SMC)
- Supported by the Alfred P. Sloan Foundation

#### Current NPSAS Structure (SMC)



#### Potential NPSAS Structure



#### Summary

- Successful privacy preserving, inter-agency data sharing
  - Privacy preserving
  - Accurate
  - Efficient computation and network costs for real, full-scale data
  - Cost-effective
  - Easy to use
- Some challenges remain
  - Certification of software components
  - Legal & technical concerns
  - Introduction into workflow

# asemio Case study

WORKING AT THE COMMUNITY LEVEL

#### ASEMIO CASE STUDY Background

A crucial element of collaborative action is **using data to continually learn, adapt, and improve**, but this goal can prove difficult to achieve due to:

- complex, drawn out governance cycles,
- disparate technology systems,
- and varying levels of experience and resource availability.

#### ASEMIO CASE STUDY Background

Community stakeholders focused on improving childhood outcomes came together to achieve actionable insights in weeks instead of years.

 Eight organizations representing 32 programs contributed data from a 12year period to answer community-level questions regarding race, equity, and service overlap.

#### **FEATURED PARTNERS**

blue meridian partners



BIRTH THROUGH EIGHT STRATEGY FOR TULSA

#### ASEMIO CASE STUDY Challenge

Early approaches focused on the creation of a centralized data warehouse, believing this would offer a simpler, straightforward path for data sharing.

This one-size-fits-all technical approach required months to navigate the legal landscape and sought to achieve buy-in for a long-term vision that was still in development.

Progress was slow and placed a time and energy burden on data contributors who received little immediate benefit.

#### ASEMIO CASE STUDY Solution



Federated Governance



Privacy Enhancing Technologies



Cross-sector Tech + Public Interest

"Something that has been absolutely vital and extremely helpful has been how flexible the Asemio team has been about accommodating the needs of the partners involved."

- MONICA ROGERS, Tulsa Health Department

"By more easily meeting compliance requirements that are necessary for this process, you invite more partners to the table."

– DAN STERBA, George Kaiser Family Foundation

ASEMIO CASE STUDY



BIRTH THROUGH EIGHT STRATEGY FOR TULSA



#### Community Level Success with Data Sharing

"How do we make data sharing easier and more accessible in Tulsa?"

#### THE RESULTS

Data from a **12-year period** accessed from **32** programs Participation from **8** organizations Insights to **5** community questions <sup>1</sup>/<sub>2</sub> the time invested when compared with traditional methods

... all achieved in 2 months' time

## Limitations

#### **PPT Limitations\***

- Complexity
- Cost
- Unintended Consequences
- Uncertainty
  - Lack of familiarity
  - Lack of regulation

\*Diversity of techniques means limitations are different across the spectrum

## Future Areas of Interest

#### Future Areas of Interest and Study

- Clarify the value of PPTs
  - o Enhanced use cases
  - o Improved reference architecture
  - o Evolved legal briefs
  - o More input on social license from community members
- Demonstrate the value
  - o Invest in, and advocate for, demonstration projects
  - o Get creative on partnerships
  - o Develop additional case studies, and talking points

## Q&A



## Thank you!





