



# Data Driven Intelligence

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PSSDC - Charlottetown, PEI

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# Purpose

- Respond to the FPT Deputy Minister's Table on Service Delivery Collaboration (FPT DMs' Table) and the Clerks and Cabinet Secretaries request to advance Data Driven Intelligence (DDI):
  - Obtain members support to make DDI a Public Sector Service Delivery Council (PSSDC) standing priority and consider Joint Councils' future role.
- Showcase and highlight value of Canadian DDI projects underway to encourage jurisdictions to share data and participate in data analytics to improve service delivery.



# Context



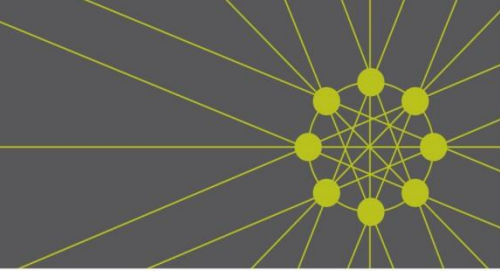
- In May 2016, the FPT DMs' Table asked for open data and big data to be advanced under the DDI priority. A DDI Task Team was formed including: MB, BC, ISED, CRA, and ESDC.
- The DDI Task Team agreed to focus on learning by doing and developing DDI partnerships to build capacity across jurisdictions and improve service delivery.
- In Victoria (Fall 2016), the Joint Councils agreed that PSSDC should develop early results on DDI before coming back to the Joint Councils.
- In April 2017, Clerks and Cabinet Secretaries were very interested in the DDI priority and noted the lack of DM Champion for this initiative.
- In May 2017, the FPT DMs' Table agreed that DDI needed to be advanced by the FPT service community given that no other FPT forum would explore the benefits of DDI from a service perspective.

# Manitoba: Leading on DDI

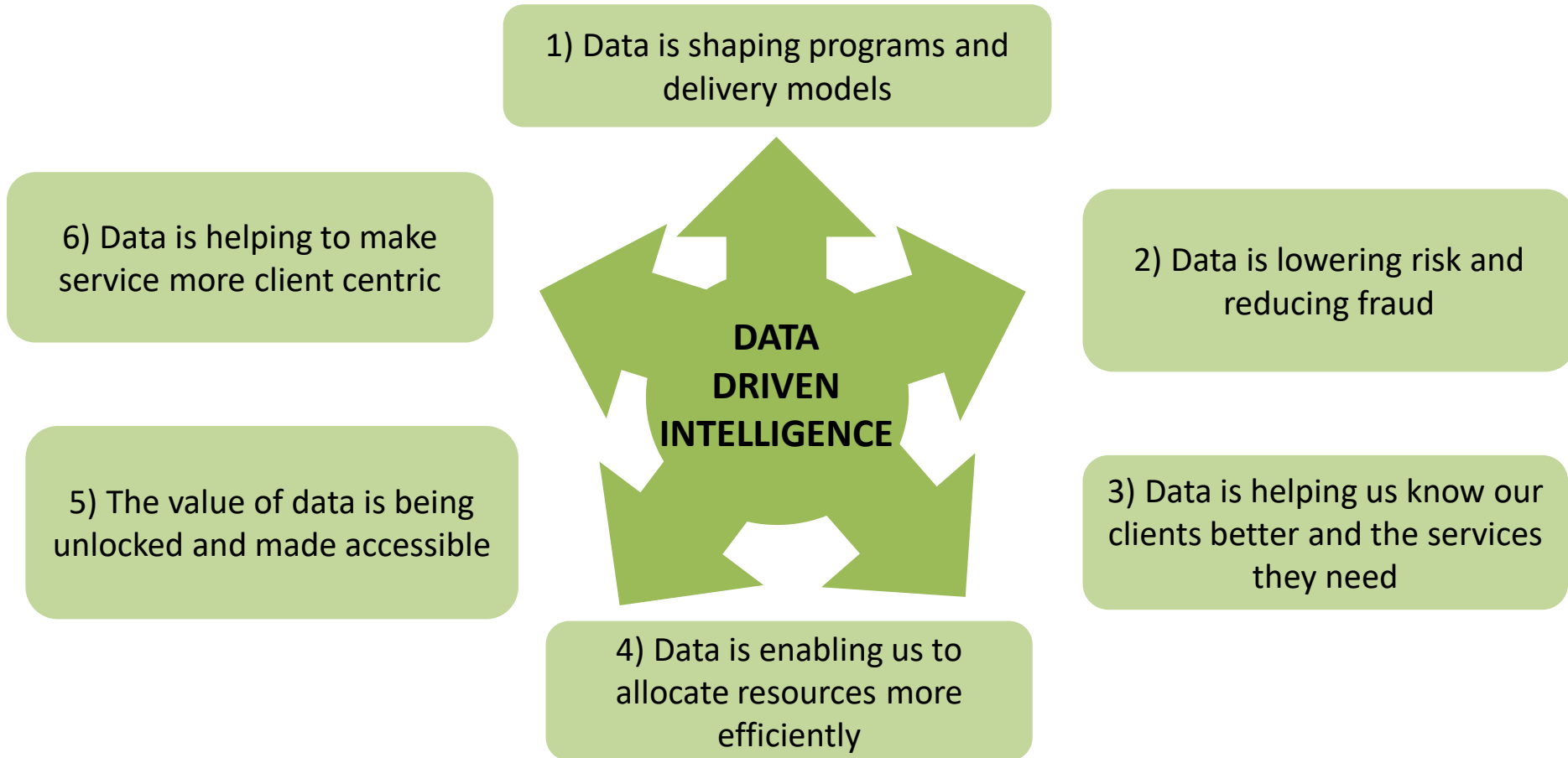


- On July 12, 2017, Manitoba's DM Scott Sinclair agreed to champion the priority.
- Governments of Manitoba and Canada are collaborating to increase uptake of the Canada Learning Bond in Manitoba, including how to leverage educational, health, and social sector information.

# Unlocking the Potential of DDI

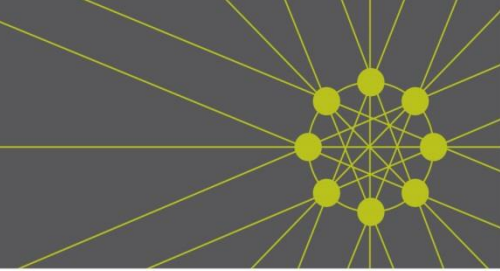


**Jurisdictions are already actively using data to improve service ...**



**...but more can be done if we work together.**

# 1) Data is shaping programs and delivery models



## **British Columbia: Classical Analysis and/or Machine Learning Predictive Analysis**

*Predicting the likelihood of successful completion of trades and  
apprentice programs.*

## **Saskatchewan: Stable Housing**

*Uncovering impact of stable housing on successful outcomes of  
clients who access various government services.*

## 2) Data is lowering risk and reducing fraud



### **CRA: Predictive Analysis**

*Identifying high risk entities using statistical models based on known and emerging tax schemes to deter fraud and prevent unwarranted tax refunds.*

### **ESDC: Machine Learning – Key Information Extraction**

*Enabling key extraction of information through machine learning to identify under/over payments and other departmental risks.*

### 3) Data is helping us know our clients better and the services they need



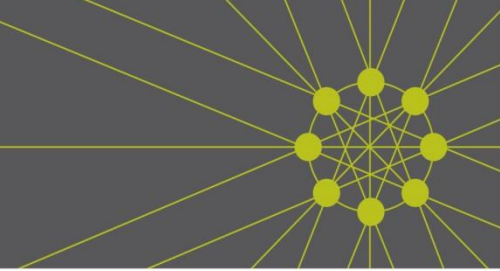
#### **Alberta: Data Sharing – Integration**

*Integrating data across ministries to gain better insights into vulnerable client segments (e.g. clients with Fetal Alcohol Syndrome Disorder).*

#### **Saskatchewan: Income Assistance Redesign Support**

*Understanding our clients and the services they use to determine which clients will benefit the most from specific programming (e.g. preventing interactions with the income assistance, social services and Criminal Justice programs).*

## 4) Data is enabling us to allocate resources more efficiently



### **British Columbia: Intelligent Automation – Cognitive Agent**

*Using automated virtual workers so that employees can focus on higher value activities (e.g. retrieve, modify, and check item requests, etc.)*

### **ESDC: Machine Learning – Predictive Analysis**

*Categorizing and triaging work items more effectively using machine learning to identify inquiries and the urgency of requests.*

# 5) The value of data is being unlocked and made accessible



## **Alberta: Data Sharing – Enterprise Data Analytics Platform (EDAP)**

*Enabling a one-government approach to unlock value of data by focusing on people, processes and technology using an enterprise-wide data analytical strategy.*

## **Alberta: Descriptive Analytics – Enterprise Service**

*Improving users' understanding, interpretation, and use of data through a self-service interactive data visualization tool to develop charts, graphs, dashboard, maps, etc.*

## 6) Data is helping to make service more client-centric



### **British Columbia: Machine Learning – Natural Language Processing**

*Making searches easier and more accurate for clients by using machine learning to categorize webpages to better match topics with searches.*

### **ESDC: Machine Learning – Sentiment Analysis**

*Using machine learning to provide better client feedback using speech recognition from client calls to improve service experience.*

# Harnessing our Collective Efforts



***PSSDC members provided many other examples of how they are leveraging data to improve service delivery (see handout) . . .***

***By building on these jurisdictional efforts, we can work together to build better insights . . .***

# Pilot Projects



- The DDI Task Team is highlighting four projects to demonstrate the potential of open data and data analytics.
- Opportunities and benefits for PSSDC members to get involved have been identified within each project.
- Members are encouraged to think about how these projects and DDI can advance their jurisdictions service objectives.

# Project 1: Long-Term Unemployment Project



**Lead: Genevieve Lambert (BC)**  
**Presenter: Ron Hinshaw, (ServiceBC)**

## **Expected Outcomes:**

- Target services to increase efficiency and improve employment outcomes.
- Tailor services to meet unique needs of workers and inform early interventions.

## **Participation Requirements:**

- Identify data researcher/analyst who can liaise with the project team.
- Pair datasets with BC's project to uncover new insights.

## **Project Descriptions:**

- Know how to utilize data analytics to better target services to increase efficiency and improve employment outcomes.
- Tailor services to meet unique needs and inform early interventions needed to prevent people from spiraling onto income assistance.

# Project 2: High Value Data Sets and Open Data Federated Search



**Leads: Mélanie Robert (TBS) & Mark Diner (AB)**  
**Presenter: Mélanie Robert, Executive Director, TBS**

## **Expected Outcomes:**

- Foster the release of common core and other important datasets across jurisdictions.
- Pilot a federated search service that will allow Canadians to access data regardless of which government owns it.

## **Participation Requirements:**

- Have an existing open data portal underscored by citizen participation.
- Ensure that datasets align with the Government of Canada's metadata schema, for the federated open data search activity.

## **Project Descriptions:**

- Develop high-value datasets identification criteria and recommend a list of core datasets that all jurisdictions should seek to release.
- Gather functional specifications, create technical architecture, address official languages criteria for metadata fields and implement federated search service.

# Project 3: Knowing your Clients Through Federal and Jurisdictional Datasets



**Leads: Jean-Francois Ruel (CRA) & Ginette Gervais (ESDC)**

**Presenters: Urvashi Dhawan Biswal, ESDC Innovation Lab &**

**Donald Adéa, Intelligence and Data Division, Canada Revenue Agency**

## **Expected Outcomes:**

- Know how to better target channel shifting efforts to move clients online.
- Improve understanding of the impact of e-services on Canadians including vulnerable clients.
- Increase use and value of federal and provincial/territorial datasets.
- Develop potential common FPT e-vulnerability index.

## **Participation Requirements:**

- Contribute electronic service uptake data to open dataset.
- Identify a researcher/analyst who can work with project team.

## **Project Descriptions:**

- Add CRA tax filing data to ESDC's e-vulnerability index to build a side-by-side view providing additional insight into the use and accessibility of online services.
- Add provincial/territorial datasets from participating provinces and territories.

# Project 4: ISED's Cloud-Based Data Sandbox



**Lead: Laura Morin Director, (ISED)**

**Presenter: Christian Laverdure, Director General, ISED**

## **Expected Outcomes:**

- Enhance access to business data through the business number.
- Maximize program outcomes using more analytics and data-driven decision making.
- Encourage business number adoption by demonstrating business intelligence benefits.

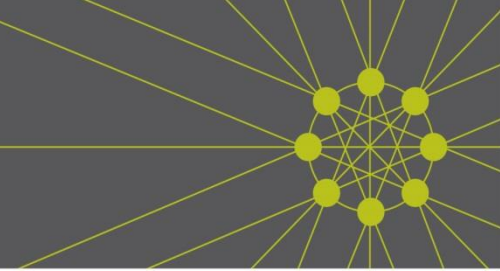
## **Participation Requirements:**

- Jurisdiction that has already adopted or is keen on adopting the Business Number and contributing to program data availability.
- Willing to participate in the User Advisory Committee and beta testing.

## **Project Descriptions:**

- Synthetic government-held business data in a cloud-based platform - data linked using the Business Number - that can be leveraged by FPT partners and researchers to create analytic models to answer questions, better understand issues and improve decision making.

# Questions



- Are there jurisdictions interested in partnering?
- Do jurisdictions have other projects to propose?
- How can we make this a PSSDC priority given the Clerks and Cabinet Secretaries and DMs' interest in advancing this priority?
- How can we leverage the Joint Council's expertise and resources?

# Next Steps



- Present the FPT DMs' Table with key outcomes and an update on projects underway in January 2018.
- Explore creating GCcollab DDI group to initiate FPT DDI Community of Practice.
- Demonstrate concrete results (project benefits and formal collaboration) achieved to Clerks and Cabinet Secretaries in April 2018 (TBC).