

A Case Study in Administrative Data Informing Policy Development¹

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Abstract

The Labour Market Development Agreements (LMDAs) between Canada and the provinces and territories fund labour market training and support services to Employment Insurance claimants. The objective of this paper is to discuss the improvements over the years in the impact assessment methodology. The paper describes the LMDAs and past evaluation work and discusses the drivers to make better use of large administrative data holdings. It then explains how the new approach made the evaluation less resource-intensive, while results are more relevant to policy development. The paper outlines the lessons learned from a methodological perspective and provides insight into ways for making this type of use of administrative data effective, especially in the context of large programs.

Key words: Administrative data, program evaluation, policy development, data linkage

1. Introduction

Conducting an evaluation project is often a lengthy process due to consultations with key stakeholders, the time required to access program data, the process-heavy approval stages required prior to undertaking the evaluation fieldwork and other often unforeseen events. As a result, program evaluators often struggle to overcome the challenges of ensuring that evaluations are timely and responsive to program and policy needs.

Evaluators at Employment and Social Development Canada (ESDC) produced evaluations of the Labour Market Development Agreements (LMDAs) in collaboration with provinces and territories. While undertaking this work, the evaluation team transformed the standard approach for evaluating those agreements, from bilateral summative evaluations into one streamlined continuous-evaluation process. With this new approach, evaluations are undertaken on different aspects of the LMDAs and released annually for participating provinces and territories and at the national level simultaneously. The result has been a significant decrease in the time required to complete evaluation studies.

This article first describes the LMDAs and then summarizes the history of the LMDA evaluations, highlighting the drivers for changing the evaluation approach. Next, a description is presented outlining how the new approach made the evaluation of a large and complex horizontal program more timely and relevant to policy development and less costly. The article concludes with a discussion of lessons learned for making effective and efficient use of administrative data for the evaluation of programs.

¹ The views expressed in research papers are those of the authors and do not necessarily reflect the opinions of ESDC or of the federal government. This paper is based on methodologies and analyses developed in the context of LMDA evaluations. In developing these methodologies, evaluators at ESDC benefited from advice and peer reviews from various academic experts. As well, in 2014, the evaluators held an internal expert panel to critically review and discuss the evaluation methodologies. In particular, the evaluation team would like to thank Professors Walter Nicholson, Jeff Smith, Guy Lacroix and David Gray for providing advice on these evaluation studies.

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2. The Labour Market Development Agreements (LMDAs)

Introduced in 1996 under Part II of the *Employment Insurance (EI) Act*, the LMDAs are bilateral agreements between the Government of Canada and each of the 13 provinces and territories. They include the transfer of \$1.95 billion annually from the federal government to the provinces/territories for the design and delivery of Employment Benefits and Support Measures (EBSMs) that help unemployed individuals who are eligible for Employment Insurance (EI) find and maintain employment. Since 2010, full responsibility for the design and delivery of programs and services funded under the LMDAs has devolved to each province and territory. These programs and services need to correspond to categories defined in the *Employment Insurance Act*, which include:

- **Skills Development:** Financial assistance for taking training including apprenticeship training.
- **Targeted Wage Subsidies:** Subsidies to employers offering on-the-job work experience to unemployed individuals.
- **Self-Employment:** Financial assistance and business planning advice to help unemployed individuals start their own business.
- **Job Creation Partnerships:** Work experience in projects that contribute to developing the community and the local economy.
- **Employment Assistance Services:** Return-to-employment services such as individual counselling, action planning, help with job search skills, etc.

Table 1
Total Expenditures and Number of New Interventions for the Main EBSM Categories (2013–14)

EBSMs	Financial Information		New Interventions	
	Total Expenditures (in \$000)	Distribution of Expenditures	Number of New Interventions	Distribution of Interventions
Skills Development	\$954,000	54%	120,000	11%
Targeted Wage Subsidies	\$81,000	5%	13,000	1%
Self-Employment	\$111,000	6%	8,000	1%
Job Creation Partnerships	\$28,000	2%	3,000	0.3%
Employment Assistance Services	\$594,000	34%	962,000	87%

Source: 2013/14 EI Monitoring and Assessment Report

Each LMDA has a clause stipulating that the first summative evaluation should be conducted in the third year of the agreement's implementation. Subsequent evaluations of impacts and effectiveness of EBSMs delivered under the agreements are further required every three to five years. In addition, each province and territory has the choice of evaluating its respective LMDA on its own or jointly with the Government of Canada. Every province and territory, except Quebec, opted for a joint evaluation. As per the Canada-Quebec LMDA, Quebec undertakes its own evaluations of the programs it designs and delivers. However, data on LMDA participants in Quebec are transferred to ESDC on an ongoing basis. These data are used when conducting national-level analysis under the second round of LMDA evaluations.

3. Evaluating the LMDAs: The past

The evaluations of the LMDAs started in 1998, with formative evaluations focused on the design, delivery and implementation of the programs and services, with the objective of informing program improvements early during the LMDA implementation stage. Twelve joint formative evaluations were completed by the federal government in collaboration with provinces and territories between then and 2002. Between 2002 and 2012, summative evaluations

were carried out with the objective of assessing program effectiveness. Summative evaluations included surveys of LMDA participants and the use of non-experimental methodology in order to estimate the labour market impacts on program participants.

Similar to the formative evaluations, the first summative evaluations were carried out bilaterally. ESDC (at that time Human Resources and Skills Development Canada) partnered with each of the 12 participating provinces and territories separately.

The first round of bilateral summative evaluations was a lengthy process, in part because each step had to be repeated 12 times. This process was also costly, due to the hiring of external contractors and the reliance on large surveys to collect information on program outcomes and data that could be used in incremental impact analyses.

When the time came to plan the second round of summative evaluations, it was clear that undertaking these bilateral evaluations following the same processes and carrying out similar fieldwork would not allow enough time for the production of results for each province/territory within three to five years as required by the LMDA evaluation clause and the *Treasury Board Policy on Evaluation (2009)*.

A key driver for changing the evaluation approach was the need to increase efficiency of a complex evaluation process. However, there were other important considerations for making the changes. To begin with, in light of the lessons learned from the first approach of LMDA evaluations, there was a clear need to find new ways to carry out the evaluations and explore new areas that would add to existing knowledge about the LMDAs. Secondly, there was a legislated requirement to report to Parliament on LMDA effectiveness in the EI Monitoring and Assessment Report annually, including an overall picture of LMDA impacts across Canada. Producing a high-level summary of findings from 12 different evaluations⁴ undertaken over 10 years had proven to be particularly challenging. The methods used in those evaluations evolved over time and, as such, it became increasingly difficult to summarize the findings in a consistent and meaningful way.

4. The new approach

The second round of evaluations is currently being completed using a completely different approach based on the following features:

- Breaking down the evaluations into small, targeted studies.
- Conducting the analysis with linked administrative data while eliminating the need to conduct large client surveys.
- Undertaking all the work in house and developing internal capacity to implement innovative approaches.

The goal is to attribute the observed outcomes to program participation using state-of-the-art econometric techniques while undertaking detailed analysis at the levels of provinces, territories, regions and socio-economic groups—all in a timely and cost-effective manner while being responsive to often rapidly changing policy-development needs.

4.1 Conducting small, targeted studies

The second round of summative evaluations consisted of undertaking multiple small studies on an ongoing basis over a five-year cycle in each of the 12 provinces/territories and at the national level simultaneously. The national level analyses include data from all 13 provinces /territories. Over the five-year cycle, the plan is to carry out three studies each year focusing on different dimensions of the LMDAs.

One study focused on measuring program impacts for different groups of participants or time periods, with the results from the national-level analysis of this study being reported annually in the EI Monitoring and Assessment Reports.

⁴ The LMDA evaluation in Nunavut did not include incremental impacts given the small number of participants.

Two additional studies were conducted using targeted questions about program design, delivery, relevance, effectiveness and efficiency. The goal of these two studies was to supplement what is already known about the LMDAs. For example, detailed studies about the design and delivery of Employment Assistance Services, Skills Development and Targeted Wage Subsidies have been done to identify how those EBSMs operate, how they are targeted and what the main challenges and best practices are with the design and delivery of those programs.

Findings from each annual study were shared with the provinces/territories and ESDC program stakeholders as they are completed. The objective is to roll up the provincial/territorial findings from the individual studies into a more traditional bilateral report for each jurisdiction by the end of the five-year cycle. These bilateral reports will comply with the requirement to evaluate the impact and effectiveness of the LMDAs every three to five years.

Breaking up the evaluations into small studies presents a number of advantages. First, this approach better supports federal accountability obligations to report on LMDA effectiveness in the EI Monitoring and Assessment Report. Results and evidence on different aspects of LMDA effectiveness are now presented each year, based on a comprehensive assessment at the national level. For example, the 2013 report presented medium-term impacts (5 years) for participants from 2002 to 2005, while the 2014 report reported impacts over three years for participants from 2007 and 2008. The later report also included analyses of the dynamics of program impacts in the medium term (five years) following program entry relative to these two cohorts of participants. Additionally, it provided insights about the sustainability of the impacts during various prevailing economic conditions during the different post-entry periods.

Secondly, conducting small studies renders the evaluation process more responsive to emerging policy and program issues. The topics for each study are selected on a yearly basis in consultation with officials from the provinces/territories and ESDC, thereby ensuring that the perspectives and evidence needs of both levels of government are met. In addition, each new study provides an opportunity to address questions and knowledge gaps identified in previous studies.

Finally, conducting the studies at both national and provincial/territorial levels improved our capacity to investigate topics and issues that were not or could not be examined during the first round of evaluations. For example, quantitative analyses are often limited by the small number of participants in certain EBSMs and/or in some of the smaller provinces/territories. At the same time, in the cases where particular analyses are not possible at the provincial/territorial level, the implicated province or territory can still attain insights from the national level analysis or analyses that combines several years or several EBSMs—which is possible to do quickly given the flexibility that the rich administrative data permits.

4.2 Conducting the analysis with administrative data

One of the lessons from the first round of summative evaluations was that administrative data could be used, to a great extent, to replace surveys. With that in mind, the evaluation team now conducts all quantitative analyses required for the evaluation using linked panel administrative data from the Canada Revenue Agency taxation files, EI Part I (i.e. EI benefits) and Part II (i.e. LMDA interventions). The evaluation team has access to data that goes back as far as 1990 and updates the data files annually with the most recent data available. The data covers 100 percent of LMDA participants and up to 20 percent of EI claimants who had not participated in the LMDAs. The latter are used to develop the comparison groups for quasi-experimental analyses of program incremental impacts.

The data used for policy, analysis, research and evaluation are governed by stringent rules and processes put in place at the departmental level to maintain privacy and confidentiality. In particular, the information used for evaluation is subject to a process that masks personal identifying information (e.g., Social Insurance Numbers, names or addresses) before it is analyzed. This process is done to prevent the identification of individuals when undertaking policy, analysis, research and evaluation.

The evaluation team has access to these data for the duration of the five-year LMDA evaluation cycle. As such, evaluators always have on hand a wealth of information on participants' and non-participants' earnings, labour market attachment and socio-demographic characteristics before and after participation. These data are being used to assess

the programs and services received by participants, to co-ordinate the profiles of comparison groups and participants, and to measure outcomes and impacts from participation.

As initially thought, the administrative data can be used, to a great extent, to effectively replace surveys. Unlike surveys, the data are readily accessible at no additional cost. The administrative data also represent a more reliable source of information than surveys, primarily because they are not subject to recall errors or response bias and because administrative data typically includes information on the whole population of participants and non-participants. Evaluation studies conducted under the second round of evaluations have, so far, mostly relied on the analysis of administrative data in conjunction with key informant interviews and document reviews to generate evidence on client outcomes and impacts of the LMDA interventions.

4.3 Implementing an innovative approach

The LMDA evaluation process is co-led by federal and provincial/territorial officials. A joint federal/provincial/territorial Evaluation Steering Committee consists of representatives of the 12 participating provinces and territories and ESDC program management. The Evaluation Directorate decides on the work plan, approves the methodologies and oversees the national analysis of each study. Twelve separate Joint Evaluation Committees (JECs) are also established. These bilateral JECs are mandated to discuss issues in relation to the province or territory they represent.

The data collection, analyses and report writing are all carried out in house at ESDC, with two different teams of evaluators involved in the project. A team of methodologists that specializes in data processing and in the implementation of quasi-experimental quantitative methodologies is responsible for all questions related to data, methodologies and quantitative analyses. Another team that is more generalist in nature is responsible for the qualitative fieldwork, coordinating the multilateral and bilateral committees, maintaining relationships with partners, writing evaluation reports and communicating evaluation findings.

Segmenting the evaluation team based on area of expertise allows each team to concentrate on innovating within their specialization. The more generalist team, for example, focuses on improving ways to communicate evaluation results and on interpreting and contextualizing them in order to support program and policy development and renewal discussions. The methodologist team focuses on integrating lessons learned from previous evaluations as well as the most recent developments in econometrics into the methodological approaches used in the continuous evaluation process.

Having access to EI Part I data on EI benefits claims information, Part II data on individuals participating in LMDA interventions and Canada Revenue Agency taxation files for those same individuals allows for the preparation of analytical files to undertake evaluation work with very short turnaround times. This also allowed the team to estimate the effects of participation in the long term (up to seven years post-program). Unlike the past bilateral evaluations, where only samples of participants and non-participants were surveyed and the results were linked to individuals' administrative data (which permitted limited outcome and incremental impact modelling), the analytical files contain detailed rich information for all LMDA participants and 10 percent to 20 percent of EI claimants with no LMDA participation (because the number of cases is extremely large). Given the detailed and comprehensive data at hand, the analysis considers most, if not all, factors that determine participation and labour market outcomes. The data include a large number of characteristics reflecting the individuals' labour market experience, such as: the socio-demographic characteristics of participants and comparison cases (e.g. age, gender, marital status, disability), their economic region and province, their occupational characteristics (e.g. occupational group, skill levels related to last job before opening their EI claim, industry codes) as well as their labour market history (e.g. use of EI benefits and weeks, employment/self-employment earnings, use of social assistance, incidence of employment in the five years preceding participation).

A data system has been developed in house to capture concepts and methodologies that have evolved over past evaluations and to generate a very comprehensive final analytical file for the quasi-experimental evaluation approaches or any other data analysis based on the different evaluation needs. The software, consisting of numerous integrated modules with about 10,000 lines of programming code, also evolves over time as it is updated with new concepts and econometric techniques, includes programming sequences that automate the cleaning and preparation of

the administrative data, saving a significant amount of time, effort and cost. As a result, analyses of incremental impacts under the second round of LMDA evaluations are more responsive and are carried out with state-of-the-art econometric techniques (e.g. Kernel Matching and Inverse Propensity Weighting) and results are validated with several statistical testing methods.

5. Lessons learned

Over the last three years, the evaluation team has carried out 11 studies related to the design, delivery and effectiveness of the LMDAs at both the national and provincial/territorial levels. The new evaluation approach has proven to be effective at improving the responsiveness of evaluations to evidence needs of policy and program managers. It has also reduced the costs significantly by removing the need to conduct large surveys and hiring external contractors; in comparison to approximately \$1 million per year in external contracts for the cycle I evaluation work, the evaluation team is currently spending approximately \$70,000 per year in external contracts for cycle II evaluation work, for peer reviews from academic experts, advice relating to data processing and support for the creation of new data processing tools. These costs exclude salaries and additional expenses incurred by participating provinces and territories.

Overall, the advantages of applying this new approach are significant. It would have not been possible to achieve the significant level of cost saving and reduce the time necessary to undertake the evaluations without having had access to good-quality administrative data. In this sense the LMDA evaluation is privileged, although the available data could still be improved. For example, individuals' highest level of education is not consistently collected. Detailed-level data on the operation and functioning of the EBSMs, such as the type of training provided under Skills Development (e.g. adult basic education vs. skills training) are also missing. That being said, the LMDA evaluation does represent a best practice of how close collaboration with program experts and an investment in high-quality data can provide a beneficial payoff for the Government of Canada. The experience also demonstrates that the necessity of conducting large surveys can be reduced and quality administrative data can provide information that is more reliable than survey data.

Another lesson learned from this experience is that innovation of this nature requires investment in capacity—human resources and technical capacity upfront. Evaluators need to have access to and an intimate understanding of the tools they use to conduct the analyses and the related evaluation work. For example, having access to administrative data can allow quick analyses about various aspects of the program. However, those analyses can be done only as quickly as technology allows. This is why having access to good computational capacity and analytical software is vital.

As well, evaluations need to be carried out by evaluators who have the technical, methodological and statistical skills to keep up with and use the most recent methodological developments and who can test and implement innovative approaches and techniques. Exploring innovative approaches is important in order to ensure that evaluations can add value to existing knowledge about a program. Evaluators need to have the competencies and resources necessary to investigate areas that were not examined before and to ask new evaluation questions that will improve knowledge about the program. In that regard, any evaluation projects carried out in house need to allow time for research and training on methodologies and evaluation approaches.

Finally, it is important to recognize that the success of a joint federal/provincial/territorial evaluation as was done for the LMDAs also depends on establishing a solid governance process with clear roles and responsibilities. It requires strong leadership at the working and senior levels, along with rigor, transparency and clear communications in order to manage expectations and ensure that all the partners and stakeholders have the opportunity to express their interest and engage actively in the process. Having moved from a completely bilateral process to a hybrid multilateral/bilateral process also required building a lot of flexibility into the evaluation process itself to ensure the evaluations continue to respond adequately to the information and reporting needs of each partner.