

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL

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UNIVERSITY OF
TORONTO

FINAL TECHNICAL REPORT

Scaling-up and evaluating salt reduction policies and programs in Latin
American countries (IDRC Project # 108167-001)

**SUBMITTED TO A. BLANCO METZLER, MSc, PRINCIPAL INVESTIGATOR,
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***Name of the project:** Scaling-up and evaluating salt reduction policies and programs in Latin American countries.

***IDRC Grant number:** Project # 108167-001

***Institution:** University of Toronto

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(I) Executive summary

The main objective of the University of Toronto team was to provide technical assistance as well as training support to the Latin American researchers involved in this project on the collection, entry, processing and analyses of packaged foods for assessing sodium levels.

In 2010, the University of Toronto team developed a computerized food database system (Food Label Information Program or FLIP) which allows our research group to store, access and query a national and private label branded food product database of approximately ~44,000 packaged foods, which has been expanded on a regular basis. The FLIP interface was adapted for use in the five participating Latin American countries (LAC). This adaptation was made possible through the collaborative nature of this grant. The financial support from this grant leveraged earlier research grants received by Dr. L'Abbe from CIHR and the University of Toronto. The IDRC funding allowed for the development of the FLIP-LAC interface as well as the necessary technical support, provided by third parties collaborating with the University of Toronto (Dietitians of Canada and Innovative Corporate Solutions).

The University of Toronto has provided support through updates to the FLIP database, which was specifically updated to meet the needs of the Latin American researchers (as FLIP-LAC) and through conference calls, preparation of training materials, webinars and IT support. Such training has allowed for proper and standardized data collection, data processing and analyses of sodium levels in the Latin American food supply, permitting analysis of comparable results between countries and over time.

(II) The research problem

Cardiovascular diseases (CVD) account for 29% of all deaths, with an estimated 1.9 million people dying annually and over half a million deaths before 70 years of age. Hypertension is a major risk factor for CVD and accounts for nearly 1 in 5 of all deaths in LAC, with prevalence rates in many countries exceeding one-third of adults, among the highest in the world (1). The current goal of PAHO is to reduce hypertension prevalence to 35% by 2019 (2). Worldwide, 75 countries have implemented population-wide salt reduction interventions (3). However, only six countries in Latin America have comprehensive and specific interventions in place to reduce salt consumption, and just one of them is regulated into law (Argentina) (4). The **general objective** of this research was to promote political innovations in the reduction of sodium in food systems in Latin America, through the strengthening and evaluation of the scaling-up of existing salt reduction programs and support to new programs by a consortium of institutions in Argentina, Brazil, Costa Rica, Paraguay and Peru. The **Specific objective** for the Canadian institutions was to provide technical assistance to the teams of each country on the collection, entry, processing and analysis of Latin American packaged foods for the assessment of sodium in Latin America.

(III) Progress towards milestones

All interim reports were duly submitted.

(IV) Synthesis of research results and development outcomes

The University of Toronto's Food Label Information Program (FLIP) and Latin American version (FLIP-LAC) is made up of two components: 1) the iPhone data collector application, used to capture pictures of food packages, and 2) the web-based database management software, used to store photos and package information, with the ability to filter and export data into Microsoft Excel. The FLIP interface

allows use of a systematic and comprehensive approach for an industry-wide perspective of the major national and private label brands of foods available in any country. Thus, as part of this research, the FLIP interfaces (web and app) were adapted to allow for the integration of sodium data for the five participating Latin American countries. This adapted database is called FLIP-LAC and involved the following technical aspects:

Creation of IDRC Data base and Technical Setup

- Created a separate database where all data captured by the 5 LAC countries could be stored within FLIP
- Modified FLIP web-based tools to allow secure viewing, searching, export by country of food capture
- Modified user administration module to indicate country to allow restrictions on data access to data
- Modified iPhone data collector app for a user login and verification against users and map foods to local country
- Numerous application changes to manage different data, users, and security rights across the database and tools and modifications to meet specific country needs
- Enhancements to support the project extension objectives (addition of critical nutrients such as calories, sugars, total, saturated and trans fats; determination of the proportion of foods with added sugars, sweeteners and partially hydrogenated oils (PHO); determination the healthiness of foods using the PAHO nutrient profiling model and Chile's criteria for Front of Pack Labelling; the identification of foods with sodium claims and on-package marketing to children)

Data Import

- Imported existing data and photos for 4* [note 1] countries (16,181 foods and over 100,000 food pictures; approximately 1500-6800 foods per country) and created export functions so countries could download their own data into Excel. [Brazil did not include their data in the FLIP-LAC database]

Support

- Provided country technical support for 4 countries and program summaries for the 3-year period of the program.
- Training on the use of R-studio software for data analyses (Costa Rica)
- Statistical analyses of sodium levels and proportion of foods meeting or exceeding PAHO sodium targets for countries (n=5,663 foods; approx. 500-2000 foods per country (**APPENDIX 12**) and analyses of changes between 2015 and 2019 (**APPENDIX 7** Abstract to be presented at the CNS annual meeting 2020)
- Statistical analyses of the levels of critical nutrients of public health concern (calories, sugars, total, saturated and trans fats), proportions of foods with sodium claims and on-package marketing to children and the healthiness of these foods using the PAHO NP system and Chile Front of Package thresholds (**APPENDICES 13 and 14**)

Hosting

- Dietitians of Canada's technical infrastructure (Production and Backup) including redundancy, support & operations

Examples of the FLIP-LAC database interface are shown in **Appendix 6: FLIP-LAC Training Webinar** (Nov. 6, 2018). This innovation allows for consistency in data collection methods and calculations when comparing results between Latin American countries. The team at the University of Toronto has provided support and training to the Latin American researchers involved in this project through

numerous conference calls, webinars, in-person presentations and the preparation of training materials for core researchers involved (see **Table 1**). This work funded by IDRC has also been leveraged to support data collection up to an additional 15 countries in Latin America in partnership with PAHO.

(V) Methodology

Not applicable.

(VI) Project Outputs

Table 1. Summary table of list of outputs to date

Types of Outputs	Sector		
	Academia	International Organizations	Total
Oral presentations	3	-	3
Poster presentations	1	-	1
Abstracts	2	-	1
IDRC protocol	1	-	1
FLIP training manual	2	-	1
Webinars	3	2	5
Publications	1	-	1
FLIP-LAC database creation	1	-	1
FLIP-LAC updates	2	-	2
Reports	3	-	1
Meeting Presentation (Govt Officials: CIHR, Health Canada, IDRC)	1		1
Total	15	2	17

The main outputs of the project are as follows:

1. Creation of the FLIP-LAC database, as described in V) above
2. FLIP database updates:
 - a. The FLIP database was expanded to support data collection up to an additional 15 countries in Latin America in partnership with PAHO.
 - b. The FLIP database was updated to include the “country of origin” field (country where the food was produced) as requested by researchers in Costa Rica.
 - c. The FLIP database was updated to support the project extension objectives, in particular, the addition of the criteria for the Chile Front of Package Labelling thresholds and modifications for the calculation of the PAHO Nutrient Profiling System
3. FLIP training materials as described in Annex 2: FLIP training manuals and the IDRC protocol (**APPENDICES 2-4**).

4. Dr. L'Abbe was an author in the following open-access article: Arcand J, Blanco-Metzler A, Benavides Aguilar K, L'Abbe MR, Legetic B. Sodium Levels in Packaged Foods Sold in 14 Latin American and Caribbean Countries: A Food Label Analysis. *Nutrients*. 2019 Feb 11;11(2). pii: E369. doi: 10.3390/nu11020369.
5. Oral Presentations:
 - a. Objective 1 presentation at the team meeting in Costa Rica Feb 20, 2019 by Dr. Mary L'Abbe (**APPENDIX 5**)
 - b. Training on FLIP and technical aspects to Nadia Flexner (PAHO Policy Advisor), 2 days, Toronto November 1-2, 2018 (**APPENDIX 15**). The training also included app demonstrations and technical training, as well as a review of nutrient profiling models and marketing on packaged foods.
 - c. Oral Presentation by Dr Mary L'Abbe, Canadian Science Policy Conference, Ottawa, November 15, 2019 (panel discussion).
 - d. Presentation of FLIP and FLIP-LAC and discussion of sustainability options with Dr Tammy Clifford, VP Research CIHR; Dr Karen McIntyre, Director General, Food Director, Health Canada; Maya Villeneuve, A/Director Nutritional Sciences, Health Canada; and Dr. Greg Hallen, Program Lead, Food, Environment and Health, IDRC (**APPENDIX 11**)
6. Abstracts/Poster Presentations:
 - a. Results will be presented at the Canadian Nutrition Society International Meeting by Dr. JoAnne Arcand and PhD student Beatriz Franco Arellano (May 7, 2020) (**APPENDIX 7**)
 - b. Results were presented at the Canadian Nutrition Society International Meeting by Dr. JoAnne Arcand and PhD student Beatriz Franco Arellano (May 3, 2019) (**APPENDIX 8**)
7. Webinars:
 - a. One IDRC Food collection training session (webinar), led by DC and Alyssa Schermel. PhD student Beatriz Franco Arellano (as support for language translation) March 14, 2017
 - b. Two webinars were led by Dr. Marie-Eve Labonte (Prev UofT PDF; Currently Assist Professor, Universite Laval) on the use of the Preventable Risk Integrated Model (PRIME) for modelling the health impact of sodium reduction strategies in Costa Rica and Brazil, providing examples using Canadian data, November 2017 and February 2018 (**APPENDICES 9 and 10**)
 - c. Two Webinars were also led by Dr. Adriana Blanco, Dr. JoAnne Arcand, and Beatriz Franco Arellano on FLIP (Dec 5, 2017, **APPENDIX 1**) and pilot study results led by several students (C. Mulligan, L. Vergeer, M. Ahmed and B. Franco Arellano) prepared for the extension (Nov 6, 2019, **APPENDIX 6**). Additional several online meetings were held in Spanish to clarify questions regarding the data or data classification.
8. Conducted statistical analyses and prepared report of sodium levels in foods across countries and the number and proportion of foods meeting or exceeding the PAHO regional targets. Report: "*Sodium levels in packaged foods 2017-2018: An analysis of four Latin American countries*" (Feb 1, 2019, **APPENDIX 12**)
9. 109-page Full Report and 15-page summary report submitted on February 6th to the principal investigator and country teams for their individual reports entitled "*IDRC Project 108167 Extension Funding: An Analysis of the Packaged Food Supplies of Four Latin American Countries Preliminary analyses*" and "*IDRC Project 108167 Extension Funding: An Analysis of the Packaged Food Supplies of Four Latin American Countries – Summary tables Preliminary analyses*" (**APPENDICES 13 and 14**)

(VII) Problems and Challenges

We faced research challenges working with some of the Latin American countries. Brazil, for example, was unable to share their data due to a number of issues in setting up the agreement with Brazil (full

details in the main report). Argentina did not use the FLIP data collector app, as they had used another method during earlier collections, but their full data set was available for analyses. However, one of the main challenges is that some countries decided to code some data in a different way from that established in FLIP. For example, Argentina used the variable “Ingredients” to make the presence/absence of partially hydrogenated oils with numbers, or the use of “9999” to identify products with missing or not readable data (instead of leaving blanks). These considerations made the analyses more complicated due to these other types of coding; therefore additional data cleaning was necessary to not include such products or to correct the inconsistent coding.

Another one of the challenges we faced was budgetary constraints. Once Latin American countries became familiar with our FLIP database and food collection app, they started requiring additional IT improvements unique to the Latin America food environment. These were unforeseen circumstances and required additional funding. Dr. L’Abbe had to source this additional funding using her unrestricted University of Toronto research grant.

Furthermore, as technology improves, we are finding new ways to improve our FLIP database. For example, rather than manually entering data from the Nutrition Facts table and ingredients lists for our Canadian FLIP database, new Optical Character Recognition (OCR) software coupled with AI learning from our existing FLIP database can enter this data automatically with 96% confidence. Such technology greatly saves time, is more cost-efficient and improves accuracy. However, we did not have the budget to implement this software for the Latin American countries, as it was developed after the start of grant, and to date, is only available in English using Canadian nutrition label formats.

The work of the extension phase of this grant leveraged the large amount of additional data that is available on food labels (beyond sodium which was collected and analyzed as part of the main grant) for: critical nutrients of public health concern (calories, sugars, total, saturated and trans fats); presence of added sugars, sweeteners and partially hydrogenated oils; proportions of foods with sodium claims and on-package marketing to children – and the healthiness of these products). However due to the vast amount of data, the unstandardized nature of the food labels among countries, missing data for some nutrients (as not all countries have regulations requiring standardized and mandatory nutrition labelling), these data are presented as “preliminary results” in this report, as all countries will need to spend more time verifying their data before final publication in peer-reviewed scientific publications)

(VIII) Administrative Reflections and Recommendations

The budget categories could be more flexible (i.e. additional flexibility in transferring funds from travel category to research category) given that many of these costs were an estimate at the start of the grant and can change over time. We had to transfer funds between multiple categories as a result of changing costs (i.e. flights to Costa Rica from Toronto can range from \$700-1,500). Additionally, the FLIP database was updated to include the “country of origin” field (country where the food was produced) as requested by researchers in Costa Rica. This change cost an extra \$1,000 CAD. To make this amount available, the University of Toronto was required to transfer funds from “Travel” to “Open” budget.

Furthermore, the final budget report format was very confusing for both research and administrative staff at the University of Toronto. Instructions were not clearly provided, and multiple clarifications were needed between U of T and IDRC.

(IX) References

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2. Pan American Health Organization. Internet: https://www.paho.org/hq/index.php?option=com_content&view=article&id=9774:2014-53rd-directing-council&Itemid=41062&lang=en.
3. Trieu K, McMahon E, Santos JA, Bauman A, Jolly KA, Bolam B, Webster J. Review of behaviour change interventions to reduce population salt intake. *Int J Behav Nutr Phys Act* 2017;14(1):17. doi: 10.1186/s12966-017-0467-1.
4. Government of Argentina - Ministry of Justice and Human Rights [Gobierno de la Republica de Argentina - Secretaría de Justicia del Ministerio de Justicia y Derechos Humanos de la Nación]. Internet: <http://www.saij.gob.ar/26905-nacional-promocion-reduccion-consumo-sodio-poblacion-Ins0005889-2013-11-13/123456789-0abc-defg-g98-85000scanyel> (accessed July, 7, 2018).

ANNEX 1: TRACKING PROGRAM LEVEL INDICATORS

We kindly request that you complete the following questionnaire on your project’s achievements. It includes a set of indicators selected to document and monitor outcomes of the Food, Environment, and Health Program at the global scale. These indicators will help our Program track progress toward the targets set in our Implementation Plan approved by IDRC’s board of governors in 2015. This exercise is for IDRC’s internal reporting only, and is **not** intended as an assessment of your project. Results from your project will be aggregated with those from other funded projects in order to provide a picture of collective achievements for the program as a whole. Your input will help us assess and improve our programming.

This questionnaire should be **completed once a year by all grantees** and returned at the same time as your interim technical report. In some cases, you may be completing this report for the first time alongside your final technical report. The information in your technical report should assist you in completing the questionnaire.

<p>INSTRUCTIONS:</p> <p>Please provide answers to the questions below based on <u>actual</u> achievements and outcomes. If this is the first time you are completing this questionnaire, please include all achievements since the inception of the project. If you have submitted this questionnaire in the past, please add any new achievements or progress since your last report.</p> <p>In some cases, your responses to these questions may repeat achievements mentioned earlier in the technical report. If this is the case, please extract (copy and paste is acceptable) the information here. Please keep your answers brief, limiting to one to two paragraphs per question.</p> <p>Projects are not expected to document achievements for each of the questions; it is normal that some questions may not apply to your project and remain blank.</p>	<p><i>This column left blank for internal purposes</i></p>
<p><i>Please provide identifying project information below:</i></p>	
<p>Project number: 108167-001</p> <p>Project title: Scaling-up and evaluating salt reduction policies and programs in Latin American countries</p> <p>Date this report was prepared: Feb 4, 2020</p>	

<p>1a. What innovations is your project testing, assessing or adapting to reduce the burden of chronic or infectious diseases? A definition of an innovation is provided in the footnotes for your reference.¹ If your project has been contributing to multiple innovations, please describe them individually.</p>	<p>Ind. #2</p>
<p>The University of Toronto's Food Label Information Program (FLIP) and the version adapted for Latin American use (FLIP-LAC) is made up of two components: 1) the iPhone data collector application, used to capture pictures of food packages, and 2) the web-based database management software, used to store photos and package information, with the ability to filter and export data into Microsoft Excel. The FLIP interface allows use of a systematic and comprehensive approach for an industry-wide perspective of the major national and private label brands of foods available in any country. Thus, as part of this research, the FLIP interface (web and app) was adapted to allow for the integration of sodium data for the five* participating Latin American countries. This innovation allows for consistency in data collection methods and calculations when comparing results between Latin American countries.</p> <p>*Brazil was originally included in this phase, but due to certain contracting issues their data was not included in the FLIP-LAC database.</p>	<p>0</p>
<p>1b. Of the innovations described in 1a), have any of them been applied at scale? For example, has the innovation been adopted for wide-scale use by a large population, by government, or applied in different contexts, countries, or markets? Explain how this innovation is being applied at scale and what processes have enabled wide-spread use and/or scale-up.</p>	<p>Ind. #3</p>
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>As mentioned above, the FLIP interface, which was originally developed for Canadian use, was adapted for use in the five participating Latin American countries. This adaptation was made possible through the collaborative nature of this grant. The financial support from this grant leveraged earlier research grants received by Dr. L'Abbe from CIHR and the University of Toronto. The IDRC funding allowed for the development of the FLIP-LAC interface as well as the necessary technical support, provided by third parties collaborating with the University of Toronto (Dietitians of Canada and Innovative Corporate Solutions). The grant has permitted the large scale collection of food labels data from >16,000 unique foods and over 100,000 food label pictures in Latin America in 4 countries, from our original IDRC funded study conducted in Costa Rica in 2013-2016.</p> <p>Additionally, The University of Toronto has provided support and training to researchers for proper and standardized data collection, data processing and analyses of Latin American foods. This work</p>	<p>0</p>

¹ Innovations can be understood as new and significantly improved ways of doing or organizing something, and include the adaptation of existing products or processes to new contexts. They include: products (a market and/or publically distributed good); processes or practises (a new method, skill or behaviour that creates positive change); programs (organizational arrangements or system of services that meets a need for a defined community). Examples of innovations related to reducing the burden of infectious and chronic diseases could include testing: the use of screens in preventing Dengue and other Aedes mosquito transmitted diseases; the potential of community kitchens to provide healthier meals to low-income populations; applying a new methodology to assess food policies and food environments.

<p>funded by IDRC has also been leveraged to support data collection up to an additional 15 countries in Latin America in partnership with PAHO. A staff member from PAHO has been trained in the FLIP-LAC methodology (in person training, Toronto, November 1-2, 2018) which will be implemented in a larger number of countries in Latin America in 2020.</p> <p>Data have already been shared by countries with Ministry of Health Staff and key stakeholder in the various countries.</p>	
<p>1c. Approximately how many individuals are benefiting from the innovation?</p>	<p>Ind. #3</p>
<p><i>Please indicate the approximate number of beneficiaries, if this information is known</i></p> <p>unknown</p>	
<p>2. Is your project assessing policy effectiveness? If yes, please list and briefly describe what policies the project is assessing, and briefly comment on the relevance and potential impact.</p>	<p>Ind. #4</p>
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>Yes. Countries are using data from this research and the database to share with Ministry of Health officials, civil society and industry representatives in their countries to assess the effectiveness of national food policies aimed at reducing the sodium content of foods through product reformulation, thereby reducing sodium intakes of the population.</p>	<p>0</p>
<p>3a. List and describe the key activities/mechanisms your project engaged in to inform/influence practice or policy (e.g. multi-stakeholder and community processes, participation in policy dialogues or policy-setting processes, engagement in making policy recommendations, or other relevant actions).</p>	<p>Ind. #5</p>
<p>The University of Toronto team worked through participation in regular team conference calls, webinars and in-person meetings and tracings with team members, rather than directly with in-country policy-makers, although Dr. LAbbe has participated in several meetings with country level stakeholders organized by country researchers.</p> <p>As Chair of the PAHO Technical Advisory Group on Salt/Sodium Reduction for CVD prevention (TAG), Dr. LAbbe has ensured that progress and data from this research project is shared with PAHO and other members of the PAHO TAG. Plans are underway for a meeting in May 2020 which will be hosted by Brazil and PAHO, where data will be shared with countries throughout the Americas and will be used to update the PAHO regional sodium targets.</p>	<p>Choose an item.</p>

<p>3b. Have any of the efforts described in 3a) contributed to new practices or policies <i>being implemented or existing policies/practices being changed</i> based partly or wholly on the work of the project? How were strategic stakeholders involved in these processes?</p>		Ind. # 5												
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>As mentioned in 3a., data from this research project will be used to update the PAHO regional sodium targets in May 2020.</p> <p>Data from the extension examining levels of critical nutrients such as calories, sugars, total, saturated and trans fats; determination of the proportion of foods with added sugars, sweeteners and partially hydrogenated oils (PHO); determination the healthiness of foods using the PAHO nutrient profiling model and Chile's criteria for Front of Pack Labelling; and the identification of foods with on-package marketing to children will form a critical baseline of data on these questions in the Americas. These data will help guide PAHOs plans to expand their policy efforts beyond sodium to encompass a broader range of polices to support healthy diets and healthier food environments.</p>		0												
<p>3c. What was the level of jurisdiction of the policy/policies implemented or changed?</p>		Ind. 5												
<table border="1"> <thead> <tr> <th></th> <th>Identify the policy <i>e.g. regulation of TV food advertising to children in Peru</i></th> <th>Select level of jurisdiction 1= local/municipal/district 2= provincial/sub-national 3= national 4= multinational/international</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>- Country levels of sodium in foods; - Evaluation of country reformulation efforts</td> <td>3</td> </tr> <tr> <td>2.</td> <td>- Updating PAHO regional targets for Salt/Sodium. - Comparison of national sodium levels in foods with PAHO regional sodium targets has identified the need to update the PAHO regional targets</td> <td>4</td> </tr> <tr> <td>3.</td> <td>- Front of Package warning labels;</td> <td>4</td> </tr> </tbody> </table>			Identify the policy <i>e.g. regulation of TV food advertising to children in Peru</i>	Select level of jurisdiction 1= local/municipal/district 2= provincial/sub-national 3= national 4= multinational/international	1.	- Country levels of sodium in foods; - Evaluation of country reformulation efforts	3	2.	- Updating PAHO regional targets for Salt/Sodium. - Comparison of national sodium levels in foods with PAHO regional sodium targets has identified the need to update the PAHO regional targets	4	3.	- Front of Package warning labels;	4	Choose an item.
	Identify the policy <i>e.g. regulation of TV food advertising to children in Peru</i>	Select level of jurisdiction 1= local/municipal/district 2= provincial/sub-national 3= national 4= multinational/international												
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2.	- Updating PAHO regional targets for Salt/Sodium. - Comparison of national sodium levels in foods with PAHO regional sodium targets has identified the need to update the PAHO regional targets	4												
3.	- Front of Package warning labels;	4												

<ul style="list-style-type: none"> - Restricting Marketing of Unhealthy Foods to Children - Baseline data on critical nutrients of public health concern is providing evidence to support broader PAHO efforts towards their reduction, and policies in areas such as Front of Package warning labels and Restricting Marketing of Unhealthy Foods to Children - Data will also enable countries and accredited NGOs to actively engage in WHO/FAO Codex Alimentarius Commission committee discussions on these topics during the upcoming committee meetings on Nutrition (CCNFSDU) and on Food Labelling (CCFL). 														
4a. Did your project intend to specifically benefit women, men, boys or girls or a marginalized group?		Ind. 3												
<p><i>Please place an x in the box corresponding to the target group:</i></p> <table border="1" data-bbox="186 919 1019 1396"> <tr> <td>Intended to benefit mostly men/boys</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to benefit mostly women/girls</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to equally benefit women/girls and men/boys</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to primarily benefit a marginalized group (name of the group): _____</td> <td><input type="checkbox"/></td> </tr> <tr> <td>No intentional focus on gender or a marginalized group</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Not applicable</td> <td><input checked="" type="checkbox"/></td> </tr> </table>		Intended to benefit mostly men/boys	<input type="checkbox"/>	Intended to benefit mostly women/girls	<input type="checkbox"/>	Intended to equally benefit women/girls and men/boys	<input type="checkbox"/>	Intended to primarily benefit a marginalized group (name of the group): _____	<input type="checkbox"/>	No intentional focus on gender or a marginalized group	<input type="checkbox"/>	Not applicable	<input checked="" type="checkbox"/>	Choose an item.
Intended to benefit mostly men/boys	<input type="checkbox"/>													
Intended to benefit mostly women/girls	<input type="checkbox"/>													
Intended to equally benefit women/girls and men/boys	<input type="checkbox"/>													
Intended to primarily benefit a marginalized group (name of the group): _____	<input type="checkbox"/>													
No intentional focus on gender or a marginalized group	<input type="checkbox"/>													
Not applicable	<input checked="" type="checkbox"/>													
4b. Did you investigate how sex, gender, age, education, income, ethnicity, social standing, or other social determinants impact the health of your target population? What did you do to address these factors (for example: collecting disaggregated data, conducting gendered analyses, considering differential impacts to women, men, girls, and boys, using participatory research approaches, etc.)? How did these approaches influence the results and impacts (e.g. research, policies, and innovations)?		Ind. 6												
<i>Please describe briefly (limit to 1-2 paragraphs)</i>		0												

5. Did your project include economic analyses/modeling (e.g. costing, cost-benefit analysis, etc.)? If yes, what was the purpose of including these elements and how are they contributing to achieving your project objectives?					Ind. #1
The University of Toronto team conducted trainings in the use of the PRIME cost-benefit analyses to enable countries to calculate the impact of their country specific sodium reduction policies and programs. This objective has been worked on by Brazil and Costa Rica					0
6. List all <i>peer-reviewed</i> articles that your project has published? Please do not include other types of publications here.					Ind. #11,12
<i>Please list:</i>					Choose an item.
	Title	Journal name	Primary author	Open access (Yes/No)	
1.	Sodium Levels in Packaged Foods Sold in 14 Latin American and Caribbean Countries: A Food Label Analysis	Nutrients	JoAnne Arcand	Yes	
2.					
3.					
4.					
5.					
6.					
7. Have individuals involved in your project accomplished one of the following achievements listed below, due in part to their involvement in this project? Is yes, please list the name and sex of the individual and describe the accomplishment. Indicate if any of these individuals are Canadian placing an 'x' in the box labelled 'CAD'.					Ind. #10 a, 10b, 10c

- a) received awards and other honours;
- b) influenced or advised policies;
- c) expanded the adoption of effective practices, including in new settings/populations;
- d) other significant achievements

Please list:

0

	Name	Female/ Male	CAD	Brief description of accomplishment
1.	Mary R. L'Abbe	F	X	Order of Canada
2.	Mary R. L'Abbe	F	X	a) and b) and c): <ul style="list-style-type: none"> • Advised officials and supported healthy eating policies in Canada and CARICOM countries, • member of WHO dietary guidelines Panel (NUGAG) • Chair PAHO sodium Reduction Technical Advisory Group
3.	Beatriz Fanco-Arellano	F	Mexican/ Canadian PR	a) CIHR-Doctoral Award
4.	Christine Mulligan	F	X	a) CIHR-Doctoral Award; b) and c) Preparation of reports for Health Can
5.	Laura Vergeer			a) CIHR Doctoral Award; b) and c) Preparation of reports for Health Can
6.				

8. Has your project supported any Masters students, PhD students, or post-doctoral fellows? If yes, please list the name, sex, and nationality of the individuals, and their status as Master's students, PhD students or post-docs. Indicate if any of these individuals are Canadian by placing an 'x' in the box labelled 'CAD'.

Ind. #8,9

<i>Please list:</i>					0
	Name	Female/ Male	CAD	Master/PhD/P ost-doc	
1.	Beatriz Franco Arellano (Mexican) – Full all Phases	Female	CAD Permanent resident	PhD	
2.	Christine Mulligan (Extension Phase)	Female	CAD	PhD	
3.	Laura Vergeer (Extension Phase)	Female	CAD	PhD	
4.					
5.					
6.					
9. Has your project or its findings been cited in the media? Please provide the title of the media citation and an accompanying web-links for the <i>most relevant</i> citations <i>linked to important achievements of the project</i>.					
<i>Please list:</i>					0
	Title	Description in English (optional)	Website link		
1.					
2.					
3.					
4.					
5.					
6.					

For internal use only: To be completed by IDRC's responsible Program Officer

Please complete the relevant sections directly within the FEH database:
http://ic.idrc.ca/sites/feh/_layouts/15/DocIdRedir.aspx?ID=IC16-1689834993-197

Identify the project as: Gender neutral, Gender sensitive, Gender specific, Gender transformative

- Gender neutral (not applicable): gender is not an operative variable or concept for this project.
- Gender blind: ignored gender variables and did not promote gender equity.
- Gender sensitive: considers gender variables, but does not (yet) involve action to address them.
- Gender specific: acknowledges gender norms, roles and responsibilities and promotes gender-specific improvements.
- Gender transformative: examines, questions and aims to change norms, roles and inequalities toward greater equity

Transformative organizations:

From the organizations involved in this project, indicate which ones were supported to build organizational capacity so that they are now in a position to play a more transformative role in their field or community? Place a check in the 'CAD' column if they are a Canadian organization.

Name of organization	Brief description of the specific means/activities by which the project supported increased organizational capacity	CAD

Contribution to IDRC's development outcomes

If the project contributes in a significant way to one or more of the 3 development outcomes, provide a short description of its contribution below. There is no need to complete this section for all projects, but only those with the most relevant stories that are of interest for the program to highlight.

Health for all:

Economic empowerment:

Gender empowerment:

Do any of the achievements described in this report or in relation to the development outcomes have the potential as a **communications story**? If so, briefly describe:

Ontario Tech University

(I) Cover page

***Project title:** Scaling-up and evaluating salt reduction policies and programs in Latin American countries.

***IDRC project number:** Project # 108167-001

***Research organization involved in the study:** (that prepares this report)

The University of Ontario Institute of Technology (Ontario Tech University)

***Location of the study:** (Address of the research institution in the country that prepares this report)

University of Ontario Institute of Technology (Ontario Tech University)
2000 Simcoe Street North, Science Building - Room 3016
Oshawa, ON L1H 7K4
Canada

***By:** (Co-researcher of the Project in the country, position, department and institution, email)

Name	Position	Department and institution
Dr. JoAnne Arcand	Co-Investigator,	University of Ontario Institute of Technology (Ontario Tech University)
Janice Padilla-Moseley	Graduate student,	University of Ontario Institute of Technology (Ontario Tech University)

***Report type:** Final Technical Report

***Date:** (the report is sent to Costa Rica)

Feb 10, 2020

***Insert copyright and licensing information:**

2019 INCIENSA (please include institutions involved in the project)

Table of contents of the report:

Section	Content	Page
1	Title and table of contents	2
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3	The research problem	3
4	Research findings	4
5	Project implementation and management	7
6	Project outputs and dissemination	9
7	Impact	9
8	Recommendations	11
9	References	11

(X) Executive summary

Provide an informative summary of the key advances, significant research findings, important outcomes and innovative outputs of the project. The focus should be on project achievements in terms of outputs and outcomes.

There is an increasing amount of dietary sodium-focused research in Latin American countries (LAC) to inform policies and programs to address the excess sodium intakes and high rates of hypertension and cardiovascular disease. Ideally, research evidence should be used to inform health policy and political agendas; however, limited resources and tools, lack of knowledge translation (KT) skills and capacity, and unpredictable political climates pose challenges when linking research to policy action.

Latin American researchers can utilize the assistance from other IDRC countries who are experienced in KT efforts to build KT capacity, increase interprofessional collaboration and facilitate with dissemination of research to drive program and policy action on sodium reduction. We have developed, validated and implemented a KT workbook, which is designed as a practical, action-oriented workplan to generate evidence-based KT plans. Countries have utilized the workbooks in transferring the research knowledge generated to project end users.

We have worked with the country researchers to conduct an overall assessment of changes to sodium levels in the packaged food supply across 4 participating countries (Peru, Paraguay, Argentina and Costa Rica), from 2015 to 2018. While the 2018 data have only recently been generated; we have been using the 2015 data (published in *Nutrients*, Jan 2019) to advocate for more stringent regional sodium targets for LAC.

There is also a need to conduct an overall program evaluation to determine if the objectives of the funded project were achieved, and to use this evaluation to inform recommendations for future funded research (Objective 5). This evaluation is currently underway and will be submitted prior to March 5, 2020.

With the extension to the Consortium funding, we have been conducting a qualitative study to assess influence of the IDRC research project (#108167-001) on sodium reduction policies and program development and changes (e.g. program/practice changes) and facilitators and barriers to the uptake of research knowledge and implementing policies and programs in the IDRC countries. As part of this work, we have conducted nine 60-minute interviews with Ministry of Health officials who work in non-communicable disease programs and with the IDRC grant country leads. The results are currently being synthesized and will be submitted prior to March 5, 2020.

(XI) The research problem

What was the basic rationale of the project and the research problem or problems being addressed? Often, the researchers' understanding of the problems will have evolved since the project was approved. The report should describe this evolution and the reasons behind it. Did the research process lead to a revised view of the research problem?

Provide a synthesized reflection on the overall progress of the global project (please include the general objective of the project). Describe the contribution to knowledge that this project represents from a scientific, developmental and/or policy perspective.

Describe the research problem in your country (just for Latin American countries). Costa Rica will include the rest of the information (basic rationale and the research problem of the project). Include the complete bibliographic references at the end of the report.

There is an increasing amount of dietary sodium-focused research in Latin American countries (LAC) to inform policies and programs to address the excess sodium intakes and high rates of hypertension and cardiovascular disease. However, limited resources, lack of research to support population-wide sodium reduction programs, knowledge translation (KT) skills and capacity, and unpredictable political climates pose challenges when linking research to policy action.

Describe the contribution to knowledge that this project represents from a scientific, developmental and/or policy perspective.

This is my perspective for the overall project.

- 1) Capacity building. Each of the project objectives (including knowledge translation) included numerous training opportunities with experts so that each participating country can establish comfort and expertise in the methodologies and analytic approaches.
- 2) Partnership development. Each country had the opportunity to work with new partners within the countries. They also worked with international experts in the US, Canada and the UK; who helped train, inform research project, guide data analysis and collection to achieve the study outcomes. Importantly, countries also collaborated with each other, and leaders emerged within different objectives.
- 3) Generation of new knowledge to guide policies and programs. The data generated can provide a basis to inform new policies and modification of existing policies/programs (i.e., Regional sodium targets, economic analyses).
- 4) Development of novel tools to support practical, action-oriented knowledge translation to key stakeholders. We have developed KT workbooks to support researchers in developing and implementing KT plans for each research objective.

(XII) Progress towards milestones

All interim reports were duly submitted

(XIII) Synthesis of research results and development outcomes

Please notice that for each objective the report has to include both the scientific results as well as other results such as outcomes (changes induced by the project) referred to influencing policies, strengthening capacities, building awareness, policy support, etc.

The analysis of outcomes should take into account social, gender, and environmental dimensions wherever appropriate and possible. It can be done in two ways, but should be consistent the approach used in your past interim technical reports (confer with the program officer to determine the preferred approach):

By each project research objective:

- Synthesize the main research results during the project, highlighting the progress made by the project. This should be done by listing each specific objective as it is written in the Grant Agreement, highlighting the progress for each one.
- If applicable, include any summarized quantitative analysis to back up the results as an annex to this report.
- Highlight any unexpected, surprising or interesting innovative results that you can draw out of the research.
- Explain how the research results are being used, and what their impact has been on specific communities or populations in the targeted country(ies) at the end of the project.
- How were research ethics issues, if any, assessed and managed?
- Describe any potential uptake of project results within 3 years of the end of the project.

GENERAL OBJECTIVE: To promote political innovations in the reduction of sodium in food systems in Latin America, through the strengthening and evaluation of the scaling of existing salt reduction programs and support to new programs by a consortium of institutions in Argentina, Brazil , Costa Rica, Paraguay and Peru.

- 1) **Consortium Objective 1A: Multi-country longitudinal analysis of sodium in packaged foods: Objective:** To determine if a significantly greater proportion of packaged foods from four LAC (Argentina, Costa Rica, Paraguay and Peru) meet the PAHO regional targets in 2018, compared to 2015 (2015 data published by Arcand J et al. *Nutrients*, 2019). **Results:** Compliance with regional targets significantly increased from 83% (n=3,198/3,859) to 86% (4,894/5,663), respectively for 2015-2016 and 2017-2018 (p<0.001). At the category level, four food categories had a significantly higher proportion of foods meeting regional targets from 2015-2016 to 2017-2018: Bread products from 78% (n=273/350) to 92% (n=287/311, p<0.001), cakes from 63% (n=197/312) to 78% (n=181/230, p<0.001), breaded

meat and poultry from 61% (n=44/72) to 87% (n=67/77, p<0.001) and wet and dry soups from 62% (n=136/217) to 79% (n=120/152, p<0.001). However, two categories had a significantly lower number of foods meeting the targets over time: Cookies decreased from 94% (n=408/432, p<0.001) to 87% (n=328/378), and meats and sausages from 87% (n=328/378) to 80% (n=285/357, p=0.01). The other fourteen categories did not significantly change. **Conclusions:** Only 4 of 18 food categories had a higher proportion of foods meeting the PAHO regional sodium targets, while two categories had fewer foods meeting the targets, over time. Since a high proportion of foods were already meeting the targets at baseline and sodium intakes in LAC remain unacceptably high, more stringent sodium targets are required to support further sodium reductions in packaged foods in LAC. **The full report of the findings can be found in an Annex.**

- 2) **Consortium Objective 4. "Development and validation of a knowledge translation (KT) workplan to facilitate research to policy action on dietary sodium reduction in Latin America countries." Objective.** to develop, validate and implement an evidence-informed KT workbook to enable country researchers to generate effective knowledge-to-action strategies for dietary sodium-related research outputs. **Results.** The environmental scan identified 4 KT models that took practical KT planning approaches. These were used to inform the design of a customized workbook considering the LAC regional context. The workbook consisted of 11 steps to identify and describe the message, audience, goals, engagement time-points, action, agents of change, strategies, experts, resources, budget and implementation. Eight stakeholders provided feedback, with 3 validation surveys completed and 5 open-ended descriptive comments received. The results identified that key terms required translations into Spanish to mitigate ambiguity. Stakeholders noted that the workbook was comprehensive, encompassed relevant target groups and considered study outcomes/messages. The webinar attendees commented that the workbook provided new, practical insights and broad thinking about dissemination strategies beyond the traditional peer review publications and academic conferences. To support the countries in developing and implementing the KT workplans, a live interactive webinar training session was scheduled with the country leads for each objective. This webinar was also recorded for future reference. A half day KT workshop was also held in Costa Rica in February 2019. **Conclusions.** A review of current best practices in KT and stakeholder feedback were used to develop a KT workbook that is suitable and relevant for researchers in LAC, educational, and feasible to generate country and project-specific KT plans. **The four KT workplan**

templates can be found in an Annex. It should be noted that there was no IDRC funding (travel or research expenses) for the KT workbook development or training sessions we conducted. This objective was possible based on in-kind support from Ontario Tech University.

3) Consortium Objective 5. Program evaluation for "Scaling-up and evaluating salt reduction policies and programs in Latin American countries. IDRC Project #108167-001" Objective. The conduct an overall program evaluation is assess the impacts of a funded research program on generating scientific knowledge, in enhancing scientific capacity, partnership building and engagement and social change to influence the implementation of dietary sodium reduction policies and programs to reduce the burden of hypertension in participating Latin American countries. Specifically, the program evaluation will use the logic model as a basis for evaluation and place emphasis on determining if the short-term Research and Consortium Outcomes were achieved. **Results.** The results are currently being synthesized and written. A program evaluation report will be submitted before March 5, 2020 to the Costa Rican team. **A revised logic model that includes the outcomes being examined is in the Annex.**

4) Consortium Extension, Objective 5. "Qualitative evaluation of sodium reduction research on policies and programs in LAC". Objectives. To examine the influence of the IDRC research project (#108167-001) on sodium reduction policies and program development and changes (e.g. program/practice changes) and facilitators and barriers to the uptake of research knowledge and implementing policies and programs in the IDRC countries. **Results.** The results are currently being synthesized and written. A program evaluation report will be submitted before March 5, 2020 to the Costa Rican team. **A copy of the interview guide is included in the Annex.**

OBJECTIVE 5. Develop a knowledge translation strategy to promote optimal reach, uptake and adoption of research findings; evaluate study elements and prepare material for governments, PAHO and others to support implementation of sodium reduction throughout Latin America (All countries).

Prepare and include in this section a summary table of the list of outputs to date according to category and sector. Include the outputs that were planned but have not yet materialized.

	Government	International organizations	Scientific organizations	Overall
Oral Presentation	2	1	1	4
Publication in an academic journal			1	1
Oral abstract presentation			1	1
Poster abstract presentation			1	1
Total	2	1	4	7

(XIV) Methodology

Describe and discuss the research methods and analytical techniques used and any problems that arose. Research instruments such as questionnaires, interview guides, and any other documentation judged useful to understanding the project should also be included. Indicate and explain any changes in orientation that may have occurred since the project was designed. Indicate any particular learning about merits of different methods for addressing the project’s research problem and generating desired outputs and outcomes.

Consortium Objective 1A: “Multi-country longitudinal analysis of sodium in packaged foods”

Methods: This analysis utilized two cross-sectional food label datasets collected in 2015-2016 (n=3,859) and 2017-2018 (n=5,663). The sodium content in foods was obtained from the nutrient declarations on food packages in mg/serving and were standardized to mg/100 g or ml. Proportions of products meeting targets were calculated. Chi-square tested for differences in proportions between years. This analysis was not in the original plan but was decided to be of importance by all countries at the face-to-face meeting in Costa Rica; with J. Arcand being asked to lead the analysis and written manuscript. It is anticipated that this data can inform the revision of the Regional Targets, coordinated by PAHO; and is therefore of significant importance for the region.

Consortium Objective 4. "Development and validation of a knowledge translation (KT) workplan to facilitate research to policy action on dietary sodium reduction in Latin America countries."

Methods. An environmental scan identifying established KT plans was conducted to assess best practices. Next, an interdisciplinary committee (n=5) of government representatives, KT experts, academics and researchers informed the iterative creation of a KT workbook. The KT workbook was then validated by 8 stakeholders using a 14-item questionnaire with open-ended and five-point Likert scale questions. Feedback was used to revise the KT workbook which was piloted among a team of 16 LAC researchers, accompanied by an instructional, interactive webinar demonstration. The final output was the development of 4 KT Workbooks that can be adapted in the future for various types of research projects.

Consortium Objective 5. Program evaluation for "Scaling-up and evaluating salt reduction policies and programs in Latin American countries. IDRC Project #108167-001"

Methods. Multiple methods will be used to collect data among key stakeholders included 1) A validated program evaluation survey 2) Interviews with the Costa Rican coordinating team and with individual country leads, document review and data extracted from a qualitative study that examined barriers and facilitators related to uptake of research data in policies and programs in LAC (Consortium Extension, Objective 5). Data acquisition began in December 2019. A copy of the logic model is included in the Annex.

Consortium Extension, Objective 5. "Qualitative evaluation of sodium reduction research on policies and programs in LAC".

Methods. A 60 minute qualitative interview with the research lead in each participating country (n=5) and Ministry of Health officials in charge of non-communicable disease programs (n=4 from each countries, except Brazil). The PARIHS (Promoting Action on Research Implementation in Health Services) framework and the Diffusion of Innovations (DOI) Theory were used to guide the semi-structured interview guide. A copy of the interview guide is developed and used is in the Annex.

(XV) Project Outputs

Please notice that IDRC understands as **outputs** concrete tangible products, such as articles, databases, new software applications, new techniques, brochures, media notes, etc.

Making reference to the open access dissemination plan, what were the main outputs of the project? Identify any outputs that were planned, but which have yet to materialize. Specify when these outputs will be completed, including plans for any future publications. Specify how you have met the requirements of [IDRC's Open Access Policy](#). If appropriate, highlight any unique or innovative outputs. If appropriate, explain why outputs were not completed or were of poor quality.

Please complete in English the questionnaire entitled IDRC's Tracking Program Level Indicators (Annex 1.).

The detail of the products and activities of disclosure or transfer of knowledge that are considered relevant is required to include them in the Excel file attached (Annex 2.), please follow the format provided and attach this document to the progress report of the project

Annex 1 is for the exclusive use of IDRC and Annex 2 will be used by Costa Rica to compile the transfer activities of all countries. Please send both documents in Word or Excel and in pdf.

Consortium Objective 1A: Multi-country longitudinal analysis of sodium in packaged foods: Objective:

Outputs:

- A database containing the sodium content of foods for all countries in 2015 and 2018.
- A report that contains data that can be shared with regional stakeholders. A manuscript will be prepared and submitted to an academic journal in the Spring 2020.
- PAHO indicates that they will coordinate a revision the sodium targets in 2020. The 2015 data has been presented at an initial meeting to discuss the revision of the targets; the new data from 2018 will provide more recent estimates upon which to make decisions about target levels.

Consortium Objective 4. "Development and validation of a knowledge translation (KT) workplan to facilitate research to policy action on dietary sodium reduction in Latin America countries."

Outputs:

- Development of four KT workbooks that correspond to each research objectives 1A, 1B, 2 and 3).
- A recorded training session to accompany the KT workbooks
- Published abstract, presented at the Canadian Nutrition Society 2019
- A manuscript is in preparation, to be submitted in the Summer 2020.

Consortium Objective 5. Program evaluation for "Scaling-up and evaluating salt reduction policies and programs in Latin American countries. IDRC Project #108167-001"

Outputs.

- A report with the results will be submitted to the IDRC in March 2020
- A manuscript that will be submitted to an academic journal in the Summer 2020.

Consortium Extension, Objective 5. "Qualitative evaluation of sodium reduction research on policies and programs in LAC".

Outputs.

- A report with the results will be submitted to the IDRC in March 2020
- A manuscript that will be submitted to an academic journal in the Fall 2020.

(XVI) Problems and Challenges

Have there been any problems or challenges faced by the project? These could include delays, problems amongst stakeholders, with research activities etc. Highlight any risks that might have emerged in the project, and innovative ways you have found to deal with these risks.

Reflect on possible problems and challenges related to ethics.

None to report.

(XVII) Administrative Reflections and Recommendations

This section is not about research recommendations, but administrative recommendations for IDRC. What would you do differently as a result of this experience, and what general and useful lessons can be derived for improving future projects?

What recommendations would you make to IDRC with respect to the administration of the project, related to the scope, duration, or budget? Candid observations about the overall experience with the project are encouraged. However, any sensitive or confidential information should be addressed through a direct exchange with the program officer, and documented and filed separately.

Administratively, we had a positive experience. The transfer of funds was efficient and effective. When there were left over funds, an extension was provided so that we could use those funds to conduct more research. I do know there were several challenges with other countries. These we are documenting as part of the program evaluation.

(XVIII)References

(Use format that is in the Project Protocol approved by the IDRC).

ANNEX 1: TRACKING PROGRAM LEVEL INDICATORS

We kindly request that you complete the following questionnaire on your project's achievements. It includes a set of indicators selected to document and monitor outcomes of the Food, Environment, and Health Program at the global scale. These indicators will help our Program track progress toward the targets set in our Implementation Plan approved by IDRC's board of governors in 2015. This exercise is for IDRC's internal reporting only, and is **not** intended as an assessment of your project. Results from your project will be aggregated with those from other funded projects in order to provide a picture of collective achievements for the program as a whole. Your input will help us assess and improve our programming.

This questionnaire should be **completed once a year by all grantees** and returned at the same time as your interim technical report. In some cases, you may be completing this report for the first time alongside your final technical report. The information in your technical report should assist you in completing the questionnaire.

<p>INSTRUCTIONS:</p> <p>Please provide answers to the questions below based on <u>actual</u> achievements and outcomes. If this is the first time you are completing this questionnaire, please include all achievements since the inception of the project. If you have submitted this questionnaire in the past, please add any new achievements or progress since your last report.</p> <p>In some cases, your responses to these questions may repeat achievements mentioned earlier in the technical report. If this is the case, please extract (copy and paste is acceptable) the information here. Please keep your answers brief, limiting to one to two paragraphs per question.</p> <p>Projects are not expected to document achievements for each of the questions; it is normal that some questions may not apply to your project and remain blank.</p>	<p><i>This column left blank for internal purposes</i></p>
<p><i>Please provide identifying project information below:</i></p>	
<p>Project number: 108167-001</p> <p>Project title: Scaling-up and evaluating salt reduction policies and programs in Latin American countries</p> <p>Date this report was prepared: Feb 10, 2020</p>	
<p>1a. What innovations is your project testing, assessing or adapting to reduce the burden of chronic or infectious diseases? A definition of an innovation is provided in the footnotes for your reference.² If your project has been contributing to multiple innovations, please describe them individually.</p>	<p>Ind. #2</p>
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>Based on a review of current best practices in KT, we developed 4 KT workbooks that corresponded to each of the project's research objectives (Objectives 1A, 1B, 2 and 3). The purpose of the KT workbooks was to provide researchers with a step-by-step guide to developing an action-oriented KT plan, to successfully transfer research knowledge and other outputs/innovations to end-users.</p>	<p>0</p>

² Innovations can be understood as new and significantly improved ways of doing or organizing something, and include the adaptation of existing products or processes to new contexts. They include: **products** (a market and/or publically distributed good); **processes or practises** (a new method, skill or behaviour that creates positive change); **programs** (organizational arrangements or system of services that meets a need for a defined community). Examples of innovations related to reducing the burden of infectious and chronic diseases could include testing: the use of screens in preventing Dengue and other Aedes mosquito transmitted diseases; the potential of community kitchens to provide healthier meals to low-income populations; applying a new methodology to assess food policies and food environments.

<p>1b. Of the innovations described in 1a), have any of them been applied at scale? For example, has the innovation been adopted for wide-scale use by a large population, by government, or applied in different contexts, countries, or markets? Explain how this innovation is being applied at scale and what processes have enabled wide-spread use and/or scale-up.</p>	Ind. #3
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>The workbooks have only been used within the context of the current IDRC grant. We have presented the workbooks at two conferences, with one published abstract. We plan on writing a journal article and will upload the KT workbooks to the IDRC, portal which will result in more widespread distribution.</p>	0
<p>1c. Approximately how many individuals are benefiting from the innovation?</p>	Ind. #3
<p><i>Please indicate the approximate number of beneficiaries, if this information is known</i></p> <p>Presently approximately 12-15 individuals are benefiting from this innovation; however, because it systematically may enable the transfer of knowledge from researcher to knowledge-user, the impacts/individuals benefiting may be quite significant (if the knowledge transfer and uptake of knowledge was successful).</p>	
<p>2. Is your project assessing policy effectiveness? If yes, please list and briefly describe what policies the project is assessing, and briefly comment on the relevance and potential impact.</p>	Ind. #4
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>The comprehensive longitudinal study conducted as part of Objective 1A is assessing the changes in the sodium content of packaged food over time in Costa Rica, Argentina, Peru and Paraguay. We conducted an overall assessment of changes in the sodium content of packaged foods compared to the regional sodium reduction targets, thus indirectly assesses effectiveness of sodium policies (or lack there of) in reducing the sodium content of packaged foods (an important source of sodium). We found that between 2015 and 2018, only 4 of 18 food categories had a higher proportion of foods meeting the PAHO regional sodium targets, while two categories had fewer foods meeting the targets. Since a high proportion of foods were already meeting the targets at baseline and sodium intakes in LAC remain</p>	0

<p>unacceptably high, the data suggest that more stringent sodium targets are required to support further sodium reductions in packaged foods in LAC.</p>	
<p>3a. List and describe the key activities/mechanisms your project engaged in to inform/influence practice or policy (e.g. multi-stakeholder and community processes, participation in policy dialogues or policy-setting processes, engagement in making policy recommendations, or other relevant actions).</p>	<p>Ind. #5</p>
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>For the project discussed in Section 2, above, we have been interacting with PAHO to share our data and advocate for updated regional targets. The 2015 data has been presented to PAHO in June 2019. Since the longitudinal assessment is complete, we will now share this data which further supports the need for more stringent regional targets. Individual countries have analyzed their data, and are working at the country-level to use their data to advocate for policy and program changes.</p> <p>The development and validation of the KT workbooks has been presented at conferences. We will make them available for other researchers via the IDRC portal. We will also prepare a manuscript which describes our development and validation processes, and includes copies of the KT workbooks in an online Appendix.</p>	<p>Choose an item.</p>
<p>3b. Have any of the efforts described in 3a) contributed to new practices or policies <i>being implemented or existing policies/practices being changed</i> based partly or wholly on the work of the project? How were strategic stakeholders involved in these processes?</p>	<p>Ind. # 5</p>
<p><i>Please describe briefly (limit to 1-2 paragraphs)</i></p> <p>The evaluation of sodium levels in the food supply (published Jan 2019) supported the public-private alliance of the national targets on salt reduction.</p> <p>We also have email confirmation that PAHO is committed to re-evaluating the regional sodium reduction targets.</p>	<p>0</p>

3c. What was the level of jurisdiction of the policy/policies implemented or changed?		Ind. 5												
<table border="1"> <thead> <tr> <th></th> <th>Identify the policy <i>e.g. regulation of TV food advertising to children in Peru</i></th> <th>Select level of jurisdiction 1= local/municipal/district 2= provincial/sub-national 3= national 4= multinational/international</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>N/A</td> <td></td> </tr> <tr> <td>2.</td> <td>N/A</td> <td></td> </tr> <tr> <td>3.</td> <td>N/A</td> <td></td> </tr> </tbody> </table>			Identify the policy <i>e.g. regulation of TV food advertising to children in Peru</i>	Select level of jurisdiction 1= local/municipal/district 2= provincial/sub-national 3= national 4= multinational/international	1.	N/A		2.	N/A		3.	N/A		Choose an item.
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1.	N/A													
2.	N/A													
3.	N/A													
4a. Did your project intend to specifically benefit women, men, boys or girls or a marginalized group?		Ind. 3												
<p><i>Please place an x in the box corresponding to the target group:</i></p> <p>N/A for the projects that we participated in.</p> <table border="1"> <tbody> <tr> <td>Intended to benefit mostly men/boys</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to benefit mostly women/girls</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to equally benefit women/girls and men/boys</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Intended to primarily benefit a marginalized group (name of the group): _____</td> <td><input type="checkbox"/></td> </tr> <tr> <td>No intentional focus on gender or a marginalized group</td> <td><input type="checkbox"/></td> </tr> <tr> <td>Not applicable</td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Intended to benefit mostly men/boys	<input type="checkbox"/>	Intended to benefit mostly women/girls	<input type="checkbox"/>	Intended to equally benefit women/girls and men/boys	<input type="checkbox"/>	Intended to primarily benefit a marginalized group (name of the group): _____	<input type="checkbox"/>	No intentional focus on gender or a marginalized group	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	Choose an item.
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4b. Did you investigate how sex, gender, age, education, income, ethnicity, social standing, or other social determinants impact the health of your target population? What did you do to address these factors (for example: collecting disaggregated data, conducting gendered analyses, considering differential impacts to women, men, girls, and boys, using participatory research approaches, etc.)? How did these approaches influence the results and impacts (e.g. research, policies, and innovations)?					Ind. 6
<i>Please describe briefly (limit to 1-2 paragraphs)</i> N/A for the projects that we participated in.					0
5. Did your project include economic analyses/modeling (e.g. costing, cost-benefit analysis, etc.)? If yes, what was the purpose of including these elements and how are they contributing to achieving your project objectives?					Ind. #1
<i>Please describe briefly (limit to 1-2 paragraphs)</i> N/A for the projects that we participated in.					0
6. List all <i>peer-reviewed</i> articles that your project has published? Please do not include other types of publications here.					Ind. #11,12
<i>Please list:</i>					Choose an item.
	Title	Journal name	Primary author	Open access (Yes/No)	
7.	Sodium levels in packaged foods sold in 14 Latin American and Caribbean countries.	Nutrients. 2019; 11:369.	Arcand J , Blanco-Metzler A, Benavides Aguilar K, L'Abbe MR, Legetic B.	Yes	
8.					

9.																																									
10.																																									
11.																																									
12.																																									
<p>7. Have individuals involved in your project accomplished one of the following achievements listed below, due in part to their involvement in this project? Is yes, please list the name and sex of the individual and describe the accomplishment. Indicate if any of these individuals are Canadian placing an 'x' in the box labelled 'CAD'.</p> <p>a) received awards and other honours; b) influenced or advised policies; c) expanded the adoption of effective practices, including in new settings/populations; d) other significant achievements</p>						Ind. #10 a, 10b, 10c																																			
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8. Has your project supported any Masters students, PhD students, or post-doctoral fellows? If yes, please list the name, sex, and nationality of the individuals, and their status as Master’s students, PhD students or post-docs. Indicate if any of these individuals are Canadian by placing an ‘x’ in the box labelled ‘CAD’.

Ind. #8,9

Please list:

0

	Name	Female/ Male	CAD	Master/PhD/P ost-doc
7.	Janice Padilla-Mosely	Female	X	Master
8.	Beatriz Franco Arellano	Female	X	PhD
9.				
10.				
11.				
12.				

9. Has your project or its findings been cited in the media? Please provide the title of the media citation and an accompanying web-links for the *most relevant* citations *linked to important achievements of the project*. [No](#)

Please list:

0

	Title	Description in English (optional)	Website link
7.			
8.			
9.			
10.			
11.			
12.			

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For internal use only: To be completed by IDRC’s responsible Program Officer

<p>Please complete the relevant sections directly within the FEH database: http://ic.idrc.ca/sites/feh/layouts/15/DocIdRedir.aspx?ID=IC16-1689834993-197</p>														
<p>Identify the project as: Gender neutral, Gender sensitive, Gender specific, Gender transformative</p> <ul style="list-style-type: none"> • Gender neutral (not applicable): gender is not an operative variable or concept for this project. • Gender blind: ignored gender variables and did not promote gender equity. • Gender sensitive: considers gender variables, but does not (yet) involve action to address them. • Gender specific: acknowledges gender norms, roles and responsibilities and promotes gender-specific improvements. • Gender transformative: examines, questions and aims to change norms, roles and inequalities toward greater equity 														
<p>Transformative organizations:</p> <p>From the organizations involved in this project, indicate which ones were supported to build organizational capacity so that they are now in a position to play a more transformative role in their field or community? Place a check in the ‘CAD’ column if they are a Canadian organization.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 35%;">Name of organization</th> <th style="width: 50%;">Brief description of the specific means/activities by which the project supported increased organizational capacity</th> <th style="width: 15%;">CAD</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			Name of organization	Brief description of the specific means/activities by which the project supported increased organizational capacity	CAD									
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<p>Contribution to IDRC’s development outcomes</p> <p>If the project contributes in a significant way to one or more of the 3 development outcomes, provide a short description of its contribution below. There is no need to complete this section for all projects, but only those with the most relevant stories that are of interest for the program to highlight.</p>														
<p>Health for all:</p>														

Economic empowerment:
Gender empowerment:
Do any of the achievements described in this report or in relation to the development outcomes have the potential as a communications story ? If so, briefly describe: