Meeting on Advancing Economics for the Prevention and Control of Noncommunicable Diseases in the Americas

Washington D.C., 31 August–1 September, 2016
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Introduction

The Department of Noncommunicable Diseases and Mental Health (NMH) at the Pan American Health Organization/World Health Organization (PAHO/WHO) is committed to help strengthen Member States’ capacity to generate and use economic evidence on noncommunicable diseases (NCDs) and to effectively advocate for implementation of NCD prevention and control policies.

Under this framework, both PAHO and WHO have been working with governments and other partners—including the Public Health Agency of Canada (PHAC)—to support PAHO Member States to implement the WHO and PAHO action plans for the prevention and control of noncommunicable diseases, by fostering the development and dissemination of innovative policy-focused evidence on the economics of NCDs. With this aim, PAHO has convened three meetings.

In November 2011, PAHO held the first meeting jointly with WHO, the Organization for Economic Co-operation and Development (OECD), the Economic Commission for Latin America and the Caribbean (ECLAC), PHAC and the Ministry of Health of Mexico, to consider the latest efforts in the Region to generate evidence. Diverse initiatives were proposed, including preparing different materials to guide countries on using models and data for health and economic policy analysis on NCDs, and a review of the evidence on and methodological issues related to the link between NCDs and catastrophic health expenditures.

The second regional workshop was held in Washington, D.C., in June 2013, as part of a collaboration with the Disease Control Priorities Project (DCP3). The participants reviewed the latest advances on the economic dimensions of NCDs in the Region of the Americas, and they identified which researchers in the Region would contribute to the contents of the publication that will feed into the next DCP version.

The Third Regional Workshop on Economic Aspects and NCDs in the Americas took place 24–25 August 2015, with one of its objectives being to identify priorities for economic analyses on NCDs and their risk factors through collaborations among the various institutions. The meeting discussions led to suggestions for a new research agenda to be developed in partnership with other organizations and support for the establishment of an informal expert group on the economics of NCDs.

Since that third regional workshop in 2015, PAHO and PHAC have informally engaged interested economic experts to develop the thematic areas of the research agenda and to decide on the responsibilities of the informal expert group. In the spring of 2016, informal thematic sub-
working groups were organized to formulate the prospective thematic areas, and leaders for each area were identified.

Within this context, PAHO, in collaboration with PHAC, convened the meeting on Advancing Economics for the Prevention and Control of NCDs in the Americas in Washington, D.C., on 31 August and 1 September 2016. The meeting brought together technical experts from academia, governments and intergovernmental organizations with the goal of supporting PAHO Member States in their efforts to implement the WHO and PAHO action plans on NCDs by nurturing the formulation of innovative policy-focused evidence on the economics of NCDs to be disseminated throughout the Region.

Specific Objectives

- Present state-of-the-art policy-focused evidence on different thematic areas of the economics of NCDs.
- Provide an overview of the available evidence on the economics of NCDs in the Americas and identify research gaps, with the aim of fostering implementation of NCD prevention and control policies.
- Suggest new evaluation frameworks to enhance and expand the use of economic tools and methods that are applicable and feasible in the Region of the Americas, beyond the traditional public health uptake of economics, with the aim of effectively advocating for NCD prevention and control policies both within and beyond the health sector.

The agenda for the two-day meeting was organized into four sessions (see meeting agenda in Appendix A), based on the following thematic areas:

- Investment Case Methods for NCDs;
- Developing an Investment Case for the Prevention and Control of Obesity;
- Socioeconomic Inequalities in NCDs;
- Trade and NCDs;
- Fiscal Measures for NCD Risk Factors.
Day 1- Wednesday, 31 August 2016

The meeting was opened by the Assistant Director of PAHO, Dr. Francisco Becerra Posada, with welcome remarks made by Dr. Anselm Hennis, Director of NMH. Technical remarks along with meeting objectives were presented by Dr. Vivian Ellis, Special Senior Advisor at the PHAC, and Ms. Rosa Sandoval, Regional Advisor.

Dr. Becerra highlighted the tremendous economic and human impact of the NCD epidemic in the Region of the Americas, along with the need to develop economic evidence that allows policy makers to effectively advocate for NCD prevention and control policies considering heightened competition for scarce funds. Dr. Hennis and Dr. Ellis provided a brief background and the motivation for the meeting, respectively. Lastly, Ms. Sandoval provided an overview of the meeting structure (Agenda available in Annex A).

Session I: Investment Case Methods for NCDs

Background
An investment case estimates the costs and benefits of interventions or a package of interventions (i.e. a program) within a given context. Investment cases are often appropriate for comparing investment alternatives, mobilizing funding, and forging social consensus for the desirability of cross-sectoral and multi-sectoral action. Most investment cases calculate the intrinsic value of the health benefit using a value of a statistical life (VSL)-based approach and instrumental value of improved labor-market outcomes as measured in gross domestic product (GDP). These are then compared to the costs of interventions to calculate the return on investment.

Although the investment case method is a functional, problem-solving approach to support planning and budgeting activities, there are some general challenges in data availability, multi-sectoral inclusiveness and application. Some of the challenges and gaps identified include:

- Quality data are needed from different sectors as these are essential in the accurate estimation of possible causes of disease and injuries and implementation of successful interventions.
- Models will need to incorporate priorities and interests of other sectors, and current methods will need to be more extensive to include estimations of the full impact of interventions beyond the health sector.
- A more comprehensive model is necessary to answer a variety of questions from a single data input as opposed to multiple different models that each answer disparate questions from varying types of input datasets.
Presentation: Review of Methods for NCD Investment Cases

Dr. Rachel Nugent, vice president of global noncommunicable diseases of the Research Triangle Institute (RTI) International, provided an overview of investment cases, including: a general definition, a comparison of existing methodologies, and common gaps and challenges. The presentation began with the general definition and then the identification of the components of an investment case framework:

- describe the current disease state within a given country;
- identify feasible, effective, and locally relevant interventions for analysis;
- provide analysis of the costs and benefits of intervening.

Next, Dr. Nugent identified five overarching areas that investment case frameworks analyze (Figure 1). She then emphasized that a series of tradeoffs are involved when selecting a model to use for an investment and cautioned users to acknowledge the considerations a singular investment case model may leave out. Additional considerations beyond the five overarching areas initially identified include: long-term health impacts, wider societal costs and consequences, effects on inequalities, multicomponent interventions, and interactions with systems outside the health sector.

Seven of the most frequently used models for the economic analysis of NCDs were then briefly described. Of the seven models considered, four produce net-cost, cost-savings, and/or cost-effectiveness estimates. The remaining three have either a focus on macroeconomics or concentrate on sectors other than health, by analyzing lost economic output or assessing
absenteeism or other labor market outcomes. It was highlighted that each model has unique methods and perspectives and that the selection of a model should consider specific country context, the questions asked by policy makers and data availability.

**Presentation: Investment Case Methodology used in Barbados**
Dr. Melanie Bertram of the WHO Department of Health Systems Governance and Financing, described the experience of implementing an investment case framework in Barbados with the United Nations Interagency Task Force on the Prevention and Control of NCDs (UNIATF). The goal was for Barbados to have a tailored, compelling case outlining the economic benefits of developing a national multisectoral response to the NCD-related targets in the Sustainable Development Goals. The major methodological steps in developing the investment case are provided in Figure 2.

In the Barbados pilot, the economic costs of NCDs were calculated by measuring the direct costs in terms of estimated government expenditures for prevention, screening and treatment. It should be acknowledged that due to scarcity of local data on current NCD expenditures, the model utilized international data. The indirect costs were assessed by considering output lost due to absenteeism from work; output lost because of presenteeism; and the cost of replacing workers who drop out of the work force due to chronic disease.

![Figure 2: Methodological steps followed in Barbados pilot](image)

To calculate the investment needed and the resulting health gains, the group used the OneHealth Tool. The model estimated how much a new health plan would cost, how many lives could be saved, and whether new facilities and additional human resources would be needed to
carry out the plan. The model found that the country has sufficient health facilities, but additional personnel, such as cardiologists, would be required.

According to the model, the largest drivers for increased costs over a five-year period would be drugs and supplies. The results indicate that although a small amount of new funding would go towards prevention interventions, in the long term it would generate a high return through a variety of channels, including decreasing future drug expenditures.

Besides generating an investment case for the prevention and control of NCDs, the pilot test also produced two broader lessons for developing investment cases going forward. First is the need to incorporate methodological flexibility to accommodate for both data availability and policy-makers’ specific questions. Second is the importance of developing a local multidisciplinary team for getting buy-in from all stakeholders.

**Panel Discussion on Practical Application and Lessons Learned**

Mr. Douglas Webb, of the United Nations Development Program (UNDP), began the discussion session by describing the role that the UNDP has played in the UNIATF in helping countries prepare investment cases. He emphasized that “return-on-investment figures are only part of the story” as there is also a need for a context analysis to assess how power and resources are distributed among institutions involved in the decision-making process. He also stressed that investment case information needs be kept simple (for example a single page infographic with key information) and fit with the country’s “grand narrative,” such as promoting economic growth or ethnic unity.

Dr. Bertram expanded on Mr. Webb’s assessment on the importance of conducting context analysis by stressing that developing investment cases is “a highly political process, not just an economic analysis.” In the case of Barbados, elections were coming up in a few years, so it was important for the investment case to focus on what could be accomplished while the current administration was still in power. She noted that none of the existing models are “perfect” for all situations; thus, selection requires a level of pragmatism in choosing the most apt model.

Dr. Alexey Kulikov of WHO, provided an overview of the work related to investment cases that the UNIATF has done since 2013. He stressed that two of the most attractive functions that investment cases serve are: helping Ministries of Health to identify priority interventions and communicating with non-health sectors. For investment cases to be effective, the data generated by a model must be kept simple for key audiences.

Dr. Ellis from PHAC, noted the importance of taking a multisectoral approach and considering the perspective of other stakeholders. For example, because most existing models take a health system or government sectoral approach, Ellis called for models to consider potential impacts on the quality of life of individuals and households.
Plenary Discussion on How to Improve Investment Case Methods
Several audience members raised concerns related to the ability of models to 1) account for informal employment, 2) adequately incorporate mental health, and 3) integrate socioeconomic inequalities.

Additionally, concern was expressed regarding the difficulty in communicating to policymakers the precision of estimates, including the importance of large confidence intervals, in light of model assumptions, extrapolated inputs and long-term projections (for example 30-year gross domestic product projections). In response to this issue, Dr. Bertram acknowledged that policymakers often want “a number, not a range of values” and advised that when forced to use highly uncertain input data in a model, the focus should be on the actions that are supported by good-quality evidence.

Regarding data, it was acknowledged that the use of local data as inputs for investment case models is much more persuasive and effective in building advocacy support for the proposed actions than proxy data. Nonetheless, in cases where there are no local data available, users should not be discouraged from attempting to develop investment cases, as validated data from other countries could also be used.

It was suggested that the investment case methods be standardized and endorsed by entities such as the WHO to help the Ministry of Health gain broader acceptance across the government for proposed actions. However, it was also noted that that methods used in each country depend on context and the perspective from which the costs and benefits need to be assessed, the data availability, and that prior to standardization it is important to thoroughly understand which methods and tools are appropriate for evaluating the various kinds of investments.

Key Messages from Session I:
• Investment cases examine benefits and risks involved with both taking relevant action and, conversely, with not taking action. Additionally, they may provide analysis of the costs and benefits of intervening.
• Selecting an investment case model involves a series of trade-offs, and that the selection of a model should consider specific country context, the questions asked by policy-makers and data availability.
• In developing investment case models, it is important to be pragmatic and incorporate methodological flexibility to accommodate for data availability, the specific questions for which policy-makers need responses, and the groups and sectors that will experience benefits, costs and risks.
• Developing investment cases is a highly political process, not just an economic analysis.
• Investment cases can help the ministry of health to identify priority interventions and to communicate the needs and benefits across non-health sectors.
• Progress is needed in terms of integrating inequalities and other factors such as gender and poverty into investment case models.

Session II: Developing an Investment Case for Prevention and Control of Obesity

Background
Addressing obesity, particularly the rising prevalence among children, is a high priority. To combat the high rates of obesity, investment cases and multisectoral efforts in the Americas must mobilize in an integrated manner as policy solutions often lay outside the health sector and the mandates of ministries of health. Evidence on the economic impact of obesity is restricted due to the limited types of costs considered as well as inconsistencies in estimates. Additionally, evidence on the intervention effectivity is fragmented and not standardized.

Progress in improving availability of data, broadening the types of evidence to fit a multisectoral approach, and expanding the capabilities of the different economic analysis models is necessary. To address this point, there is emphasis on the potential value of standardization of methods and the subsequent ability to conduct international comparisons. Although the existing models have limitations, they have the capability to provide very useful information for policy makers.

Presentation: Investment Case for Prevention and Control of Obesity an Overview to Motivate Discussion
Dr. Olga Milliken of the PHAC, provided a synopsis of the available evidence on the economic cost of obesity and relevant interventions, the methodologies for assessing interventions and the limitations of these models.

With regards to the available evidence on the economic impact of obesity, it is largely limited in terms of costs considered and inconsistent as estimates vary widely within countries. Current evidence on the economic costs of obesity concentrates on healthcare expenditures and incomplete estimates of the impact on production using the cost-of-illness approach; many socioeconomic impacts, including that on human capital development, wages and employment, non-paid work and on intrinsic value of health, have not been captured or received only cursory attention.
Likewise, the evidence on the effectiveness of interventions is fragmented, particularly for long-term impacts. In addition, it is hard to rank interventions across studies because of differences in their measurement methods. Figure 3 provides an overview of the various approaches that have been used to evaluate the economic impact of obesity.

**Figure 3: Economic Approaches for Analyzing Obesity Interventions**

- **Cost-effectiveness and cost-utility analyses of interventions to address obesity**
  - Assessing Cost-Effectiveness (ACE) in Obesity in Australia
  - Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES) in USA
  - McKinsey Global Institute for UK (2014)
  - Obesity and economics of prevention, Fit not Fat, 2010
- **Other approaches to investment case for obesity**
  - Macroeconomic impacts with computational general equilibrium modeling (CGE) (e.g., “Impact of adopting a healthier diet in Canada”)
  - POHEM-BMI (population health model with healthcare cost projections)

These methodologies are in development. The available cost-effectiveness and cost-utility models are based on the health-sector and rarely provide a comprehensive account of societal costs and benefits, including the impacts on households and on other sectors of society. Similarly, macro and general equilibrium models employ GDP as the measure of welfare and thus do not include the intrinsic value of health.

Overall, Dr. Milliken concluded, to advance investment cases for obesity in the Americas, progress will be needed in terms of improving availability of data on health risks and intervention effectiveness, broadening the types of evidence to fit a multisectoral approach, and the capabilities of the different economic analysis models need to be expanded.

**Presentation: Projecting Costs of Obesity in Chile: Data and Method Issues**

Dr. Cristóbal Cuadrado presented research on projecting the costs of obesity in Chile, compared those costs with other nations in Latin America, and discussed his team’s data and methodological challenges.

Dr. Cuadrado and colleagues estimated the cost of obesity to range between 0.7 and 2.8% of the total health expenditures in terms of the level of resources used that are attributable to treating overweight, obesity and their consequences, at the level of the provider, the payer, the
health system and society. However, these findings can be substantially different depending on the type of analysis done.

Three approaches have been most frequently used for cost-of-obesity studies: regression methods, attributable fraction methods and simulation methods. In his research from Chile, Dr. Cuadrado used the second and third of these methodologies.

Using the attributable fraction approach, Dr. Cuadrado found that 1.12% (0.74%–1.46%) of total health expenditures in Chile is allocated to the hospital treatment of obesity and its complications. Among the largest costs are those for obesity treatment, gallbladder disease, diabetes mellitus, coronary heart disease and cancers. Obesity-related costs are higher among women and persons aged between 55 and 74 years.

Through the simulation model, Dr. Cuadrado’s results showed that 2.08% of the total health expenditures goes to treating obesity and its consequences and that 1.92% of GDP is lost each year due to the direct and indirect costs of obesity. According to a sensitivity analysis, between 1.14% and 2.75% of the total health expenditures within a 95% confidence interval is attributable to the treatment of obesity and its consequences.

Dr. Cuadrado’s examination of comparable direct costs as a percentage of GDP each year in Latin America found a wide range of values, from a low of 0.10% from one study of Brazil to a high of 14.01% from a study in Mexico. Similarly, indirect cost values ranged from 0.02% in Argentina to 1.75% in Chile.

There are several reasons for the wide ranges in values. In the various studies, for example, different age groups were selected. Some studies considered the cost analysis from a societal perspective and others took a health care viewpoint. The studies differed in terms of the direct-cost categories they used, such as annual cost per disease, only inpatient care, and both ambulatory and inpatient care. Some direct-cost studies reported the results in U.S. dollars, and others presented their results in local currency. With the indirect-cost studies, there were also many differences in the methodology used.

Despite their weaknesses, Dr. Cuadrado concluded that cost-of-obesity studies can still be worthwhile. For example, they can establish the magnitude of the problem, particularly for actors outside the health sector, and they can also be useful in negotiations and advocacy work with decision-makers.
Presentation: Economic Impact of Childhood Obesity: A Map of Pathways and Evidence

Dr. Olga Milliken of the PHAC, provided an overview of the possible pathways for the economic impacts of childhood obesity, noting that they may differ from those of adulthood obesity—and thus require a life course perspective.

Childhood obesity may have adverse physical, mental health and behavior outcomes that begin in childhood and adolescence, which can increase the risk of being obese and having obesity related conditions in adulthood. Figure 4 provides an overview of the potential pathways grouped into four larger categories. For example, through the perspective of the individual and the family, obesity can influence an individual's human capital through obesity-attributed illnesses and harm to neurocognitive development, which may affect life-long socioeconomic opportunities and labor market outcomes. Conversely, from the societal point of view, GDP and growth may be affected through decreased productivity due to obesity-attributed illnesses, as well as national savings and investments, if more resources are devoted to obesity-attributed healthcare.

The quality of evidence of these possible pathways varies widely. Most of the existing literature focuses on the impact on health care expenditures. While there is mixed evidence on the impact during childhood, there is general agreement on the increased utilization of health care services. More evidence is emerging that links childhood obesity to reduced productivity in adulthood.
Overall, more information about these pathways is needed. For example, a large share of the economic impacts does not yet have an estimated monetary value, particularly for the full life-course impact on economic productivity due to obesity in early years. The case is similar for the full social impact, including costs due to social exclusion, lower human capital accumulation, and discrimination.

**Presentation: Assessing the Economic Impact of Obesity**

Dr. Michele Cecchini from the OECD Health Division, described the work that OECD will be doing over the next two years to develop a framework to assess the economic impact of obesity. The proposed activity will assess the economic impact (with both indirect and direct costs) of obesity from two frames of reference: obesity’s impact on the economy and the economic impact of tackling obesity. Figure 5 provides examples of what costs will be considered under each of the two analyses.

The broader objective is to help ministries of health in building the case for increased funding and policy implementation. Initially, the primary focus will be on European Union and OECD countries, but this could be broadened later. The OECD will proceed with its investigations of the effectiveness and the cost-effectiveness of tackling obesity.

**Figure 5: Economic costs of obesity and of tackling obesity**

The Economics Behind Obesity, or What the Project will Look at:

<table>
<thead>
<tr>
<th>Obesity’s Impact on the Economy</th>
<th>Healthcare costs</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Labour market impact</td>
</tr>
<tr>
<td></td>
<td>Welfare benefits and other transfer payments</td>
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<tr>
<td></td>
<td>Other indirect costs (Morbidity and mortality costs)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Economic Impact of Tackling Obesity</th>
<th>Cost-effectiveness of policies</th>
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<tr>
<td></td>
<td>Costs incurred by the private sector to comply with new regulation</td>
</tr>
<tr>
<td></td>
<td>Impacts on the market for specific products (e.g., sugars)</td>
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<tr>
<td></td>
<td>Consequences on employment and governmental revenues</td>
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</table>

**Plenary Discussion and Questions on Obesity Presentations**

Concern was expressed regarding the great range in cost estimates from different studies, which may elicit strong skepticism among policymakers. To address this point, the potential value of standardization of methods and the subsequent ability to conduct international
comparisons was emphasized. Using studies with similar methods in different countries could provide highly useful data benchmarks. Another benefit from such standardized work would be the insightful lessons provided by nations that have undergone an epidemiological transition to countries that are beginning the same process.

Regarding data availability for applying to and potentially improving models, it was noted that many public health-insurance programs in countries of Latin America have already collected large amounts of data. These data could be applied to the existing economic models and PAHO could play a leadership role in collecting and sharing that information.

The need to be pragmatic in using both available data and models was also raised: although the existing models have limitations, they have the capability of providing very useful information for policy makers.

**Key Points from Session II:**

- For the economic analysis of obesity interventions, among the most common approaches have been cost-effectiveness analyses, cost-utility analyses, and assessments of macroeconomic impacts through computational general equilibrium modeling.
- Estimates of the direct health care costs of obesity, overweight, and their consequences vary greatly within and between the countries of Latin America. Using studies with similar methods in different countries could provide better data on this question and comparability of results.

**Session III: Socioeconomic Inequalities in NCDs**

**Background**

A better understanding of NCDs and how they unequally affect diverse populations in the Americas will allow improved design and implementation of policies to control and prevent NCDs. Within the region of the Americas, evidence on the inequalities of NCDs is mixed. Mainly due to specific limitations in the available data, there is very little research on differential mortality among adults in Latin America. Root causes of inequalities in the distribution of NCDs, however, need further research to clearly understand not only why and how NCDs and their risk factors are affecting different population groups, but also to understand to what extent these populations will be affected if no action is taken.

**Presentation: Overview of Socioeconomic Inequalities in NCDs**

Dr. Jose Escamilla from the Health Information and Analysis Department at PAHO, provided a brief overview of the available evidence on the inequalities (in terms of prevalence, mortality
and disability-adjusted life years) of NCDs, and the opportunities and challenges in applying information on social determinants of health (SDHs) for analysis and policy change.

Evidence of inequalities in NCDs in the region is relatively scarce and mixed. Although much is already known about SDHs, they encompass such a wide range of interacting factors that have not been thoroughly explored enough in the region of the Americas to understand the underlying inequalities in NCDs. Moreover, the existing analysis to inform policy change has been largely descriptive analysis. To move beyond descriptive into quantitative econometric analysis, data limitations must be overcome. For example, lack of longitudinal data in many countries prohibits researchers from isolating the effects of specific interventions, and lack of individual or household level data prohibits disaggregating the impact of interventions, such as Best Buys, by population groups. Nonetheless, there may be opportunities to leverage existing national health surveys, which may contain information on SDHs, for economic analysis of inequalities in NCDs.

**Presentation: Theoretical Background on the Causal Explanations for the Socioeconomic Inequalities in Health**

Dr. Lori Curtis, of the Department of Economics of the University of Waterloo (Canada), reviewed different theories on links between socioeconomic status (SES) and health, as well as the evidence for theories.

The health gradient across socioeconomic status is one of the most studied phenomena in health, is apparent across most subjective and most objective health measures and is evident at both the population and individual level. Although the existence of an SES gradient is clear, there is much less agreement on the causal pathways for the SES gradient. A better understanding those pathways is essential for developing effective policies for reducing those inequalities.

There are three major theories on the causal pathways: (1) health differences produce SES differences; (2) the reverse: SES differences produce health differences; and (3) some unobserved factors change both SES and health simultaneously. In the scientific literature, there is evidence—though not conclusive—for each of those possibilities. Nonetheless, most available econometric literature supporting these theories focuses on high-income countries. Of the few studies on Latin America, most are descriptive, with little focus on economic theory.
Presentation: Case Study on Alcohol: How to Better Incorporate Socioeconomic Considerations for NCDs into Economic Models

Dr. Laura Schmidt, who is with the School of Medicine of the University of California at San Francisco, presented a case-study on of alcohol to show the need to better integrate socioeconomic considerations into economic models for NCDs, along with the data and analytic challenges of doing so.

As purchasing power in low- and middle-income countries goes up, alcohol, tobacco, and food corporations increasingly target these emerging markets and foreign consumer goods can take on symbolic appeal, supplanting traditional production and local markets. These foreign products can be more concentrated and habit-forming than their local substitutes, producing greater harm. Even if the new customers in the emerging markets consume the same amount of alcohol as in other, wealthier countries, they can experience more damage due to poorer nutrition and lack of access to health care.

These circumstances pose several data and analytic challenges for modeling. Alcohol-attributable health harms are both a cause and consequence of socioeconomic inequality, but current models do not capture this phenomenon. Also, current models rarely account for the synergistic effects of NCD risk factors, which is important because differential exposure to multiple NCD risk factors co-varies. Finally, current economic models need to incorporate more theoretically grounded measures of the social determinants of chronic disease, such as inequality, hierarchy and social cohesion.

Plenary Discussion on Potential Research Priorities to Advance Integration of the Socioeconomic Inequalities in Health Policy

The need to incorporate strong cultural traditions (in addition to socioeconomic factors) into modeling was highlighted as local culture shapes the way that economic development interacts with the introduction of new foreign products into countries with rising incomes.

Moreover, the strong urge toward standardization from a public health research perspective was noted, but Dr. Ellis of PHAC highlighted that in doing so “We may not tell the right story for a country. When trying to reduce complexity, we may leave some crucial things behind.”

Interest was also expressed to include major political changes, such as the Arab Springs and or momentous new legislation into analyses.
Key Messages Session III:

- In the region of the Americas the existing analysis exploring inequalities and NCDs has been largely descriptive analysis. To move beyond descriptive, data limitations must be overcome.
- There are three major theories on the links between socioeconomic status and health causal pathways. Most econometric work testing the three theories focuses on high-income countries. A better understanding of causal pathways is needed to develop effective policies to reduce inequalities.
- The direction of causal pathways on inequalities and NCDs are often not straightforward and models need to be able to capture these phenomena. For example, evidence indicates that alcohol-related-attributable health harms are both a cause and consequence of socioeconomic inequality.

DAY 2-THURSDAY, 1 SEPTEMBER 2016

Session IV: Trade and Health

Background

Trade agreements can hold significant societal benefits, but there is widespread concern that they can also increase access to and consumption of products which may be detrimental to health. To improve dialogue across the trade and health sectors, and to better inform, design and negotiate trade agreements that meet both health and trade objectives, it is important to understand the potential impact of trade and trade agreements on health outcomes.

There has long been concern that liberalizing trade contributes to the increased consumption of products, such as tobacco, alcohol, and ultra-processed products, that drive NCDs and outpace the ability of health policy-makers to adjust and manage trade patterns effectively.

Overall, the limited available empirical evidence suggests that liberalized trade has created market conditions that increased consumption of tobacco and unhealthy nutritional products. This evidence is focused primarily around liberalization on a most-favored nation basis (rather than preferential liberalization, such as under free trade agreements). The fragmented empirical evidence highlights the need to better understand how trade patterns are changing today and how they are likely to influence the occurrence of NCDs, to enable health and trade authorities manage them effectively. In particular, it is important for trade-offs of trade agreements to be made transparent so that benefits can be harnessed, and negative effects can be mitigated.
Dr. Benn McGrady, from WHO, identified key research questions related to the impact of trade policies on health. He focused on three issue areas: economic questions, questions of political economy and questions concerning regulation (nontariff measures). Figure 4 provides examples of questions within these areas.

Each of the areas identified encompasses an array of different potentially policy-relevant questions. For instance, within the economic and political economy areas respectively, the impact of lowering tariffs on harmful or health-promoting products and the impact of trade agreements on domestic regulatory authority remains unclear. Overall, empirical evidence on all of three identified topic areas remains relatively scarce.

To be relevant to policy development, research should (1) inform efforts to predict the impact of possible future policies, such as by improving health-impact assessments, and (2) advance understanding post-implementation, such as through policy and program evaluations, in a way that elucidates a policy response. Overall, the work relating to trade and health has gone beyond grand-level theorizing (such as “trade liberalization increases tobacco use”) and now focuses on mid-level theorizing (such as “under certain conditions, trade liberalization increases tobacco use”). Mid-level theorizing produces results that are more credible, more complex to translate to blanket policy and are better able to inform impact assessment.
Presentation: Pathways from Trade to Health

Dr. Teresa Cyrus of the Department of Economics of Dalhousie University, gave a theoretically focused presentation on the impact that trade policy and trade volume have had on health. The five major pathways from trade to health are identified in Figure 5. The strength and abundance of evidence supporting each of these pathways varies, although the impacts may differ in developed and developing countries.

Regarding the first pathway, there is robust evidence that trade raises incomes, just as there is abundant proof showing a relationship between income and health outcomes. Nevertheless, the direction of causality between income and health is not always clear, especially concerning NCDs (as opposed to communicable diseases).

In terms of the second pathway, there is evidence that trade widens wage differences between skilled and unskilled workers, and inequality worsens health outcomes. Nonetheless, more research is needed to understand the exact mechanisms through which inequality affects health.

With the third pathway, there is limited evidence that trade leads to improved health, at least for developing countries. Nevertheless, cross-country studies are plagued by econometric problems and causality is hard to determine. With respect to trade’s direct effect on health, research is scarce in the region (other than in the US), and a better understanding on the direct effect of trade on NCDs is needed.

Regarding the fourth pathway, changes in tariffs and supplies of goods resulting from trade-policies may have an impact on prices and consequently change preferences and consumption of goods. In addition, trade agreements may decrease the power of governments to restrict advertising, enforce plain-packaging laws, or require the addition of warning labels. For this pathway, research is needed on the effect of trade agreements on consumption of alcohol and processed foods, as well as spending on health-improving goods.

For the last pathway, trade policy effects on health care delivery, some research indicates that international trade law can adversely affect health care systems, such as by promoting privatization of health care delivery. In addition, strengthened patent protections can raise the price of pharmaceuticals, forcing some patients to take less than the prescribed treatment dosage. Needed research areas include health impact assessments of new trade agreements and data on trade in health services.
Presentation: “Trade-Proofing” Public Health Policies
Dr. Jeffrey Drope, Vice President of Economic and Health Policy Research at the American Cancer Society, presented his work examining the relationship between trade liberalization, and the consumption of cigarettes and unhealthy foods. Dr. Drope warned against oversimplified trade theories and highlighted the ability of public health authorities to mitigate the unwanted aspects while leveraging the opportunities that trade liberalization may present.

To explore the relationship many different causal theories were tested and data on cigarettes, unhealthy foods tariffs, nontariff barriers, imports, exports and foreign direct investment (FDI) were used. Overall, results were very mixed. These mixed results were attributed to three overarching shortcomings: (1) incomplete causal theories (such as when trade agreements were signed, but barriers were not reduced), (2) unobserved variables, and (3) sample size issues (such as incomplete local licensing information for foreign products).

Considering the mixed results and the legal disputes that have come before the World Trade Organization (WTO), a more effective path for public health officials might be to opt for “trade-proof” measures, such as excise taxes. Excise taxation is generally effective because it treats all categories of products—domestic or foreign—similarly and it is not overly trade-restrictive.

Presentation: Health and Trade: The Experience of Tobacco Control Policies
Dr. McGrady spoke briefly about tobacco-control efforts and international trade. He commented that in the late 1980s and the early 1990s, various studies showed that trade liberalization led to lower tobacco prices and more tobacco consumption. Now, in effect, most
finished tobacco products move tariff-free around the world, and the potential for future price drops resulting from new agreements is minimal.

Now, much of the focus on tobacco control in international trade has shifted to legal issues, such as disputes that have come before the WTO. Nonetheless, there is now extensive descriptive scholarship on these legal issues and rules that governments can use to build strong and WTO-compliant health promoting interventions.

**Questions about the Presentations**

The question about how to handle product discrimination was raised. For example, taxes have been imposed on sugar-sweetened beverages (SSBs) but not on solid sugar—while both forms may merit public health interventions. Dr. McGrady noted that although nutritionally, it might be appropriate to levy taxes on sweetened food products in general, politically it would be very difficult. Thus, taxes are targeted at SSB as they are the primary source of unnecessary calories in the diet.

In addition to looking at trade policies, it was suggested that researchers should review a country’s sectoral policies. For example, the agricultural sector’s subsidies may be subsidizing production of unhealthy foods.

The importance and timing of risk assessment work in trade disputes was also raised. Dr. McGrady responded that the best defense to a challenge under a trade agreement is evidence of the risk and of the likely impact of a proposed government intervention.

**Panel Discussion on Challenges, Opportunities, and Next Steps**

**Challenges for Caribbean Countries**

Mr. Vincent Atkins of the Caribbean Community (CARICOM), presented the challenges related to trade and health promotion for Caribbean nations and territories.

The Caribbean economies are small, open ones that depend heavily on imports for generating revenue from duties, and exports for obtaining foreign currencies. Over the years, agricultural exports and consequently local food production has declined, as trade liberalization has become more widespread. Simultaneously, because of liberalization of investment rules, there has been an increase in the importation of highly processed, energy-dense foods and the establishment of many fast food restaurants. This, in turn, has led to substantial increases in the consumption of SSBs.
Trade policies for the Caribbean countries are generally coordinated at the regional level. On the other hand, countries decide on and implement their own fiscal policies. That can allow individual nations to choose fiscal policies intended to prevent and control NCDs, such as taxes on SSBs. However, with both trade policies and fiscal measures to deal with NCDs, the Caribbean countries face a serious challenge in compiling the required relevant evidence to inform such activities.

**Moving Forward a Research Agenda Relevant for the Americas.**

Dr. Carlos Santos-Burgoa from the Milken Institute of Public Health at George Washington University, called for much greater public health involvement in international trade issues. While other government ministries, such as agriculture, industry and mining help negotiate trade accords, the Ministry of Health is often excluded. This is even more important for countries of the Americas, since trade liberalization in this Hemisphere has been more intense than in any other world region.

Dr. Santos-Burgoa noted that new research is needed to advance public health concerns in trade negotiations. More information is needed on existing trade agreements and the impact that they have had. Monitoring and evaluation systems should be in place, including tracking socioeconomic indicators and the impact of accords on food systems. Similar research is needed as new treaties are under negotiation. Instead of cross-country studies with massive amounts of data, there should be more country-by-country comparisons and more mid-level theorizing, as was mentioned by Dr. McGrady. While influencing international trade and trade agreements can be difficult for public health officials, victories are possible such as in the lawsuit between Uruguay and Philip Morris over that country’s tobacco control regulations.

**Moving Forward a Research Agenda Relevant for the Americas.**

Dr. Lori Curtis spoke about how health economists and economics in general can help public health officials to shape better policies and interventions. “They can bring in theory,” she said, “but not just causal pathways, but how things such as spillover effects, externalities, and incentives affect health.” For different government ministries to work together, they need information that matters to them and their budgets—and that can persuade them to allocate more funding for health.

Policymakers need a broad range of data, including on how imports, exports and excise taxes affect consumption, income equality, things that are good for health and things that are bad for health. While PAHO and the PHAC can promote the collection of more and better data, it’s also important to identify existing data that the countries of the Americas have been compiling.
Administrative data, microdata, and survey data could all be put together to create longitudinal data sets that elucidate such issues as consumption and health over time.

**Discussion on Potential Research on Trade and NCDs**
The question was raised about the feasibility of making evidence cases for public health measures in the current trade environment versus in the past. The WHO Framework Convention on Tobacco Control (FCTC) supported an entire suite of effective interventions, such as labeling and fiscal measures, that were synergistic. With the current focus on trade, that comprehensive approach may be more difficult and public health advocates may have to defend regulations one by one.

The need to assist countries in defending regulations on trade and on domestic food policies, perhaps through standardized recommendations, was also raised. Although much of this kind of information has been prepared and systematized, for example, for tobacco packaging, there is a need for supporting information related to nutrition and alcohol.

Regarding data needs for monitoring the impact of trade (or FDI) on consumption of unhealthy products, creating guidelines for best practices, such as the variables on which to collect data, was suggested.

**Key Messages Session IV:**
- Among the key research areas on trade policies and health are economic questions, questions of political economy, and questions concerning regulation.
- Research on trade and health is only relevant to policy if it moved beyond “grand-level” theorizing and it helps predict or evaluate the impact of policies.
- In addition to looking at trade policies, researchers should also review a country’s sectoral policies, such as for agriculture, which might be subsidizing production of unhealthy foods.
- Rather than focusing their efforts on the WTO and similar entities, public health officials might have more impact by concentrating on “trade-proof” measures, such as excise taxes.

**Session IV: Fiscal Measures for Tobacco, Alcohol, and Sugary Drinks**
**Background**
There is wide and growing global literature supporting the effectiveness of fiscal policies in reducing consumption of tobacco, alcohol and sugar-sweetened beverages. However, the coverage and strength of these estimation studies differ significantly in the region of the Americas. In the current landscape, the type of estimation used depends predominately on the
kind of data that is available, which is usually either aggregated time-series data (utilized the most due to data limitations) or cross-sectional data. However, limitations to this include studies not differentiating the impact by population subgroups.

In terms of exercising fiscal policies for reduced consumption of harmful substances, one of the main challenges is generating timely and high-quality evidence to refute industry’s often unfounded claims, such as claiming that SSBs taxes will increase unemployment. Public health officials should continue gathering and advocating for independent evidence on the impacts of the excise taxes on consumption patterns—including differentiating consumption patterns by population subgroups.

Presentation: Fiscal Measures for Tobacco, Alcohol, and Sugar-Sweetened Beverages—An Overview of the Evidence
Ms. Sandoval reviewed the global and regional evidence supporting the effectiveness of fiscal measures in reducing consumption of for tobacco, alcohol and sugar-sweetened beverages. Although there is available evidence concerning all three types of products, she explained that the studies differ in terms coverage and the strength of the evidence. Ms. Sandoval explained that in the case of tobacco the evidence is abundant and solid both worldwide and regionally (for the Latin-American and Caribbean); for alcohol, the evidence is solid at a global level but only recently emerging in the region; and for sugar-sweetened beverages, the global evidence is scarce and mixed, and regionally, there is emerging evidence assessing this policy in the recent case of Mexico.

Overall, Ms. Sandoval noted that evidence suggests that fiscal policies have an important place in curbing the NCD epidemic through reducing consumption of tobacco, alcohol and sugar-sweetened beverages. Nonetheless, she noted that translating evidence into policy implementation can pose a challenge. Despite the progress that has been made in taxing these products in the LAC nations, much remains to be done. Ms. Sandoval noted that despite the progress made in the region on taxing these goods, much remains to be done.

Presentation: Fiscal Measures for Tobacco, Alcohol, and Sugary Drinks: A Brief Presentation of Methods and Tools
Dr. Guillermo Paraje of the Universidad Adolfo Ibáñez (Chile), presented an assessment of the commonly used methodologies for estimating the effect of taxation policies on reducing consumption of NCD risk factors such as tobacco, alcohol and sugar-sweetened beverages.

Taxation on harmful products can serve a dual purpose of discouraging consumption while also generating new government revenues. The degree to which consumption rates change, and
consequently also revenue changes, in response to changes in own price is quantified by the own-price elasticity of demand. There are a variety of methods used to estimate demand, each method employs different underlying assumptions and requires different types of empirical data.

The type of estimation used will depend largely on the kind of data available, which is usually either aggregated time-series data or cross-sectional data. An advantage of cross-sectional data sets is that they usually have very detailed (individual or household level) information which allows results to be disaggregated by relevant characteristics such as age and income levels. In the region, largely due to data limitations, studies mostly employ aggregated time-series data and do not differentiate the impact by population subgroups. There are various toolkits and step-by-step manuals that interested persons can use to learn more about evaluating fiscal measures for harmful products, including guides produced by WHO and the World Bank.

There are other economic analyses that can be done that go beyond estimating the impact on consumption and revenue. For instance, there are models that try to account for indirect costs (e.g. impact on taxed sector and other sectors) and benefits (e.g., creation of employment in other sectors/industries as consumer demand shifts to healthier goods).

Discussion on Methods and Potential Research on Fiscal Measures
The discussion began by identifying one of the main challenges that public health officials face when preparing their economic analyses: a strong industry, with its own version of information, such as claims that new taxes on SSBs are going to increase unemployment dramatically. The remedy is for health authorities to continue gathering persuasive evidence on the positive impacts of the excise taxes and to gather public support. For example, when opponents to a tobacco tax increase in Costa Rica claimed that raising taxes would encourage illicit trade, health officials suggested that a portion of the new revenue be allocated to other government agencies, so they could monitor trade and discourage contraband imports. It was noted that whether the tax revenue is utilized for a designated purpose can affect whether a new tax gathers public support and accomplishes both its revenue and public health objectives.

A suggested improvement to studies on the elasticity of demand was to differentiate between light and heavy users of harmful substances, given that changing the behavior of heavy users would have a greater impact. Another suggestion for improving elasticity of demand studies was that they should include control groups. For example, recent research on a new SSB tax in
the city of Berkeley, California, included a control group by incorporating nearby areas that did not have an SSB tax into the analysis. Taking this suggestion a step further, it was proposed that researchers in the Americas consider doing region-wide studies comparing the experiences of implementing or raising taxes on SSBs and tobacco in different countries.

The question on whether there is a limit to the impact of higher and higher taxes on harmful goods was raised. The experts indicated that the existing evidence is mixed; while in the U.S. several decades of data on tobacco prices and tax hikes show that price elasticities are higher at higher prices, research from China showed that as incomes have risen, the elasticity of demand has decreased. It was noted that elasticities are not constant, and, consequently the assumption that consumption would fall proportionately with a 20% or 30% increase would be misleading.

Case-Study Presentation: Impact of Cigarette Tax Increases on Lower-Income Groups in Argentina
Dr. Veronica Schoj, executive director of the Fundación InterAmericana del Corazón (FIC) Argentina, described the analysis to determine the impact of tobacco tax increases on tobacco consumption among different socioeconomic groups in Argentina and to determine the potential regressivity of those measures. Although most evidence indicates that tax increases reduce consumption more sharply among low-income groups than among the wealthier population (lower income groups are more price sensitive), the question of regressivity, or whether tax expenditures as a percentage of income is larger among the poor, remains largely unanswered.

Following the general pattern indicated by the scientific literature, the researchers found that a 30% increase in prices would reduce both smoking prevalence and intensity (amount smoked) in Argentina, and that the price elasticity grows as income declines (meaning the decrease in consumption is greater as income declines). The results indicate that the largest reduction in prevalence would be experienced in the lowest-income group, making the tax increase very progressive from a health perspective.

However, Dr. Schoj noted that a low-income smoker who continued to smoke after a tax increase would be more financially disadvantaged by the tax increase (holding equal the amount smoked). This raises an equity argument for dedicating some of the new tax revenues to helping poor smokers to quit, or for having other programs that target the poor. These efforts would both increase the progressivity of the tax (by leading to greater reductions in smoking among the poor) and, for continuing smokers, offset the financial impact of the higher tax.
Case-Study Presentation: Country Challenges and Evidence Needs: Mexico
Dr. Arantxa Colchero of Mexico’s National Institute of Public Health, described the evidence needs related to the implementation of an excise tax on SSBs, including the need for projections prior to the implementation and the actual changes in consumption after the tax had been implemented.

Opposition by the food industry to the proposed tax has been strong since the beginning. They claimed that there was no evidence that consumption of SSBs is associated with weight gain, the tax would be regressive, and the tax would increase unemployment.

In response to these claims, public health researchers carried out various studies before and after the SSB tax was put in place. Prior to the implementation of the tax, research on price elasticity studies indicated there would be a decline in consumption, and that this decline would be largest among the lowest-income groups, and thus they would have the largest health benefit from the new tax.

Research after the implementation of the tax showed that, with some exceptions, overall there was a complete pass-through of the tax to the consumer. Moreover, research found a 6% average decline in purchases of taxed beverages in 2014 as compared to pretax trends. That difference accelerated over the course of 2014, reaching 12% in December of that year. In addition, there was a 4% increase in purchases of untaxed beverages, mainly bottled water. Although all socioeconomic groups reduced their purchases of taxed beverages, the declines were larger among lower-income households as predicted by pre-tax projections. Research on post-tax employment trends also showed that the country did not suffer the job losses that the food industry had predicted.

Overall, while the reductions in consumption were modest, they were in line with the small tax amount added. Researchers believe that a tax of two pesos per liter would lead to higher impacts, as could the use of tax revenues for obesity prevention.

Case-Study Presentation: Earmarking of Tobacco Taxes: Lessons Learnt from Member States
Dr. Mark Goodchild, an economist with WHO, summarized the key findings of a recent WHO report on the earmarking experiences of tobacco taxes in nine countries. He began with a brief overview of the advantages (including helping meet rising costs in the health sector due to NCDs) and drawbacks (including introduction of rigidities into the budgetary process) of earmarking. Dr. Goodchild then provided a summary of the proportion of earmarked taxes and
the destination purpose of earmarked funds in each of the nine countries considered in the report. He concluded with a set of considerations or “ingredients for success” (Figure X).

**Figure 8: Ingredients for successful earmarking**

- Earmarked taxes should be in addition to the existing revenue stream.
- Link them to an initiative with both high-level and public support.
- Be based on sound proposals reflecting evidence and needs.
- Expect strong industry opposition.
- Develop partnerships and synergies.

**Discussion on Evidence Needs**

The discussion began with the conditions that secured passage of the SSB tax in Mexico. Three elements underpinned that victory; the availability of evidence on the prevalence of obesity in the country, the public support (including that of civil-society) that was gathered by translating the evidence of obesity prevalence and linking it to the proposed tax, and the prospect of substantial new revenues made the proposal appealing to government officials.

Next, the question was raised on whether a harm-reduction principle, similar to that used with alcohol, could also be applied to sugar-sweetened foods. In some countries, the level of the alcohol tax is based on the ethanol level of the product. This could have a win-win-win outcome for various sectors. The Ministry of Health is happy that consumption of the most damaging products is discouraged; the Ministry of Finance gets tax revenues, and it pushes the alcohol industry to reformulate its products.

Dr. Frank Chaloupka said that this approach is being considered in the United Kingdom, with the benefit that this could encourage the food industry to reformulate its products and then actively market those new versions to consumers. Cristóbal Cuadrado added that in 2014, Chile put in place a system that taxes foods at three levels, depending on the amount of added sugar. Dr. Colchero said that a similar strategy was proposed for SSBs in Mexico, but the Ministry of Finance opposed it because of because of its greater complexity and possible harm to the sugar
industry. She added that an alternative might be to do a combined tax, based first on volume and then on the amount of sugar.

A U.S. participant raised a question about a possible “slippery slope” if sugar-added products are taxed more widely. Broader taxes on sugar might move public health more into the area of “behavioral interventions,” and possibly harm the strong ethical foundation that underpins taxes on tobacco and alcohol, which are products that are clearly more harmful. Dr. Goodchild said the concern was legitimate, and that public health investigators need to be doing research and building evidence now to answer questions that policymakers may have in the future as they consider broader sugar taxes.

Several participants commented on various aspect of earmarking. Ms. Sandoval said in many LAC countries the Ministry of Finance position is that earmarking is impossible because of constitutional limitations or administrative issues. Dr. Cuadrado reported that earmarking was not possible in Chile. He also said that he had heard that one reason the Mexican government supported the SSB tax was the fall in petroleum prices worldwide and the resulting drop in government revenues. Dr. Chaloupka said advocates of earmarking need to be sure they can clearly demonstrate that the earmarked funds produce the intended benefits.

**Key Messages Session V:**

- Evidence suggests that excise taxes on harmful products can help achieve the dual goal of reducing consumption and raising tax revenues.
- Public support is higher for taxes when the revenues are utilized for social purposes, such as using funds from a tobacco tax to monitor and control illicit trade or applying moneys from a tax on sugar-sweetened beverages to install water fountains in public schools.
- The destination of tax revenue can affect whether a new tax accomplishes both its revenue goals and its public health objectives.
- When preparing an economic analysis of a possible new tax, health advocates should be prepared to counter industry opposition with persuasive evidence.
- Elasticity of demand studies can be strengthened by disaggregating the impact by key population segments and including control groups.

**Closing Remarks**

In his closing remarks, Dr. Anselm Hennis reported that many PAHO Member States have been asking for assistance in developing investment cases and in developing supporting evidence to communicate effectively with the Ministries of Finance and other government ministries. Dr.
Hennis noted that PAHO can play a key role by helping share experiences and disseminate knowledge among countries.

In terms of remaining challenges, one of the most critical needs for progress is more relevant and higher quality data to be used in modeling. While ongoing surveys can provide much information, they can be expensive; thus, innovative data-gathering strategies are required. PAHO’s role may be in helping to standardize the ways in which data are collected and analyzed. Dr. Hennis noted that alongside the data challenges, there is a need for more comprehensive models. These models must consider issues as mental health, informal employment and inequities in health.

**Conclusions**

NCDs continue to be a major—and growing—issue for the countries of the Americas. Part of the response to the problem has been to highlight the need for generating and applying economic evidence on NCD prevention and control policies.

Building on the previous PAHO meetings on the economics of NCDs, the participants at this 2016 meeting shared information and experiences on using modeling to inform policy choices and persuade decision-makers and other stakeholders on the dimensions of the problem and the need for solutions. Participants also explored modeling methodologies, including key features, strengths and limitations of different analytical techniques for evaluating the impact of NCDs.

While much new NCD knowledge has been generated in recent years, much more research is needed in economics of NCDs. In some countries relevant data can be completely lacking or may be of poor quality. Using proxy data is only a partial solution, which underscores the need to strengthen health data systems throughout the region.

Even with solid data, effective advocacy is key. Ministries of Health need to persuade other ministries, political leaders, and other stakeholders to cooperate on NCD control and prevention measures. Taking the data that comes from modeling and tailoring it to the concerns—and attention span and sophistication level—of decision-makers is essential.

In the ongoing effort to prevent and control NCDs, Ministries of Health throughout the Americas must take on new roles and responsibilities and learn a variety of new skills. This meeting was one more step in PAHO’s efforts to help the Member States meet that challenge.
Annexes

Annex A. Meeting Agenda

MEETING ON ADVANCING ECONOMICS FOR THE PREVENTION AND CONTROL OF NONCOMMUNICABLE DISEASES IN THE AMERICAS
31 August - 1 September 2016
Pan American Health Organization/World Health Organization (PAHO/WHO)
525 23rd St N.W., Washington, DC, USA
Room C

DAY 1

8:30-9:00 Registration 2nd Floor Lobby

9:00-9:15 Welcome and opening remarks
Francisco Becerra Posada, Assistant Director, Pan American Health Organization (PAHO)
Anselm Hennis, Director of Noncommunicable Diseases and Mental Health Department, PAHO

9:15-9:40 Introduction of agenda, objectives and participants of the meeting
Rosa Sandoval, PAHO
Vivian Ellis, Public Health Agency of Canada (PHAC)

9:40-12:10 Session 1 Part I: Investment Case Methods for NCDs
Co-Chaired by:
Vivian Ellis, PHAC
Rachel Nugent, RTI International

9:40-10:10 Overview of existing methodologies, gaps, issues in data availability, and measures for intersectoral approaches (15 min)
Rachel Nugent, RTI International

Presentation of the method used in the case of Barbados (15 min)
Melanie Bertram, World Health Organization (WHO)

10:10-10:40 Panel Discussion
Panel Participants (7 to 8 min each):
Melanie Bertram (WHO)
Vivian Ellis (PHAC)
Douglass Webb (UNDP)
Mark McGovern (EPIC H-Plus) – virtual
Alexey Kulikov (WHO)

10:40-10:55 Break
10:55-11:55 Discussion on potential research to advance investment case methods for societal valuation of net benefit
Moderated by Vivian Ellis, PHAC

11:55-12:10 Session conclusions and way forward by the Chairs

12:10-13:10 Lunch

13:10-15:10 Session 1 Part II: Developing an investment case for obesity
Co-Chaired by:
Ruben Grajeda, PAHO
Adolfo Rubenstein, Instituto de Efectividad Clínica y Sanitaria (IECS)

13:10-13:55 Overview of the evidence on investment cases in obesity, directions for further research, and existent methodologies (15 min)
Olga Milliken, PHAC/ASPC

Projecting costs of obesity in Chile: data and method issues (15 min)
Cristobal Cuadrado, University of Chile

A review of pathways of economic impact of childhood obesity: a conceptual underpinning and review of evidence (15 min)
Olga Milliken, PHAC/ASPC

Broadening cost-of-illness approach: study of obesity and alcohol for OECD and selected non-OECD countries (15 min)
Michele Cecchini, Organization for Economic Co-operation and Development (OECD)

13:55-14:55 Discussion on potential research for an investment case for obesity
Moderated by Adolfo Rubenstein, IECS

14:55-15:10 Session conclusions and way forward by the Chairs

15:10-15:25 Break

15:25-17:15 Session 2: Socioeconomic inequalities in NCDs
Co-chaired by:
Laura Schmidt, University of California San Francisco (UCSF)
Jose Escamilla, PAHO

15:25-16:05 Overview of the evidence on inequalities and NCDs, areas for further research, and existent methodologies (10 min)
Jose Escamilla, PAHO

Theoretical background on the causal explanations for the socioeconomic inequalities in Health (15 min)
Lori Curtis, University of Waterloo
Case study on alcohol: how to better incorporate socioeconomic considerations for NCDs into economic models (15 min)
Laura Schmidt, UCSF

16:05-17:00 Discussion on potential research priorities to advance integration of the social-economic inequalities in health policy
Moderated by Laura Schmidt, UCSF

17:00-17:15 Session conclusions and way forward by the Chairs

DAY 2

9:00-9:10 Summary of the first and introduction for the second day
Vivian Ellis, PHAC
Rosa Sandoval, PAHO

9:10-11:30 Session 3: Trade and health
Co-chaired by:
Benn McGrady, WHO
Karl Theodore, University of West Indies

9:10-9:25 Research and research questions at the intersection of trade and NCDs (15 min)
Benn McGrady, WHO

Pathways from trade to health (15 min)
Teresa Cyrus, Dalhousie University

Trade liberalization and excise taxation (15 min)
Jeffrey Drope, American Cancer Society (ACS)

Health and trade: the experience of tobacco control policies (15 min)
Benn McGrady, WHO

10:05-10:20 Break

10:05-10:20 Panel Discussion
Panel Participants (5 to7 min each):
Vincent Atkins, CARICOM – challenges for Caribbean countries
Carlos Santos-Burgoa, George Washington University - moving forward research agenda relevant for the Americas
Lori Curtis, University of Waterloo – moving forward research agenda relevant for the Americas

10:40-11:30 Discussion on potential research on trade and NCDs
Moderated by Dr. Karl Theodore
**Session 4: Fiscal measures for tobacco, alcohol and sugar-sweetened beverages**

Co-chaired by:
Frank Chaloupka, University of Illinois at Chicago (UIC)
Rosa Sandoval, PAHO

**11:30-12:15**

Overview of the global evidence and research needs/gaps with focus on countries in the Americas (15 min)
*Rosa Sandoval, PAHO*

Presentation of assessment of methods/tools used for evaluation of the effectiveness of taxation policies for risk factors (30 min)
*Guillermo Paraje, Universidad Adolfo Ibáñez*

**12:15-12:45**

Discussion on methods and potential research on fiscal measures
*Frank Chaloupka, UIC*

**12:45-14:30**

Lunch

**14:30-14:55**

Country challenges and evidence needs: Mexico (15 min)
*Arantxa Colchero (virtual), Instituto Nacional de Salud Pública (INSP)*

Earmarked tobacco taxes: lessons learnt from nine countries (10 min)
*Mark Goodchild, WHO*

Impact of cigarette tax increases by income groups in Argentina (10 min)
*Dr. Veronica Schoj, IAHF*

**14:55-16:10**

Discussion on evidence needs
*Moderated by Rosa Sandoval, PAHO*

**16:10-16:20**

Break

**16:20-16:45**

Evidence needs and opportunities for effectively advocating for NCD policy implementation within and beyond the Health Sector in each thematic area
*Olga Milliken, PHAC*
*Itziar Belausteguigoitia, PAHO*

**16:45-17:00**

Conclusions and recommendations
*Anselm Hennis, PAHO*
Annex B. Meeting Participants

Vincent Atkins, Caribbean Community, Trinidad and Tobago; Jasper Barnett, Ministry of Health, Jamaica; Simon Barquera, National Institute of Health, Mexico; Itziar Belaustegui-Goitia, Pan American Health Organization, United States; Melanie Bertram, World Health Organization, Switzerland; Kirsten Bibbins-Domingo, University of California, San Francisco, United States; Chad Bown, Peterson Institute for International Economics, United States; Elizabeth Brouwer, RTI International, United States; John Cawley, Cornell University, United States; Michele Cecchini, Organization for Economic Co-operation and Development, France; Frank Chaloupka, University of Illinois at Chicago, United States; Arantxa Colchero (virtual participation), National Institute of Health, Mexico; Cristobal Cuadrado, University of Chile, Chile; Lori Curtis, University of Waterloo, Canada; Teresa Cyrus, Dalhousie University, Canada; Jeff Drope, American Cancer Society, United States; Vivian Ellis, Public Health Agency of Canada, Canada; José Escamilla, Pan American Health Organization, United States; Kirsten Bibbins-Domingo, University of California, San Francisco, United States; Brian Ferguson, University of Guelph, Canada; Deliana Kostova, Center for Disease Control and Prevention, United States; Alexey Kulikov, World Health Organization, Switzerland; Benn McGrady, World Health Organization, Switzerland; Olga Milliken, Public Health Agency of Canada, Canada; Andrew Moran, Columbia University, United States; Melvin Morera, Ministry of Health, Costa Rica; Jennifer Muz, George Washington University, United States; Rachel Nugent, RTI International, United States; María Eloisa Núñez, Ministry of Health, Peru; Brindis Ochoa, Pan American Health Organization, United States; Vicente Ortún, Universitat Pompeu Fabra, Spain; Guillermo Paraje, Adolfo Ibáñez University, Chile; Elisa Prieto, Pan American Health Organization, Caribbean Sub-regional Coordination Programme, Barbados; Michael Rodriguez, University of California, Los Angeles, United States; Adolfo Rubinstein, Institute for Clinical Effectiveness and Health Policy, Argentina; Rosa Sandoval, Pan American Health Organization, United States; Carlos Santos-Burgoa, George Washington University, United States; Laura Schmidt, University of California, San Francisco, United States; Veronica Schoj, Inter-American Heart Foundation, Argentina; Patricia Sosa, Campaign for Tobacco Free Kids, United States; Karl Theodore, University of the West Indies Port of Spain, Trinidad and Tobago; Edith Tilon, Ministry of Health, Surinam; Daniel Vigo, Harvard University, United States; Douglass Webb, United Nations Development Programme, United States.