Estimated health care expenditure due to diabetes in the North America and Caribbean Region

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Introduction
Diabetes imposes enormous human and economic costs. In 2015 the International Diabetes Federation (IDF) estimated that 44 million adults were living with diabetes in the IDF North American and Caribbean Region (NAC). The NAC Region consists of the USA, Mexico, and Canada, and 25 Caribbean countries and territories. Here, the 2015 estimates for the IDF North American and Caribbean region are presented (NAC).

Aim
To estimate the financial burden of diabetes in the North America and Caribbean region

Methods
Health care expenditures due to diabetes for the region were calculated as a sum of the expenditures from 17 countries and territories, which was estimated using an attributional fraction model, taking into consideration the differences between gender and age groups. Data needed for the model were obtained from: UN population estimates (2015), UN Mortality rates (2006), IDF Diabetes Atlas prevalence estimates (2015), WHO total health expenditure estimates (2013), and diabetes cost-ratios (KPNW diabetes registry, 2004). The analysis was based on a logistic regression model, which adjusted for the cost of care for different age groups, and gender.

Figure 1 - Methodology and data flow for estimating diabetes attributable health care costs

Figure 2 - Total health expenditure on diabetes in 2015

The results are expressed in 2013 American dollars (USD), or in 2013 Internationals dollars (ID). ID is a hypothetical currency with the same purchasing power parity of USD in the United States of America at a given point in time, and is used to make comparisons both between regions and over time.

Results
It was estimated that USD348 billion were spent on diabetes-related healthcare in the NAC region in 2015. After adjusting for purchasing power, this accounted for 44% of global diabetes-related health spending (Figure 2).

This fact is in large part explained due to the health expenditure on diabetes in the United States, which was $320 billion (Table 1). Within the North American and Caribbean region, diabetes was responsible for 1 in 7 dollars of the regional total health expenditure in 2015.

Table 1: Total health expenditure on diabetes per country in the IDF North America and Caribbean Region

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<tr>
<td>USA</td>
<td>320 billion</td>
<td>Canada</td>
<td>14 billion</td>
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<tr>
<td>Brazil</td>
<td>74 billion</td>
<td>Mexico</td>
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<td>United States</td>
<td>70 billion</td>
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<td>Mexico</td>
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<td>Bahamas</td>
<td>80 million</td>
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<td>Haiti</td>
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<td>Suriname</td>
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<tr>
<td>USA</td>
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Figure 3 - Mean health expenditure per person with diabetes in the IDF North America and Caribbean region in 2015

Discussion
The 2015 estimates on the total health expenditures on diabetes confirm the large economic impact caused by diabetes on health systems. This is observed across low-, middle- and high-income countries of the North America and Caribbean region (Figure 4). Middle-income countries spent the largest share of their health expenditure (16.2%) on diabetes, as a result of their higher prevalence of diabetes.

Figure 4 - Percentage on money spent on diabetes from total expenditure on health in NAC in 2015

Conclusion
The prevalence of diabetes and the overall expenditure associated with it have been on the rise for the past decade 1-4. In 2015, the estimated total healthcare expenditure on diabetes in the IDF North America and Caribbean region was $352 billion, representing more than 44% of the global health expenditure on diabetes of $795 billion. The North American and Caribbean region spent on average $7,941 per person with diabetes, substantially higher than the world average of $1,917.

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References
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