



**International
Diabetes
Federation**

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



Da Rocha Fernandes JD, Ogurtsova K, Guariguata L, Linnenkamp U, Seuring T, Zhang P, Makaroff LE
International Diabetes Federation, Brussels, Belgium

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)¹. 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).

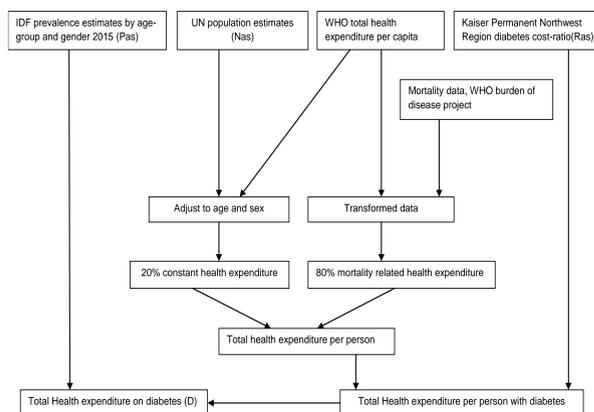
Aim

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 groups⁵⁻⁸. 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



The results are expressed in 2013 American dollars (USD), or in 2013 International 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).

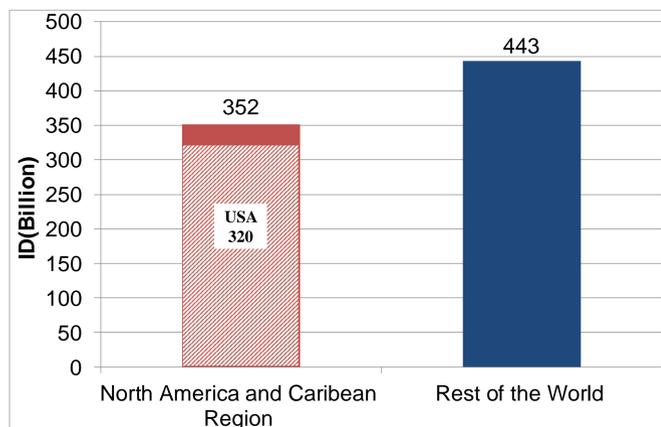
This fact is in large part explained due to the health expenditure on diabetes in the United States, which was 320 USD billion (Table1).

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

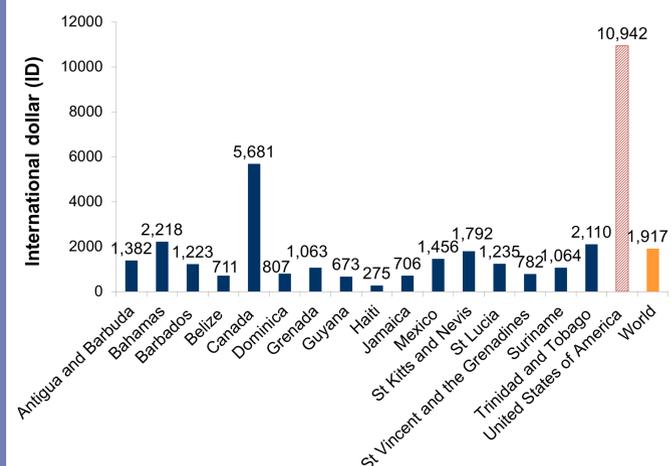
Country	Total health expenditure on diabetes (2015 ID) R=2	Country	Total health expenditure on diabetes (2015 ID) R=2
USA	320billion	Guyana	34 million
Canada	14 billion	Belize	20 million
Mexico	17 billion	St Lucia	16 million
Trinidad and Tobago	296 million	Antigua and Barbuda	11 million
Jamaica	143 million	St Kitts and Nevis	9 million
Bahamas	80 million	Grenada	7 million
Barbados	42 million	St Vincent and the Grenadines	7 million
Haiti	91 million	Dominica	5 million
Suriname	45 million		

Figure 2- Total health expenditure on diabetes in 2015



The North American and Caribbean region spent on average ID 7,941 per person with diabetes, compared with a world average of ID 1,917. There were great disparities in health spending between countries within the region. Haiti had the lowest per capita spending of ID 275, while the US had the highest per capita spending at ID 10,942 (Figure 3).

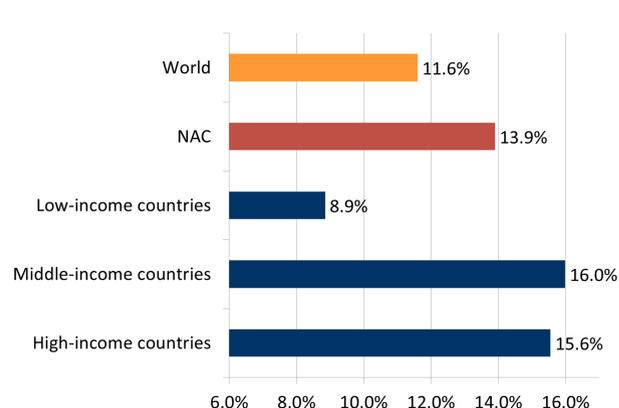
Figure 3- Mean health expenditure per person with diabetes in the IDF North America and Caribbean region in 2015



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.

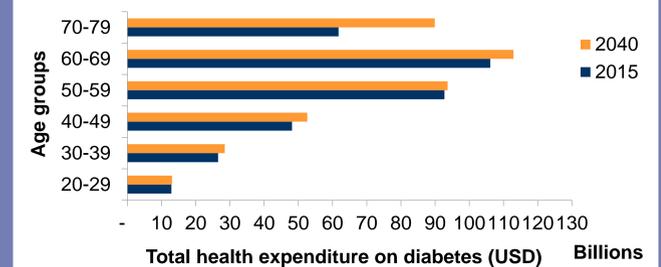
Figure 4 - Percentage on money spent on diabetes from total expenditure on health in NAC in 2015



There were large differences in the distribution of health expenditure on diabetes across age groups (Figure 5). The 60-69 years age-group had the highest expenditure (USD 106 billion), accounting for 30% of all spending on diabetes in the region. This group makes up 26% of all people with diabetes in the region.

IDF estimates there will be 61 million people with diabetes in the NAC region in 2040, which combined with the expected ageing of population will increase the total expenditure on diabetes to USD 390 billion (figure5).

Figure 5 – Health expenditure on diabetes by age group in the IDF North America and Caribbean region in 2015 and 2040



Conclusion

The prevalence of diabetes and the overall expenditure associated with it have been on the rise for the past decade²⁻⁴.

In 2015, the estimated total healthcare expenditure on diabetes in the IDF North America and Caribbean region was ID 352 billion, representing more than 44% of the global health expenditure on diabetes of ID 795 billion. The North American and Caribbean region spent on average ID 7,941 per person with diabetes, substantially higher than the world average of ID 1,917.

Acknowledgements

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