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### **Analytics Challenge Description: Mercks Diabetes Epidemic**

Our group chose to take on Merck's challenge of figuring out what solutions analytics can provide to the worldwide diabetes epidemic. We started off by covering background information about this disease that is sweeping the world. We used an infographic consisting of charts and maps to demonstrate where and how diabetes is affecting the world. Using a visual aid like this gives an organized summary of raw data that will help Merck understand where to start in the fight against the diabetes epidemic.

We started the infographic with some background information about the disease in general. We highlighted the types of diabetes and warning signs. We then highlighted how prominent it is in specific parts of the world. This data is vital data because it shows where Merck should focus their resources. We constructed visual aids that show where diabetes is the biggest issue worldwide. We also created a graph that demonstrates how regions of the world combat the disease based on what programs are in place to fight the main risk factors. Merck should position themselves differently in each respective region of the world based on economic factors and how large affected populations are. The company should launch a geography specific information based campaign that identifies these risk factors and what preventative measures can be taken in order to lessen the chance of contracting the disease.

The metrics that best quantify the impacts of this disease are bar charts. We used a color-coded bar chart to demonstrate diabetes-related health expenditure in 2014 and 2015. This was an important piece of data to include because it demonstrated that health care expenditures for people with diabetes have been found to be two- to-three times higher than people without diabetes. It also showed compared with those living in high-income countries, people living in low- and middle-income countries pay a larger out-of-pocket share of health expenditure because they lack access to health insurance. This data shows that in order to combat this disease, it is vital to concentrate on bringing quality and affordable healthcare to those who don't have access and to those who can't afford insurance.

Sources:

<http://www.diabetesatlas.org/resources/2015-atlas.html>

<http://www.who.int/diabetes/global-report/en/>

<https://www.niddk.nih.gov/health-information/diabetes/manage-monitoring-diabetes>