Data Analytics for the Opioid Epidemic

Qlik

The Qlik Platform was designed as a complete end-to-end Business Intelligence solution to solve the challenges presented by massive issues such as the opioid epidemic.

Utilizing a Qlik application built by The Copley Consulting Group, state agencies can uncover patterns and trends of Opioid use in every region around the country.
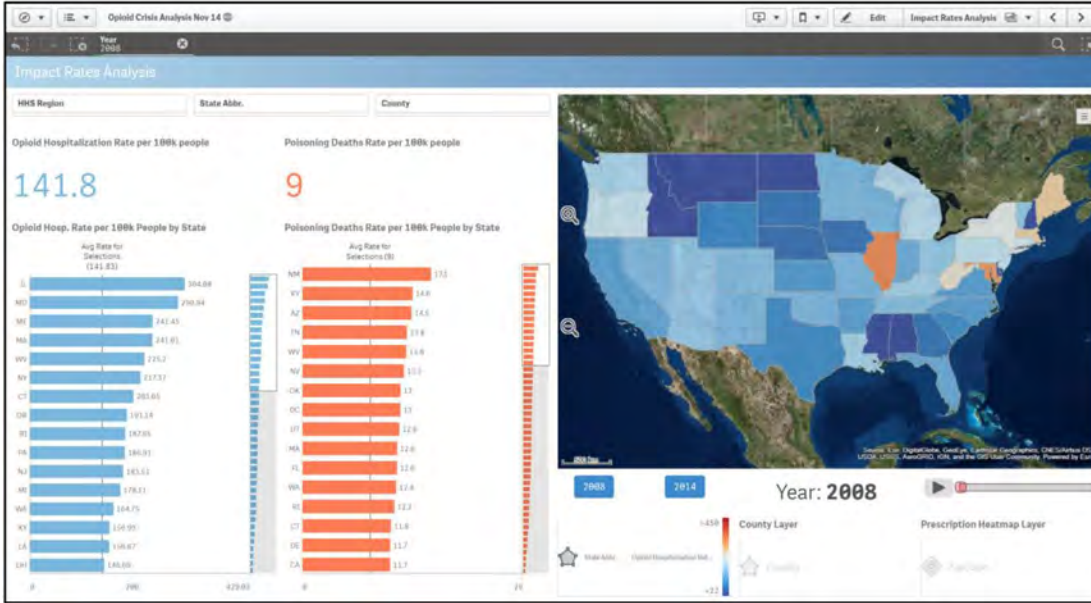
Introduction

Understanding the Opioid epidemic is at the top of the priority list for most Health and Human Services and Department of Health agencies across the country. Per the Centers for Disease Control, in 2017, the number of overdose deaths involving opioids (including prescription opioids and illegal opioids like heroin and illicitly manufactured fentanyl) was 6 times higher than in 1999. This epidemic represents a significant challenge, with states across the country needing to wade through a massive amount of data to address the root causes of the issue.

Qlik HEALTH & HUMAN SERVICES CLIENTS

VIRGINIA'S MEDICAID PROGRAM
DMAS
INNOVATION • QUALITY • VALUE

MARYLAND
Department of Health

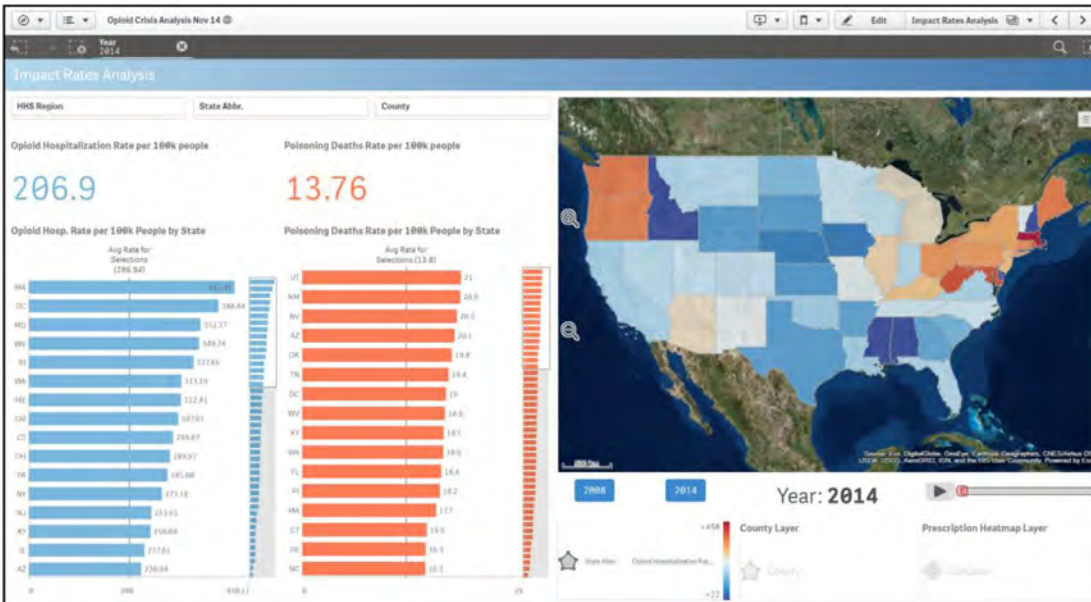**Florida HEALTH**

FLORIDA DEPARTMENT OF CHILDREN AND FAMILIES

Opioid Analytics Application

The two images below show how key metrics like opioid hospitalization rates and poisoning death rates have drastically increased from 2008 (the first view) to 2014 (the second view) denoted by the increase in the numbers on the left as well as the increase in red color in the map.
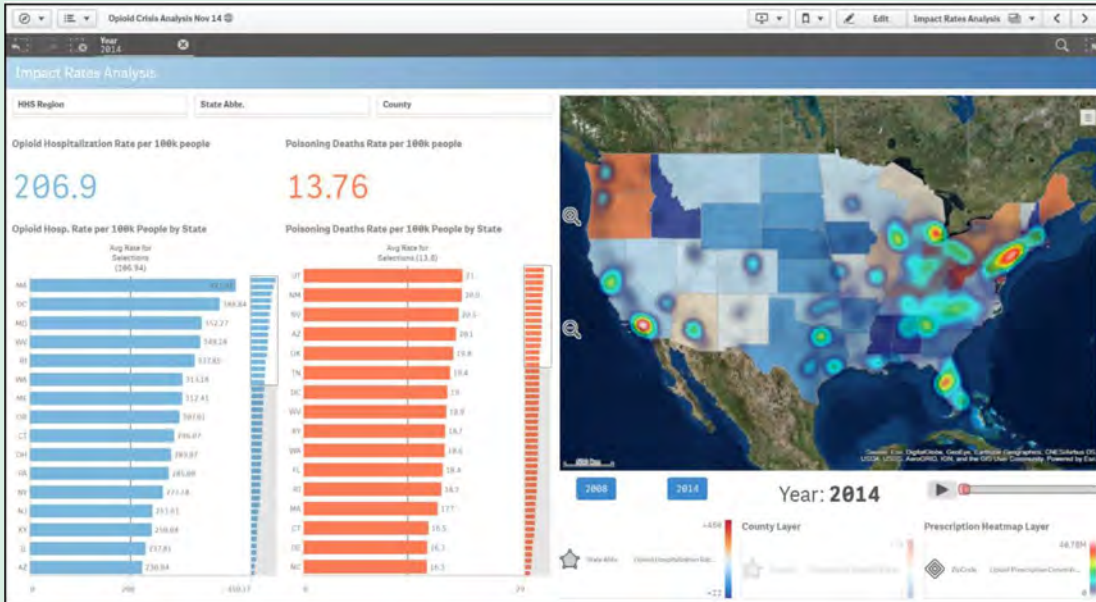

FIGURE 1:
Opioid Hospitalization and Death Rates, 2008

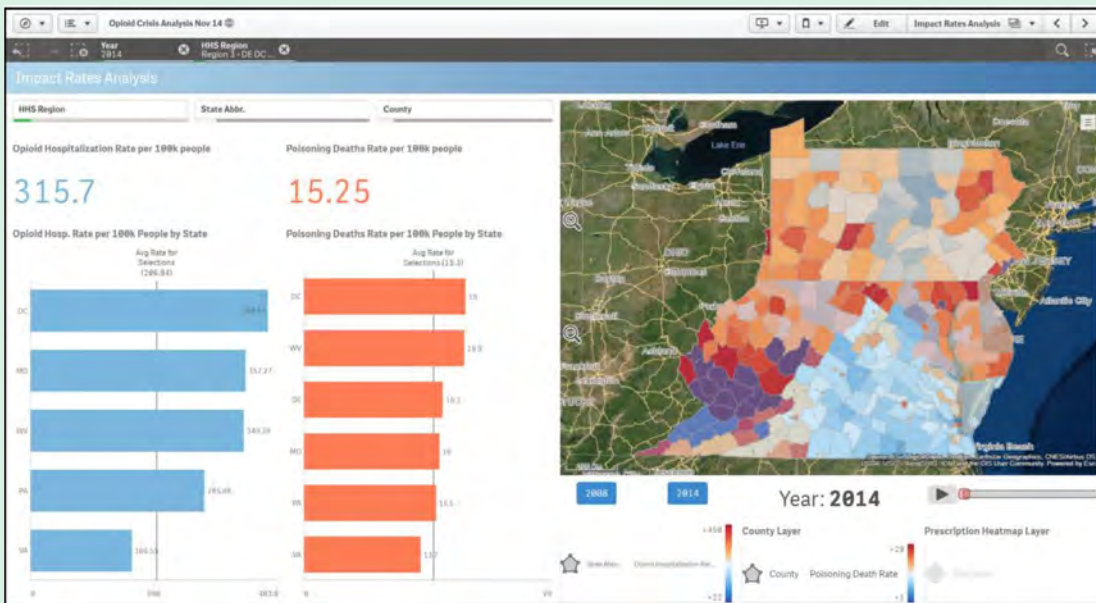**Figure 2:**
Opioid Hospitalization and Death Rates, 2014

By leveraging Qlik's advanced mapping technology, we can overlay multiple layers on the map, such as the heatmap layer shown here. This heatmap displays hotspots of opioid prescription concentration around the United States. We can see that there are major hotspots in the Los Angeles, Chicago, Central Florida, New York City and Boston areas.

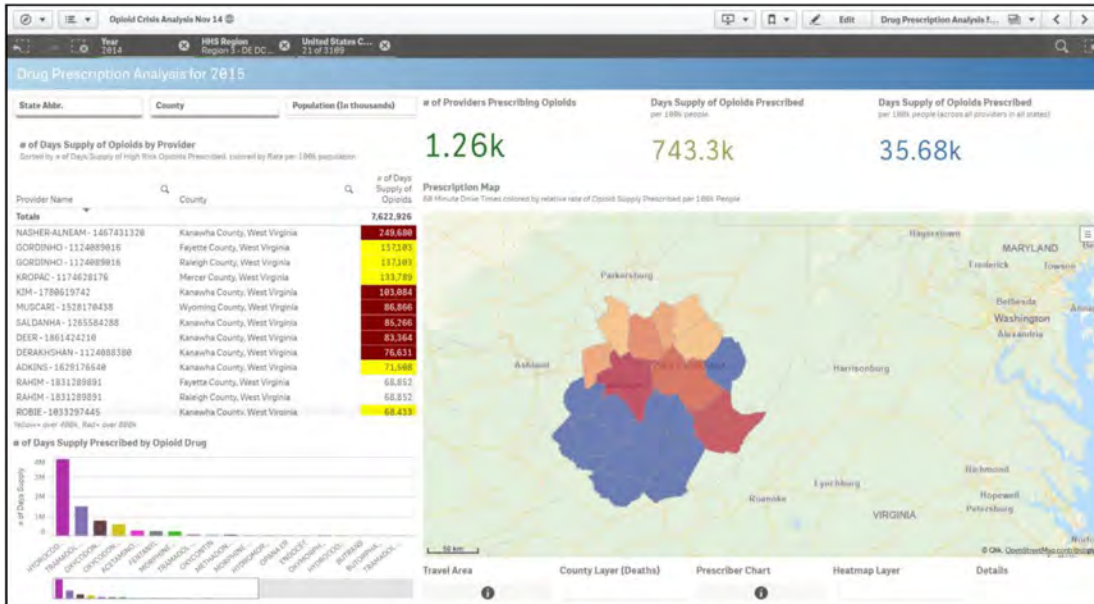**FIGURE 3:**
Opioid Heatmap, 2014

The end user can further investigate a region of choice to show these metrics of poisoning death rate and hospitalization rate broken down by counties. This example report shows the counties in the Appalachian region of the United States.

FIGURE 4:
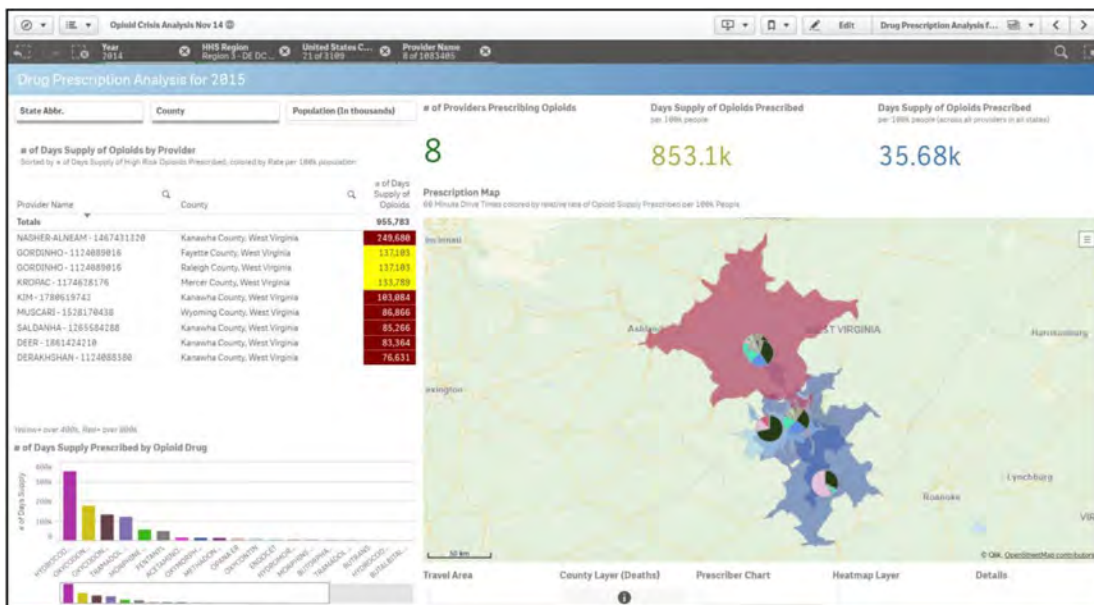Opioid Epidemic by Region, 2014

Taking this a step further, the end user can select a subset of those counties to see which doctors in the region are prescribing opioid drugs. Are there some doctors that are prescribing a much higher volume than others? Is there a possibility of illegal activity? What specific drugs are they prescribing? All these questions can be answered in the Qlik application.
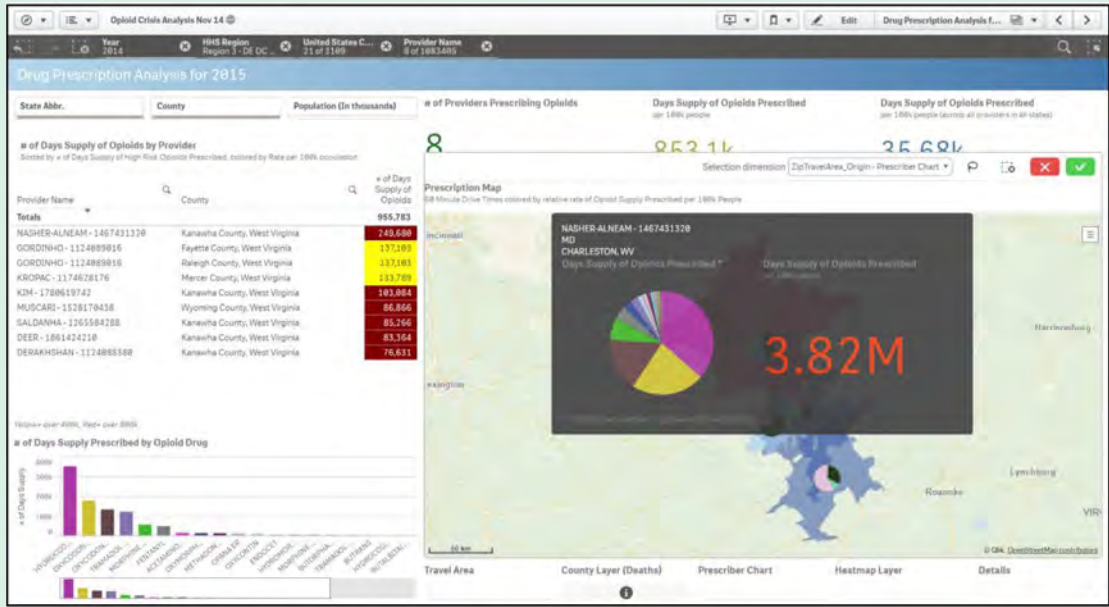

FIGURE 5:
Doctors Prescribing Opioids

Based on this table, the investigator can select the doctors prescribing the most days' supply of opioids to drill down even further. Notice these top eight physicians are prescribing a significantly higher days' supply per 100k people than the national average.
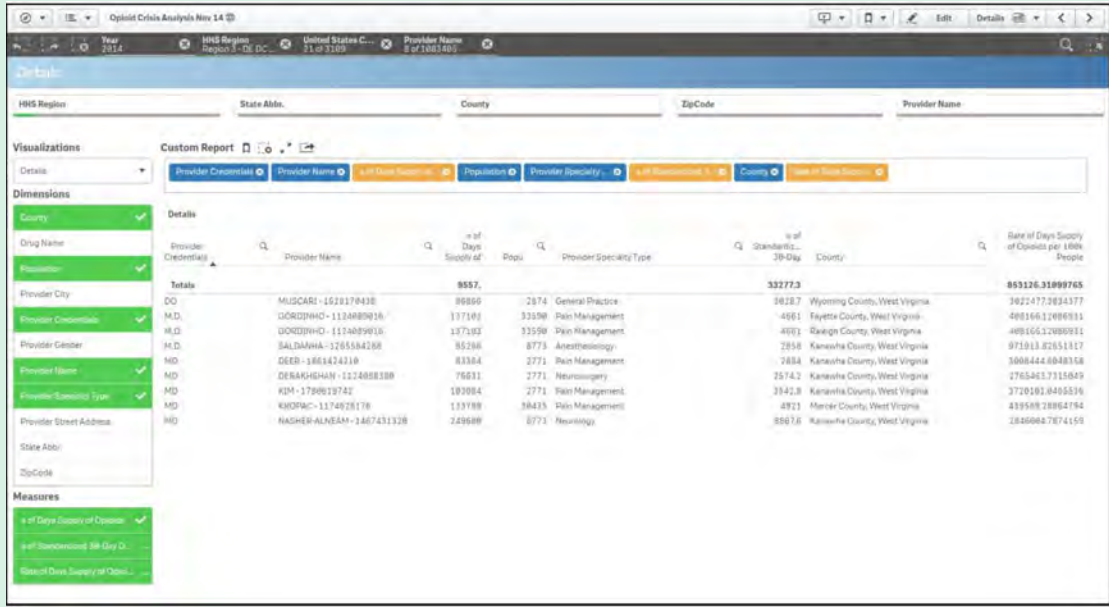

FIGURE 6:
Doctors Prescribing the Highest Supply of Opioids

To find out more about Qlik Analytics or to schedule a demo contact us at **Qlik@copleycg.com**.

By hovering over one of the physicians in the map, end users can see what prescriptions he/she is writing as well as how much and compare the numbers to the national averages for that drug.

FIGURE 7:
Types of Opioids Prescribed

The end user can further investigate a region of choice to show these metrics of poisoning death rate and hospitalization rate broken down by counties. This example report shows the counties in the Appalachian region of the United States.

FIGURE 8:
Custom Dashboard

All these dashboards and visualizations can be embedded directly into a public website for the community to see and understand the opioid epidemic in their region. Therefore, rather than publishing large, static reports or files, Health and Human Services agencies can display these dashboards on their website and give the community the power to make their own selections and drill into the information they want to see on demand. With Qlik, everyone from citizens to government employees have access to the data they need to make a difference in an on-going epidemic.

To find out more about Qlik Analytics or to schedule a demo contact us at Qlik@copleycg.com.

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