Introduction to Power BI for Health Data Visualization

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| Module | Sections | Learning Outcomes |
| Consumer-Driven Data Visualization Framework | Dashboard Development Roadmap | This module is all about providing you with a roadmap that you can leverage for your dashboard development projects. In addition to this, we will introduce you to the Guided Analytics Framework, a methodology that is essential for delivering dashboards that your consumers will love to use in their decision making.  In this Module’s demos we will walk you through how to use Figma to create custom Power BI Report Page Templates that we will leverage later in the course. |
| Guided Analytics Framework |
| Dashboard Deployment |
| Agile Dashboard Development Methodology |
| Foundations of Data Storytelling | Simplicity | We will cover the Foundations of Data Storytelling in this module, this will help you better understand your end-user’s needs, and make your dashboards union of utility, usability, and beauty.  Our demo will walk you through how to create a Custom Power BI theme that you can use to align the designs of your dashboards. |
| Declutter |
| The Hierarchy of Granularity |
| Focus Attention |
| Alignment of Fonts & Colors |
| Data Visualization Selection Process | Data Discovery Phases in Dashboard Development | Understanding the different types of data and how they impact your selection of visualisation is a necessary skill every analyst must posses. This module will take the guess work out of visual selection, and you will have a clear framework to select the right visualisation for your data. |
| Visualization Categorization |
| Formatting Tables & Matrix Visuals | 7 steps to make your tables/matrixes clear and intuitive | Every dashboard will have at least one table/matrix in it, in this module we will provide you with a 7-step process that you can follow to ensure your tables/matrixes are formatted appropriately every time. |
| Bar Charts | 8 Formatting Rules that apply to all Bar Charts | In this module you will get access to the 8-point checklist that you can apply to any bar chart and ensure they are always formatted correctly. We will also explain how to create more advanced bar charts such as bullet, paired bar, and deviation charts. |
| Visualizing Part-of-Whole Data |
| Visualizing Part-of-Whole Data |
| Visualizing Distributions |
| Visualizing Performance |
| Visualizing Processes |
| Line & Area Charts | 5 Formatting Rules that apply to all Line & Area Charts | You’ll learn about the 5 formatting rules you need to follow with Line & Area Charts. This module is all about knowing which type of line/area chart is best for your data. |
| Visualizing Part-of-Whole Data |
| Visualizing Distributions |
| Visualizing Performance |
| Visualizing Processes |
| Analytics Pane for Line Graphs |
| Single Values | 4 Formatting Rules for KPIs | This module will teach you about the 4 formatting rules you need to follow when visualizing KPIs. As well as provide you with a 5-step process to create custom KPI visuals. |
| Creating custom KPI Cards |
| Thematic Maps | 5 Thematic Maps you should master in Power BI | What are the 5 types of maps every dashboard builder should master? In this module we will explain how to create stunning but simple maps that will captivate your audiences. |
| Heatmaps |
| Choropleth Maps |
| Dot Density vs. Proportional Symbol Maps |
| Creating Animated Time-Series Maps |
| Power BI Map Selection |
| Visualization Mistakes to Avoid | Pie & Donut Charts | This module is going teach you what visualisations you should avoid in your dashboards. |
| Treemaps |
| Secondary Y-Axis |

**Course Information:**

In this course we will apply these Data Storytelling principles to an anonymized dataset originally from the NHS. We modified aspects of the dataset to make it more relevant for a Canadian healthcare context.

Using this dataset, each session will include live practice demos to build components that will contribute to the creation of a dashboard. During the final session, we will work through a case scenario and use the skills developed during the course to create a complete interactive dashboard. Within the case scenario, you will be tasked with helping to analyze Emergency Services data to assess the current process as well as understand how the services are currently operating and if there are any opportunities for improvement.

**Case Scenario Details**

Emergency Services receive calls every minute of the day. Patients call 911 for medical emergencies requiring an ambulance. A years’ worth of data has been collected and you are to analyze the current process as well as understand how the service is currently operating and if there are any opportunities for improvement.

The process is currently outlined below:

🡪 A patient calls 911

* A Call Taker will receive the call (Time Recorded) and assign a dispatch code
* Once the dispatch code has been assigned
* The Ambulance will then leave the station (Time Recorded)
* The Ambulance will then arrive at the patients' house (Time Recorded)
* The Ambulance will take the patient to the hospital (Time Recorded)
* Then there is one final Timestamp for when the job is complete.

The data provided will help us to create the following:

**Call Volume during various times of the day**. Are there ‘peak hours’ for access to emergency services?

**Assess performance of call takers:** Use dispatch time to explore the performance of the various call takers

**Hospital Performance:** Use Patient Handover Time to assess if specific hospitals have issues accepting patients.

**Ambulance Station Performance:** What does the data say based upon the ambulance station?