***SESSION EIGHT – PHASE 1: INTRODUCING IMPERIALUMAB***

**8.1 Introduction**

Welcome back to session eight. Let me begin by outlining what you can expect from this session.

[VIDEO: INTRODUCTION TO SESSION 8]

Learning objectives

By the end of the session, you will have completed the following actions:

* Reviewed the new project guidelines
* Watched the interview with Jamie Unwin and reflected on the role of the Analytics Translator
* Understood how drugs are developed and marketed within the Pharmaceutical industry
* Reflected on the role of the data analyst in the Pharmaceutical industry
* Gained insight into how data and analytics are changing the healthcare landscape
* Read the case questions and downloaded the datasets
* Met with your team to plan and structure your activities for your final project.

We’re now ready to begin. In the next activity, we will hear from industry expert, Jamie Unwin, on his experience working in health analytics.

**8.2 Industry insights: Janssen**

Let’s begin this week by hearing from Jamie Unwin, Director of Analytics and Data Strategy at Janssen: Pharmaceutical Companies of Johnson & Johnson.

[VIDEO: INDUSTRY INSIGHTS JAMIE UNWIN]

In the interview, Jamie touched on this idea of a new role emerging in business analytics – an Analytics Translator – to bridge the gap between an organisations technical and operational expertise. This role helps to convey business goals to data scientists, while ensuring that analytical solutions are turned into actionable insights. According to McKinsey, this is the new “must-have” role.

You will be adopting the role of an Analytics Translator for your final project. If you’re interested in finding out more about what the Analytics Translator role involves, check out the following article.

**8.3 Analytics in the Pharmaceutical industry**

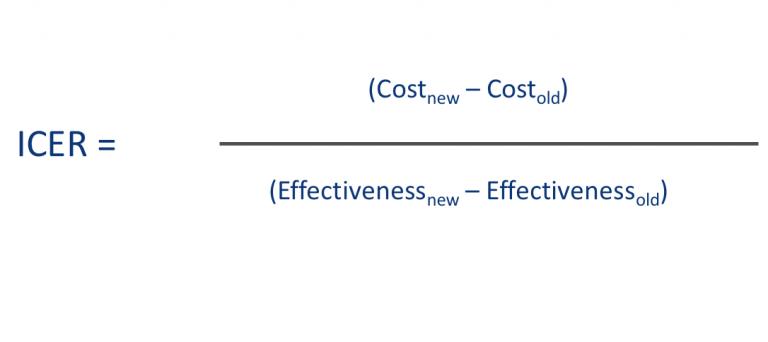
Before we move on to introduce your next business case, it’s important for you to understand the context of analytics in the pharmaceutical industry. This will be essential for framing how your approach your final project. Let’s begin by looking at how drugs are developed, and then in the next activity we’ll explore how drugs are commercialised.

The goal of this activity is to introduce you to the Pharma industry and provide some background on how drugs are developed and to introduce some of the sources of information that drive and optimise commercial decision making.

[VIDEO: THE DEVELOPMENT LIFECYCLE]

So, what’s the role of the Business Analyst in the development of medicines? Arguably, one of the most important aspects of understanding the opportunity to commercialise in medicine, is around market access.

[VIDEO: MARKET ACCESS AND COST EFFECTIVENESS]



Now we understand how drugs are developed within the Pharmaceutical industry and the critical importance of market access in commercialising medicines. In the next activity, we will look at integrated analytics and how we use multiple sources of information to try and optimise commercial decision making.

**8.4 Optimising commercial decision making**

In this next activity, I’d like to look in more detail at how we use and integrate analytics to drive commercial decision-making. The objective is to give you a top line view of activities within the Pharma industry as it relates to analytics, to help orient you for your final project.

Analytics in the healthcare industry is particularly challenging. Part of the reason for this is because the data is imperfect:

* There are gaps in data
* Incongruencies
* Data that requires a significant amount of cleaning
* Data we don’t believe in
* Expensive data that floats quite slowly
* Noisy and fluid data.

The challenges of data acquisition is also very palpable within the industry. There is no single data source that will provide an answer to all commercial questions and so we need to triangulate via many different sources. Success is getting to a confident position by spending as little as possible. Most importantly, it’s building and validating your own market hypothesis and subsequently refining and restating them (this is a core competency of an analyst within the pharmaceutical industry). Great analysts always give recommendations – they don’t give data stories, tell what’s happening, they are encouraged at every step to give their view about what’s happening and what the business should do differently as a result of the observations they see.

Let’s begin by looking at how pharmaceuticals reach patients and how we measure the sales of our brands compared with competitors.

[VIDEO: PATIENT REACH AND COMPETITOR SALES DATA]

So what about our promotional impact and methodologies? As I mentioned above, the industry is not allowed to interact directly with patients and so our focus is on promoting the messages of the benefits of our medicines to physicians and payers. We can use a number of different channels, for example, face-to-face interactions with doctors via sales reps, sending emails conveying core messages or delivering hardcopy promotional materials. This is called the promotional mix. It’s the objective of every promotional interaction to share those key messages and to comparatively position the brand vs competitor brands in terms of the safety, efficacy and tolerability of a pharmaceutical agent.

It’s the role of the analyst to understand the balance between the field force size and promotional mix, and to measure the effectiveness of how these messages are delivered. Each channel has an optimal frequency of interaction and we typically use regression based techniques to understand the maximum/minimal role for interactions with a particular channel.

Let’s look at an example of a channel response curve together.

[VIDEO: CHANNEL RESPONSE CURVE]

Understanding the quantity of interaction is important, but we’re also equally interested in how our messages are delivering qualitatively. We do a lot of primary market research within the industry to try and understand how our messages are landing and if we can improve in the message flow. There are two types of primary market research:

Qualitative: To gain an understanding of the underlying reasons, opinions and motivations for prescribing. This is predominantly exploratory and can help frame a subsequent piece of quantitative work.

Quantitative: To quantify the magnitude of a problem using numerical data and statistics.

This completes our whistle-stop introduction to analytics in the Pharma industry and helps to set up the next business case, which focuses on understanding commercial performance and using market data to infer why a brand is performing in a particular way. Before you get started on your project, I’d like you to read and reflect on a number of short articles.

8.5 How is data analytics changing healthcare?

Before we move forward to reveal the final business case, I’d like to pause to consider how technology and analytics is changing the healthcare industry.

[VIDEO: HOW IS DATA ANALYTICS CHANGING HEALTHCARE]

According to Jamie, an important component of the drug development cycle is the sales and marketing of drugs – first to health care providers and then from retailers to end-users (patients). Amazon has recently moved into the online prescription-drugs market by acquiring PillPack and allowing them to sell prescription drugs across 50 US states. How might this change the landscape of how drugs are marketed?

Of course, changing how drugs are marketed isn’t the only space where there’s potential for innovation and improvement in the industry. There’s also a lot of excitement right now about how AI will disrupt every aspect of health care, from using health monitors and sensors to manage chronic conditions, to mitigating patent cliff and even improving the design and outcomes of clinical trials for drug development.

Finally, part of the reason the Pharmaceutical industry is struggling is because their profit growth heavily depends on price increases. With increased pressure to lower the prices of drugs and expand access, it’s not rocket science to see how this business model is flawed. One solution is to integrate access to medicine into their business strategies. How might improving access to medicine help?

In the next activity, Jamie will introduce the business case and dataset for your final consultancy project.

**8.6 Case study: Imperialumab**

In the following video, Jamie Unwin, introduces a client case he would like you to investigate.

[VIDEO: CASE STUDY: IMPERIALUMAB]

Below are the case questions Jamie would like you to consider – read the questions and then download the datasets. Please note that the submission area for your report is in session ten.

Case questions

The good news is that Imperialumab has reached the market as a treatment for pancreatic cancer and early signs after one year in the market are “OK”. You are a business analyst in the UK Business Intelligence team and your Managing Director wants a full commercial performance review of the UK market and to hear your recommendations for how to grow the brand and patient-access further. Your job is to gather all necessary data and undertake an analysis of the situation and report back from you on your analysis and recommendations.

What are the major market conditions driving the performance of Imperialumab? As a consequence, what should we do differently?

Notes:

Begin by considering the following questions:

* How would you describe the sales evolution of Imperialumab and competitors over time?
* Think about the factors that could be driving this and develop your hypotheses. Could it be that one or more of the brands:
* Have failed to achieve market access?
* Are subject to genericisation or Parallel Imports?
* Are discounting heavily on price?
* Then consider the commercial effectiveness of each company in promoting their medicine:
* Are physicians recalling clinical characteristics as we would expect?
* Are we engaging physicians optimally versus their communication (channel) preferences?

***SESSION NINE – PHASE 2: INVESTIGATING THE CASE***

**9.1 Introduction**

Welcome back to session nine. Let me begin by outlining what you can expect from this session.

[VIDEO: INTRO TO SESSION 09]

Learning objectives

By the end of the session, you will have completed the following actions:

* Visualised the relative strength of each brand as measured by sales volumes
* Quantified the strengths and weaknesses of the current marketing strategies deployed by Imperialumab
* Understood how to convey information about benchmarking and KPIs in a way that resonates with decision makers in the business
* Attended the live Q&A session with the client.

We’re now ready to begin. In the next activity, we’ll start by reviewing the market strength of Imperialumab compared with competitor brands.

**9.2 What story is the data telling us?**

By now, you should have reviewed the sales and marketing data for Imperialumab and their primary competitors. Let’s say that for this specific class of drugs, our market consists entirely of these three brands: Imperialumab, Kingsumab and UCLumab. Plot the time series of sales revenues for all three brands; what story is the data telling us?

Another interesting data source is the internal promotion activity for both Imperialumab and their competitors. Drawing on the information provided in the response curves and the marketing data, where should Imperialumab deploy more / less sales people for F2F meetings with clients.

In the next activity, we’ll return to benchmarking and think about how best to convey information about benchmarking to senior stakeholders.

**9.3 Benchmarking**

In previous sessions we discussed the importance of selecting the right benchmarks to help answer important questions about the performance of your current business operations. Now I’d like to focus more specifically on how to convey information about benchmarking reports to key decision makers and stakeholders. Begin by reading the following article on smart benchmarking.

The article focuses in on an example of how benchmarking can be impactful in the healthcare industry. In particular, it looks at the importance of dynamically determining numeric thresholds, rather than just selecting non-numeric attributes. Consider the comparative benchmarking reports taken from the article:

Referring to data collected from Stanford hospital, Stanford, CA:

* Dynamically formed peer group: None of the other 344 hospitals with as many patients who reported “YES, they would definitely recommend the hospital” (85%)… also has as few patients who reported that the area around their room was always quiet at night (41%). That is, among those 344 hospitals, it [Stanford] has the fewest patients who reported that the area around their room was always quiet at night.
* Conventional methodology: The average value for this quantity among 309 California hospitals with known values is 51.5 percent with a standard deviation of 9.5 percent, so Stanford Hospital is about one standard deviation below average.