Launch of a New Obesity Drug – How a Pharma Company Used AI to Improve HCP Engagement

Introduction

Customer data and insights are more critical than ever before to gain an edge in today's competitive market. Pharmaceutical companies spend millions on primary market research to get ahead. Yet most firms still struggle to integrate new digital avenues, AI, and big data in a meaningful way. Awareness, Trial, and Usage (ATU) research studies aiming to measure brand awareness, evaluate trial usage and gain insights for brand strategy planning are regularly conducted exercises that have remained largely unchanged for decades. In the ever-evolving pharmaceutical landscape, the power of digital transformation, omnichannel engagement, and AI solutions cannot be underestimated. This case study delves into a real-world challenge faced by a leading pharmaceutical company and how our team harnessed the potential of digital technologies to revolutionize its omnichannel go-to-market strategy for a newly launched obesity drug.

With a traditional face-to-face engagement model for Healthcare Professionals (HCPs) coverage that had limitations, the company sought to embrace digital channels for enhanced outreach and determine the next best action for engaging HCPs effectively.

The pharmaceutical company was grappling with limited high-value HCP coverage due to the constraints of face-to-face interactions. The definition of "high value" physicians for the drug was also not clearly defined by the teams.

This case study unveils the innovative strategies and methodologies we employed to address this challenge, providing insights into the future of pharmaceutical go-to-market strategies. Let's start with the details on the therapy area that we tackled.

OBESITY – A GLOBAL HEALTH CONCERN

Obesity is a global health concern, with the World Health Organization (WHO) estimating that over 1.9 billion adults are overweight, and of these, more than 650 million are classified as obese. The pharmaceutical industry has long recognized the potential market for obesity drugs, driven by the increasing prevalence of obesity-related health issues, such as diabetes, cardiovascular diseases, and certain types of cancer. However, developing and marketing drugs for obesity have been historically challenging, and the success rate of such drugs has been limited.

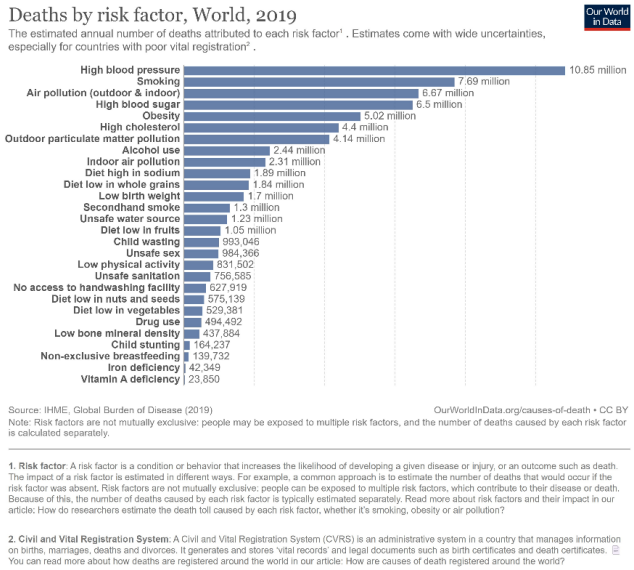

Figure 1: Obesity is one of the Top 5 risk factors worldwide causing an estimated ~5MN deaths per year.

A few characteristics that make the disease area challenging for the business:

1. **Complex Regulatory Landscape:** The development and approval of obesity drugs entail rigorous scrutiny by regulatory authorities, including the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA). Due to safety concerns, several obesity drugs have faced challenges during clinical trials or post-marketing surveillance, resulting in withdrawals or restrictions.

2. **High Unmet Medical Need:** Despite the numerous weight-loss products and programs available, there remains a significant unmet medical need for safe and effective long-term weight management solutions. This need has spurred ongoing research and development in the field of obesity drugs.

3. **Market Competition:** The landscape of obesity drugs is competitive, with several pharmaceutical companies vying for a share of this market. Success in this field requires not only the development of effective drugs but also comprehensive marketing and sales strategies.

WHAT WAS DONE?

Taking a step-by-step approach to define a scalable process that can be applied to a multi-country setting.

These factors warranted the client team to define an effective commercial strategy for their Eastern European markets. The client had sales teams deployed on the ground to educate HCPs about the drugs. They wanted to unlock the potential by activating new channels and re-defining the targeting strategy. A first market was selected within the region as a starting point to iterate and test out strategies.

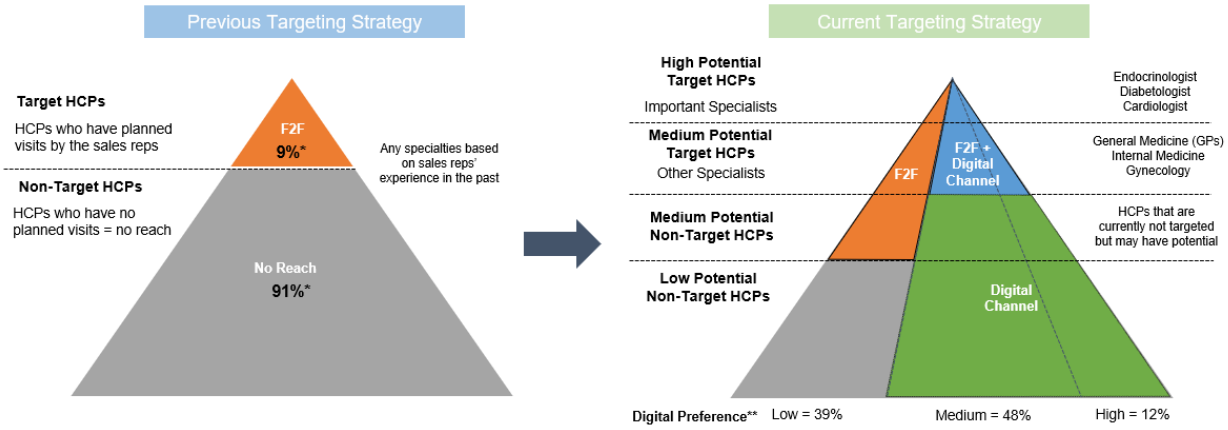

Figure 2: We moved the HCP targeting strategy from a F2F only approach to a multi-channel approach.

Once the processes were automated and defined, the solutions were scaled to the other markets. The solution consisted of the following steps:

1. **Defining the HCP segmentation** – a 4D approach, considering Potential Score, Brand Adoption Ladder rating, Digital Preference Score and KOL identification. This precise segmentation combined with the HCP attributes and demographics (e.g. specialty, age, years of experience) enables the delivery of the right message effectively.

2. **Determining the right targeting plan for the reps –** Guiding resource allocation from field-based activities to events and digital engagement channels on customer priority and predicted response rate.

3. **Defining HCP barriers and Next Best Action Planning–** Recognize individual behavioral, cognitive, and emotional drivers and barriers of prescription across the customer base, informing targeted messaging and AI-tailored engagement models.

4. **Reporting and Governance –** Creating a live dashboard that can track key metrics to enable quick decision making, share accountability and celebrate successes among cross-functional teams.

HOW WAS IT DONE?

Enabling a technology first approach using data and AI integration

1. **Internal Data Consolidation:** We initiated the transformation by integrating diverse data sources onto a unified platform. This included internally maintained data by the client team:

   - CRM platform – data with face-to-face and digital engagement made by the field force.
   - Sales records – data at the brick level that provided product and market level information.
   - Digital interactions and webinar information.
   - HCP attendance and details around engagements.
   - HCP surveys and demographic information.

This consolidation of data formed the foundation for our data-driven approach.

2. **Web Crawling for External Data on HCPs**: In our quest for a holistic understanding of HCP behavior and preferences, we recognized the significance of external data sources. We leveraged web crawling techniques to extract valuable external data from various online resources including social media platforms like Facebook and X (Twitter) as well as other research-oriented portals like ResearchGate and Clinicaltrials.gov. By analysing their online activities and interactions, we gained deeper insights into their preferences and engagement patterns. This allowed us to tailor our engagement strategies with a high degree of precision, ensuring that our interactions were both well-received and impactful.

3. **Creating a Comprehensive HCP View**: Through the integration of internal and external data, we achieved a holistic view of HCPs. This encompassed interaction records, demographics, and digital presence along with an insight on sales at a geographical level. This comprehensive information empowered us to craft highly personalized and effective engagement strategies. Our use of web crawling techniques was instrumental in enhancing our understanding of HCP's digital behavior and preferences, ultimately contributing to the success of the revamped strategy.

4. **Advanced Analytics and AI/ML Models:** Our team of data scientists employed advanced analytics and AI/ML models to extract actionable insights. Here's how we harnessed these techniques:

   - Predictive Models: AI-driven predictive models were pivotal in understanding HCP behavior and preferences. These models allowed us to anticipate how HCPs would respond to different engagement approaches, thus guiding our strategies effectively.

   - Data Validation: AI was employed for data quality assurance, ensuring the reliability and accuracy of the insights we generated.

5. **Data Visualization**: We used robust data visualization tools such as PowerBI to create interactive dashboards and reports. These tools made it easy for commercial teams to interpret the integrated data and insights, facilitating data-driven decision-making.

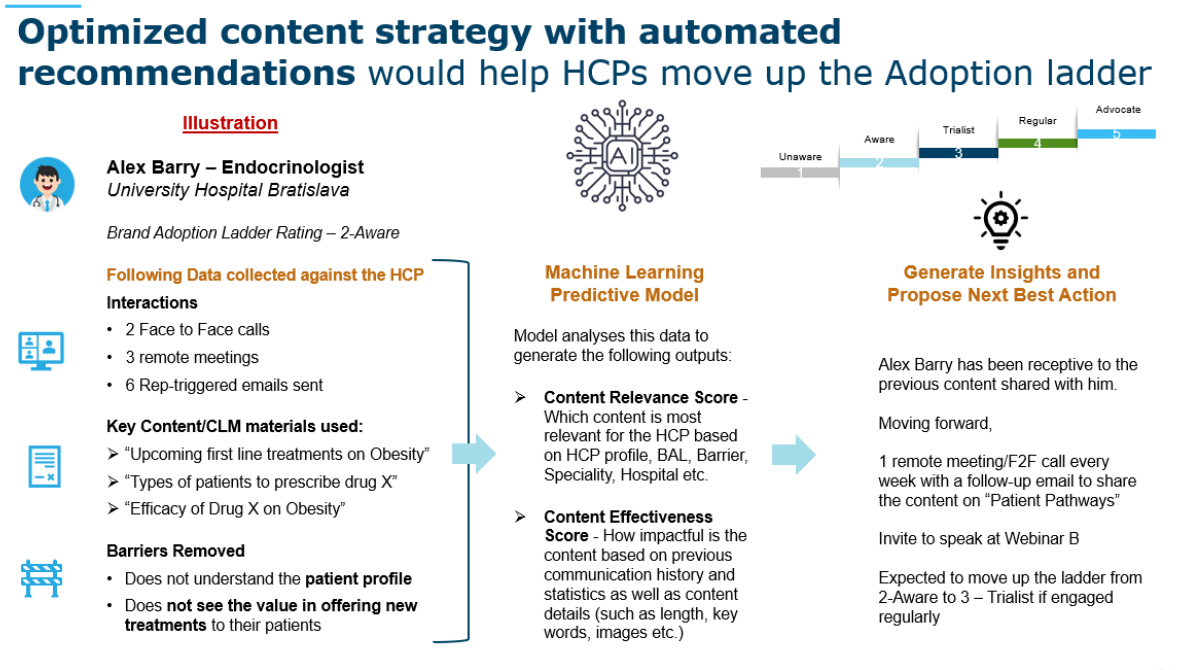

Figure 3: Illustration on deploying a predictive model to generate a next-best-action for the commercial teams.

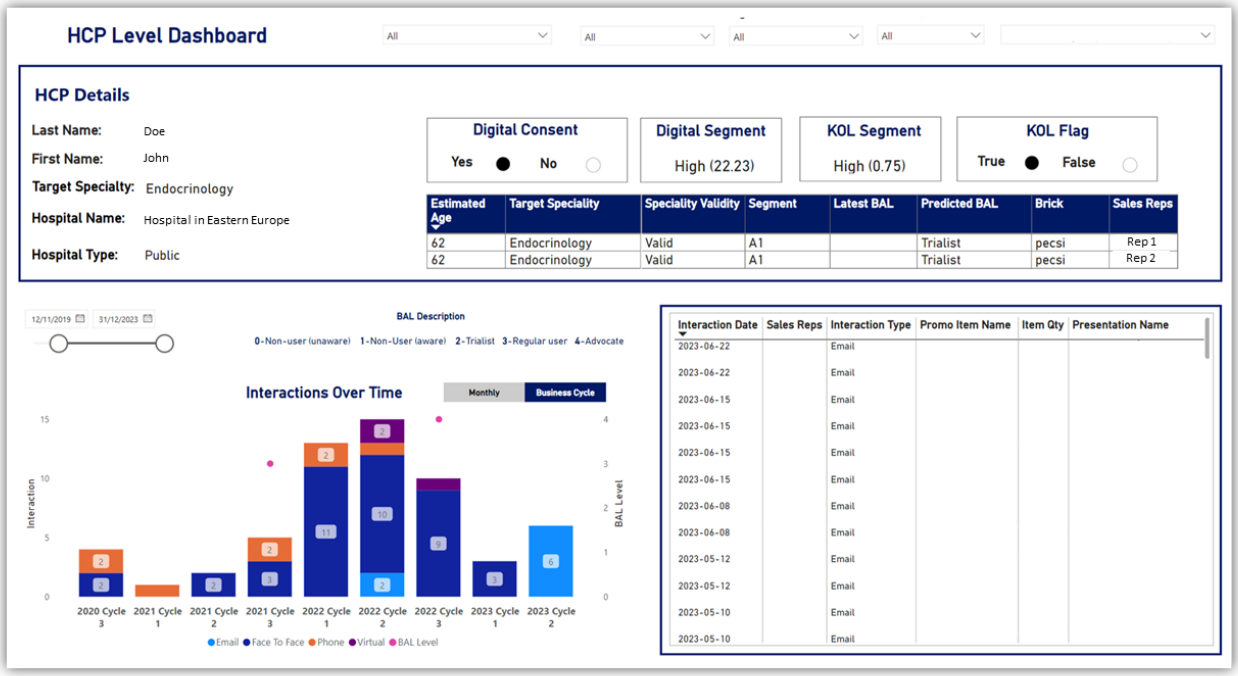

Figure 4: HCP level dashboard giving out the profiling details and interaction history.

6. **Machine Learning Operations (MLOps):** In parallel with our data integration and analytics efforts, we recognized the pivotal role of MLOps in ensuring the scalability, security, and performance of our AI and ML models. MLOps involved deploying models into production, automating updates for model accuracy, optimizing resource allocation, and maintaining strict security and compliance. This collaborative approach between data scientists, machine learning engineers, and IT operations teams ensured our AI-driven models remained reliable and effective, enhancing our ability to tailor engagements with precision and optimize our strategies.

IMPACT GENERATED

The omnichannel strategy has proven highly effective in driving demand among both HCPs and potential users for the obesity drug, with its impact extending into the year 2024. Notable outcomes of this transformative approach are as follows:

- Approximately 80% of the AI model recommendations were successfully implemented by the sales teams, validating the model's real-world effectiveness. This observation, derived from call activity data, underscores the model's practicality and its alignment with on-the-ground realities.

- The identification of 78 potential Key Opinion Leaders (KOLs) solidified the targeting plan, enhancing the precision of engagements with key stakeholders.

- A comprehensive understanding of HCPs was achieved, with all HCPs now possessing a Brand Adoption Ladder score. This marks a remarkable increase of approximately 94% from the project's inception, signifying a significant shift in adoption and acceptance.

- Multiple new digital channels were seamlessly integrated alongside existing face-to-face engagements, enhancing resource allocation efficiency, and expanding outreach.

- A well-defined workflow was established for obtaining consent from HCPs to enable further digital engagement activities, ensuring compliance and ethical engagement.

- The potential modelling exercise was able to uncover insights into the socio-economic factors that were associated with the product sales values, leading to a better understanding of the market.

- The web crawling work filled in gaps around missing HCP details like age and license details through publicly available data and saved costs on purchasing additional datasets from the market.

  Furthermore, the Lynx Analytics team's success has transcended the boundaries of this project. They have collaborated with other pharmaceutical teams specializing in respiratory, cardiovascular, and dermatology therapeutic areas to replicate these omnichannel strategies across global markets. This approach, rooted in data-driven methodologies, has been thoughtfully tailored for specific brands. It involves a deeper understanding of HCPs through the analysis of their digital behavior on social media platforms and the identification of KOL networks focused on specific disease areas.

  This extension of the approach underscores its adaptability and scalability, offering a promising future for pharmaceutical innovation and omnichannel engagement.

CONCLUSION AND FUTURE OUTLOOK

Looking past the traditional HCP engagement approach

This case study outlines key trends influencing the pharmaceutical industry. Notably, there is a call for a transparent Customer 360 view, considered essential for effective HCP engagement. Data plays a central role in these interactions, leading companies to take proactive steps in managing data integrity and adopting a data-centric approach. The connection between data quality and the capabilities of AI/ML solutions is evident, emphasizing the significance of data as the foundation for innovation. Companies are forming strategic partnerships with data and AI-focused firms to stay competitive in this evolving landscape.

Looking ahead, the pharmaceutical industry offers opportunities for the growth of digital channels beyond HCP portals. This expansion includes various aspects of data-driven engagement. Continuous optimization through simulation and resource planning remains crucial in a landscape characterized by ongoing change. This case study serves as evidence of the transformation in pharmaceutical companies' go-to-market strategies, enhancing HCP outreach, Brand Adoption Ladder ratings, and resource allocation. It highlights the industry's shift towards a data-centric approach and underscores the need for companies to adapt, collaborate, and leverage the potential of data and AI to maintain a leading position in pharmaceutical innovation.

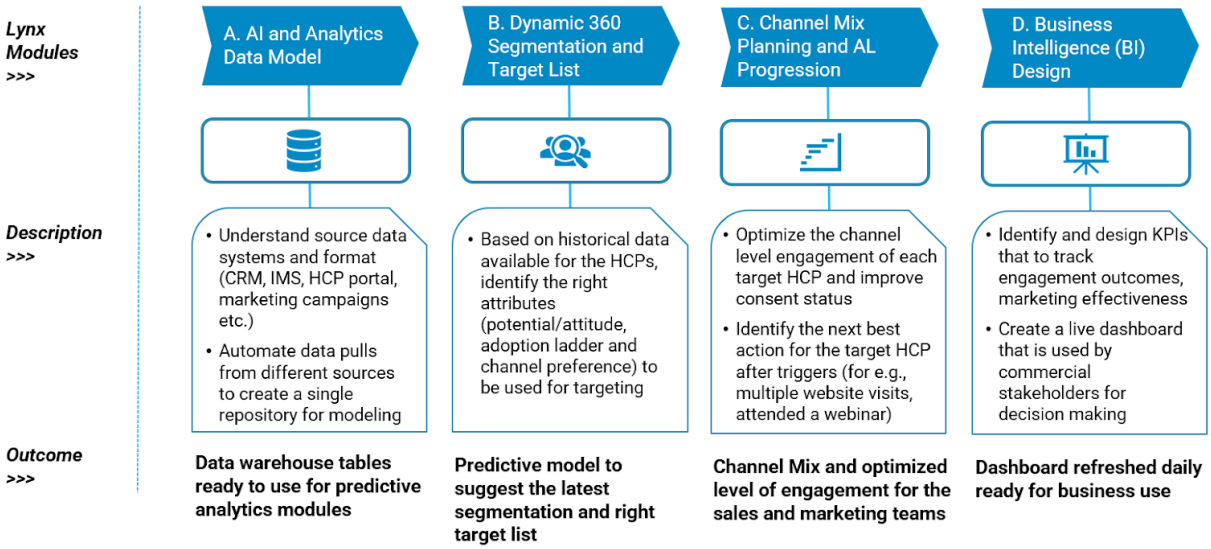

Figure 5: Summary of deployment methodology.

ALSO IN DISCUSSION:

Leveraging Generative AI to empower the commercial teams.

Another solution being discussed involves the implementation of an LLM-powered chatbot as part of an AI pilot project to assist commercial colleagues. This chatbot will provide a user-friendly interface for natural language interactions, making data retrieval and insights accessible to non-technical users. It will integrate various data sources, including sales, costs, market share, and activity data, enabling informed decision-making for resource allocation.

The chatbot's capabilities will encompass predictive analytics, customized reporting, and scenario simulations, empowering commercial colleagues to ask questions, receive actionable insights, and optimize their strategies. Regular updates and training will ensure the chatbot's alignment with evolving business needs and data sources, enhancing its utility over time. By deploying this solution, we aim to ensure faster decision-making.