

JADAVPUR
UNIVERSITY

Study on Migraine is a very intriguing topic in the field of medical sciences, due to its widespread prevalence while not all are treated.

MIGRAINE

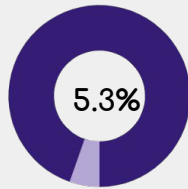
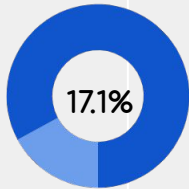
Migraine is a headache of varying intensity, often accompanied by nausea and sensitivity to light and sound.

Episodic	Chronic
Shows a headache frequency of less than 15 days a month	Shows a headache frequency of more than 15 days a month ^[1]

PREVALENCE

According to latest reports of AMPP(American Migraine Prevalence and Prevention) study we found..^[1]

Prevalence of EM among Women and 1.3% CM



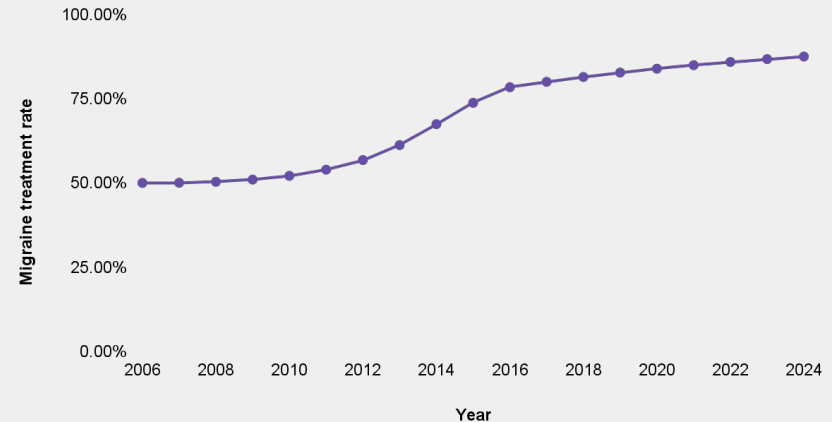
Prevalence of EM among Men and 0.5% CM

2

TREATMENT RATE

Not all of those who are suffering from Migraine are treated. After analyzing the data, and using "Holt's Method with Additive Damping", it is forecasted that **87.51%** of total migraine patients will receive a proper treatment by **2024**

Migraine treatment rate vs. Year



[**Code of the forecast is linked here](#)

Reference

[1] Defining the Differences Between Episodic Migraine and Chronic Migraine - PMC

** EM = Episodic Migraine

** CM= Chronic Migraine

Most of the migraine patients in the US are suffering from Episodic Migraine and our client is trying to capture this market space.

WHO?	WHAT?	WHEN?
<ul style="list-style-type: none">❖ PharmaSpace is a multinational pharma company based at New Jersey❖ Products range lie in the neural space for ailments like Seizures, Alzheimer's and Parkinson	<ul style="list-style-type: none">❖ Our client is planning to launch a new product named RELIEVE in the market❖ RELIEVE therapy is capable of treating multiple pain indications such as migraine and chronic pain	<ul style="list-style-type: none">❖ PharmaSpace is going to launch RELIEVE on the fall of 2024❖ They are targeting to capture the market the market where acute treatment of Episodic Migraine is done

MARKET SEGMENTATION

Migraine

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graph TD; Migraine --> Episodic; Migraine --> Chronic; Episodic --> AcuteTreatment[Acute Treatment]; Episodic --> AcutePreventive[Acute + Preventive]; Episodic --> PreventiveTreatment[Preventive Treatment];
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****TARGET MARKET**

--- Target Market

MARKET SIZE

❖ From the given dataset of around 250 doctors, we obtained the market size to be as follows:

1000 Per patients visited

114 Episodic Migraine with acute treatment

Though doctors have alternatives to treat migraine based on existing ¹¹ medications, 'RELIEVE' shows strong potential to surpass them.

DETERMINING AND COMPARING OVERALL RATINGS

- The mean of all attributes from the HCP's perception on individual treatment alternatives is calculated from the main data set
- The mean importance rating is evaluated from the primary data set for all alternatives [**Calculations](#)

$$\text{Overall rating} = \Sigma(\text{Importance Rating} \times \text{Perception rating})/49$$

Rating (out of 7)	NSAID	Triptan	Opioid	Barbiturate	Relieve
Pain Relief	4.11	5.00	4.01	3.91	4.90
Pain Freedom	3.85	4.80	3.67	3.83	4.73
% improvement	3.71	4.63	3.46	3.57	4.62
Side Effects	4.30	4.11	2.93	3.25	4.64
Admin. route	4.04	4.31	3.49	3.46	4.22
Mechanism	2.95	3.35	2.45	2.55	3.57
Efficacy	3.84	4.35	3.82	3.63	4.62
Overall Score	3.83	4.36	3.40	3.46	4.47

POTENTIAL DRIVERS FOR RELIEVE

- ❖ Minimal side effects in comparison to Triptans (most preferred alternative)
- ❖ Practitioners are willing to overcome insurance hurdles, provided it's a promising product
- ❖ High unmet need for acute treatment of patients contraindicated to Triptans

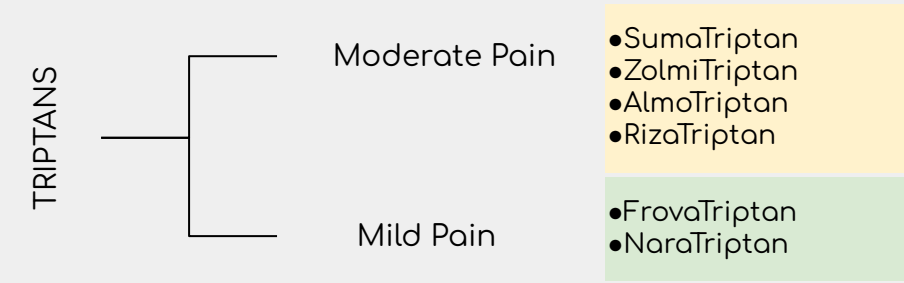
POTENTIAL BARRIERS FOR RELIEVE

- ❖ Intravenous mode of treatment is economically beneficial than RELIEVE for practitioners
- ❖ Unavailability of low dosage medication which is preferred by practitioners in early stage

Based on primary competitor analysis, and market research on pricing strategy, 'RELIEVE' should be priced at \$8.5/pill.



PRIMARY COMPETITOR ANALYSIS^[2]



Type of Triptan	Risk of Side Effect	Recurrence	Price per pill
SumaTriptan	HIGH	MODERATE	\$8
ZolmiTriptan	HIGH	HIGH	\$8.7
AlmoTriptan	LOW	LOW	\$9.4
RizaTriptan	LOW	HIGH	\$9.4

COMPETITORS VS RELIEVE

SumaTriptan

→ The triptan with the most side effects

ZolmiTriptan

→ Higher Side Effects

→ Higher Recurrence

AlmoTriptan

→ Costly Pill

RizaTriptan

→ Higher Recurrence

→ Costlier Pill

PRICING THE PILL & CONSIDERATIONS

\$8.5 /pill

- ★ Keeping in mind the high capital investment in R&D (\$2-3 billion)
- ★ Has similar benefits with negligible adverse effect from Sumatriptan
- ★ Expected to gain competitive advantage at the price point

[2] Choosing the Right Triptan

Certain group of doctors are showing high reliability on 'RELIEVE' and hence sorting the key considerations for launching^[3] it in the market

Key Characteristic Identification of HCPs

For determining the characteristics we determined overall rating given by the HCPs for each categorical variables using this formula:

Rating =
$$\frac{\sum (\text{Rating value} * \text{Count of HCP})}{\sum \text{count of HCPs}}$$

Physician Persona

****Calculations**



Neurologists are most likely to prescribe RELIEVE as their ratings for prescribing RELIEVE is 5.90/7.



Doctors who have solo- practice in an office are more likely to prescribe RELIEVE (Rating: 5.80/7)



Doctors who have a work experience of 26-30 years are more likely to prescribe RELIEVE (Rating: 5.90/7)

SWOT ANALYSIS

STRENGTHS

- No CV contraindication
- High % Pain Freedom
- Low Side Effects
- 80% people with mild or no pain after 2 hours

WEAKNESSES

- Only available as oral pills
- Only a single dosage amount
- IV infusions profitable for doctors

OPPORTUNITIES

- Those contraindicated to triptan have high unmet need
- Triptan , ergot not efficacious

THREATS

- No compliance of insurance companies

LAUNCH STRATEGY CONSIDERATIONS

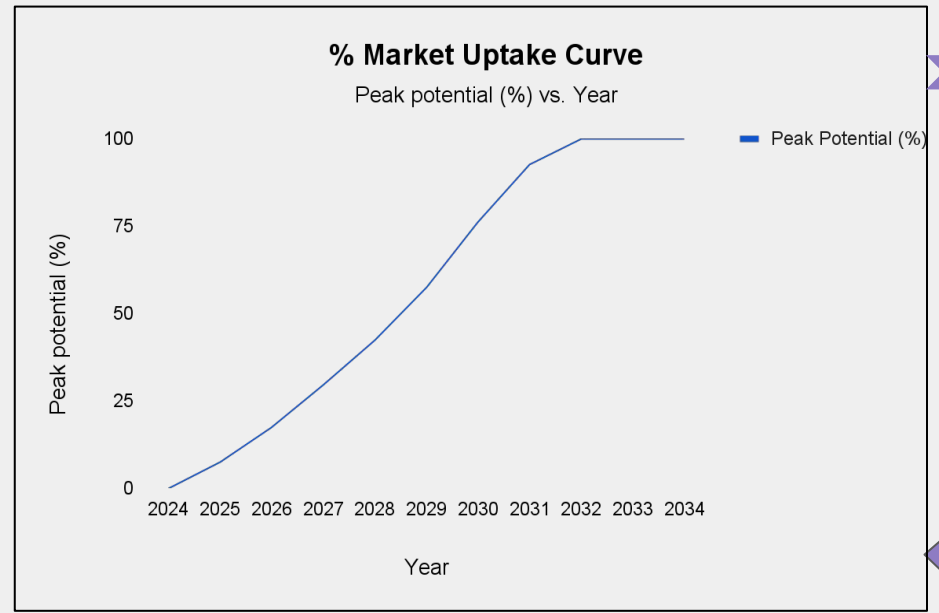
Target Market	Episodic Migraine + acute treatment
Product and Competitor	Competitor Analysis on diff parameters
Operational considerations	Investment in Manufacturing, Supply Chain and Marketing
Market Reach	Well Established in the US market
Profitability	To be considered before launch

[3] Rates and reasons for discontinuation of triptans and opioids in episodic migraine: Results from the American Migraine Prevalence and Prevention (AMPP) study - ScienceDirect
**HCP = Health Care Professional

Forecasting 'RELIEVE' to reach its peak potential by 2032, and to generate a net revenue of \$9.23 bn by 2034.



PEAK POTENTIAL FORECAST

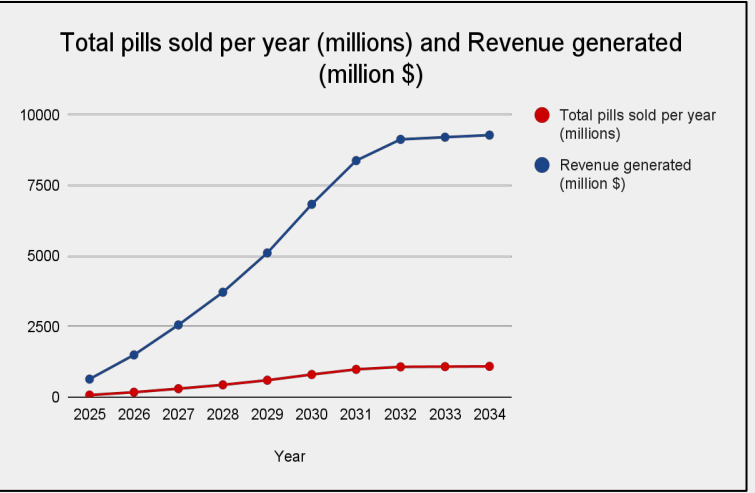


SALES FORECAST

Population using RELIEVE=(U.S population_[4] x %prevalence_[1] x %episodic acute x % treatment penetration x % use of RELIEVE x % Market Uptake)

Total pills_[5] = (Population using RELIEVE x 7.5 x 12)

Revenue = (Total pills in a year x \$8.5)
**** [Calculations and Spreadsheet](#)**



DATASET
★Preparing a dataset of the existing products with their duration to reach p.p

REGRESSION
★ Checking out Regression models to find best model to predict the p.p

PLOT
★ Using predicted values from Random Forest to plot uptake curve

[4] https://drive.google.com/file/d/1RbFcs0H_dVv13K9_xk1DC5g1Xye3uDgX/view?usp=sharing
[5]The acute and preventative treatment of episodic migraine - PMC

**p.p= Peak Potential

Relying on the Revenue Stream and the estimated future use of indiv. Drugs, the market share of 'RELIEVE' is expected to reach 32% by 2034.

REVENUE STREAM

Sales

- ★ Revenue generated by the sales of RELIEVE in the market

Potent Rights

- ★ Exclusive rights of RELIEVE will help in controlling the profit margin

R&D

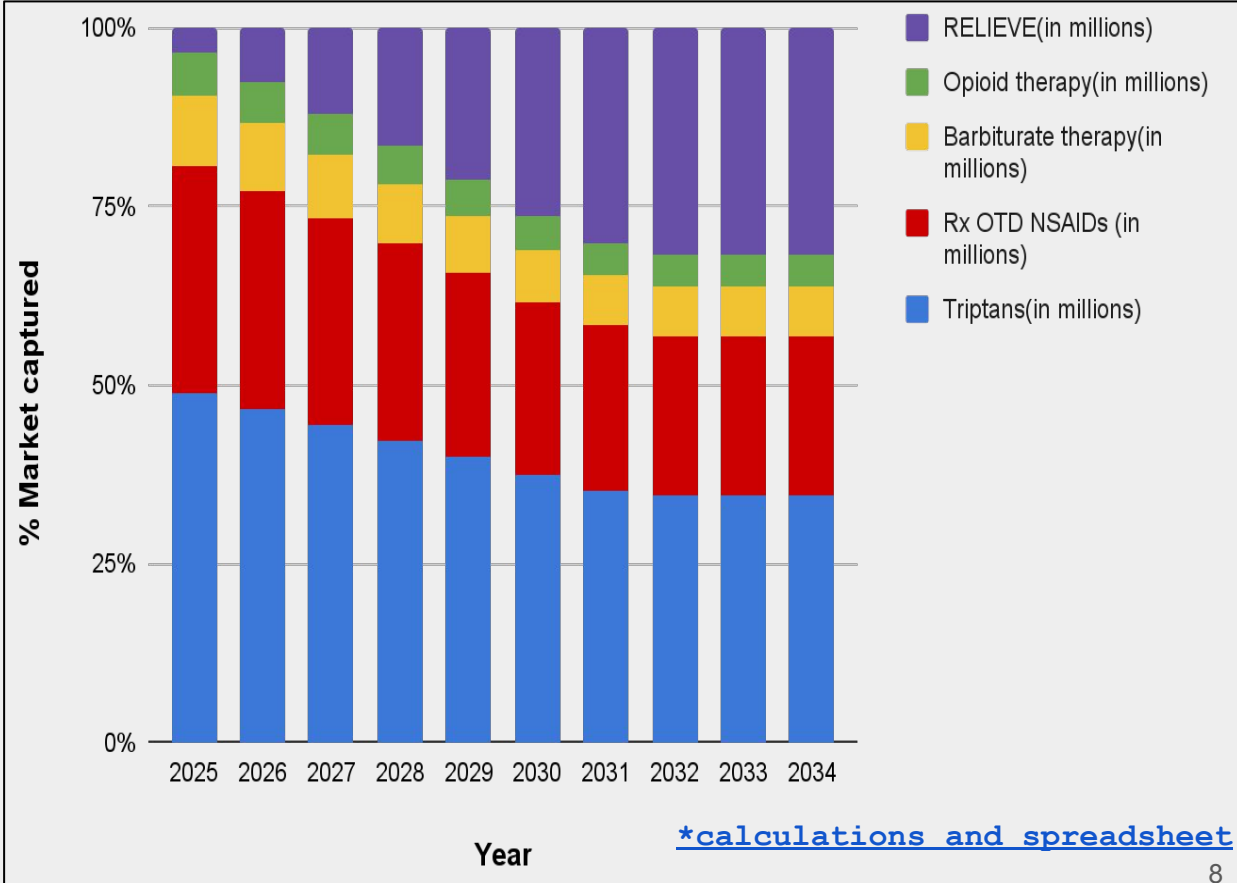
- ★ Further Research & Development of RELIEVE will improve the product contributing to greater sales

Strategic Alliance

- ★ Tie up with insurance companies will help in smooth and easier claims for end consumers

Assuming that no improvements in the competitors and no new product launches over the time period, CAGR growth of RELIEVE is expected to be 30.62%

PROJECTED MARKET PENETRATION (per Drug Type)



Summarizing the Case....



Analyzing Treatment Rates, Market Size and the Product

Migraine Treatment	Market Size	Product Comparison	Practitioner Perspective
<ul style="list-style-type: none">• Mainly of two types Episodic and Chronic• Episodic Migraine prevalence of 17.1% in women and 5.3% in men• By 2024, the migraine treatment rate is expected to reach 87.21%.	<ul style="list-style-type: none">• Target Market comprises of patients who are suffering from Episodic Migraine , and receive acute treatment• This market is about 114 per 1000 patients who visit the doctors for an appointment	<ul style="list-style-type: none">• Based on the overall rating, that is calculated keeping in mind the physician perspectives for individual drug, 'RELIEVE' is rated to be better than the most suitable drug in the existing market 'TRIPTAN'	<ul style="list-style-type: none">• All the 250 HCPs rated, how likely they are going to prescribe RELIEVE• Trends show, Neurologists, practicing for 26-30 years, as a solo office practitioner are most likely to prescribe RELIEVE

Pricing the product, Forecasting the Market Penetration and Necessary Recommendations

Pricing the pill	Product Uptake and Future Market	Recommendations	
<ul style="list-style-type: none">• After comparing with RELIEVE's main competitor the best price to be set is \$8.5/ pill• At this price point, RELIEVE will generate a revenue of \$9.23Bn by 2034	<ul style="list-style-type: none">• Based on the products launched earlier, it is predicted from the trends that RELIEVE will reach Peak Potential in 8 years• 32% market share by 2034	PRODUCT	STRATEGIC
		<ul style="list-style-type: none">• Developing Low Dosage pills• Developing other forms of consumption	<ul style="list-style-type: none">• Patenting the formula to moderate profit margin• Strategic alliance with insurance companies

