

Forecast of the Revenue and Market Share of a Newly Launched Product over a Period

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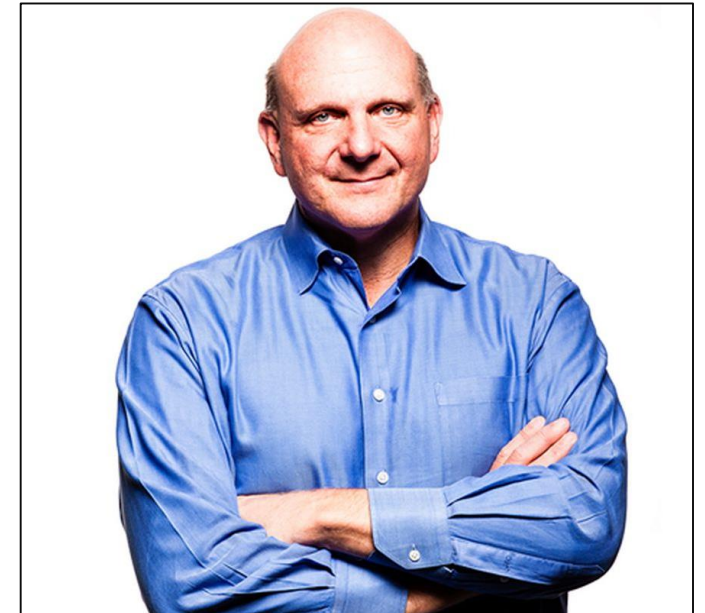
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Introduction to Forecasting

Forecasting is the process of estimating a **product's revenue** and **patient numbers**. This helps the pharmaceutical companies to develop **strategies to maximize** their revenue and **market share** by considering the factors (launch of competitors' product, discount schemes etc.) that may lead to loss in revenue.

Examples from pharmaceutical industry: blockbuster drugs that went bust and others whose performance was beyond expectation (forecasting)

Company	Drug Name	Peak sales (\$ mio.)	
		<i>Estimated</i>	<i>Actual</i>
Eli Lilly	Effient	300-1600 ¹	27
Eli Lilly	Xigris	2000 ²	282
Marion	Cardizem	50	180
Syntax	Naprosyn	40-50	420



Example from business world: “There’s no chance that the iPhone is going to get any significant market share. No chance.” - Steve Ballmer, Microsoft CEO, 2007

Terminologies used in the project

Incidence	Prevalence	Treatable patients	Treated patients
The number of new patients of a disease over a fixed period (usually one year)	• All surviving patients who have a disease over a fixed period (usually one year). • This is the commercially relevant population with active disease.	The number of patients with a disease of interest who are eligible for taking treatment.	The patients who are receiving treatment out of the total treatable pool.
			

Terminologies used in the project

Eligible share	Effective share	Shadowing	Duration of Therapy
The percentage of patients who are eligible to take a certain class of drugs. 	The percentage of patients who are taking the therapy of interest. 	The patients who are taking the therapy of interest in a certain line of treatment will not be eligible for the same therapy in the subsequent line. 	The period for which a percentage of patients will be taking a certain therapy. 

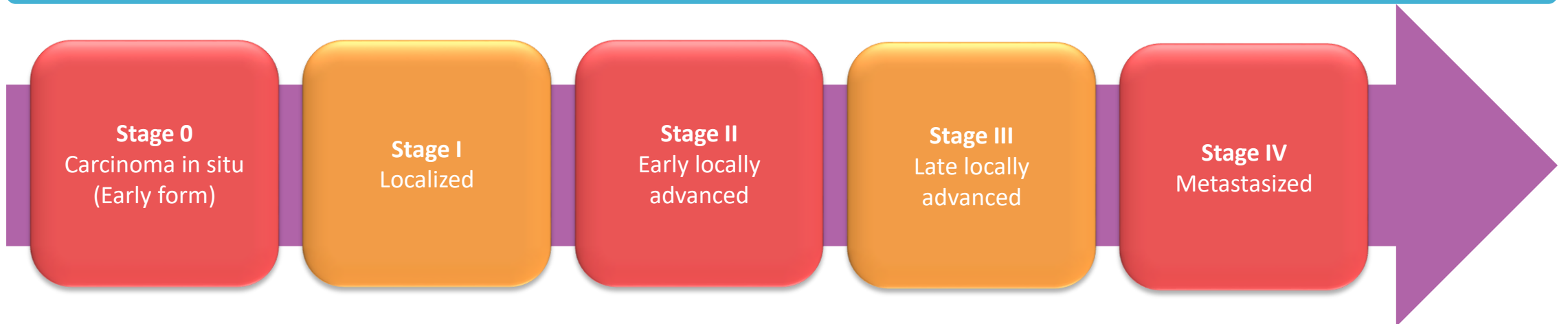
Terminologies used in the project

Lines of Treatment

- First line – first treatment given for a disease; considered as the best or standard treatment
- Second line – if the disease progresses after taking the first line treatment or causes serious side effects

Biomarker – a biological molecule found in blood and is a sign of an abnormal condition or a disease. It helps to differentiate an affected patients from a person without a disease

Stages of Cancer



Research Question, Aim and Objectives



- What is the **revenue and market share forecast** for the client's product due to change in assumptions like implementation of NRDL, affordability, price of the product and discount schemes?
- What will be the **impact of launch of competitors** on the client's product performance in the market?



To **determine the revenue of a pharmaceutical product and the impact of launch of competitors** on the performance of client's product in terms of share in the market, change in volume sales and revenue.



- To forecast the volume and revenue of Product C for the client X
- To forecast the market share of Product C for the client X

Methodology

Study area: PharmaACE Analytics Pvt. Ltd.

Study design: Analytical

Sample size: The entire lung cancer patients (NSCLC) of China were considered for estimation of volume and revenue of Product C. Non-small cell lung cancer patients who would actually be taking treatment with the client's product i.e. Product C.

9. Data Collection Method

The epidemiological data for China was provided by the client through cancer registries for NSCLC.

Chart Audit team of the client was involved in collection of the prevalence data eligibility cuts and preference shares.

Tool for data analysis - MS Excel based model for forecasting.

- Estimating the size of target patient pool
- Applying treatment rate to exclude the untreated patients (who are unable to take the treatment for any reason)
- Finally estimating the market share for each of the drugs available in the market for the forecast indication i.e. NSCLC

Study population: Non-small cell lung cancer patients who would actually be taking treatment with the client's product i.e. Product C.

National Reimbursement Drug List (NRDL) is set by **central government** agencies and the government **reimburses** a set percentage of price of products under this list. This provides a **competitive advantage** to the companies through increase in sales.

- Set by central government agencies including NDRC, CFDA, Ministry of Human Resources and Social Security and Ministry of Finance

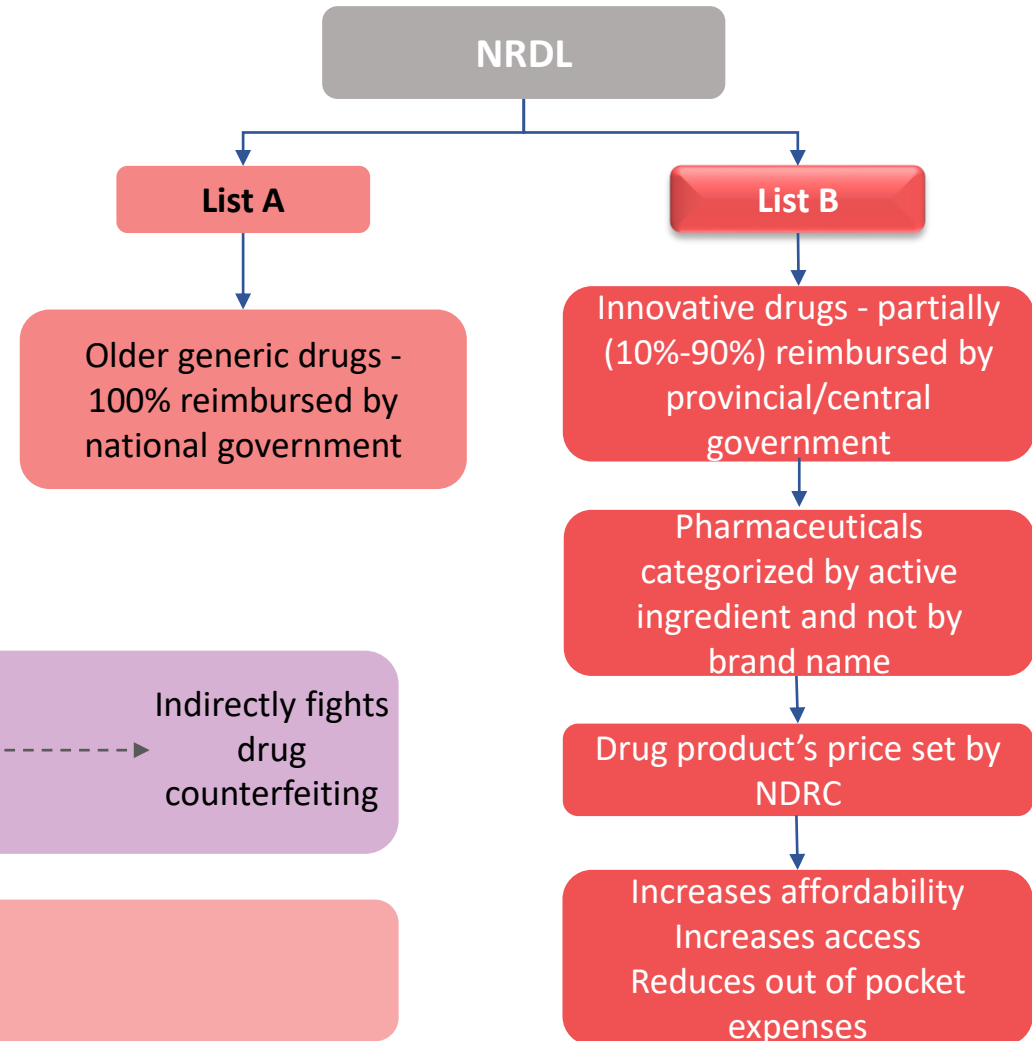
Criteria for coverage and inclusion

- Clinical need and utilization
- Safety and efficacy
- Reasonable pricing compared to other products in same therapeutic area
- Average total cost
- Number of years on the market
- Cost effectiveness

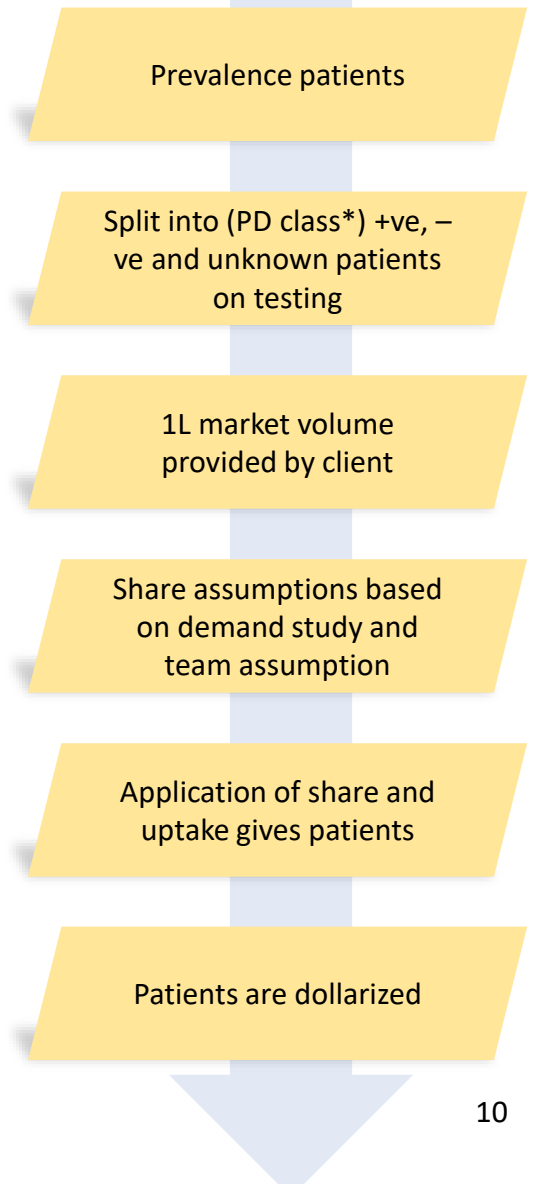
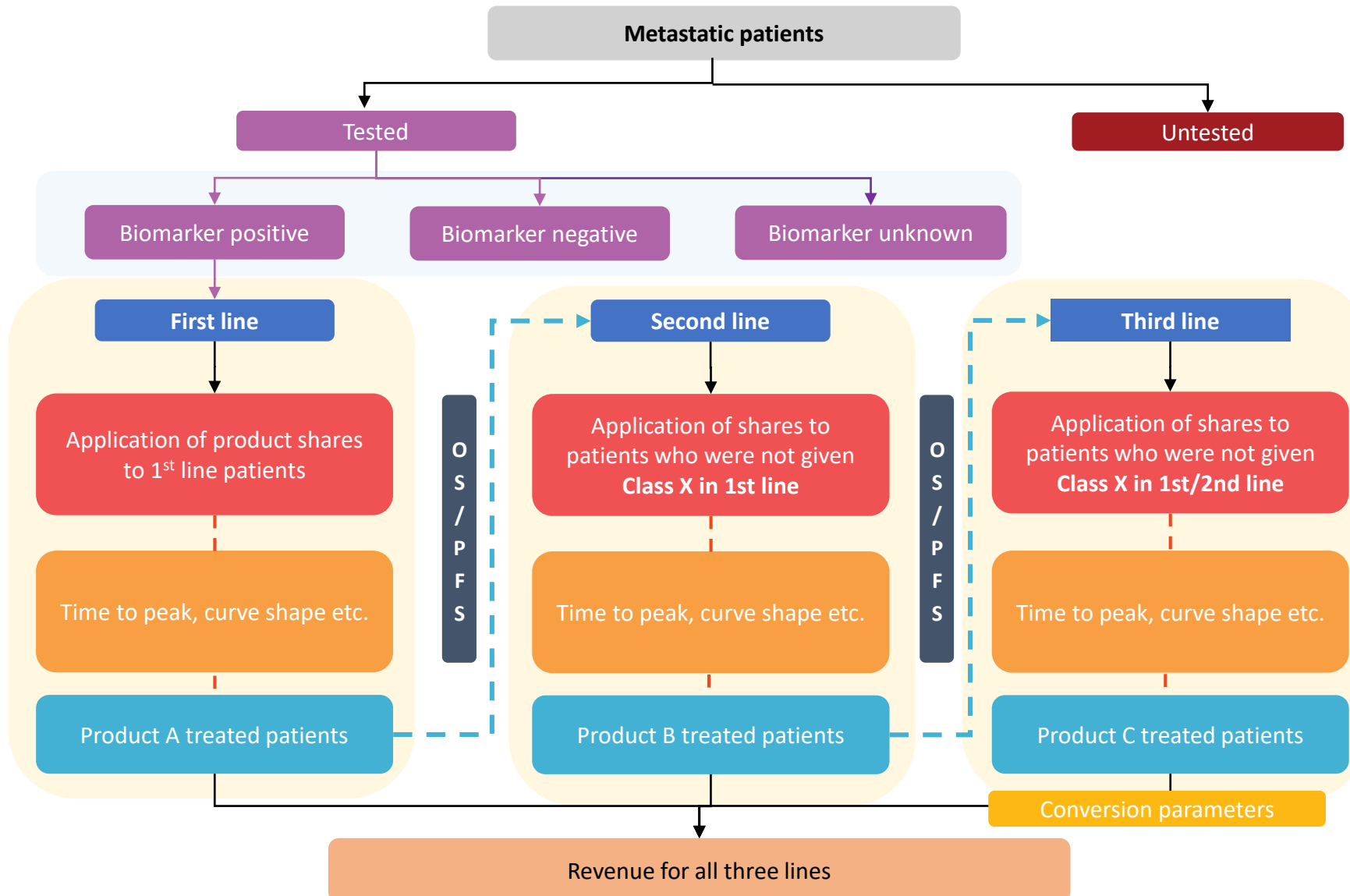
Discounted prices -----> Increases sales volume -----> Offsetting the reduction in price -----> Indirectly fights drug counterfeiting

Reimbursed drugs

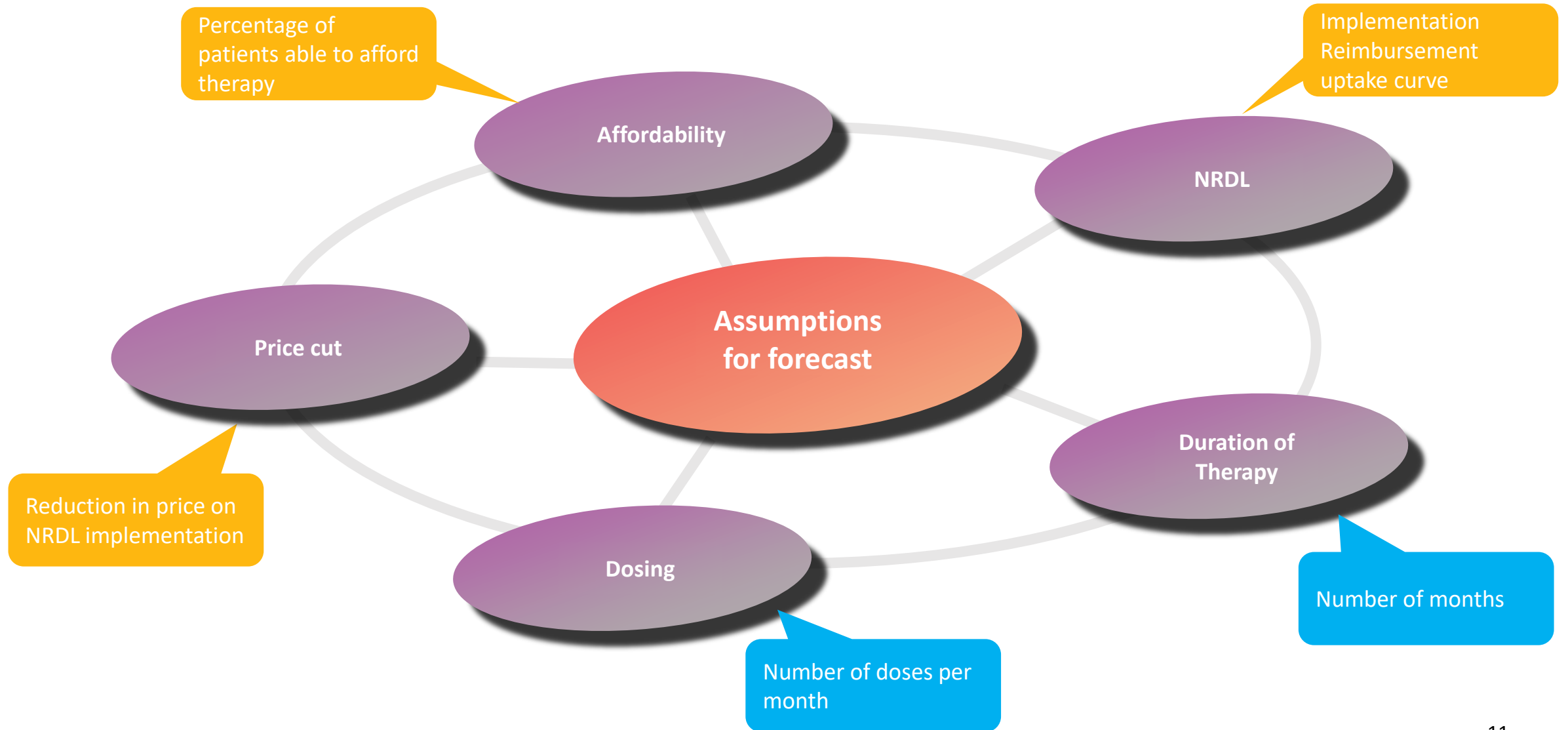
Significant competitive advantage ★



Forecasting methodology

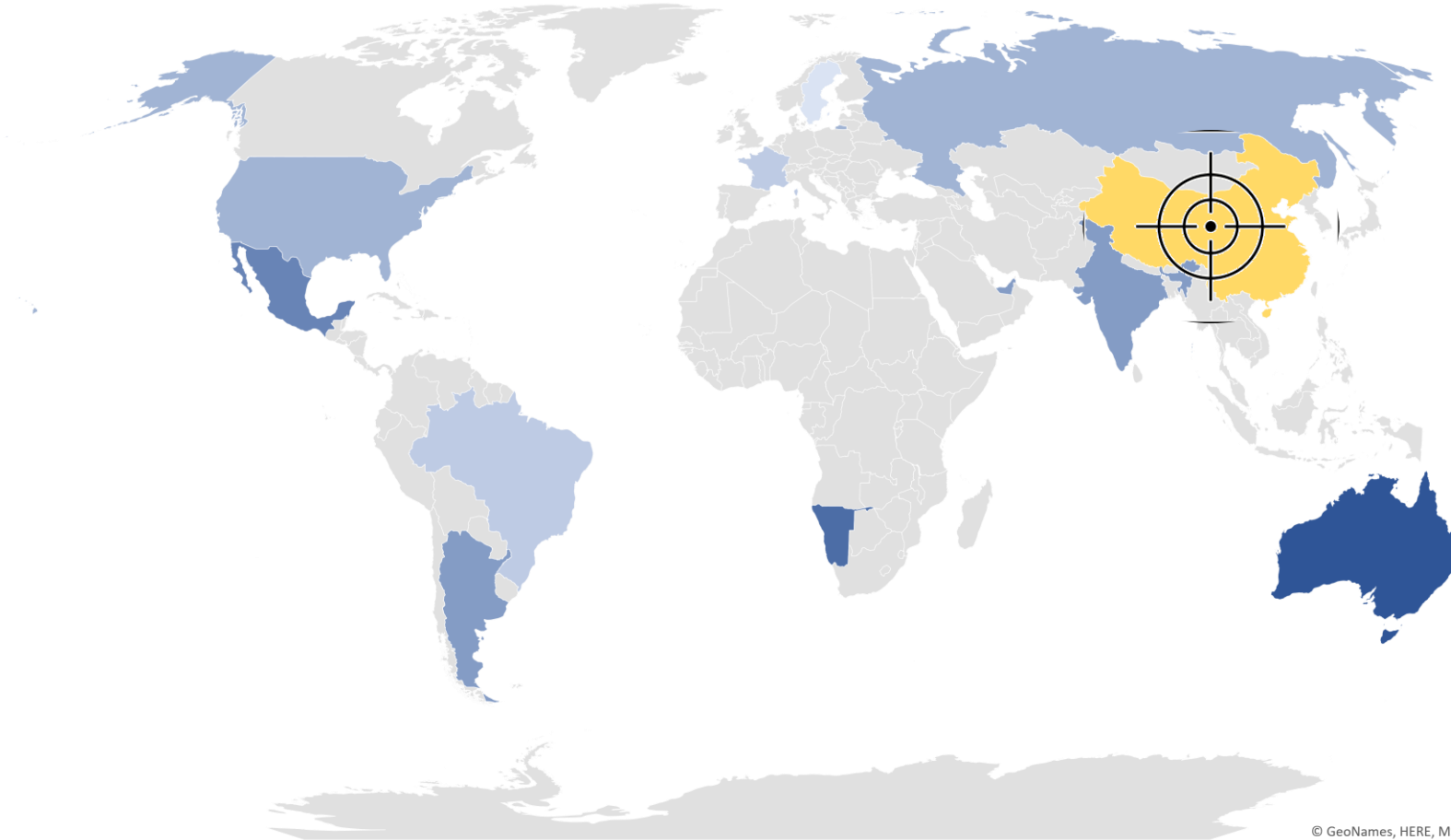


Assumptions for forecast based on China market



Launch of **Product C** in **China market** where an innovative drug can be launched only if the company agrees for local manufacturing of the drug thus leading to competition in price and increase in affordability

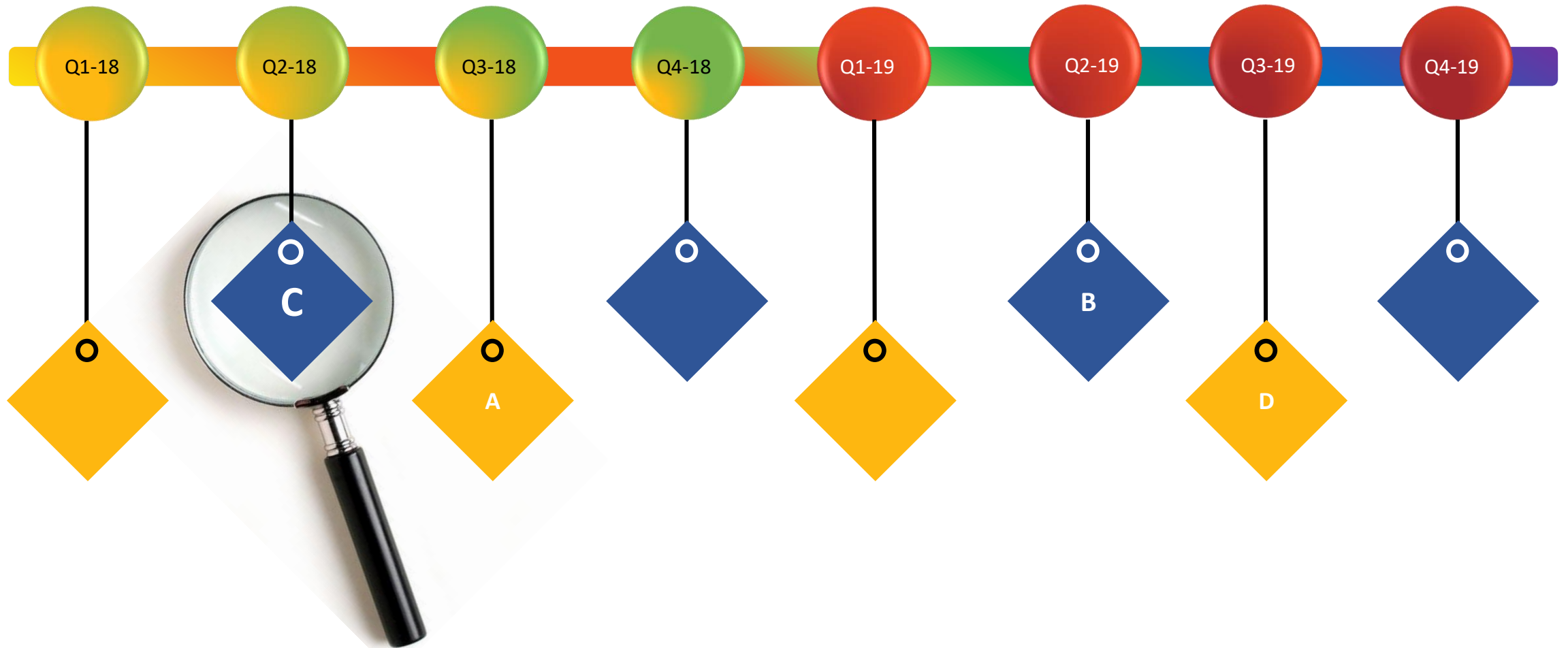
Market of interest- China



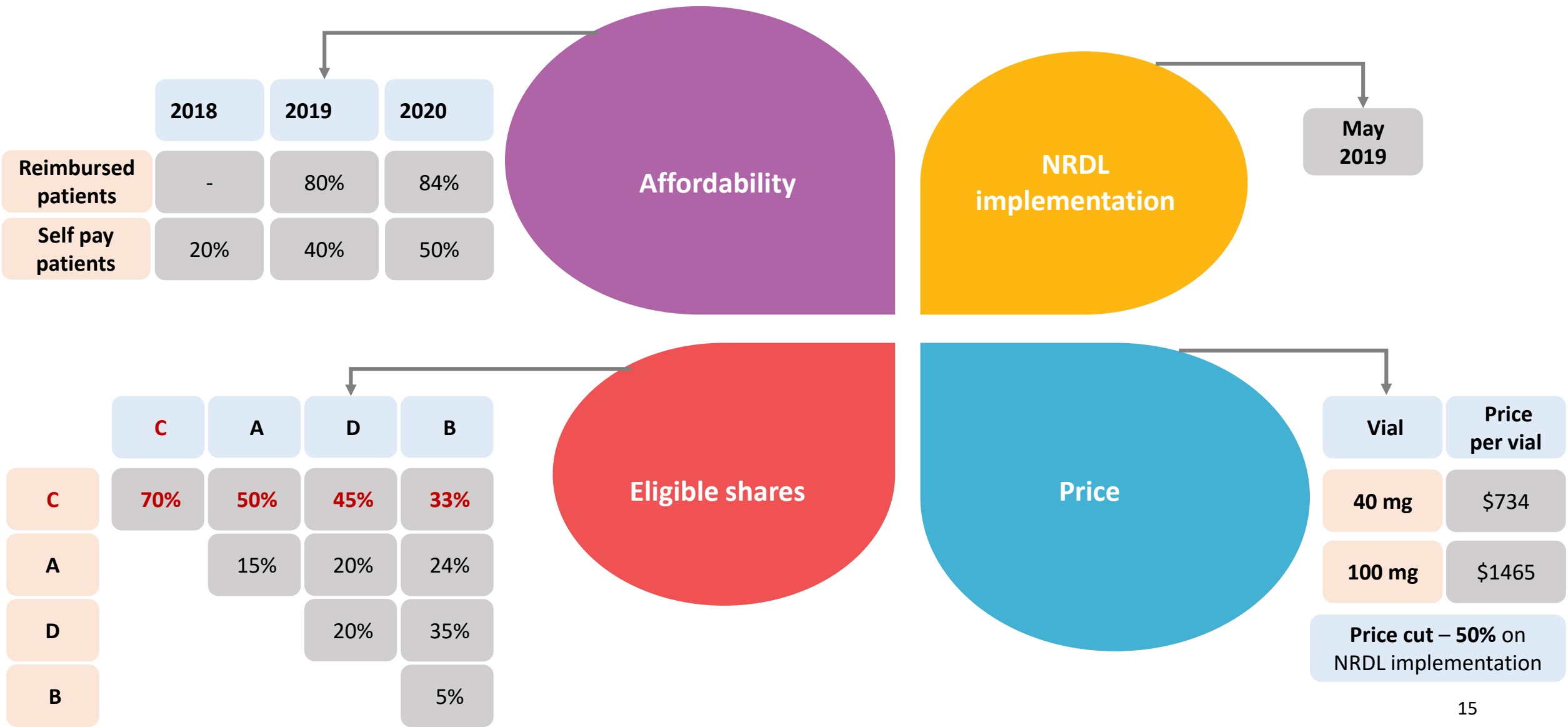
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Results

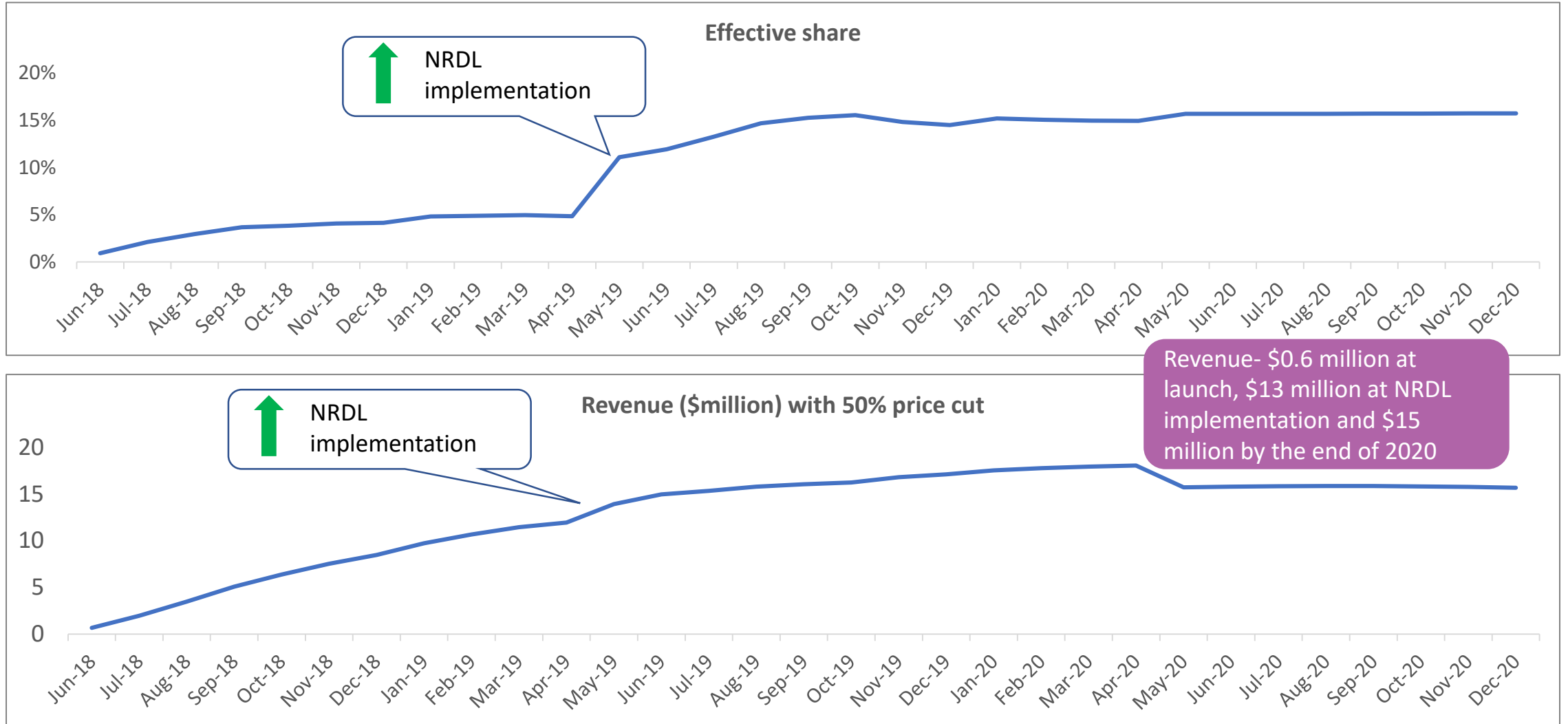
Scenario I: Launch of Product C in Jun'18 followed by Product A in Sep'18, Product B in Apr'19 and Product D in Sep'19. The launch of competitors will affect Product C's market share and thus its revenues.



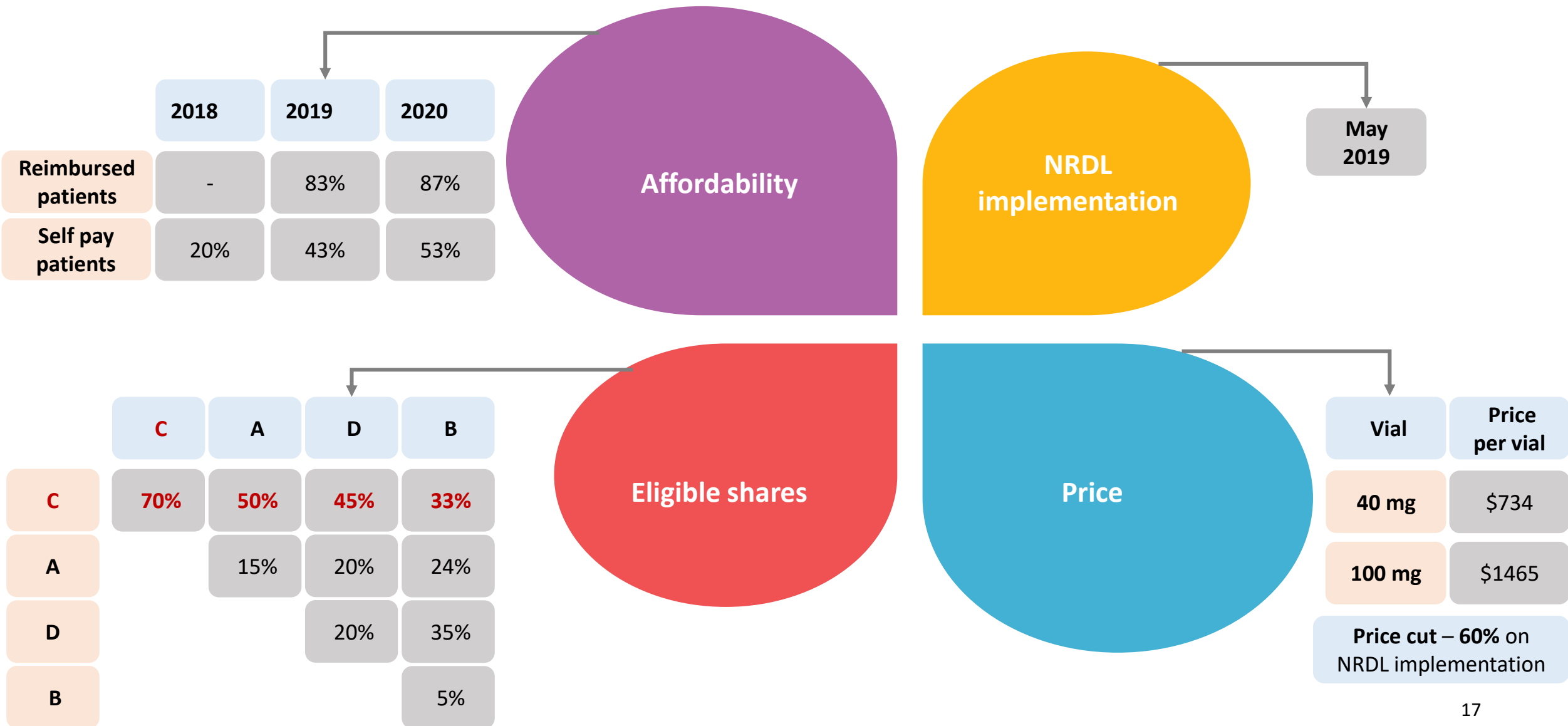
Scenario I: Launch in June 2018 with eligible share of 70% followed by reduction in share on launch of competitors(**share theft**). Affordability for the product will increase on **NRDL implementation** in May'19 with 50% price reduction. Average **duration of therapy** is 4.3 months.



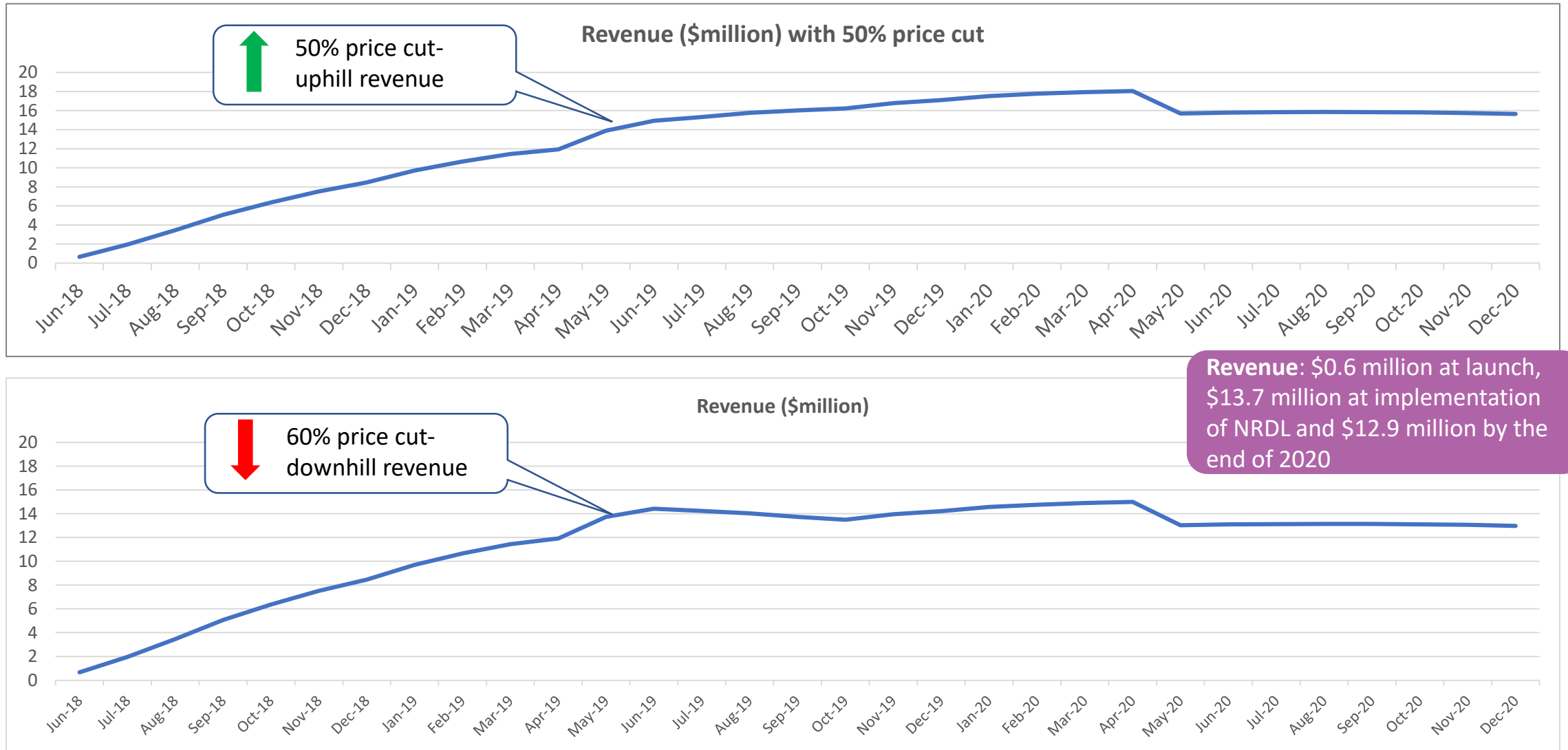
Implementation of **NRDL** in May'19 has led to **price cut** and increase in **affordability** for patients thereby **increasing** the **effective shares** i.e. increase the market share of Product C. This is eventually reflected in **revenues** (\$ 7.5 million at competitor launch)



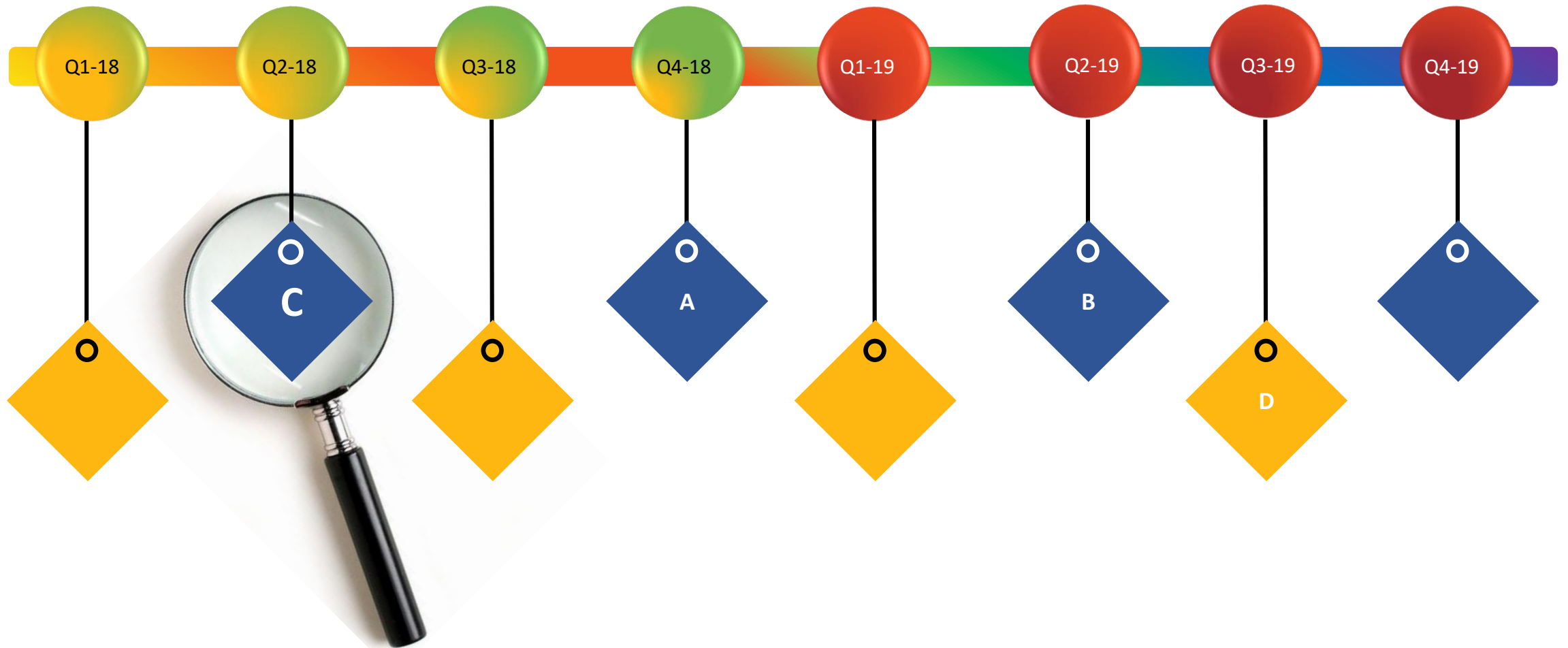
Scenario II: Launch in June 2018 with eligible share of 70% followed by reduction in share on launch of competitors(**share theft**). Affordability for the product will increase on **NRDL implementation** in May'19 with 60% price reduction. Average **duration of therapy** is 4.3 months.



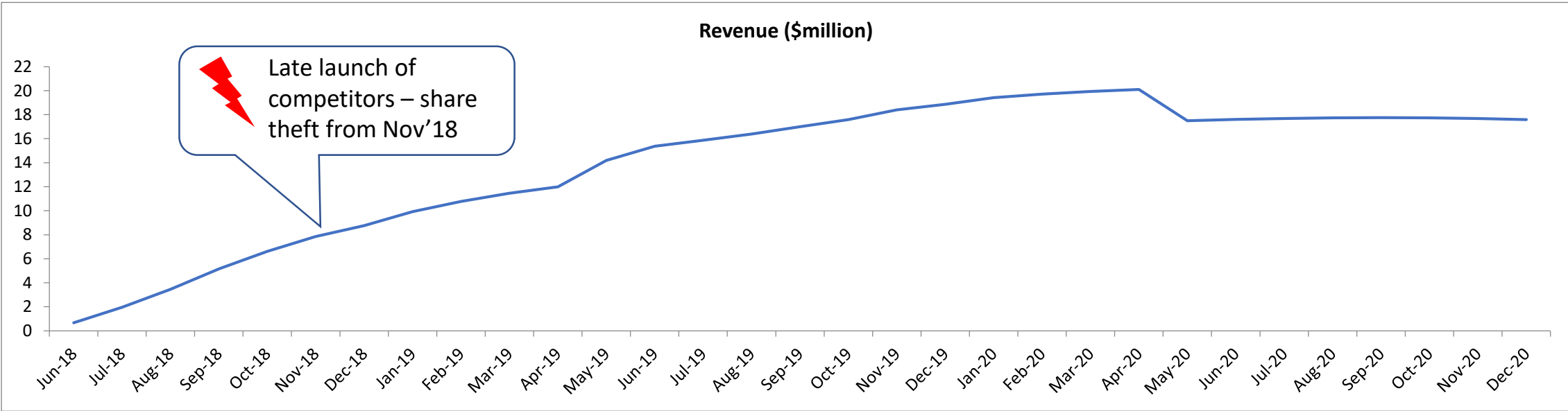
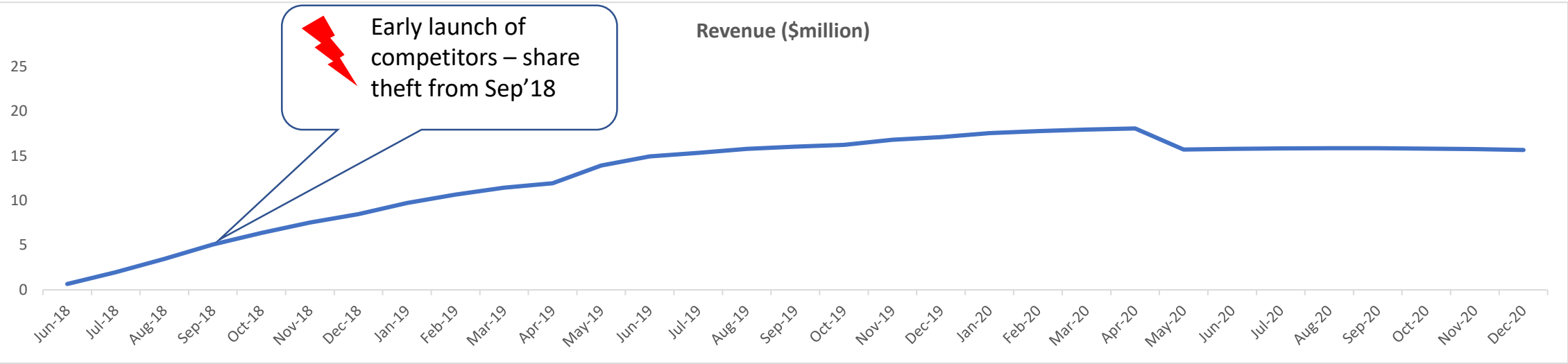
The **increase in price cut** leads to **increase in affordability** but the **revenues decline** as the rise in **affordability** is **not significant** enough to offset the reduction in price and thus pushing the revenues up.



Scenario III: Launch of Product C in Jun'18 followed by Product A in Nov'18, Product B in May'19 and Product D in Oct'19. The launch of competitors will affect Product C's market share and thus its revenues.



The revenue of Product C is forecasted as \$ 7.8 million at competitor launch, \$14 million at implementation of NRDL and \$17.5 million by the end of 2020. Increase in revenue is attributed to late launch of competitors that has led to delayed share theft



Conclusion

The results of the study indicated the impact of assumptions like price cut, affordability and launch of competitors on the client's product.

Forecasted revenue of client's product - \$33.5 million in 2018, followed by \$169 million and \$197 million in 2019 and 2020 respectively (Scenario I)

Implementation of NRDL and the resultant increase in affordability contribute towards increase in revenue even after price cut introduced by the client

Reason for revenue increase - greater number of patients begins to take treatment with the client's product and hence increase in the market share of the product

Suggestions

- Early implementation of NRDL helps to **increase the market share** of client's product and lead to an increase in the number of patients taking the therapy. Therefore, a **positive effect on revenue** will be reflected.
- A **50% price cut on implementation of NRDL** is ideal for higher revenue when compared to a 60% price cut. If price cut is increased, it will definitely lead to an increase in affordability but the subsequent increase in revenue is not seen. This is because the **patient pool of NSCLC** is limited and only a small percentage of patients increase on increase in affordability.
- **Enhancing the coverage of client's product** to as many healthcare providers as possible will lead to an **increase in acceptance** of the product and thus help in gaining market share. This will be possible through highlighting the safety and efficacy results shown in the clinical trials.
- **Discount schemes like Patient Assistance Programme** will help to gain market share till the implementation of NRDL. This will **increase the ability of patients to afford** the drug. Under this scheme the product is purchased by the patient at full price for a few months and then provided for free by the company for other months. E.g. 2+2 scheme; where the patients pay for the drug for 2 months and then the company provides the drug for free for next two months.
- The provision of **returning/reimbursing one month's price of the product** if the patient's disease progresses i.e. progression of lung cancer will increase the trust and confidence of the patients towards the client's product.

Thank You