

Generic or Too Generic?

Analysis of PBS Drug Market for Chronic Illnesses

Team : **Non Generic**

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Overview

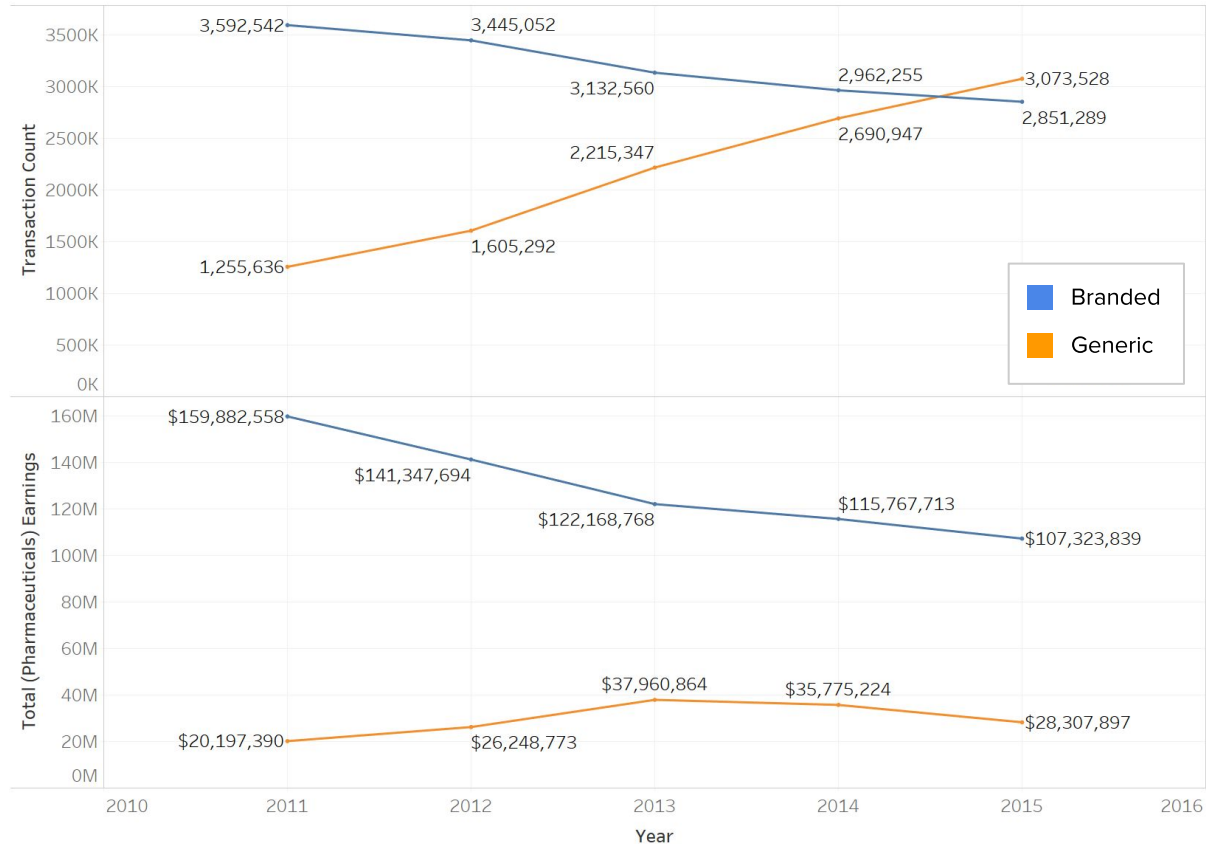
- To reduce the price of PBS drugs and ensure better value for money, the government introduced the Price Disclosure policy. ^[1]
- The first cycle of price reduction based on this policy occurs in 2012. ^[2]
- It is hypothesised that the following would be observed as a result of introducing the policy:
 - Reduced drug prices
 - Patients switching to generic drugs
 - Increase in generic drug sales
 - Decline in branded drug sales
- What does the data say?
- What are the insights for pharmaceutical companies who would like to introduce new drugs into the market?

The Data

- Covers 70% of pharmacies in Australia
- Challenges
 - Missing Wholesale Price mostly for NSW data
- Subset used
 - Period of 1 January 2011 to 31 December 2015
 - PBS drugs
 - For 11 chronic illnesses
 - Total Wholesale Price as Pharmaceutical Companies' Earnings from drug sales

What is the distribution of Generic and Non-Generic PBS?

Number of Transactions and Total Earnings for Generic and Branded PBS Drugs

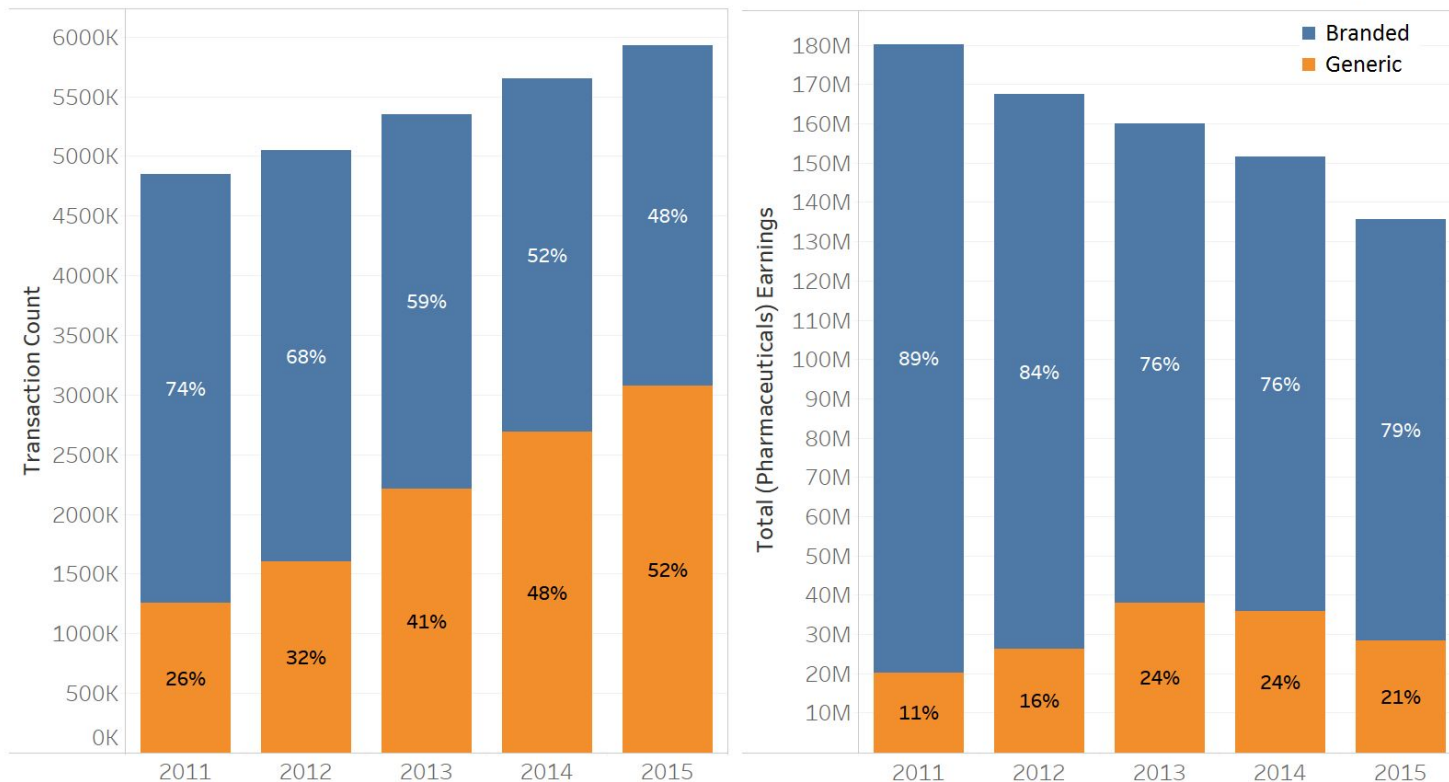


The number of transactions for generic drugs has been increasing steadily from 2011 and surpassed non-generic drugs in 2015.

Meanwhile, the total earnings received by pharmaceutical companies for generic drugs increased until 2013 and started to decline since.

What is the distribution of Generic and Non-Generic PBS?

Number of Transactions and Total Earnings for Generic and Branded PBS Drugs

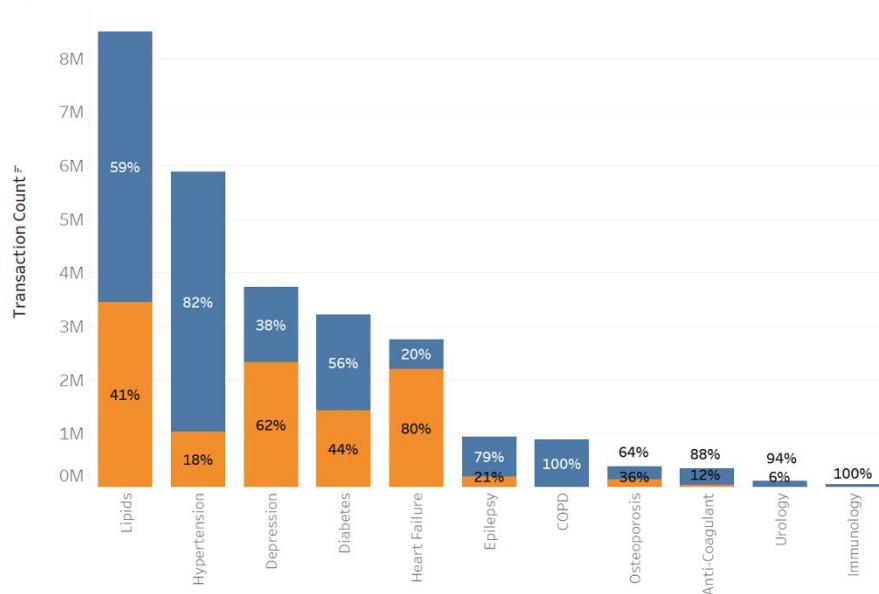


The number of transactions and total earnings for branded drugs have been decreasing since 2011.

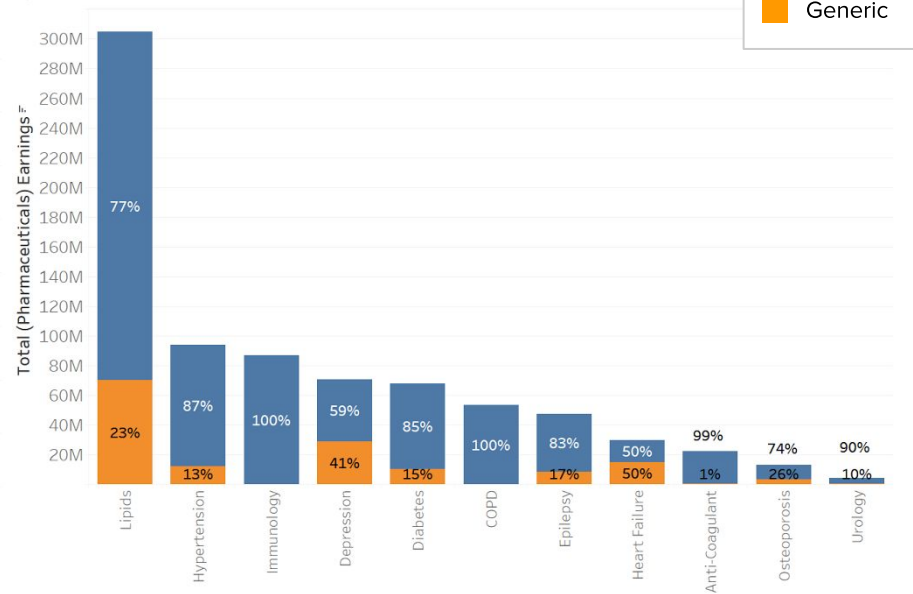
However, the branded drugs are still dominating the market earnings (75+ % every year).

What is this distribution over Chronic Illnesses?

Number of Transactions for Generic and Branded PBS Drugs
By Chronic Illnesses



Total Earnings for Generic and Branded PBS Drugs
By Chronic Illnesses



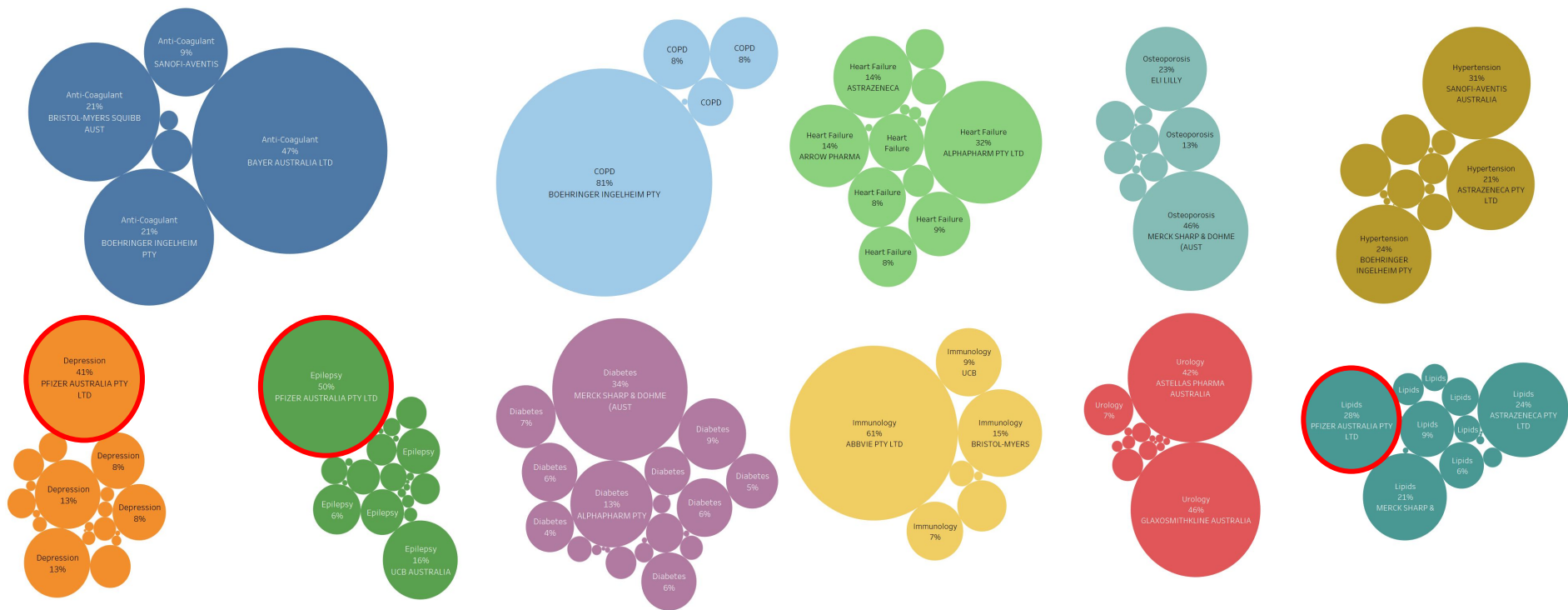
The distribution varies depending on the chronic illness but mostly dominated by branded drug transactions.

What is this distribution over Chronic Illnesses?

- Dominated by generic drug transactions:
 - Depression
 - Heart Failure
- Dominated by branded drug transactions:
 - Anti-coagulant
 - COPD (100% domination)
 - Diabetes
 - Epilepsy
 - Hypertension
 - Immunology (100% domination)
 - Lipids
 - Osteoporosis
 - Urology

Who are the overall market leaders?

Pharmaceutical Companies' Earnings from Overall Drug Sales by Chronic Illness

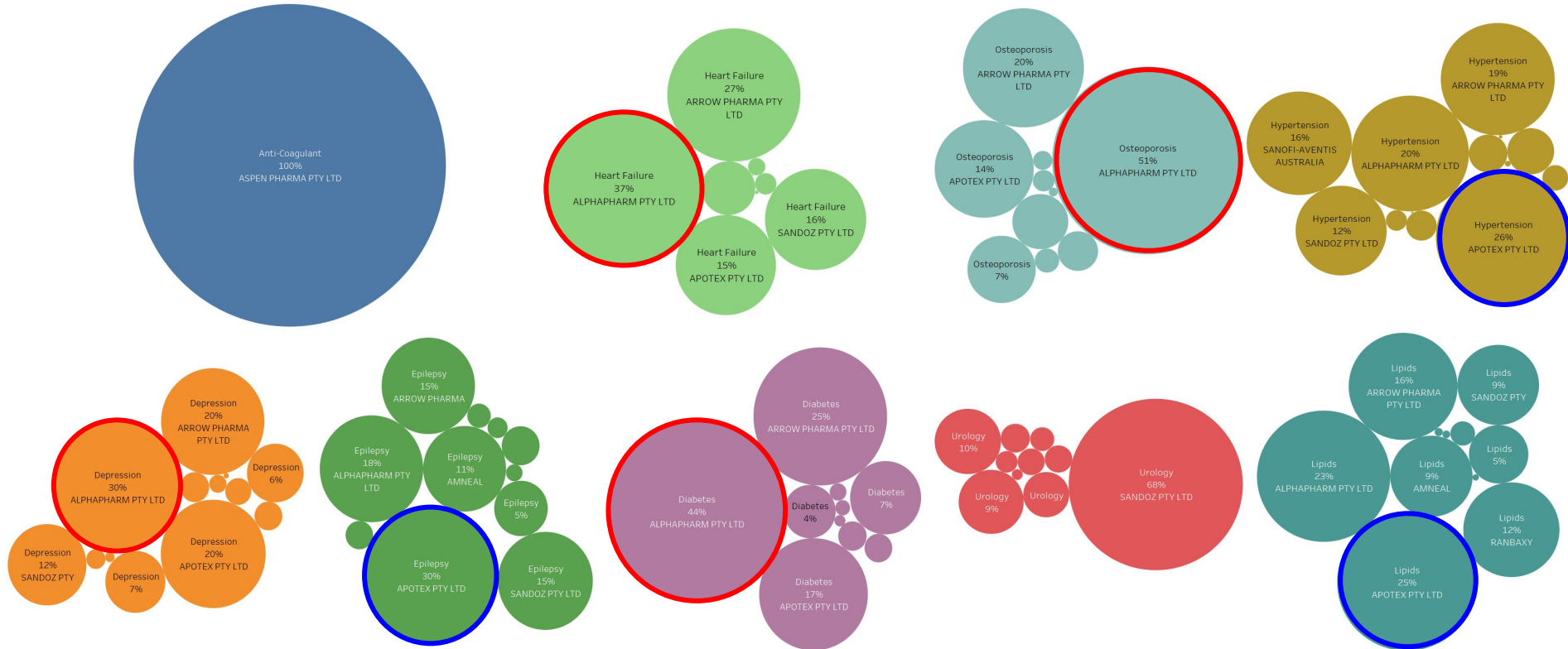


Who are the overall market leaders?

- Anti-coagulant - Bayer Australia
 - COPD - Boehringer Ingelheim
 - Depression - Pfizer Australia
 - Diabetes - Merck Sharp and Dohme
 - Epilepsy - Pfizer Australia
 - Heart Failure - Alphapharm
 - Hypertension - Sanofi-Aventis Australia
 - Immunology - Abbvie
 - Lipids - Pfizer Australia
 - Osteoporosis - Merck Sharp and Dohme
 - Urology - Gaxosmithkline Australia
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- Pfizer Australia is ranked #1 in 3 out of 11 chronic illness drug markets.

Who are the generic market leaders?

Pharmaceutical Companies' Earnings from Generic Drug Sales by Chronic Illness



Who are the generic market leaders?

- Anti-coagulant - Aspen Pharma
- COPD - N/A
- Depression - Alphapharm
- Diabetes - Alphapharm
- Epilepsy - Apotex
- Heart Failure - Alphapharm
- Hypertension - Apotex
- Immunology - N/A
- Lipids - Apotex
- Osteoporosis - Alphapharm
- Urology - Sandoz

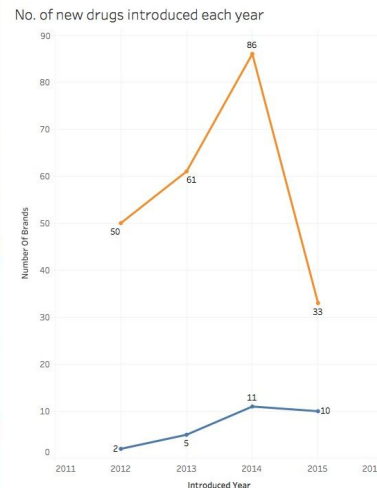
- Alphapharm is ranked #1 in 4 out of 11 chronic illness generic drug markets.
- Apotex is ranked #1 in 3 out of 11 chronic illness generic drug markets.

Has there been any attempt to enter / increase the market share by introducing new drugs?

Distribution of new drugs introduced



We can see that new drugs are mostly generic drugs.



Furthermore, most new drugs are for hypertension.

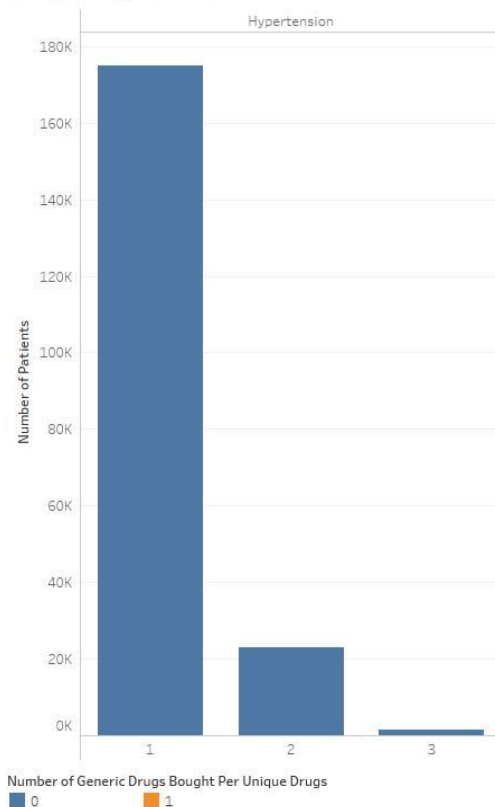
Has there been any attempt to enter / increase the market share by introducing new drugs?

- Between 2012 and 2015, the highest number of brands introduced was in 2014 (97 brands).
- Most of the new brands introduced are **generic drugs** (89.15%).
- Throughout 2012 and 2015, the highest number of brands introduced was for **Hypertension** (26%), **Depression** (18%), and **Lipids** (16%).

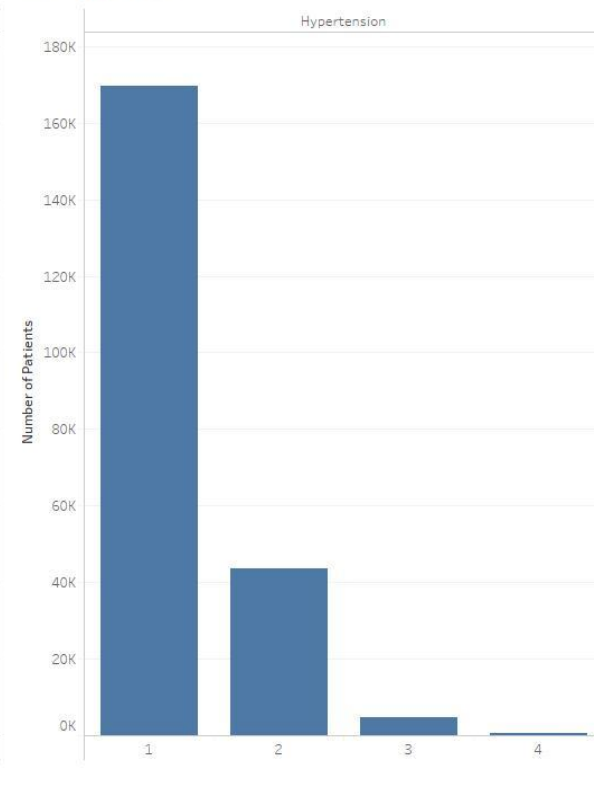
A Hypertension Case Study: How do Generic drugs affect Brand loyalty?

- In 2011, the hypertension drug market was completely dominated by branded drugs.
- In 2011 and 2012, most patients bought one specific drugs. Some bought two to four different drugs.
- However, the number of patients buying generic drugs was hardly significant.

Number of Patients vs Number of Unique Drugs bought in 2011



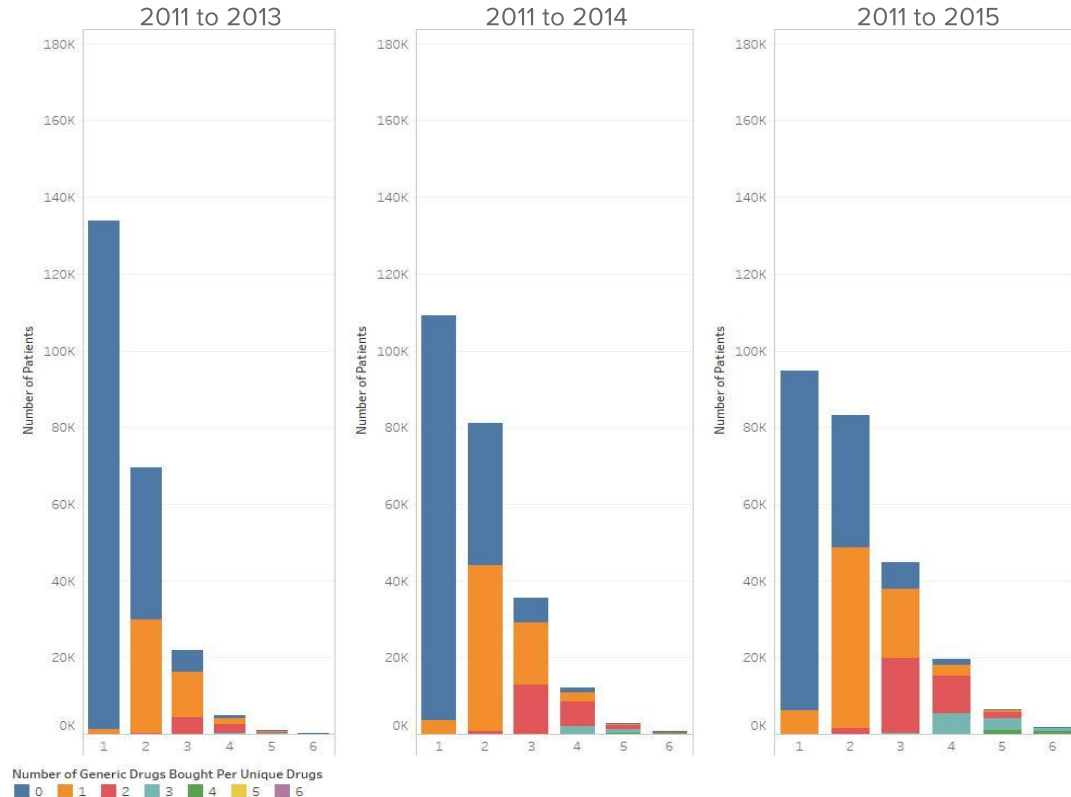
Number of Patients vs Number of Unique Drugs bought in 2011 to 2012



A Hypertension Case Study: How does Generic drugs affect Brand loyalty?

- From 2012 to 2015, 67 new generics drugs were introduced into this market.
- A large shift of patients from branded drugs can be observed, attributed to the Price Disclosure policy.
- Patients who switch brands are more likely to choose a generic drug.

Number of Patients vs Number of Unique Drugs Bought in:



Summary

- Hypothesis proven:
 - Despite the increasing number of transactions, the earnings are decreasing. This confirms declining drug prices.
 - Generic drug transactions are increasing.
 - Branded drug transactions and earnings are decreasing.
- The market earnings are still dominated by branded drugs.
- The COPD and Immunology market is still 100% dominated by branded drugs.
- The Hypertension market used to be fully dominated by branded drugs.
However, in the current Hypertension market, generic drugs have a large impact on branded drugs as patients are highly influenced by lower prices.
- For companies who would like to introduce new generic drugs, there are still segment of opportunities in the overall chronic illness market.

References

[1] Simplified Price Disclosure FAQ

(<https://www.pbs.gov.au/industry/pricing/price-disclosure-spd/updated-faq-simplified-price-disclosure.doc>)

[2] Expanded and Accelerated Price Disclosure FAQ (<http://www.pbs.gov.au/info/industry/pricing/eapd/price-disclosure-faq>)