



# Gilenvya Social Intelligence

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# Overview

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- Project background
- Methodology
- Switching patterns
- Validity and replicability

# What are the typical uses of social media ?

## Social Media in Traditional Market Research

- True, honest and emotional look at what is being said about a brand, a competitor brand or a therapy area.
- Undirected conversation. No interviewer/group leader to orientate the conversation. It takes place organically.
- Traditional market research can be a slow process. Social media allows you to see what's being discuss in real time.
- You can listen to thousands of voices all at once. The volume of voices accessible through social media will never be accessible through traditional market research.
- Easy follow-up in time for trend detection

**Can social media be used to answer outcome questions and generates scientific evidences?**

\*Law M. *Online Drug Information in Canada*. Pharmaceutical Advertising Advisory Board; 2012.

\*\* Dawson J. *Doctors join patients in going online for health information*. New Media Age. 2010.



# Some data on social media in healthcare

## Background

- The pharmaceutical industry has largely avoided in social media by fear of regulators, privacy concern, lack of familiarity, difficulty to quantify the return on investment
- Mid-sized and specialized healthcare companies are leading the change toward engaging patients in a relationship oriented conversation
- Some data points:
  - In 2009, 70% of Canadians turned to internet for health-related information\*
  - Facebook is reported as the fourth most popular source of health information in the U.K. \*\*
- KPMG survey: 43% of Pharma and Biotech companies are planning to increase their use of social media to engage with patient

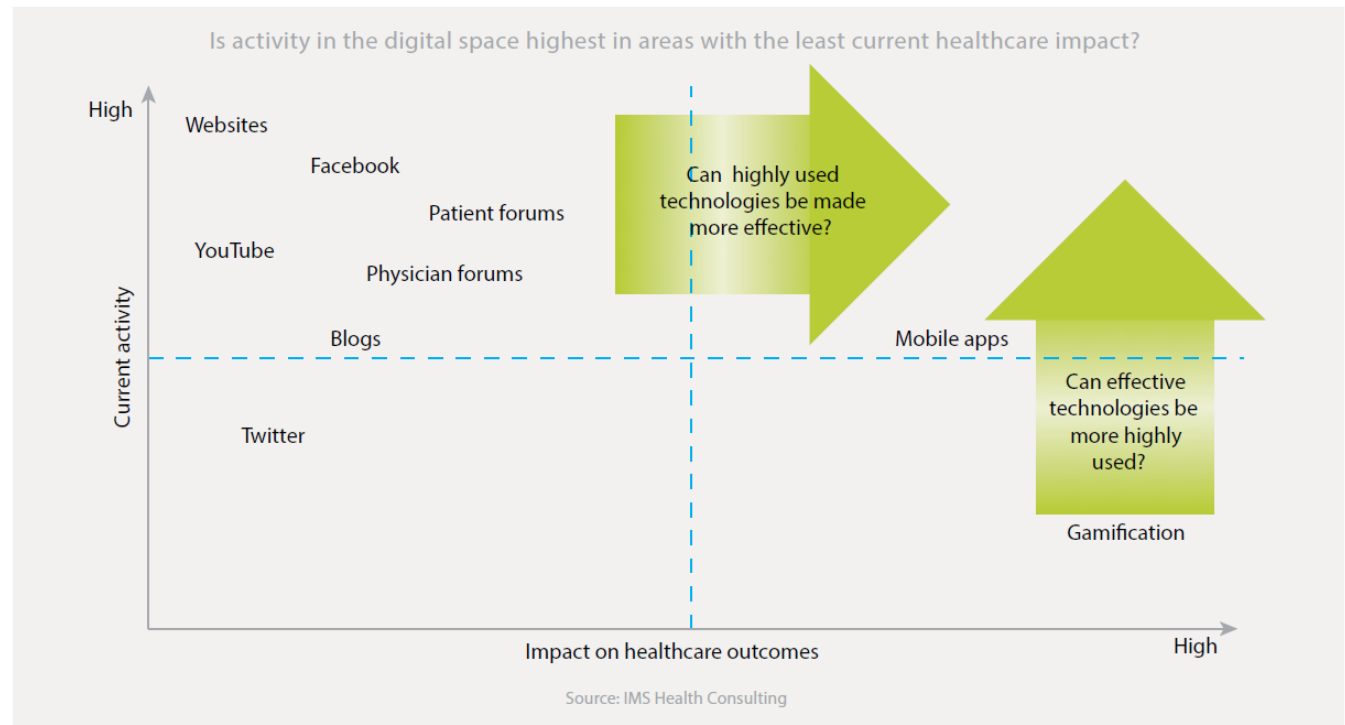
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# Social media impact on healthcare outcomes

## Conceptual viewpoint of digital activities



\*Engaging patient through social media, IMS Institute for Healthcare Informatics; January 2014.

# Pilot social media listening project in MS: Can we get valuable insight from patients?

## Multiple sclerosis (MS)– shift in treatment

- MS treatment is currently dominated by injectable drugs (i.e. BRACE therapies) but oral treatments are gaining share
- Early trends measured in real world claims and pharmacy databases suggest differences in rates of discontinuation, switching patterns and dosing among oral treatments and treatment populations
- The patient perspective driving some of these trends is incomplete
- To address this, an initial pilot analysis of social media conversations about Gilenya and oral competitors was conducted by IMS
- This project was specifically designed to:
  - a) **Enhance understanding** of switching patterns and drivers among various MS treatments
  - b) **Establish the feasibility** of using social media and data for outcomes research purposes (e.g. by demonstrating the online population is representative of the whole)



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# Listening and analysis process used: blends automated listening and human analysis



**1 Data**  
Data discovery

**Project objectives**  
Corporate brands: Bayer, GSK, Eli Lilly, Actelion, Glaxo, United Therapeutics  
Drug brands: Rocquat, Revatio, Letaris, Traceler, Adcirca, Ventavis, Remodulin, Tyvaso, Folan, Veletri, change medication, new medication, switch medication  
Disease related keywords: Pulmonary hypertension, pulmonary arterial hypertension, PAH, explain the disease, explaining the disease  
Pricing and access: access, reimbursement, insurance  
Diagnosis: diagnosis, confused  
Physician specialty: my doctors, new doctor, my patient, new patient, my doctor  
Symptoms: breathing trouble, symptoms, etc.  
Lifestyle issues: hobbies, activities, restricted, restrictions, support, need help

**Boundaries**  
• Indication  
• Brands  
• Geography  
• Languages  
• Historical data

The in-house subject matter (physician) expertise ensures high relevancy and context-specific analysis

**2 Information**  
Extraction and filtering

Commercial listening platforms: iMS, Semantix  
Search engines web extractors: Google, Bing  
Social network APIs: Facebook, YouTube, LinkedIn, etc.  
Web apps and utilities: TOPSY, boardreader

Keyword taxonomy

Filtering process: Omitting (upward arrow) and Keeping (downward arrow) content.

**3 Insights**  
Analysis and insights

Social media analytics – an optimum blend of automated and human analysis

Phase	Contextualization and Refinement	Human Analysis and Interpretation	Recommendations and Actionability
Data Gathering/Int. Extraction	Relevant social media data	Pharma Search Or Drugs	Application of insights
Twitter, Facebook, YouTube, LinkedIn	<ul style="list-style-type: none"> <li>SVU - Search &amp; Filter</li> <li>Drug efficacy</li> <li>Side effects</li> <li>Switchovers</li> <li>Switchover reasons</li> <li>Cost related issues</li> <li>Patient concerns</li> <li>Disease management</li> <li>Lifestyle issues</li> <li>Social relevance of conversation</li> </ul>	<ul style="list-style-type: none"> <li>Market research</li> <li>Competitive intelligence</li> <li>Brand building</li> <li>Communication</li> <li>Research ideas</li> <li>Patient/Physician engagement</li> <li>Patient journey</li> <li>Profiling clinicians</li> <li>Patient-friendly mobile applications</li> </ul>	
Relevancy and Efficiency	Objectivity and Accuracy	Insightful and Comprehensive	Opportunities and Engagement

**4 Initiatives**  
Actionable recommendations

From Switch	To Drug W	Drug X	Drug Y	Drug Z
Drug W	X	15	5	8
Drug X	13	X	9	7
Drug Y	10	3	X	4
Drug Z	-	-	1	X

Reasons for switchovers

- Side effects
- Route of administration
- No. of injections
- Premature loss of efficacy
- Cost/Insurance related issues

Side effects reported by patients as reasons for switchovers

- Maximum number of switchovers were observed between Drug W and Drug X
- Primary reason for switchovers was found to be unmanageable side effects
- Paradoxical injection site reactions and loss of fluids were reported as the top two side effects leading to switchovers
- A fair number of patients complained about premature loss of efficacy leading to a marked increase in PSA levels

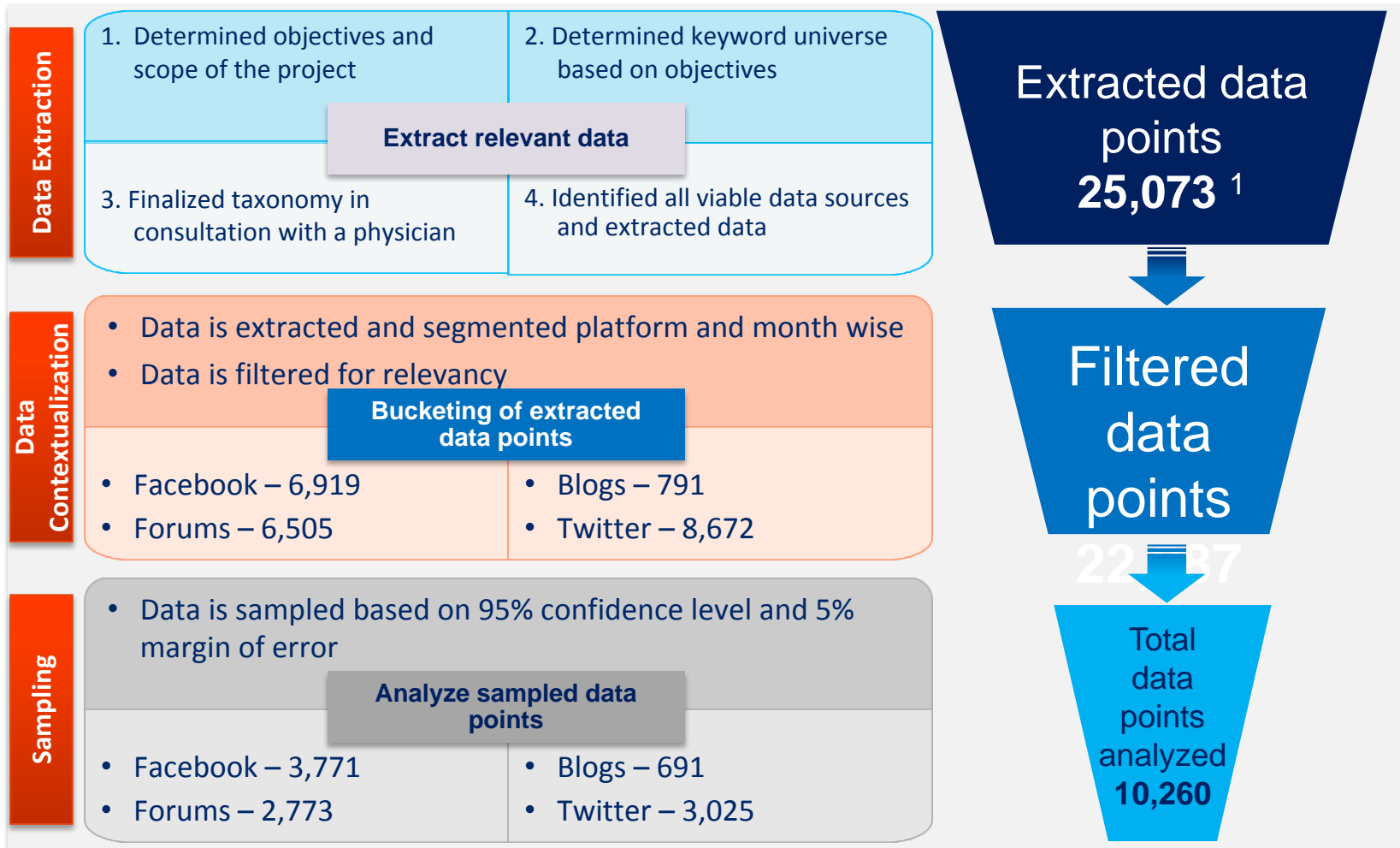
- Nexus Social ontologies
- Focused data search
- Comprehensive taxonomy
- Access to local social networks

- Auto-categorizes the content based on business drivers
- Human filtering and data coding
- Contextualization
- High relevance

- Objective oriented analysis
- Deep dive into sample data by domain experts
- Strong focus on client needs

- Actionable insights in consultative reports
- Innovative visualizations aid decisions

# Over 10,000 data points were analyzed



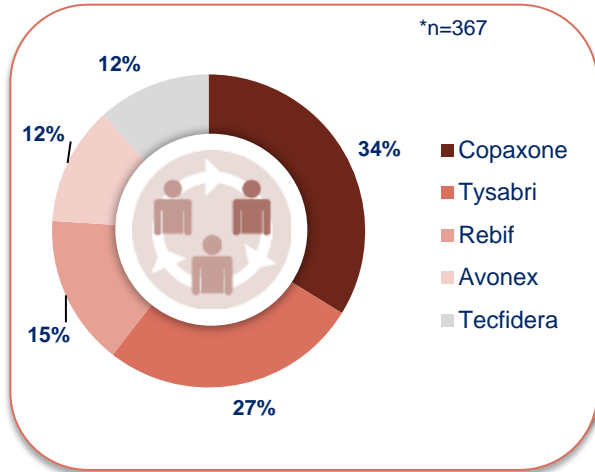
<sup>1</sup> All data points from US based conversations, restricted to English language; entries made between Oct '13 – Oct '14.

# Overview

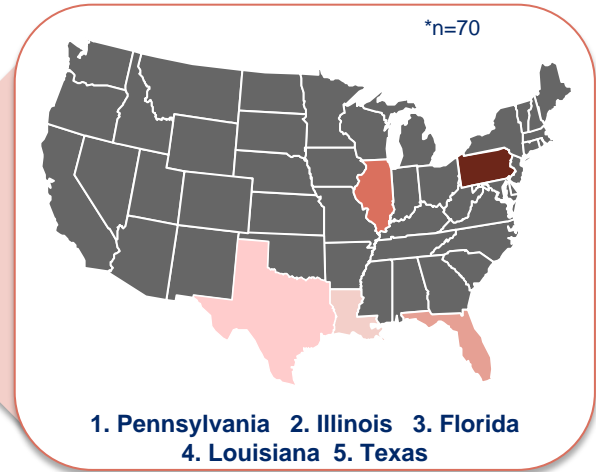
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- Project background
- Methodology
- Switching patterns – highlights only
- Validity and replicability

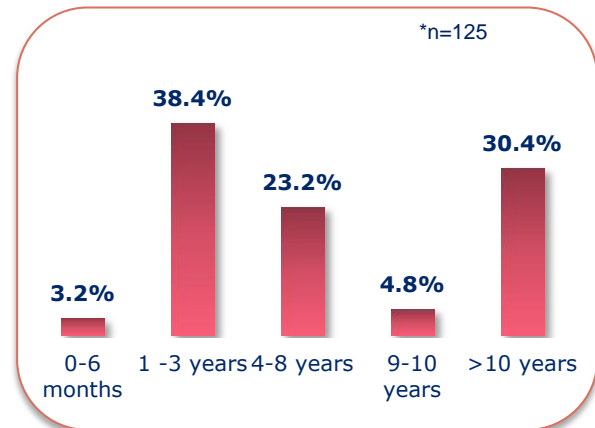
# Summary of the reported information on switching pattern to Gilenya: Several key variables are considered



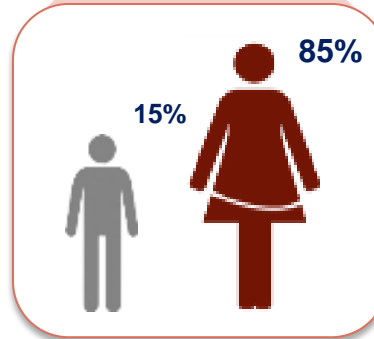
76% of the switchovers reported were made by patients using **injectable** drugs



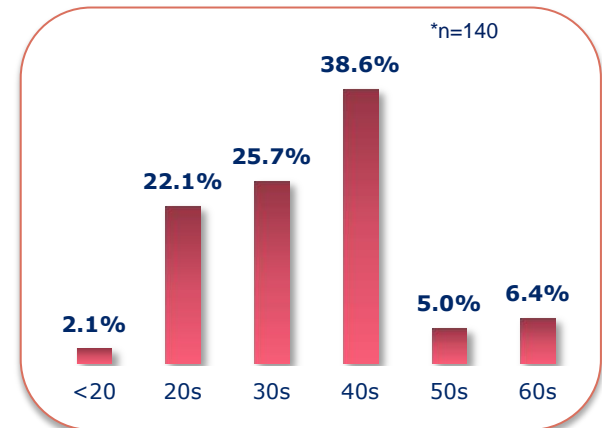
34% of the reported **switchovers** were from **Pennsylvania**



Patients with MS for **1-3 years** constituted **38%** of switchovers to Gilenya



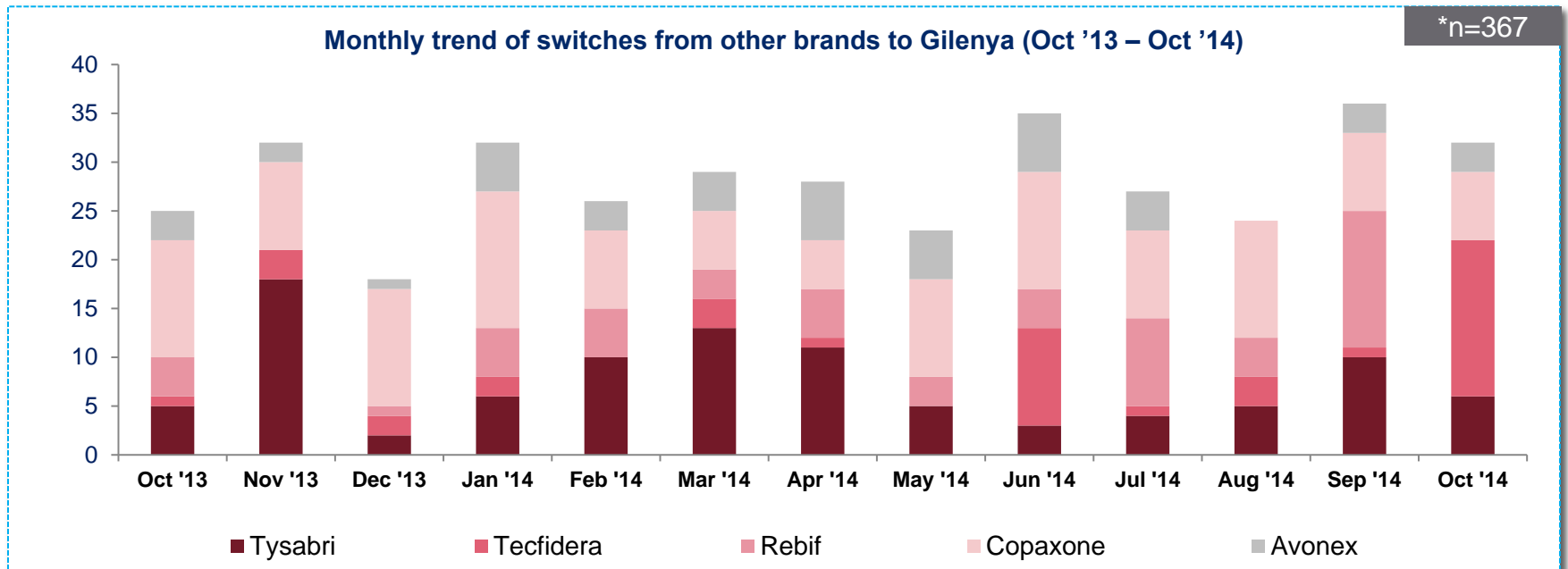
85% of the switchovers were reported by **females**



Over **38%** of patients who switched to Gilenya fell in **age range of 40-49**

\* A total of 441 switchovers were recorded, the most significant of which has been represented in the charts

# Gilenya's patients are switching from BRACE



## Insights

- More than 30% of switches from **Copaxone**; monthly maximum of 14 in January 2014
- **Tysabri** is significant source of business; main reported reason was viral infections
- 43 switches reported from **Tecfidera** with highest incidence reported in Oct 2014

\* A total of 441 switchovers to Gilenya were reported including Aubagio, Betaseron and other brands but have not been plotted as the proportion was significantly lower

# One third of switches driven by side effects



## Burning sensation

and **flu-like symptoms** were the major side effects reported as a **reason for switchover to Gilenya**

## Reasons for switchover from other brands to Gilenya



**Side effects**  
32%



**Efficacy**  
24%



**Physician's advice**  
18%



**Ease of use**  
18%



**Tolerability**  
4%



**Morbidity<sup>2</sup>**  
%

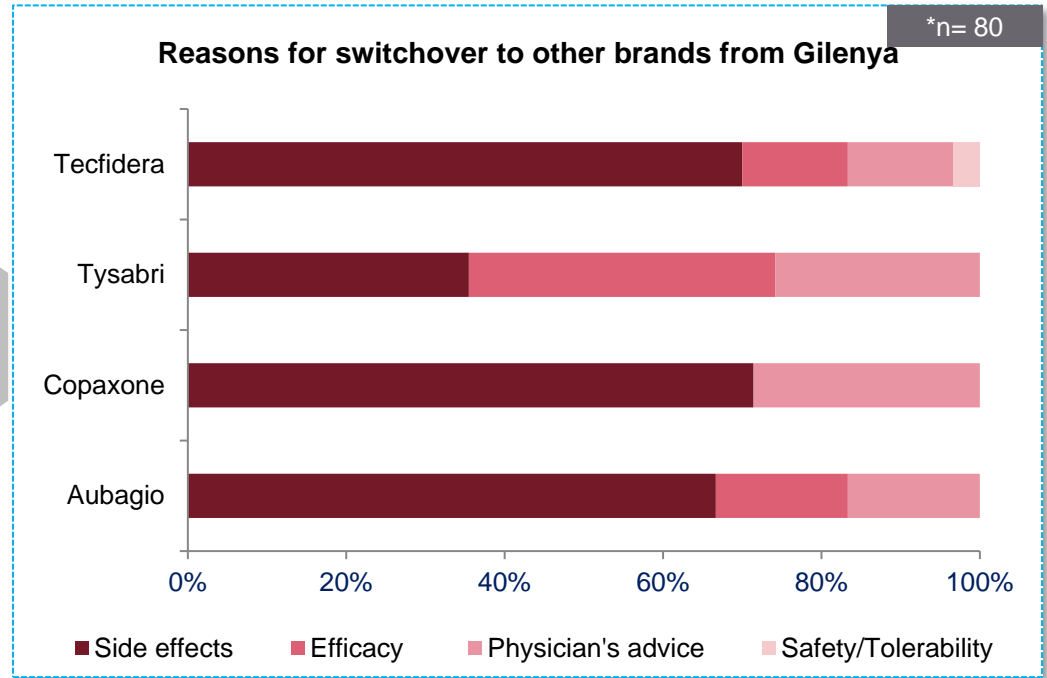
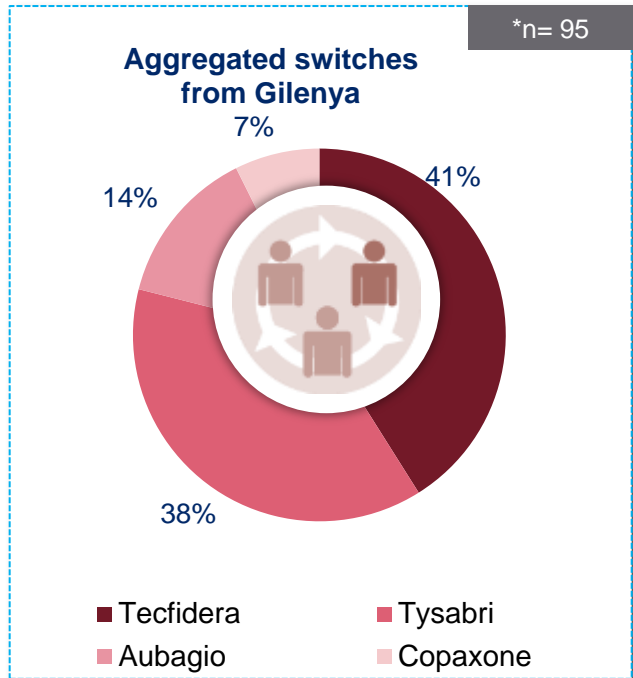


**Cost**  
2%



**Insurance**  
0.5%

# More than half of patients leaving Gilenya go to another oral



## Insights

- Among patients switching to **Tecfidera**, side effects were cited as main reason
- Among patients switching to **Tysabri**, efficacy was a prime influencer

\* A total of 124 switchover from Gilenya have been reported, the most significant of which has been reported

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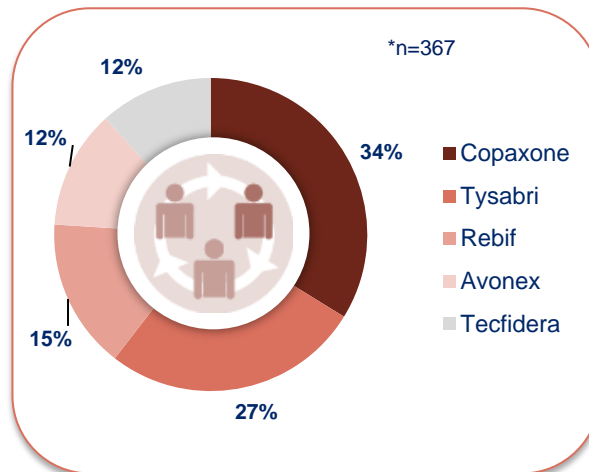
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# Online population is representative of the whole

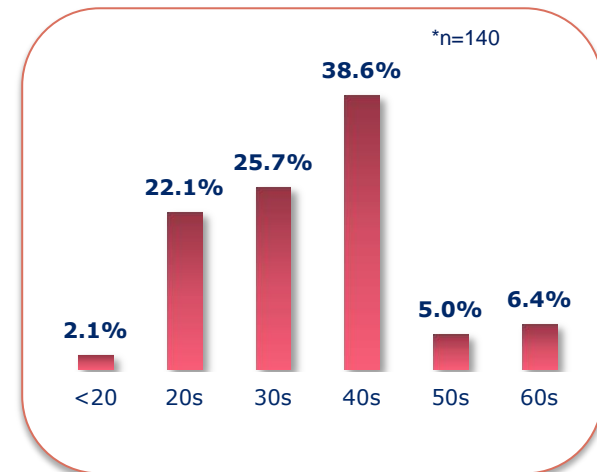
## Gilenya switchers represent target demographic

- 76% of the switchovers were reported by patients on BRACE
- 85% of the switchovers were reported by women
- 38% of switchers to Gilenya had MS for 1-3 years
- 38% of patients who switched to Gilenya were aged 40-49

Switchers come from BRACE



Switchers are young adults



# Conclusions

## Benefits of Social Listening

- Honest, emotional feedback
- Undirected, organic conversation
- Faster than traditional market research
- Large sample sizes
- Early detection of emerging trends (e.g. tolerability switches from DMF)
- Can be used for outcome research purposes

## Applicability

- Technology currently support different languages and allows to apply this approach to non English patient groups – Example in Brazil, Italy and Germany are available
- Applicable to other disease area
- Applicable to other research questions