Migraine search sequences and audience insights

May 2020

Microsoft Advertising. Intelligent connections.
Purpose

What differentiates patient searches for headache, episodic and chronic migraine, and how to think about targeting the relevant audience
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<th>Agenda</th>
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<td>Key takeaways</td>
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</table>
Key takeaways

Migraine searches are short and relatively low switching across medication types

Non brand searches most likely as last search

Relevant In-market audiences differ slightly in clicks by medication type

Patients want to know about costs, side effects and directions on how to use
Migraine marketplace
Migraines and headaches are different conditions that share symptoms and treatment options.
2020 is groundbreaking for the Migraine prescription market

New medications Ubrelvy and Reyvow will increase patients' options and market competition

- For a long time, there has been limited innovation in the treatment of migraines with most medications having been around since the 90s
- A recent survey mentioned 79% of patients are willing to try another treatment

With increased competition, how do you target the audience most likely to convert on your ads?

Source: https://abcnews.go.com/Health/migraine-medication-green-light/story?id=69000737
With new blockbuster entrants, existing players can expect click-through rates (CTRs) to dip and cost-per-clicks (CPCs) of nonbrand keywords to increase.

**Impact in a competitive marketplace of new Blockbuster entrants:**
Characterized by multiple market leaders

- **BRAND SRPVs**: User searches of brand search result page views (SRPVs) for existing players remain leveled.
- **MONTHLY WEBSITE VISITS**: Existing players’ branded direct-to-consumer (DTC) websites maintain consistent levels of monthly visits.
- **BRAND NAME CTR**: CTRs for existing players brand names dip.
- **NON BRAND CPC**: CPCs of nonbrand keywords are pushed up.

Microsoft Internal Data – 2017/2018 Internal Study of Impact of Blockbuster Entrants and Drugs going LOE
Search sequence trends
Analysis methodology

Goal:
“When a user searches for one type of migraine medication, what are they most likely to search for next?”

Data:
66,283 Unique Users, U.S. only
240K Impressions
February to April 2020
Journey ends when there is a click and no further search activity
Disclaimer: search sequences are based on clicks, and only searches that had a click is included

Accounts included:
All clicks and searches related to DTC Migraine Accounts
3 over-the-counter (OTC) brands – 5 Acute Migraine – 5 preventative brands

Top 3 OTC: Advil, Tylenol, Excedrin
Acute: Ubrelvy, Relpax, Reyvow, Zomig, Nurtec
Preventative: Ajovy, Aimovig, Botox, Trokendi, Aimovig, Emgality
Migraine searches have a short path for all types of medication: 95% are 5 or fewer queries.

Source: Microsoft Internal Data, US only, February – April 2020
Users often search again for the same medication type

% of users who searched on this type of query AND their next search was for same medication type

- **Non-brand**: 82%
- **OTC**: 91%
- **Acute**: 63%
- **Preventative**: 81%

Source: Microsoft Internal Data, US only, February – April 2020
After a non-brand search...

- Users are **1.8x** more likely to search for a preventative migraine brand than an acute brand.
- Users are **2.9x** more likely to next search for a preventative brand than an OTC brand.

Most likely **first non-Brand queries searched:**
- ‘migraine symptoms’
- ‘migraine’
- ‘migraine headaches’
- ‘migraine medications’
- ‘ocular migraine’
Last search is often non-brand

40% likelihood the last search is a non-brand query

Of these, the ad clicked is:
- OTC brands: 13%
- Acute brands: 37%
- Preventative brands: 50%

Source: Microsoft Internal Data, US only, February – April 2020
After an OTC brand search...

- Users are **16x** more likely to search again for an OTC brand than not a brand
- Users are **1.4x** more likely to next search for a preventative brand than an acute brand

**Most likely first OTC Brand Query search:**
- ‘excedrin migraine’
- ‘advil’
- ‘excedrin’
- ‘tylenol extra strength’
After an acute brand search...

- Users are **3x** more likely to search again for an acute migraine brand.
- Users are **1.5x** more likely to next search for a preventative brand than a non-brand search.

**Most likely first acute brand query search:**
- ‘nutec’
- ‘reyvow’
- ‘nurtec odt’
- ‘nurtec migraine’
After a preventative brand search...

• Users are 8x more likely to search again for a preventative migraine brand than non-brand

• Users are 1.3x more likely to next search with no brand mentioned than for an acute migraine drug

Most likely first preventative brand query:
• ‘aimovig’
• ‘emgality’
• ‘aimovig copay card’
• ‘ajovy’
There is more cross shopping within the categories

After a preventative brand 5 search,

- Users are just as likely to search for a competitor brand or non-brand as searching again for same brand
- Less cross shopping on the third search

***Note: This do vary by individual brand, ask your AL for view on your brand

Source: Microsoft Internal Data, US only, February – April 2020

P Brand = Preventative Brand
A Brand = Acute Brand
Given users most likely go to the same category, how can you target users from the first search?
Understanding the Migraine audience
69% of the total online audience afflicted with migraines can be reached on the Bing Network.

**14.5M**

Online users afflicted with migraines in the U.S.

**69.1%**

of online audience reached by Bing

Source: ComScore, February 2020
3 basics to know about who is searching

62%
Of searchers are women vs. 38% male

40%
Are 65 or above. Generally, migraine and headaches searchers skews older.

72%
Are on a mobile device

Source: Microsoft Internal Data, Reach of the Bing Network
Migraine patients want to know about:

- Cost, copay and coupons available (14.6%)
- How to use and dosage (7.6%)
- Side effects (3%)

Keywords associated with converting migraine brand searches:

Source: Microsoft Internal Data, Converting queries based on a Brand Name Search February – April 2020, US
Migraine searches are also in market for Home and Garden, Employment and Autos & Vehicles

<table>
<thead>
<tr>
<th>Category</th>
<th>Audience Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home and Garden</td>
<td>27%</td>
</tr>
<tr>
<td>Employment</td>
<td>22%</td>
</tr>
<tr>
<td>Autos and Vehicles</td>
<td>17%</td>
</tr>
<tr>
<td>Apparel and Accessories</td>
<td>13%</td>
</tr>
<tr>
<td>Business Services</td>
<td>11%</td>
</tr>
<tr>
<td>Gifts and Occasions</td>
<td>9%</td>
</tr>
<tr>
<td>Hobbies and Leisure</td>
<td>7%</td>
</tr>
<tr>
<td>Travel</td>
<td>9%</td>
</tr>
<tr>
<td>Consumer Electronics</td>
<td>6%</td>
</tr>
</tbody>
</table>

Microsoft Internal Data, US only, February – April 2020 Excluding any In-Market Audience below 5%
In-market associations differ depending on last click

**OTC**
- Home & Garden (28%)
- Autos and Vehicles (16%)
- Sports and Fitness (16%)

**Acute**
- Employment (43%)
- Home & Garden (23%)
- Autos and Vehicles (16%)

**Preventative**
- Home and Garden (28%)
- Employment (21%)
- Autos and Vehicles (18%)

Source: Microsoft Internal Data, US only, February – April 2020
Here is the full view on in-market audience based on last click

**Note: Data does not align 100% due to one user can be counted in multiple in market audiences – here is shown total row calculations**

Source: Microsoft Internal Data February – April 2020

<table>
<thead>
<tr>
<th>Main Group Audience Name</th>
<th>Acute Brands</th>
<th>OTC Brands</th>
<th>Preventative Brands</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home &amp; Garden</td>
<td>5.17%</td>
<td>9.22%</td>
<td>11.97%</td>
<td>26.75%</td>
</tr>
<tr>
<td>Employment</td>
<td>9.56%</td>
<td>3.95%</td>
<td>3.88%</td>
<td>22.48%</td>
</tr>
<tr>
<td>Autos &amp; Vehicles</td>
<td>3.65%</td>
<td>5.58%</td>
<td>7.64%</td>
<td>17.06%</td>
</tr>
<tr>
<td>Financial Services</td>
<td>2.85%</td>
<td>5.29%</td>
<td>6.40%</td>
<td>14.54%</td>
</tr>
<tr>
<td>Apparel &amp; Accessories</td>
<td>2.48%</td>
<td>4.79%</td>
<td>5.81%</td>
<td>13.08%</td>
</tr>
<tr>
<td>Business Services</td>
<td>2.32%</td>
<td>3.50%</td>
<td>4.93%</td>
<td>10.75%</td>
</tr>
<tr>
<td>Sports &amp; Fitness</td>
<td>1.57%</td>
<td>5.36%</td>
<td>3.38%</td>
<td>10.30%</td>
</tr>
<tr>
<td>Travel</td>
<td>1.78%</td>
<td>3.19%</td>
<td>3.95%</td>
<td>8.92%</td>
</tr>
<tr>
<td>Gifts &amp; Occasions</td>
<td>2.19%</td>
<td>1.28%</td>
<td>5.18%</td>
<td>8.65%</td>
</tr>
<tr>
<td>Hobbies &amp; Leisure</td>
<td>1.79%</td>
<td>1.08%</td>
<td>3.74%</td>
<td>6.62%</td>
</tr>
<tr>
<td>Consumer Electronics</td>
<td>1.39%</td>
<td>1.78%</td>
<td>3.20%</td>
<td>6.38%</td>
</tr>
<tr>
<td>Education</td>
<td>1.13%</td>
<td>1.39%</td>
<td>2.41%</td>
<td>4.93%</td>
</tr>
<tr>
<td>Personal Services</td>
<td>0.70%</td>
<td>2.09%</td>
<td>1.40%</td>
<td>4.78%</td>
</tr>
<tr>
<td>Software</td>
<td>0.91%</td>
<td>1.21%</td>
<td>2.41%</td>
<td>4.53%</td>
</tr>
<tr>
<td>Beauty Products &amp; Services</td>
<td>0.62%</td>
<td>1.41%</td>
<td>1.60%</td>
<td>3.72%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>0.73%</td>
<td>1.28%</td>
<td>1.60%</td>
<td>3.61%</td>
</tr>
<tr>
<td>Baby &amp; Children's Products</td>
<td>0.85%</td>
<td>0.83%</td>
<td>1.87%</td>
<td>3.55%</td>
</tr>
<tr>
<td>Telecom</td>
<td>0.79%</td>
<td>0.83%</td>
<td>1.78%</td>
<td>3.40%</td>
</tr>
<tr>
<td>Social</td>
<td>0.99%</td>
<td>0.80%</td>
<td>0.91%</td>
<td>2.09%</td>
</tr>
<tr>
<td>Computers &amp; Peripherals</td>
<td>0.39%</td>
<td>0.70%</td>
<td>0.91%</td>
<td>2.00%</td>
</tr>
<tr>
<td>Business &amp; Industrial</td>
<td>0.55%</td>
<td>0.21%</td>
<td>1.23%</td>
<td>1.99%</td>
</tr>
<tr>
<td>Arts &amp; Entertainment</td>
<td>0.22%</td>
<td>0.24%</td>
<td>0.43%</td>
<td>0.89%</td>
</tr>
<tr>
<td>Event Tickets</td>
<td>0.24%</td>
<td>0.12%</td>
<td>0.46%</td>
<td>0.82%</td>
</tr>
<tr>
<td>Finance</td>
<td>0.14%</td>
<td>0.08%</td>
<td>0.25%</td>
<td>0.48%</td>
</tr>
<tr>
<td>Food &amp; Groceries</td>
<td>0.02%</td>
<td>0.00%</td>
<td>0.03%</td>
<td>0.05%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22.34%</strong></td>
<td><strong>34.57%</strong></td>
<td><strong>43.09%</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>
Microsoft Audience Network

Opportunity to expand how you reach your audience and improve campaign performance
Meet the Microsoft Audience Network

Microsoft Audience Network

- High-quality native placements
- Delivering strong results
- Brand safe properties across devices
- Unique access to Microsoft users
- Powered by Microsoft data & AI

Microsoft users

Outlook.com

Microsoft Edge

MSN

Publisher partners
In a study evaluating a telemedicine campaign over a 3-month period, the Microsoft Audience Network advertiser saw increased performance in Paid Search campaigns.1

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1. Jan – Mar 2019: Exposed vs. Control lifts for both clicks and searches per user; Searches based on ad flag for selected advertiser and other advertisers in that vertical. On average, those clients saw the reported lift in Search Impressions per user and reported lift Search Clicks per user for exposed users compared to those who were not exposed to an ad on the Microsoft Audience Network.
Exposure to Audience Ads led to users searching more for *Pharmaceutical*-related queries

Microsoft Audience Network exposed users

Control users

Microsoft Audience Network exposed users

Control users

Microsoft Audience Network exposed users

Control users


Lifts in both clickthrough rate and searches are statistically significant at 95% confidence


+17.1% lift in impressions for *Pharmaceutical*-related queries after exposure

+49.6% lift in clicks for *Pharmaceutical*-related queries after exposure

+27.7% lift in Search CTR after Microsoft Audience Network ad exposure
In-Market provides click lift for post-Microsoft Audience Network exposure

Click lift for top 5 In-Market segments sorted by clicks

- /Arts & Entertainment/Movies & Films: 47.1%
- /Business Services/Building Construction & Maintenance: 38.5%
- /Hobbies & Leisure/Toys & Games: 24.0%
- /Apparel & Accessories: 21.0%
- /Home & Garden/Home Furnishings/Antiques & Collectibles: 16.0%

Lifts in both clickthrough rate and searches are statistically significant at 95% confidence

- Focus on layering In-Market segments where click lift is highest
- In-Market segments should be layered across both Search & Microsoft Audience Network workflows
CTR across the Microsoft Audience Network continues to improve
All-up performance (Health & Wellness – Pharma RX)

Microsoft Audience Network Impressions for Pharma RX are up 32.7% week-over-week (WoW)

Microsoft Audience Network for Pharma RX is up 33.5% WoW
Key takeaways

Be there from the beginning

- Journeys are short and there is relatively low switching across medication types
- Last search is likely to be non-brand and users click on a preventative brand

Target your audience

- Some audiences perform better than others
- Patients want to know about costs, side effects and how to use

Be ready for changes in market competition

- Increased competition can increase CPCs on non-brand terms
- Broaden your reach and improve performance through Audience Ads
### Tools and Tactics

**Bing Ads Migraine Cheat Sheet**

<table>
<thead>
<tr>
<th>Be there from the beginning of the search</th>
<th>Target your audience</th>
<th>Anticipate changing marketplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conquest on your competitors to ensure you get the first click</td>
<td>Test applicable In-market Audiences</td>
<td>Understand impact of marketplace changes and follow specific cheat list for your scenario (see appendix).</td>
</tr>
<tr>
<td>Update your keyword strategy to account for new competitors</td>
<td>Opt-in to the syndication network to expand your mobile reach</td>
<td>Set budgets to accommodate increases in traffic and adjust bids in anticipation.</td>
</tr>
<tr>
<td>Use brand terms that matches what searchers want to know about your brand, or are likely first searches</td>
<td>Share remarketing list between your acute/preventative brands</td>
<td>Set bids in anticipation of increased competition during the seasonal peaks.</td>
</tr>
<tr>
<td></td>
<td>Use bid modifiers on females to target females who are more likely to have migraines</td>
<td>Set up Automated Rules to schedule and automate your top campaign management tasks on a weekly, or even daily, basis for invaluable time savings and efficiency gains.</td>
</tr>
<tr>
<td></td>
<td>Preventative brand drugs have opportunity to conquest on acute brands, and include acute brand queries in their keyword set</td>
<td></td>
</tr>
</tbody>
</table>
Appendix
How do we show value of Microsoft Audience Network to Search?

We structured a statistical test between the two user groups to isolate lifts in performance.

1. Select users who have similar vertical search histories during cluster phase

2. Group similar users into clusters based on search behavior and demographic attributes

3. Isolate users who have seen or clicked advertiser Microsoft Audience Network or other same-vertical Microsoft Audience Network ad

4. Identify cluster which exposed user belongs to and pull out control users from same cluster

5. Evaluate performance for 20 days post-MSAN for exposed group and 20 days after mid date for control group

6. Run statistical testing to validate lifts in performance between control and exposed group
Top 20 clicked non-brand keywords

- migraine symptoms
- migraine
- migraine medications
- migraine headaches
- ocular migraine
- migraine treatment
- migraine triggers
- what causes migraines
- migraines
- migraine medication
- ocular migraine symptoms
- topiramate
- migraine treatments
- what causes migraine headaches
- migraine aura
- ibuprofen
- what is a migraine
- migraine medicine
- migraine headache
- new migraine medication

Source: Microsoft Internal Data February to April 2020
How can you prepare for marketplace changes?

**Blockbuster drug entering a two-player market**
- Expect immediate competitive conquering and prepare for higher CPCs on your branded terms
- Leverage your brand name recognition by making sure your branded ad appears in position 1 for your brand
- Maintain an active website given you may retain a unique site audience

**Blockbuster drug entering a multi-player market**
- Realize the new drug’s online audience may have little overlap with your domain
- Know that while branded SRPV levels can be stable, CTR can fall
- Prepare for increased CPCs in non-branded terms, and lower CTR

**Blockbuster drug exiting the market**
- Expect volatility in CPCs and site traffic as brands lose their exclusivity
- Realize that search can help mitigate the challenges of an LOE, by referring users to an in-house generic
- Search can also serve to help maintain the good-will in the company name generated by the brand
<table>
<thead>
<tr>
<th>Blockbuster drug entering a <strong>two-player market</strong></th>
<th>Blockbuster drug entering a <strong>multi-player market</strong></th>
<th>Blockbuster drug <strong>exiting the market</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conquest on the existing branded drug to educate your audience</td>
<td>Know your DTC website will reach comparable visits to your competitors in 1 year’s time</td>
<td>Expect volatility in CPCs and site traffic as brands lose their exclusivity</td>
</tr>
<tr>
<td>Expect your brand SRPV to reach normalized levels after ~6 months</td>
<td>Encourage your audience to cross-compare drugs by conquering on brands and by including comparison metrics on your site</td>
<td>Realize that search can help mitigate the challenges of an LOE, by referring users to an in-house generic</td>
</tr>
<tr>
<td>Maintain a flexible search budget that accommodates growth for at least a year</td>
<td>Expect comparable ad density within 5 months</td>
<td>Search can also serve to help maintain the good-will in the company name generated by the brand</td>
</tr>
</tbody>
</table>