

migraine insight :

2024

# THE BIG MIGRAINE QUESTIONS REPORT

A REAL-WORLD DATA READOUT 

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SELECTED CORRELATIONS FROM MIGRAINE  
INSIGHT'S 2022-2023 USER-TRACKED DATA

STATUS: EARLY DATA\*

# THE BIG QUESTIONS

We choose interesting statistics from our 2022 - 2023 data and give you our take.

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# INTRODUCTION

**The Migraine Insight app has been helping people track migraines, treatments and triggers since 2020. The data our users have generously shared with us is fascinating.**

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It's becoming increasingly clear that real world data is game changing for how we find answers in health; in clinical encounters, with research, and ... maybe most importantly - directly for individuals.

Our users collect data about their own experience in order to help make progress against a devastating illness. Thousands of people have made important insights on their illness by tracking in our app. As people seek answers, the overall set of data has been growing.

We envision a system where that data can be used to directly help all the users of an app - and, with permission, the larger set of anonymized data can help the community at large.

We're excited to continue to grow by adding features that make use of this collective data. Seeing how triggers and medications correlate to outcomes for 'people like you' - directly in an app - is a new idea in solving the migraine puzzle.

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We believe this is the first 'Real World Data' report of its kind. As we grow, will continue to highlight data correlations from the population dataset. More robust tools to explore the data will be available in the app. But, the annual 'Big Questions' report is for everyone trying to unlock the puzzle of migraines.

Seeing real world data correlations may help us all make progress on the battle against illness together.

# A MESSAGE FROM OUR CEO



Our Founder, Lynn Smith, has been leading innovation in software for decades.

**Welcome to the first 'Big Migraine Questions' Report. This report contains selected statistics pulled from the overall dataset of our app.**

***The dataset is early stage, and we're already seeing some fascinating correlations.***

Over 50 thousand people have tracked their migraines, factors (suspected triggers), medications and more with Migraine Insight. Our app helps people collect real world data and keep better track of what's going on in their lives. With our app, thousands of people have found insights that have led to more migraine free days.

*This report highlights selected patterns and correlations that are emerging from the larger view of all this data.*

As people seek answers to questions about how their experiences, behaviors and medications affect their migraines with our app, the overall data is just getting big enough to reveal some very interesting correlations. *'Real World Data' is not on par with clinical data, yet it's an interesting and useful supplemental perspective.*

We're all looking forward to what's next in our rapidly evolving healthcare landscape. It's past time for a truly patient-first experience to emerge. Our app and this report is beginning to answer that charge. We're already changing how patients and caregivers use data to improve lives. We are dedicated to helping people with migraine live healthier lives. We are proud to share this first, free report of rich data-based insights.



Our medical advisor, Dr. Harrington is a Professor of Immunology with digital tech experience. Her contributions on our pattern finding engine and reports have been game-changing for the app.

# 1

## DOES BAD WEATHER GIVE PEOPLE MORE MIGRAINES?

### Barometric Pressure



Our data **does not show** a significant increase in migraines during or after big shifts up in barometric pressure.

↑ **NO**

**Our data shows an increase in migraines during or after big shifts down.**

↓ **YES**

### Precipitation Days



Our data **does not show** a significant increase in migraines during precipitation days.

**NO**

Our data **does not show** an increase in migraines the day after a precipitation day.

**NO**

**Our data shows an increase in migraines the day before a precipitation day.**

**YES**

**Our Take:** Since the pressure normally drops BEFORE it starts to rain or snow, that fact that all of correlations show a drop in pressure with more migraines is notable.








**By the numbers:** In our app, over 36k people have tracked barometric pressure and precipitation (rain/snow) triggers. Combined, this makes weather the most frequently tracked trigger.

Please see our blog post on why we think real world data is incredibly valuable and how it differs from clinical research data.

# 2

## WHICH FOODS ARE THE BIGGEST MIGRAINE TRIGGERS?

### Foods with the most migraines within 48 hours after

	Food	Increase in recorded migraines within 48 hours
	Red Wine	<b>56%</b> INCREASE
	Perfume *	<b>52%</b>
	Artificial Sweetener	<b>36%</b>
	Cheese **	<b>22%</b>
	Salty Food	<b>15%</b>
	Chocolate	<b>12%</b>
	Citrus	<b>10%</b>

Our Take: We feel that these correlations *don't tell an individual person much about whether or not a trigger is a trigger for them.* The dataset used here is the smallest in this report. Yet, we're excited to get more clarity on this question as our dataset grows.


\* Perfume isn't a food. Yet, as the only non-food to make the top differential list we decided to include it here for brevity.

\*\* There were even stronger results when you break down the cheese data into hard, soft, bleu, etc. Likely the harder the cheese, the lower the correlation. It's too soon to tell, with not quite enough data.

# 3

## WHICH MEDICATIONS DO PEOPLE STAY ON THE LONGEST?

Top medications with the longest tracking period.

	Medication	Increase in time tracked compared to average
	Sumatriptan	<b>6%</b> LONGER THAN AVERAGE
	Topiramate	<b>6%</b>
	Rizatriptan	<b>5%</b>
	Propranolol	<b>4%</b>
	OnabotulinumtoxinA	<b>4%</b>

Our Take: We chose this statistic to highlight the idea that longer someone tracks a medication, the more likely it's helping. If that hypothesis is true, that could be helpful to both patients and clinicians. The correlations here vary a lot based on profile data (cohort variations) in this part of our analysis. In future reports, we will break this down further by user profile.

# 4

## HOW DO EXERCISE, WORKOUTS AND ACTIVITY AFFECT MIGRAINES?

### Users who track different types of activity

Data	Change in # of migraines compared to average
2+ Workouts per week	<b>FEWER</b>
1 Workout a week	<b>FEWER</b>
No Workouts	<b>NO SIGNIFICANT DIFFERENCE</b>
High Steps Activity	<b>FEWER</b>
Low Steps Activity	<b>MORE</b>



Our Take: This matches up well with clinical research findings. This also seems to be very individual. We see some potentially significant variations on cohorts in this data. We're excited to see what the future brings when there's more data available on this topic.


**What about people who track exercise as a way to end an ongoing migraine? The data suggests that this does not correlate to a migraine ending faster.**



# 5

## Does skipping a meal or fasting produce a migraine?

### Users who track skipping meals - by overall migraine frequency

	Data (by frequency cohort)	Increase in frequency of episodes in the 6 hours after tracking 'skipped meal'
	15+ migraines a month	<b>+237%</b>
	10-14	<b>+60%</b>
	5-9	<b>+43%</b>
	1-4	<b>+105%</b>
	less than 1	<b>N/A</b>

Our Take: Many clinicians believe the timing of food intake could be a factor in increasing (or, decreasing) episodes. Our app asks people to track 'skipped meal' as a trigger. This is a fairly blunt way of looking at this issue. Our roadmap includes app features that will add different types of tracking to better assess this 'big question.' Stay tuned for future reports on this important topic.

**The data suggests that skipping meals correlates to an increase in migraine frequency. Also, we see a different result depending on how often the person experiences migraines overall. We were not expecting this; we do not have a good theory (yet!) as to why we're seeing that.**

Please see our blog post on why we think real world data is incredibly valuable and how it differs from clinical research data.

# 6

## HOW WILL REAL WORLD DATA CHANGE THE GAME FOR PEOPLE LIVING WITH MIGRAINE?

Real world data brings individual people a better picture of what's really going on with their illness. This changes lives. It's also incredibly valuable for population data studies and AI training. We can start to get clearer answers to questions like:

### Medication Context, Actual Use and Cohort Drill-Downs

Knowing how often a medication is prescribed across a population is something we can do now.

But, what about also seeing:

1. If the medication was taken.
2. What side effects happen for different cohorts?
3. What happens with people who take that medication with a different medication or non-medication treatment?

### Trigger Identification for Individuals

More clinical trials may be able to identify which triggers affect episodic conditions like migraines the most.

But, what about seeing:

1. How trigger affects differ in different cohorts (gender, age, haplogroup, any attribute a user provides).
2. How a specific trigger affects an individual person.

**Knowing how triggers and medications affect you, personally? That's game changing.**

Please see our blog post on why we think real world data is incredibly valuable and how it differs from clinical research data.

# IN CONCLUSION

## Contact

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Find us on [Reddit](#), [Insta](#), [LinkedIn](#).

**We aim to be good stewards of Migraine Insight's amazing user contributed dataset.**

We're proud to share the first report of an app's real world data intended for public use.

This report uses totals and extracted percents from user contributions to highlight potential correlations that could be meaningful for all of us.

Data should be used for the good of the community that surrounds it.

# 1

**Our weather data shows correlations between drops in barometric pressure and increased incidents of migraine across our community population.**

# 2

**Our activity data shows correlations between more activity and decreased incidents of migraine.**

# 3

**Our data overall is showing interesting early correlations. We're excited to see the dataset come into sharper focus as more people track and contribute data. In short, none of this is enough to draw reliable conclusions yet.**

## STATUS: EARLY DATA\*

\* *Status: Early Data. Means* -> The data used in this report is real world data. Real World Data is emerging tech; one we feel is both fascinating and not yet robust or understood enough to support the kinds of conclusions drawn from better, more established data sources (e.g. clinical research data). *At this stage, consider this report entertaining with an intention to show off the promise of real world data.* Please do not draw any outsized conclusions.