

# An Industry Ripe for Innovation:

## Common Pain Points, Workarounds, and Alternative Solutions to Treat Congestion, Head Pain, and Allergies



Over 85 million consumers over the age of 18 experience inflammation-related symptoms with nasal congestion, sneezing, and headache pain the most common. 91% of these consumers also have sleep issues. 94% use medication to treat their symptoms, however 58% try to avoid medication, if at all possible and 45% indicate drug-free relief is motivating to them. A recent study with over 2,000 consumers by Intellego Insights commissioned by Tivic Health highlights very interesting pain points and side effects of consumers' current routines, and the behavioral changes they take to mitigate their symptoms.



90% of those indicate the severity as moderate to severe. Side effects of their current treatments and routines include 49% fatigue, 41% trouble falling asleep, plus others including irritability, sadness, and nose bleeds. 12% indicate medication dependence. Behavioral steps they take to mitigate their symptoms include 22% avoid drinking alcohol, 19% avoid being outside, and 12% exercise less. And 11% miss work.

When you get sick with symptoms of inflammation like congestion, pain, and pressure, what is your first course of action? What dissatisfactions and pain points do you have, and what workarounds or homemade solutions do you try? How do these findings compare to your routines and unmet needs?



## SYMPTOMS

### Symptom Frequency

Most consumers experience multiple symptoms, which can be explained by the human anatomy. Inflammatory symptoms in the nose, sinuses, and head are often interlinked because they are interconnected by blood circulation, the nervous system, and the trigeminal nerves. Inflammation in one area can often spread and affect the surrounding tissue.

When the nasal passages become inflamed, it can lead to symptoms such as congestion, runny nose, and sneezing. This can be caused by a variety of factors, including allergies, infections, and irritants. Inflammation in the sinuses can cause pain and pressure in the forehead, cheeks, and eyes. This can also lead to congestion, as well as postnasal drip, a condition in which mucus drips down the back of the throat. When inflammation spreads to the head, it can cause headaches and facial pain, which can be severe in some cases.



*"I can't breathe"*

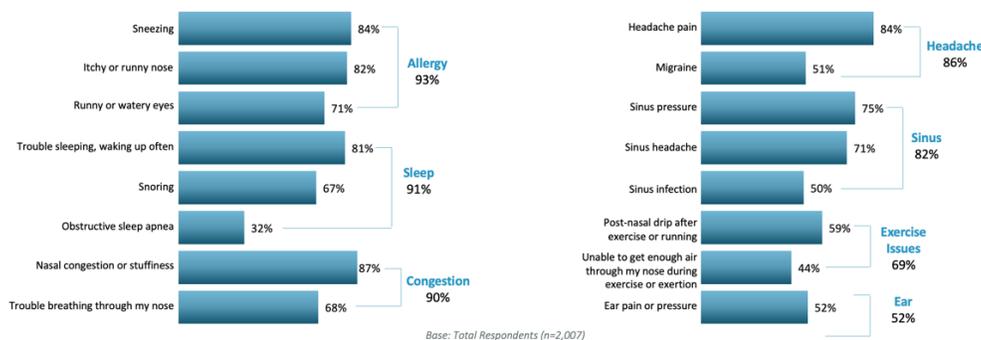
*"My head hurts"*

*"I can't sleep"*

*"I have tried everything"*

Allergy, sleep, congestion, and headache symptoms were the most common in this study. Specifically, nasal congestion (87%), sneezing (84%), headache pain (84%), itchy or running nose (82%), and trouble sleeping, waking up often (81%) were the highest incidence.

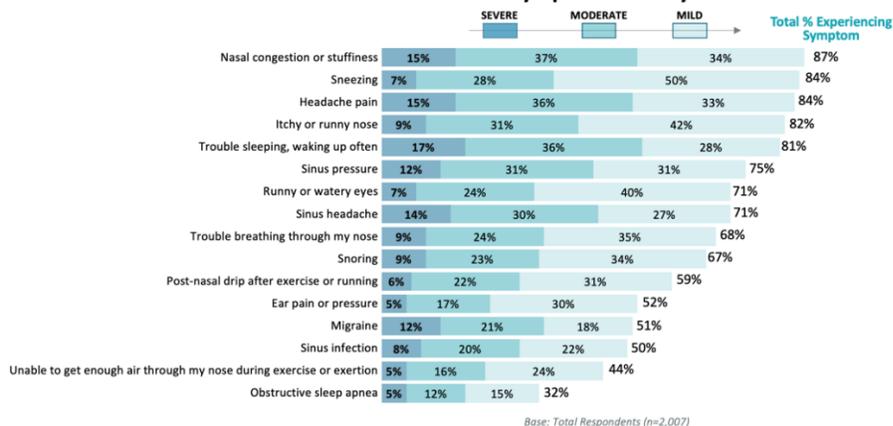
### % Experiencing Each Symptom



Among those experiencing *moderate* or *severe* symptoms, the top three symptoms were:

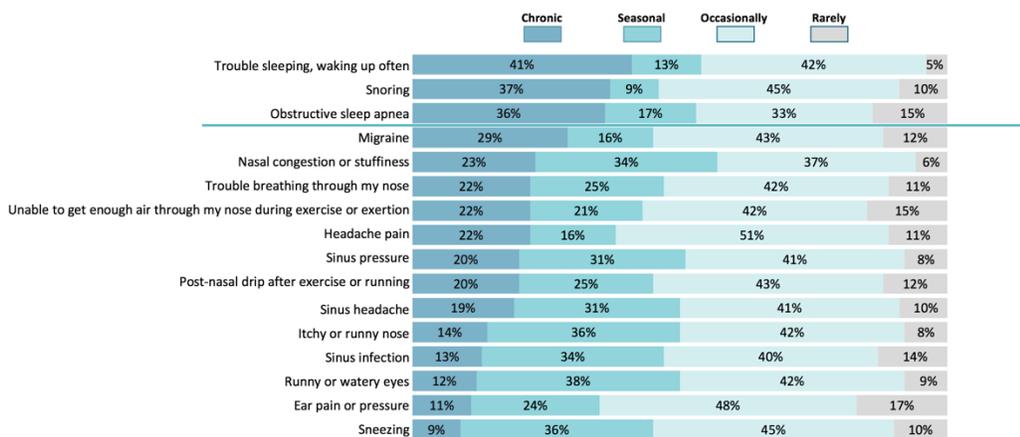
- Trouble sleeping, waking often
- Nasal congestion, and
- Headache pain

### Symptom Severity



The most *chronic* symptoms were all sleep-related:

- Trouble sleeping, waking often
- Snoring, and
- Obstructive sleep apnea



Base: Experience Symptom (Varies)  
How frequently do you experience each of the following?

Of the respondents,

- 61% have allergies
- 51% have migraines
- 50% have sinus infections
- 22% have sinus infections that turn into bacterial infections
- 21% have dental pain
- 16% have chronic sinusitis (3+ episodes a month)
- 15% have asthma
- 11% have TMJ
- 8% use a CPAP device



## ROUTINES

### Current Routines & Pain Points

The common wisdom of get more sleep and drink more water is valid, but what if the medication you also take affects your sleep? 94% of the consumers indicated they used medication for their symptoms, while 69% used natural remedies (e.g., humidifiers and herbal teas), and 14% used bioelectronic devices (e.g., for migraine or sinus relief).

While the vast majority of consumers use medication, many have limitations or have experienced side effects.

- 37% indicate they cannot tolerate the side effects of medication.
- And 18% indicate that they take medication (such as high blood pressure medication) that limits what medication they can take for treating other symptoms.

### Unmet Needs

Consumers are willing to act and try new things. While 85% will take any steps to prevent getting sick, the reality is that they still get sick, are affected by allergies, or have recurring symptoms of inflammation.

- 63% of consumers indicated they like to try natural remedies before taking medicine.
- 60% are concerned about the ongoing cost of medication.
- And 58% try to avoid medication, if at all possible.

And many of these are *desperate symptom sufferers*.

46% agree "I have tried everything but nothing seems to relieve my sleep issues"

45% agree "I have tried everything, but nothing seems to relieve my sinus pain, pressure, headaches"

## Usage by solution

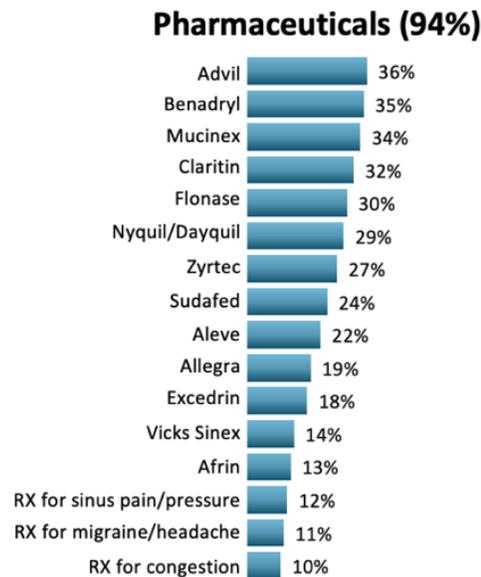
Bioelectronic devices (including those for migraine and sinus congestion, pain, and pressure) have the lowest usage at 7% of the general population panel, as they are the newest entrant to the market and awareness still lags that of pharmaceuticals and natural remedies.

While 45% of consumers indicate drug-free relief is motivating to them, only 25% are even aware of bioelectronic sinus devices. Just recently, WebMD now mentions bioelectronic devices as a solution in their articles for nasal congestion, sinus, and allergies.

Natural solutions include humidifiers, herbal teas, hot compresses, massage, and acupuncture. 27% have used nasal saline irrigation or spray. Nasal irrigation and rinses have challenges for on-the-go usage, and only certain consumers are willing to follow the usage instructions of using boiled or distilled water and needing to clean the up to 15 different parts for each use. Only 2.4% of consumers try natural solutions as their only remedy. And less than 1% try both natural solutions and bioelectronic devices but not medication. The majority of natural solution users still also use medication.

20% of the total consumers were not even aware of any natural solutions or bioelectronic devices. Medication usage is the highest among all of these consumers, at 94%.

Interestingly, however, the top known brands have very fragmented usage, with any single brand being used by 36% of consumers or fewer.



Base: Total Respondents (n=2,007)

Which of the following remedies have you used/taken in the past 12 months for sinus symptoms, congestion, or headaches? (Select all that apply.)



## SIDE EFFECTS

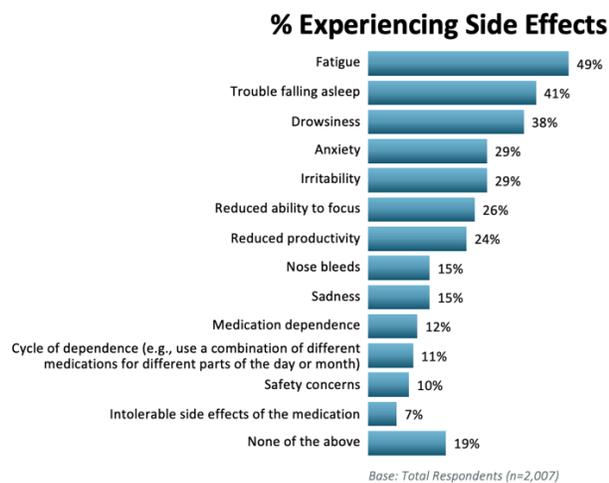
### Side Effects

Medications have many side effects which are listed on their packages. For example:

Active Ingredient	Side Effects
 Afrin Oxymetazoline	rebound congestion, nose irritation or burning, sneezing, dizziness, increased blood pressure, tachycardia, heart palpitations, restlessness, insomnia
 SUDAFED Pseudoephedrine	nervousness, restlessness, insomnia, dizziness, tachycardia, heart palpitations, syncope, headache, sweating, nausea or vomiting, trembling, paleness, weakness
 FLONASE Fluticasone Propionate	epistaxis (nose bleeds), dryness, stinging, burning in nose, headache, nausea, vomiting, diarrhea, dizziness, sore throat, cough, glaucoma, cataracts, immunosuppression
 Advil Ibuprofen	stomach pain, bleeding, ulcers, constipation, diarrhea, gas, bloating, heartburn, nausea, vomiting, dizziness, headache, nervousness, rash

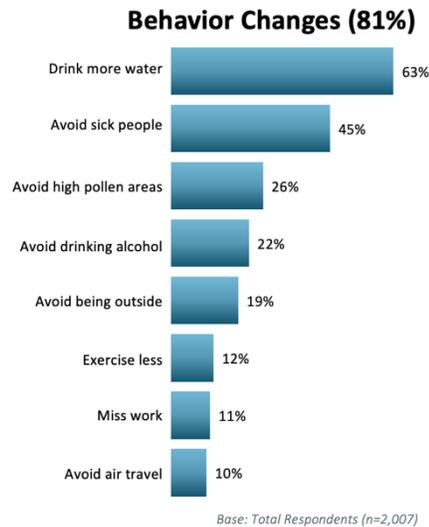
In this study, consumers indicate a range of side effects from their current medication-heavy routines. Fatigue, trouble falling asleep, and drowsiness are the top side effects.

- 29% experience irritability
- 15% experience sadness
- 15% experience nose bleeds
- 12% experience medication dependence
- 10% have safety concerns



It is unclear if the frequency of sleep issues or headache is an original symptom from inflammation, or if the use of medication is contributing to insomnia and/or headaches as one of their listed side effects.

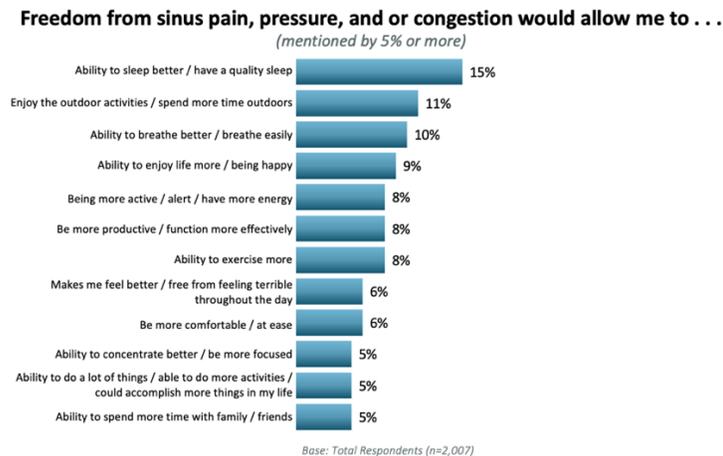
Consumers also make many behavioral changes to address their symptoms, with drinking water and avoiding sick people the most common. Others avoid alcohol, exercise less, and even miss work.



## SEEKING

### Benefits of Relief

Freedom from these symptoms would enable better sleep, enjoying the outdoors, breathing better, and a general feeling of wellbeing and enjoying life. The ability to exercise more and concentrate / stay focused are also potential benefits.



## Future Outlook

Whenever an industry has high unmet needs, pain points, workarounds and behavioral modifications, there is room for innovation to better meet consumer needs. Drug-free relief, and solutions with efficacy that actually work will be welcomed by the many desperate symptom sufferers.

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## About Tivic Health

Tivic Health Systems, Inc. is a commercial-stage bioelectronic medicine company focused on treating diseases and conditions by modulating the electrical signals carried along various nerve pathways.

Its first FDA-approved product, ClearUP® Sinus Pain Relief (“ClearUP”), is a patented handheld device that uses ultra-low electrical current to relieve sinus pain and congestion, common symptoms of sinus and nasal inflammation. These symptoms are often associated with nasal allergies, sinus infections, chronic sinusitis, cold and flu, a \$9.9 billion U.S. market currently dominated by pharmaceutical companies. ClearUP, a non-invasive bioelectronic therapy, can safely and comfortably deliver therapeutic benefits with no significant side effects.

ClearUP is a US FDA Class II and EU Class IIa medical device that has received three regulatory clearances: (US FDA 510(k) number K182025, US FDA De Novo number DEN200006 and EU CE Mark Certificate number CE 704687). ClearUP is available on Amazon, Best Buy, Walmart and other major e-commerce websites.

The Tivic Health ClearUP Sinus Pain Relief device is intended to be used for the temporary relief of sinus pain associated with Allergic Rhinitis. ClearUP Sinus Relief device is also intended to be used for the temporary relief of moderate to severe congestion.

