

Dissertation Presentation

To study social media conversations concerning IBD Support Programs in USA

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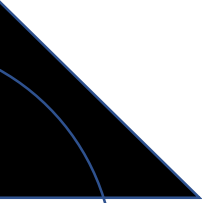
Organization: ZS Associates, Gurgaon

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Introduction

- ❑ In recent years, the rapid expansion in internet access and computer-mediated communication has fostered new opportunities for individuals with health-related concerns to participate in supportive communication within a network of individuals dealing with similar issues.
- ❑ One of the ways to access and understand the above is through social listening.
- ❑ Social listening is defined as primary research which involves extracting, structuring & analysing social and other online media to come up with useful insights regarding peoples' understanding about the disease .



- ❑ The therapy area which has been focused upon in this report is inflammatory bowel disease.
- ❑ Inflammatory bowel disease (IBD) is an umbrella term used to describe disorders that involve chronic inflammation of the digestive tract.
- ❑ Types of IBD include:
 - Ulcerative colitis. This condition causes long-lasting inflammation and sores (ulcers) in the innermost lining of your large intestine (colon) and rectum.
 - Crohn's disease. This type of IBD is characterized by inflammation of the lining of your digestive tract, which often spreads deep into affected tissues.
- ❑ Both ulcerative colitis and Crohn's disease usually involve severe diarrhoea, abdominal pain, fatigue and weight loss.

- ❑ For the purpose of this study the following social media platforms would be used for analysis
 - Twitter
 - Facebook
 - Instagram
 - Forums (patient and caregiver)
 - Blogs (patient and caregiver)
- ❑ Analysis would be done on a sample of patient and caregiver conversations of the population of US for the time period August, 2017 – January, 2018.
- ❑ The support services talked about by the patients would include:
 - Disease education
 - Advocacy
 - Side-effect monitoring
 - Symptom and lifestyle tracking

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Objective

- To develop an understanding for the patient support features and services available to patients across the IBD ecosystem using patient and caregiver conversations.

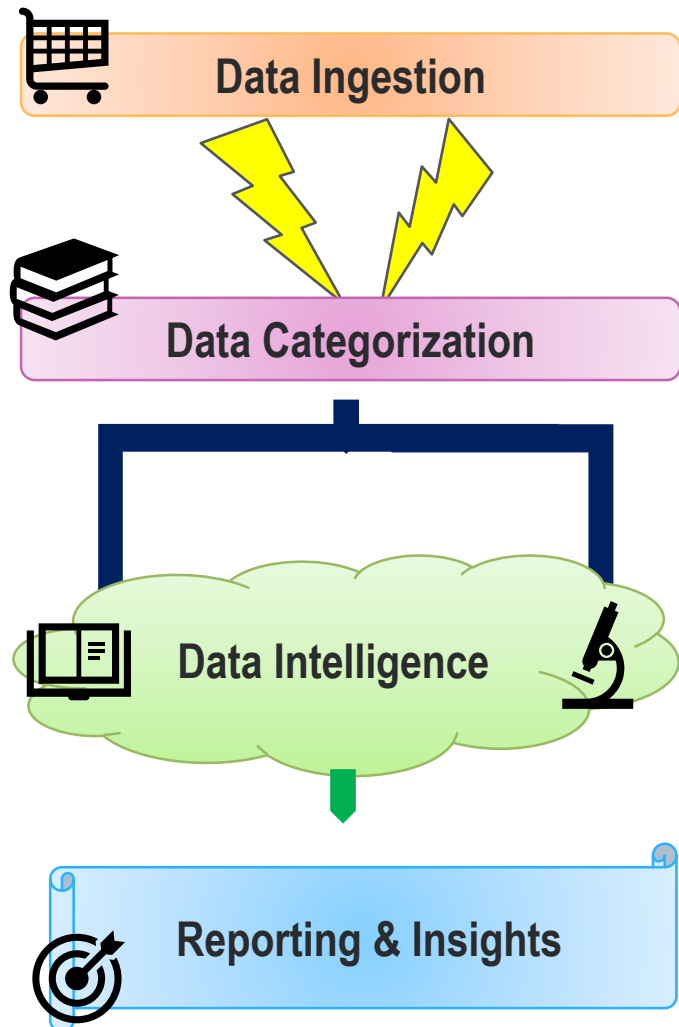
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ZS utilizes a big data platform to support automated social data analytics paired with manual validation



- US based, Online, and public conversations are pulled using social listening tool
 - A specific keyword based query is developed based on the project objectives
 - Removal of noise and irrelevant data using algorithms and manual validation
-
- Manual editing, tagging, and validation by domain experts
 - Stakeholder identification via ZS proprietary algorithm
 - Specific analyses (e.g. sentiment analysis, topic analysis, etc.)
-
- Metrics and qualitative findings are tied together to understand trends
-
- Report is developed to tie back to the business questions at hand

Sampling Technique*

- $n_0 = \frac{Z^2 \times pq}{e^2}$
- Random sampling
 - Out of a total of 128000 conversations, after application of the ZS proprietary algorithm, patient and caregiver conversations were identified.
 - The said conversations were downloaded in full.
 - Random no. was allotted to each conversation and 503 conversations were selected randomly.

*where:

- Z = the critical value of the Normal distribution (e.g. for a confidence level of 95%, the critical value is 1.96)
- e = the margin of error (an error margin of 5%.)
- p = the sample proportion, q= (1-p)
the value of p,q are being taken as 0.5 each
- n0= sample size

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Distribution of Conversations

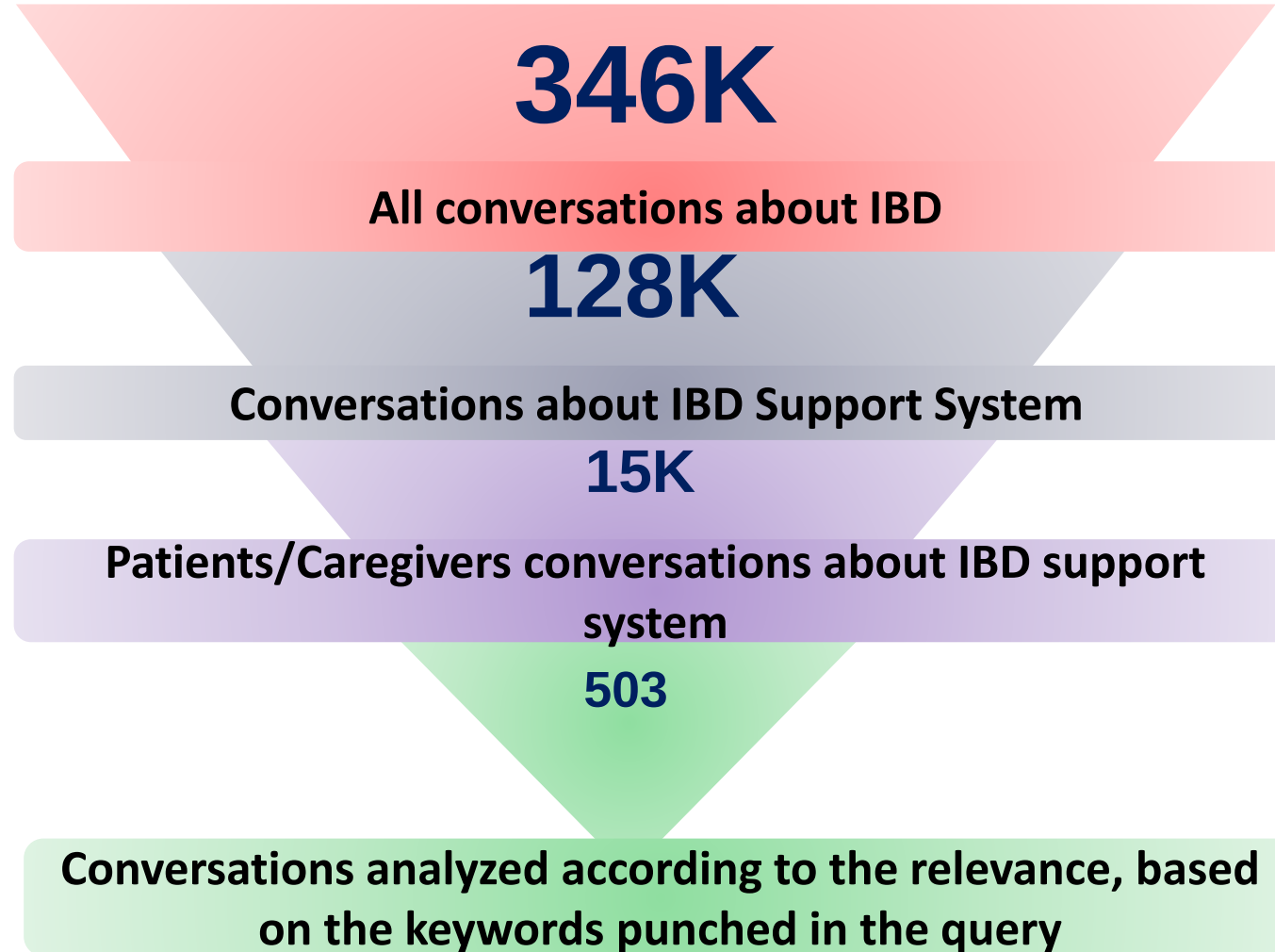
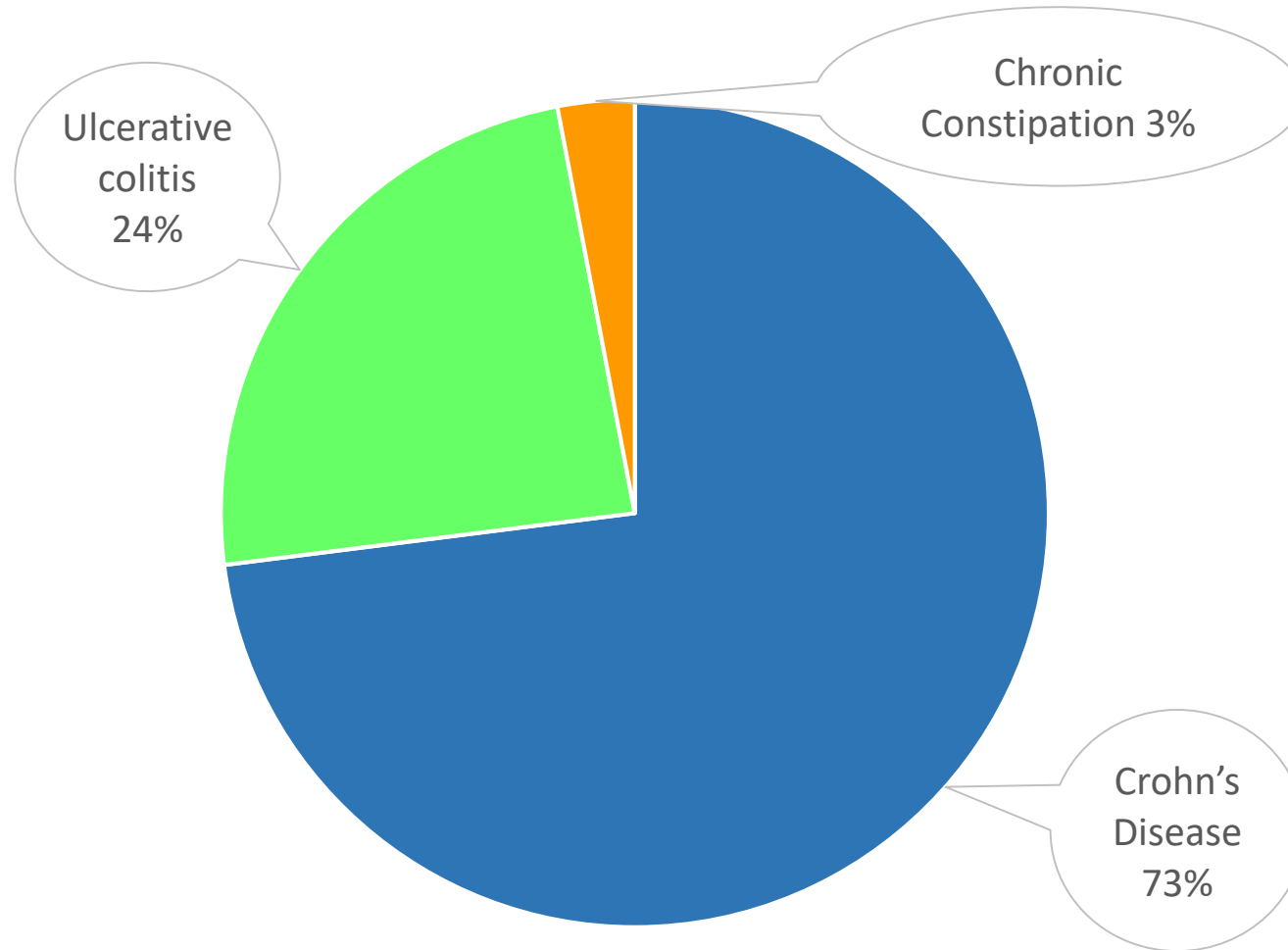


Fig. 1: Disease Distribution (%)



■ Crohn's Disease ■ Ulcerative colitis ■ Chronic Constipation

Fig. 2: Channel Breakup (%)

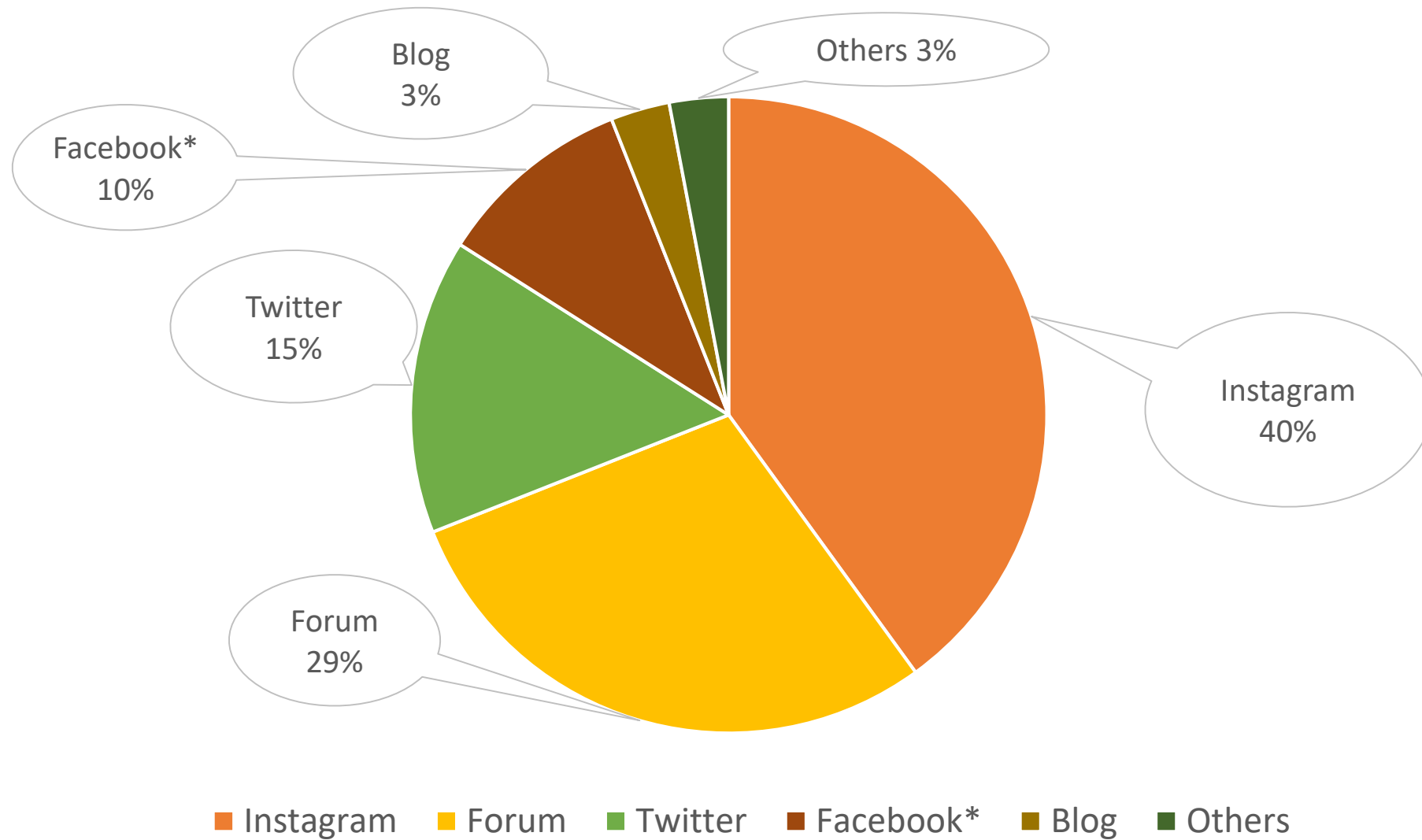
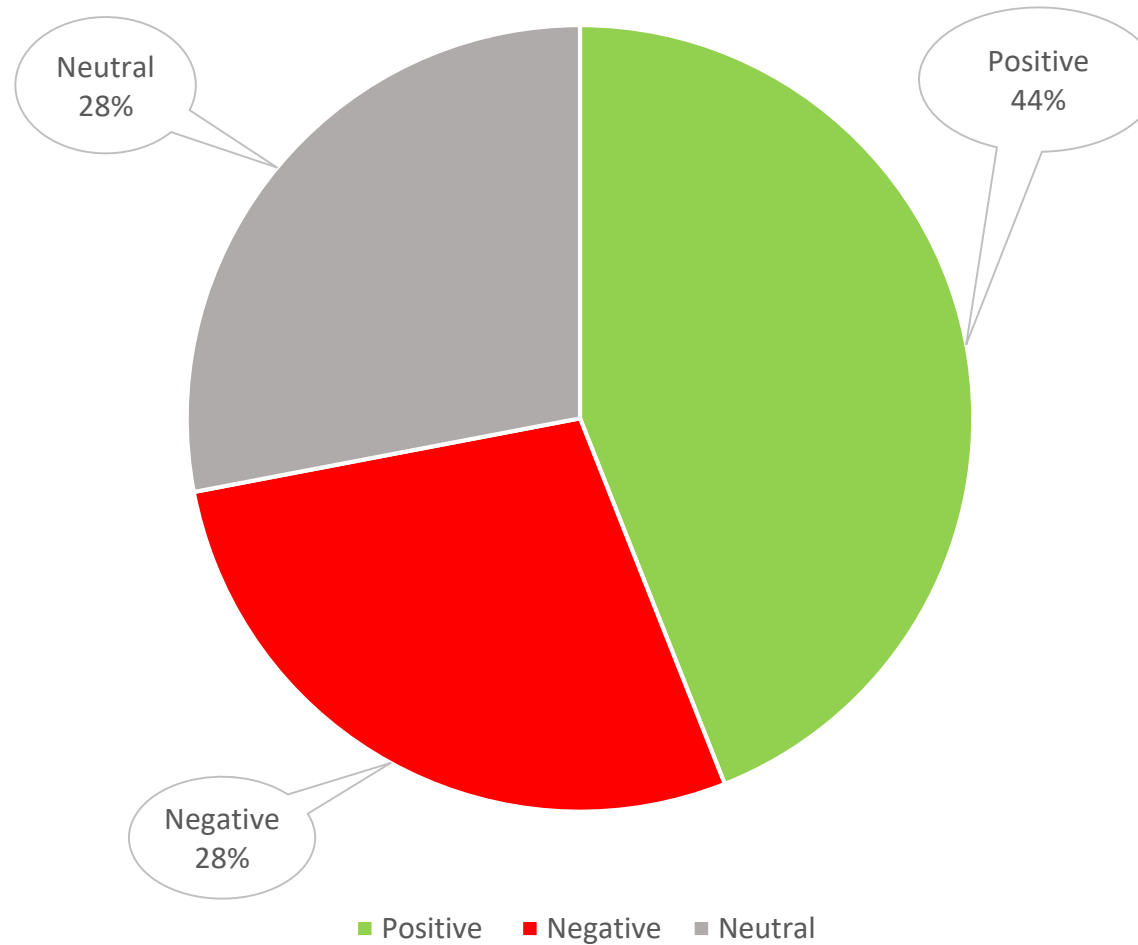


Fig. 3: Sentiment Split (%)



- Sentiment has been categorized into 3 segments: Positive, Negative & Neutral.
- The cumulative sentiment associated with support services has only been taken into consideration.

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Key Takeaways:

1. Disease Education:

- When diagnosed patients have limited knowledge about what IBD is and how it will impact their life.
- Reading conversations posted by fellow patients and their caregivers helps them reach a certain comfort level. They realize that there are others who have been suffering from the same disease and have gone through similar experiences
- Some patients who have lived with the disease for extended time like to share their experiences to raise awareness and educate others. This helps others understand what is in store for them and how could they deal with the same.
- Patients discuss WebMD, Mayo clinic, Crohn's and Colitis Foundation and other patient forums, as resources to help learn about the condition

Key Takeaways:

2. Advocacy

- Advocacy groups help connect patients with other patients and caregivers in similar conditions.
- People feel positive as they get to meet and chat about their conditions with others who are going through a similar experience.
- People might also seek advice from others, or learn from their experience through the dedicated forums started by various advocacy groups

Key Takeaways:

3. Symptom and lifestyle tracking

- Patients regularly keep track of their symptoms during the treatment phase and share them explicitly on social media. They share their journey with the disease, with either daily or event based updates.
- Diet and lifestyle maintenance is one of the most talked about topics in this phase. Diet tracking, their experiences, their recommendations about lifestyle patterns and related issues compose the content of their online posts.

Key Takeaways:

4. Side-effect monitoring

- Patients are sharing their experiences concerning side effects.
- They are both asking for support and advising others on the possible side effects and their future course of action.
- Some patients and their caregivers are also directly posting the name of the drugs and the side-effects that they have been experiencing because of them. This also has significance in tracking of adverse drug events and their reporting to the FDA.
- It also helps to make the patients aware about the possible side-effects that they may face, before they start the drug regimen, by reading other patients stories and experiences.

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▪ Limitations

Limitations:

- The conversations that have been analyzed might or might not be influenced by medical opinion. Those conversations which have talked about symptoms, lifestyle tracking and side effects, it could be assumed that they could have been influenced by the same, though it might not be the case always (especially in cases of caregiver conversations).
- The social media users who are posting online might or might not have had a definitive diagnosis, it is assumed that those reporting that they have the disease have been diagnosed by a qualified medical practitioner.
- The patient and caregiver categorization was done based on social media profiles (the information was self-declared), and the same was not authenticated by any other means, using ZS proprietary algorithm.

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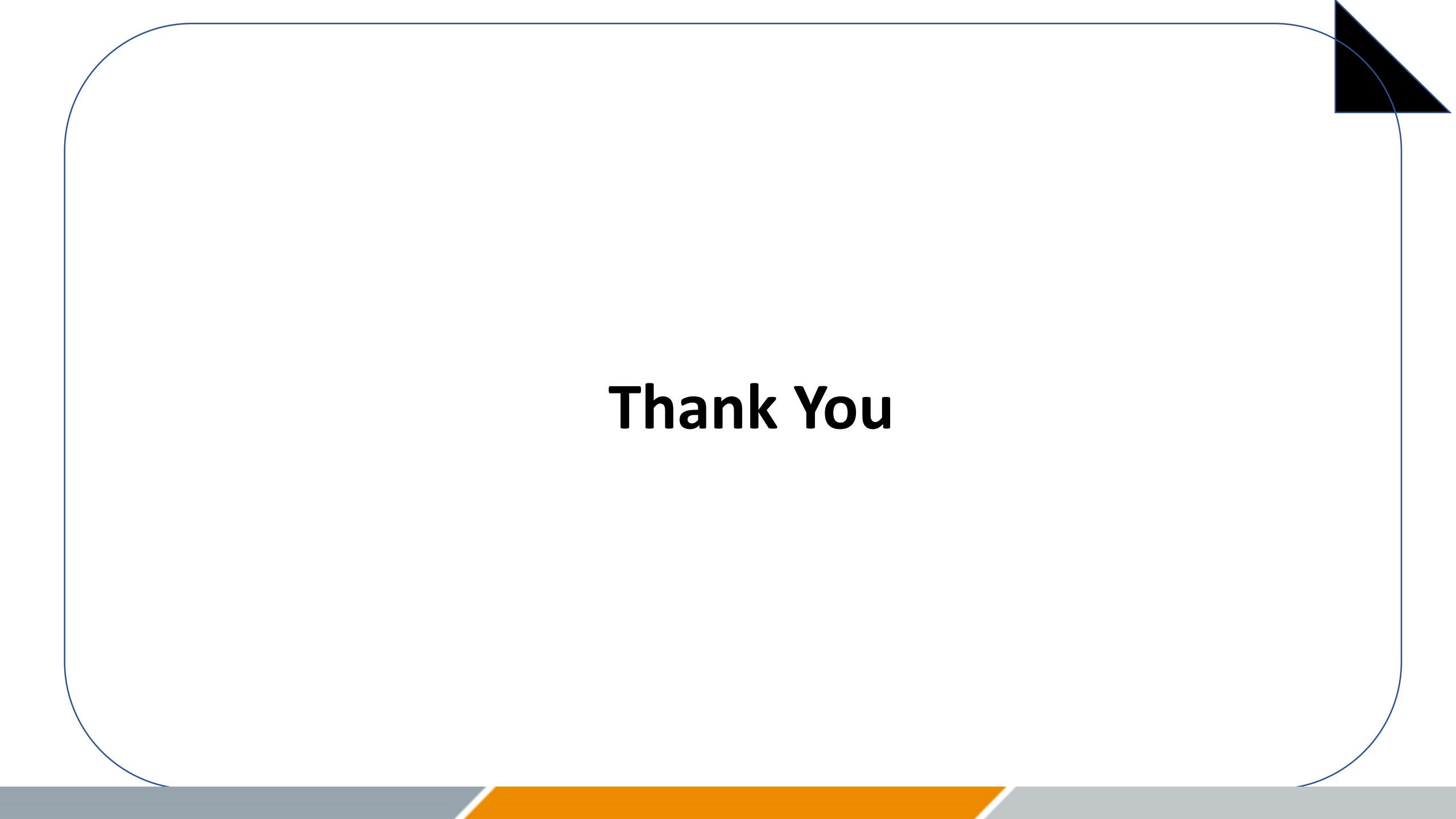
Limitations

▪ Implications

Implications:

- ❑ For the patients:

- To understand patients' perceptions and their needs in the segment
- To help them get better and more focused treatment and support services.



Thank You