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IQVIA

Using NLP to Scale Social Intelligence and Derive Patient-Centric Insights

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Tanmay Saraykar, Director, Offerings Management
Social Media Intelligence, IQVIA
tanmay.saraykar@iqvia.com

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EVERYTHING WE DO AS A BRAND IS SUPPORTED BY RESEARCH AND EVIDENCE.
LIKE WHAT?
LOOKING AT SOCIAL MEDIA AND CHERRY-PICKING QUOTES WE LIKE.
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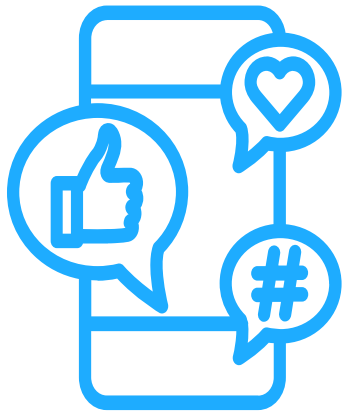


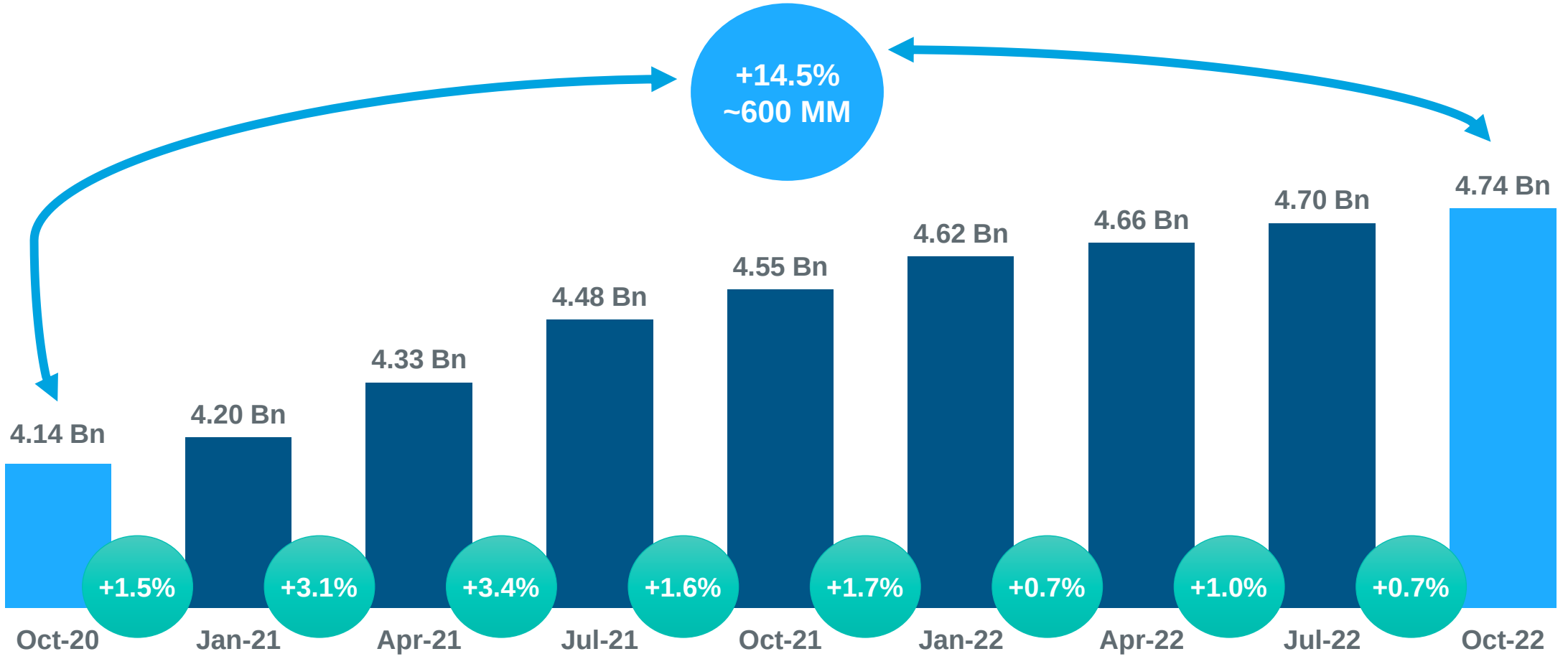
Social Media Stats

Problem

Solution

Active social media users account for ~60% of the world's population or 4.74 Bn people with a 14.5% (~600 MM) increase in users from 2020 to 2022

Number of Active Social Media Users (October 2020 – October 2022)



Sources:
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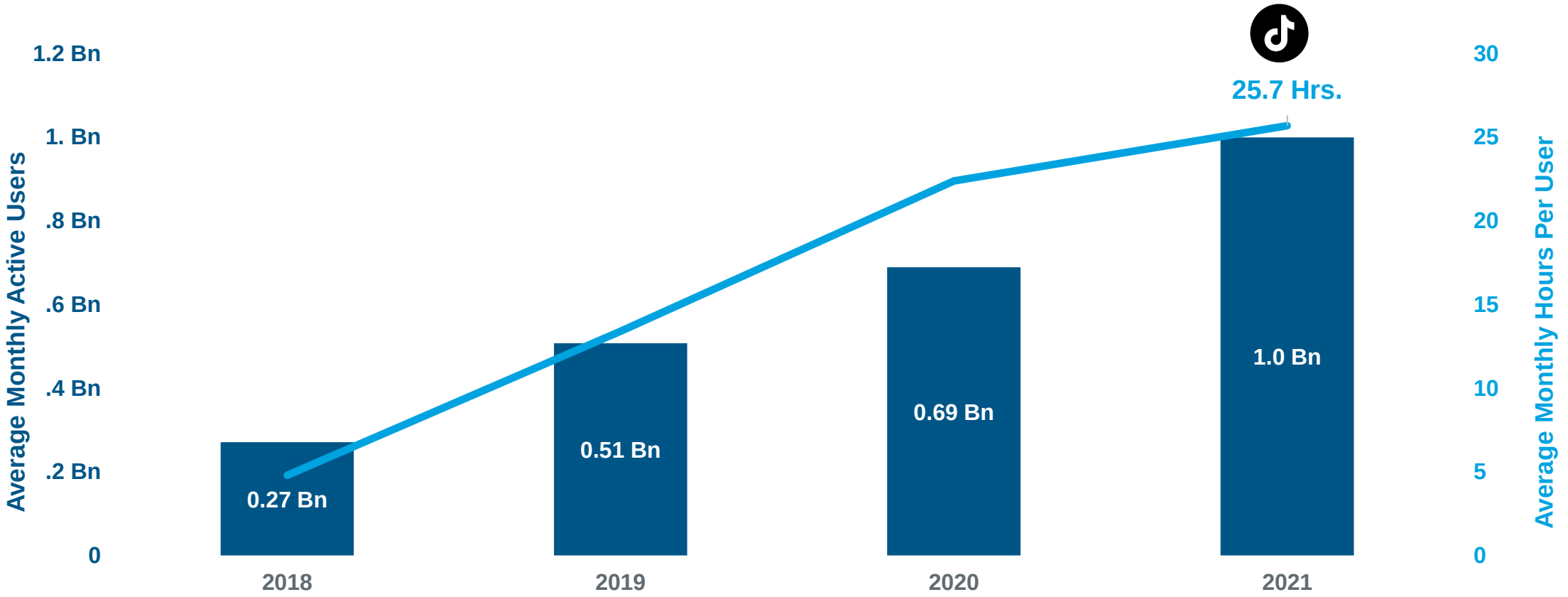
https://blog.hootsuite.com/social-media-statistics-for-social-media-managers/#General_social_media_statistics

Usage and participation on TikTok is growing at a mind-boggling rate

TikTok Average Monthly Active Users (MAUs) and Average Monthly Hours Per User (2018 – 2021)



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https://www.data.ai/en/insights/market-data/tiktok-app-milestone-840-million-spend
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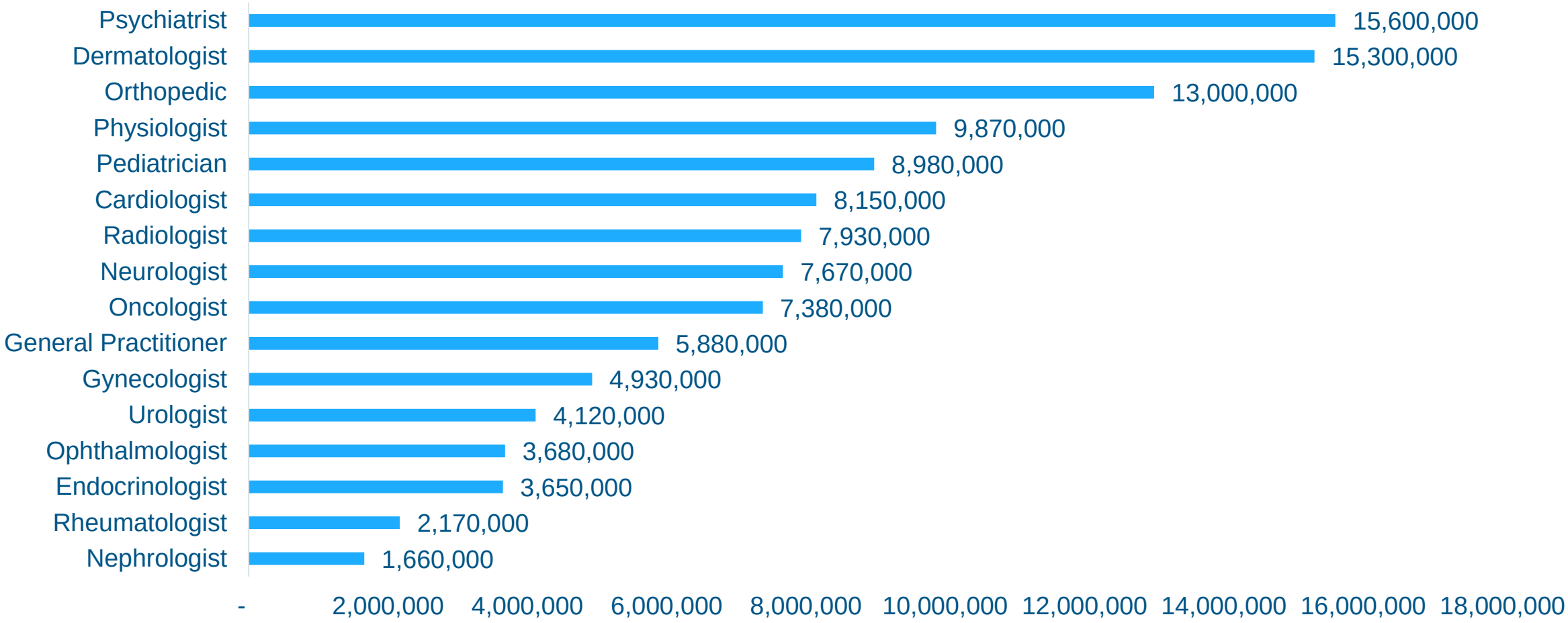
Who is on TikTok?

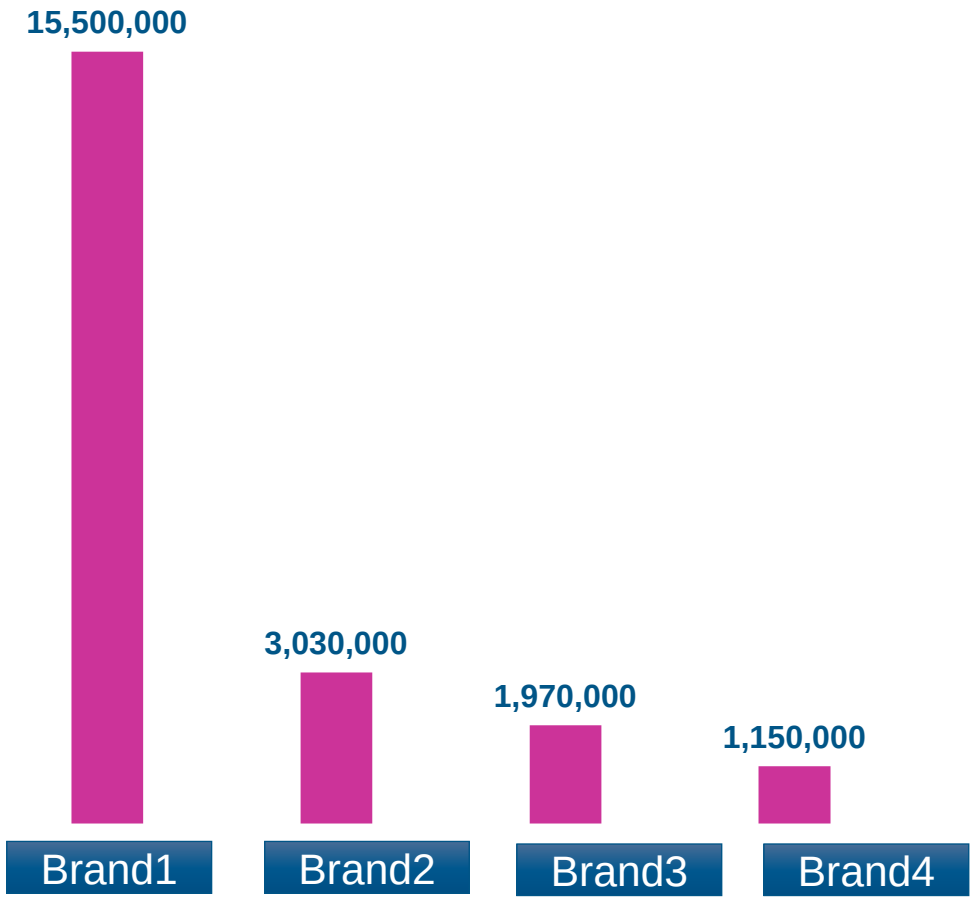
Cumulative volume of mentions of physician specialties on TikTok



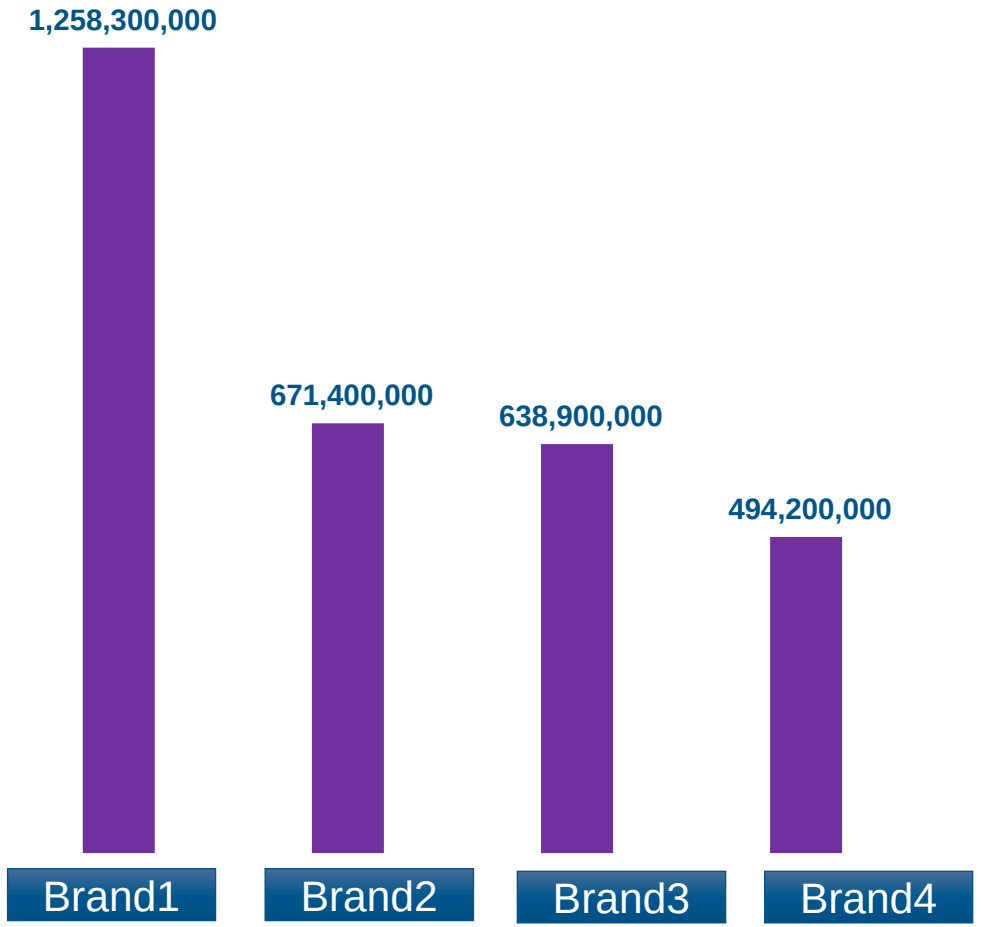
Note: Illustrative. All counts as on May 6, 2023. All counts cumulative.

Diabetes/weight-loss brands on TikTok

Brand mentions of TikTok



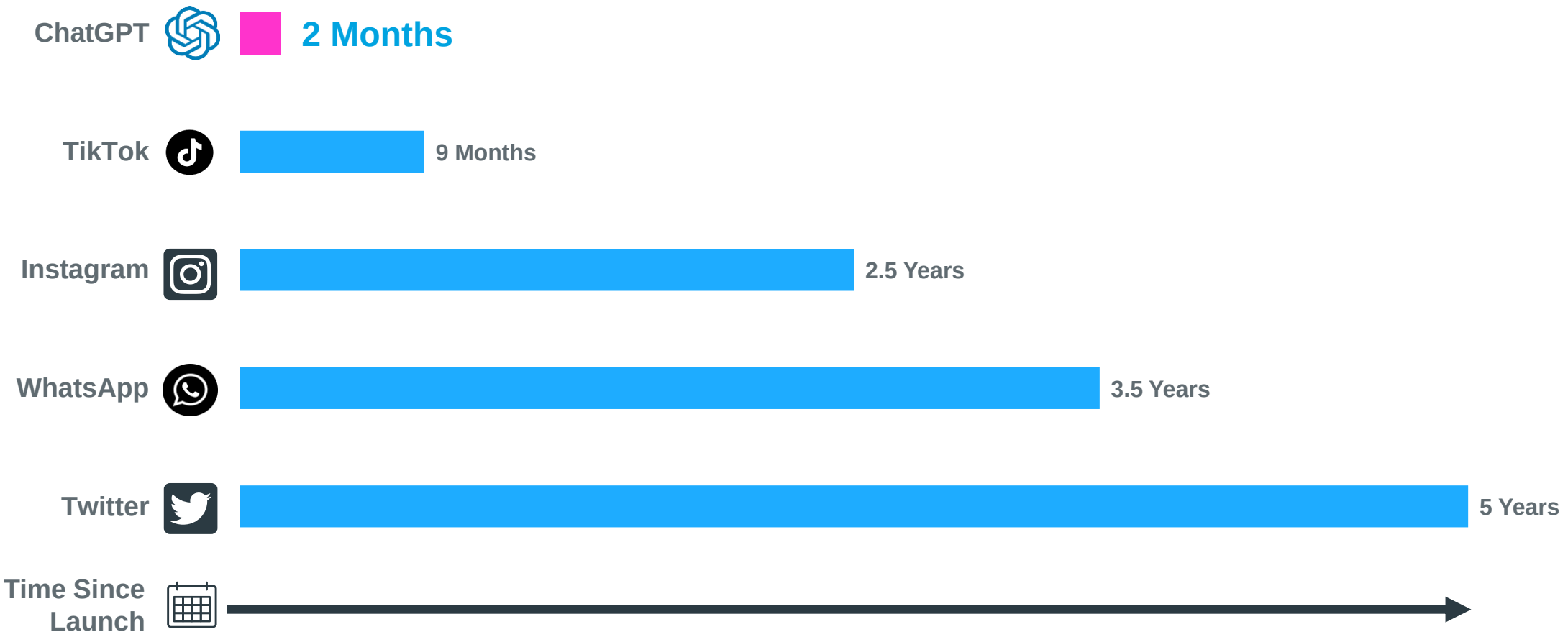
Video views of brands on TikTok



Note: Illustrative. All counts as on May 6, 2023. Video views for top hashtags associated with the brand. All counts cumulative.

Guess what beat TikTok in speed of adoption?

Time Taken to Reach 100 Million Users from Launch



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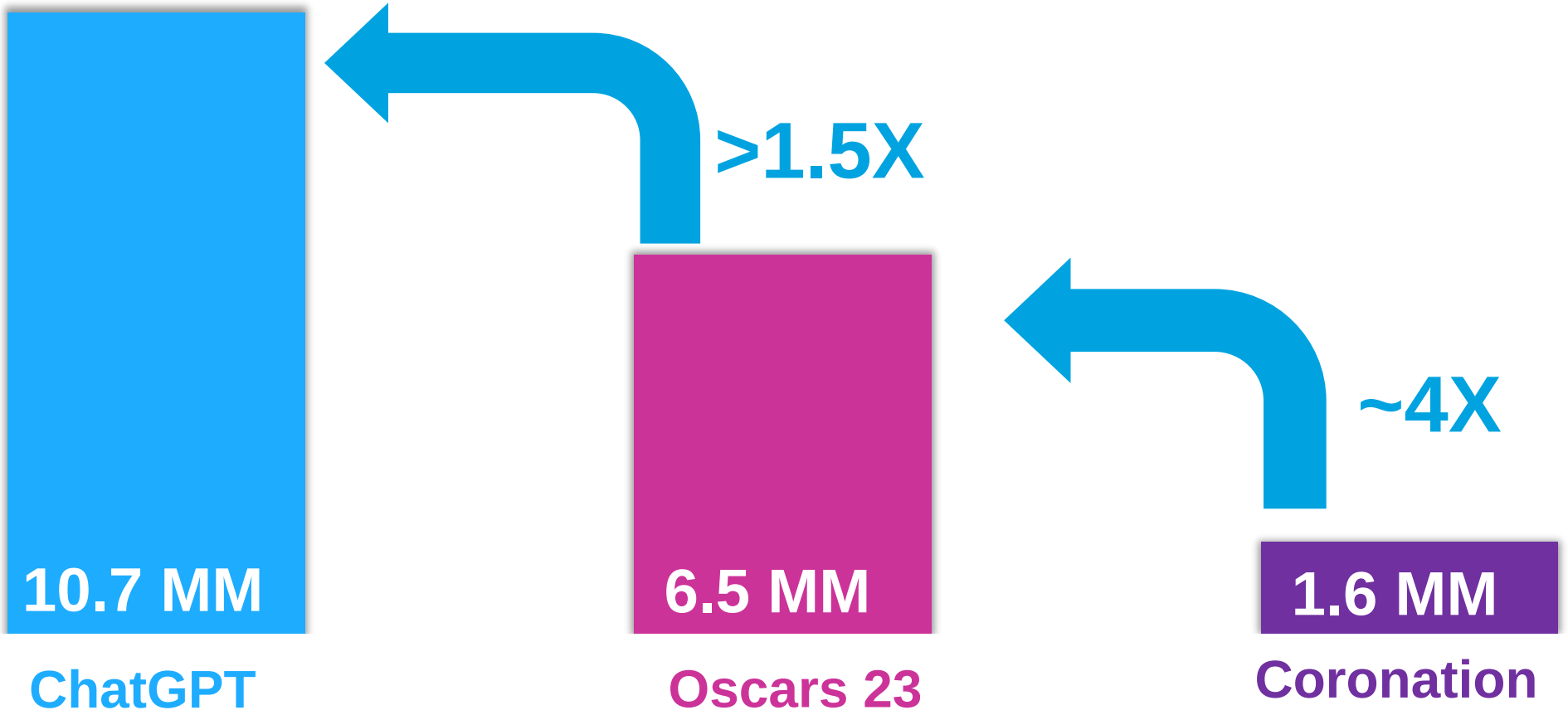
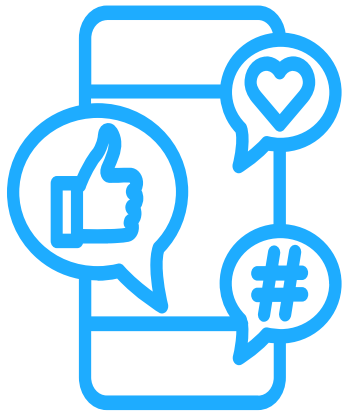
Examples of when social media conversation volume related to technology (e.g., ChatGPT) far exceeds that of significant cultural events

Social Conversation Volume since January 2023 – ChatGPT vs Oscars 23 vs 'Coronation of King Charles III'





Social Media Stats

Social listening challenges

Solution

Social listening challenges for life sciences companies

Challenge 1: Big Data

Social mentions of top 40 products across categories for a life sciences company can amount to a few million

Challenge 2: Diverse Data

Social media data is complex, unstructured and comes in various formats

Challenge 3: Siloed Data

Digital data beyond social media such as Google search queries, content virality, product reviews, web/ campaign analytics

Challenge 4: Decentralized Operations

Driven by diverse business priorities, social listening is often conducted on a need basis locally

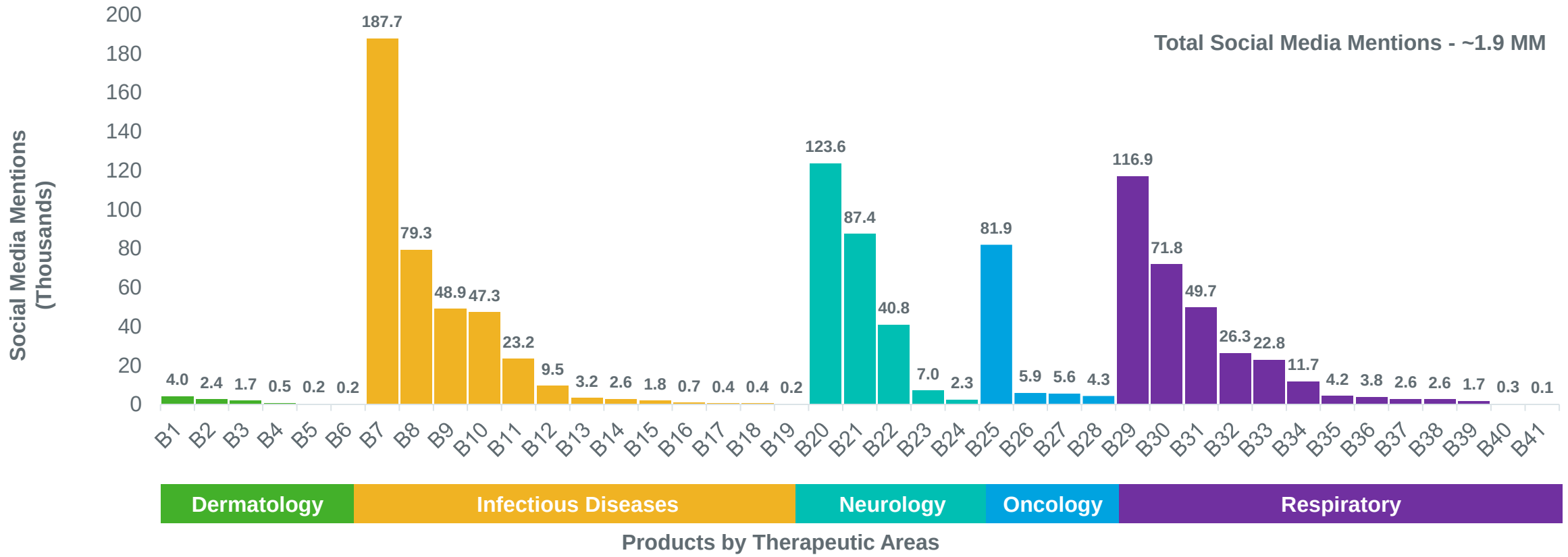
Challenge 5: Non-Compliant Data

Ensuring regulatory compliance by timely reporting of adverse events discussed by patients on social media

Challenge 1: Big Data

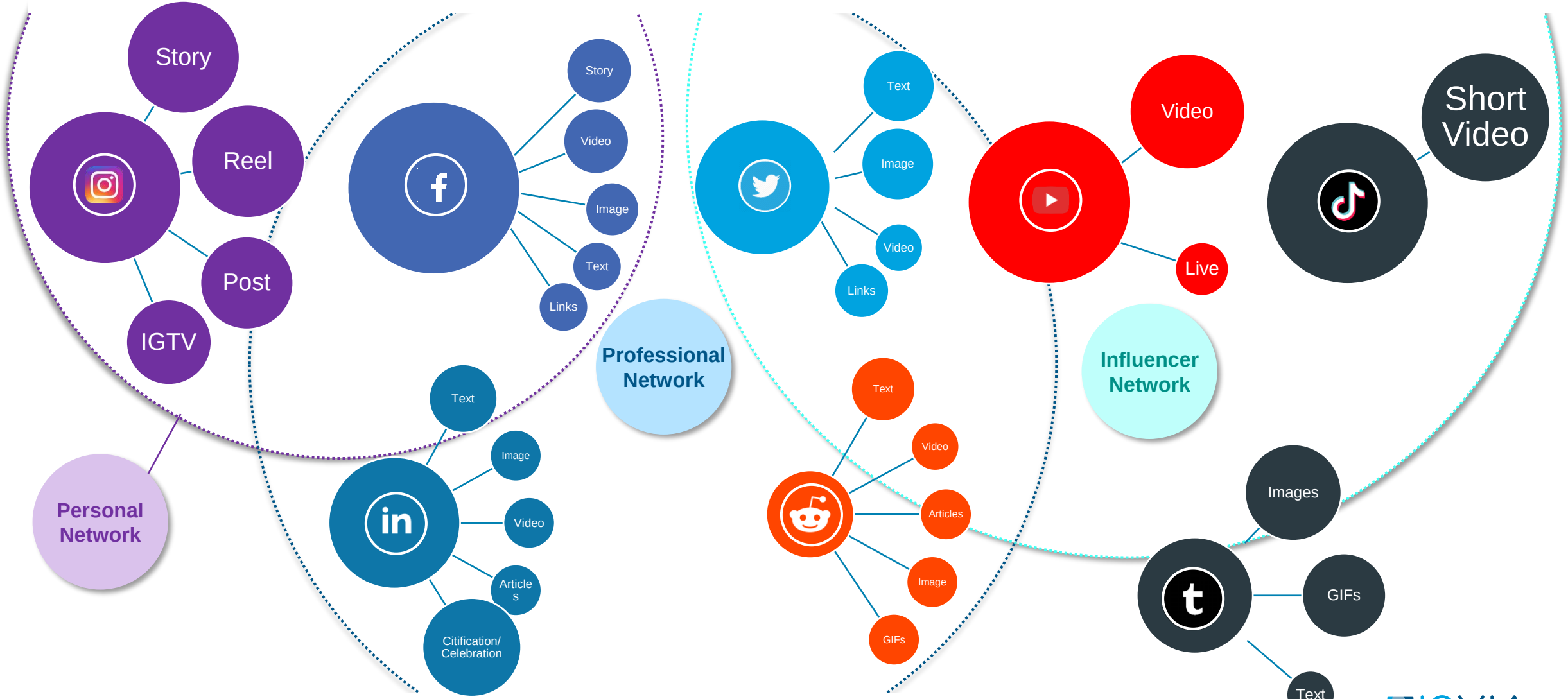
~1.9MM social media mentions for the top 40 brands of a large pharma company across therapeutic areas

Social Conversation Volume from Mar 2022 to Feb 2023 for In-Market Products of a Large Pharma Company across Therapeutic Areas



Challenge 2: Diverse Data

Content complexity is ever increasing, for e.g., Twitter went from 120 characters to 280 and soon ~10,000

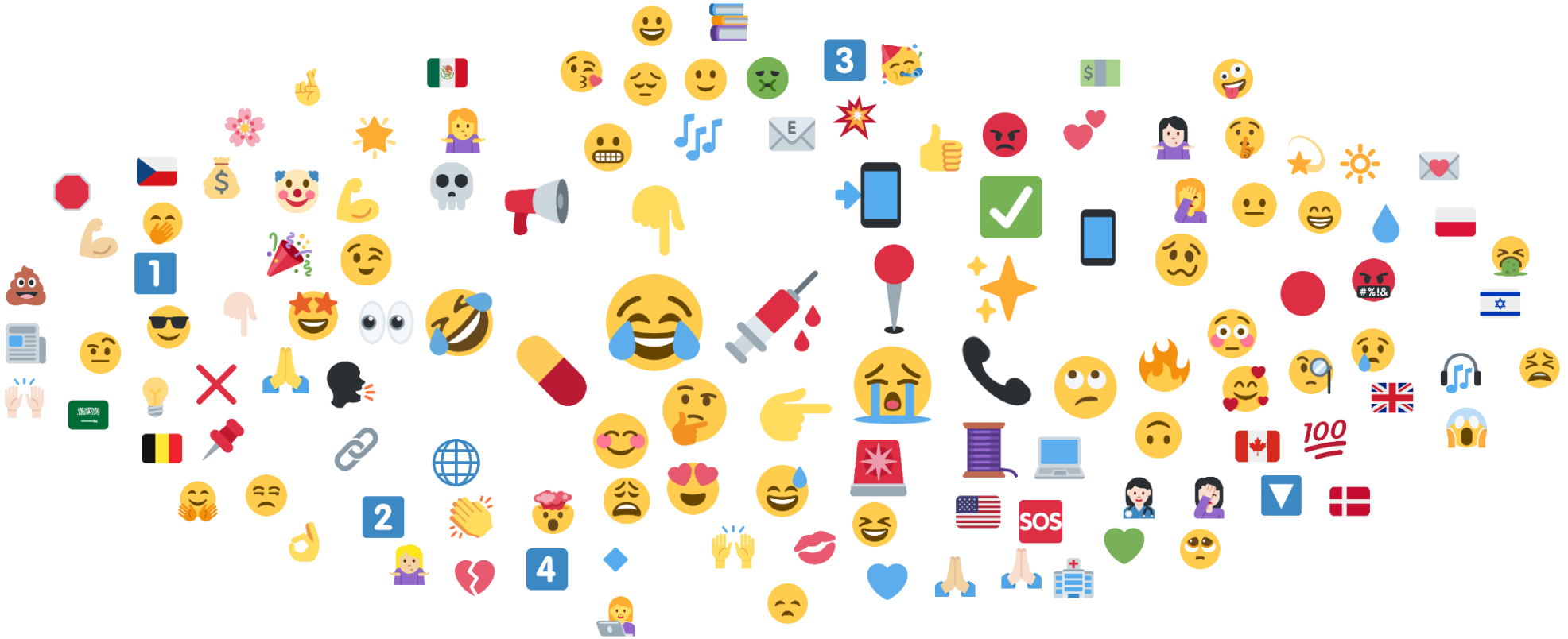


Note: Size of the bubbles are indicative of the amount of engagement received per platform on an average and is not to scale

Challenge 2: Diverse Data

Analyzing non-textual content such as emojis, images and videos is a challenge

Emoji Cloud for Social Media Posts Mentioning Brand1 (April 2022 – March 2023)



Challenge 3: Siloed Data – Is only social media data sufficient?

Not everyone posts online. While web analytics and search analytics help you understand customer behavior holistically, there is no do-it-all tool. You need to master a combination of tools to uncover insights

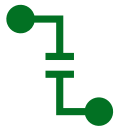
Challenge 4: Decentralized Operations

Social listening is good to have, ad-hoc, experimental, tool driven, region/franchise driven

80% of life-sciences companies approach social listening in the following ways

Ad-hoc

- Need based/reactive projects
- Not a part of annual brand planning
- Triggered by events – launch/ conference/ risk to reputation



Decentralized

- Franchise driven and un-consolidated
- Multilingual needs
- Subject to local regulations and compliance
- Local procurement resulting in multiple tools/vendors

Irregular

- Experimental process and a new dimension of insights
- Varying objectives and expectations
- Limited budget/reallocated market research budget

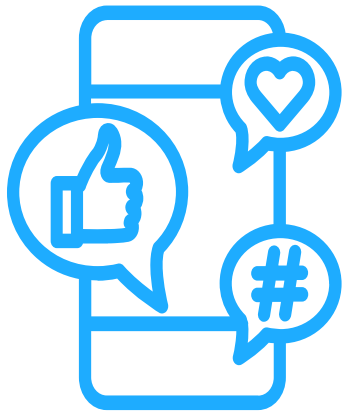
Consequences of the current approach

- **Suboptimal use of budget**
- **Limited knowledge sharing**
- **Underserved value**
- **Over-reliant on tools**
- **Disconnected use cases**
- **Challenging to prove ROI**

Full-potential unrealized

Challenge 5: Non-compliant Data

"I take this drug twice everyday since last month and my sweat smells like cat pee."



Social Media Stats

Social listening challenges

Solution

What's the solution?

Enterprise-wide social listening using advanced NLP

Solution	Consequence
1 **Enterprise-wide social listening**	Value from social media insights is available across geographies, audiences, and brands
2 **Advanced-NLP**	Enables insight generation by processing vast amounts of unstructured, unformatted data
3 **Unified presentation layer**	Gives a comprehensive perspective on brand health through familiar business intelligence formats
4 **Connected digital intelligence**	Adds scalability to monitoring and promotes easy access to insights beyond social intelligence
5 **Centralized operation**	Cost synergies and consolidation of actionability and data access
6 **Digital Pharmacovigilance**	Ensures regulatory compliance and data governance

Benefits

What do we achieve using Natural language Processing?

Here are 4 NLP methodologies that can be used to summarize the voluminous social data

Methods		Benefits
1	**Ontology Extraction**	**Identifies entities** such as drugs, molecules, events etc. within text
2	**Relation Extraction**	Finds **relational pattern between two objects/entities** based on **parts of speech** recognition
3	**Sentiment Extraction**	Identify the **sentiments at the phrase level** for each post
4	**Topic Classifier**	**Groups similar posts** and **assign a topic for each group**

Outcome: Comprehensible summary

Tags:
inhaler | niece | ventolin

"Getting a vaccine and not wearing a mask is like an asthmatic taking an inhaler puff while walking into a dust storm. Also heard that Ibuprofen can worsen asthma by causing the airway to narrow in a condition called bronchospasm. An inhaler can improve this. I think my niece used her ventolin inhaler to help her Asthma."

Inhaler used for asthma

Ibuprofen worsens asthma

Topics:
efficacy | side effects

Enterprise-wide social listening using advanced NLP technology, human intelligence, and deep healthcare expertise enables 7 key capabilities

Audience Analytics
Key customers
Customer requirements

Influencers / Digital KOLs
Physicians
Pharmacists
Nurses
Patient Advocate

Competitive Intelligence
Digital landscape
Digital benchmarking

Brand Insights
Reputation risks
Sentiment and perception

Key Events Analytics
Conferences/ congresses
PR and News analysis

Patient Journey & Insights
Unmet and information needs
Drivers/ barriers of Tx adoption
Patient journeys

Digital Pharmacovigilance
AE detection, validation & reporting
Multiple languages
Near-real time

Thank You