



ANALYSING SOCIAL MEDIA TO UNDERSTAND PUBLIC PERCEPTIONS OF SANITATION



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PROGRAMME AREA: PUBLIC HEALTH

SUMMARY

The United Nations Millennium Campaign and the Water Supply and Sanitation Collaborative Council partnered to deliver a comprehensive advocacy and communication drive on sanitation. Their efforts were in support of the UN Deputy Secretary General's Call to Action on Sanitation to increase the number of people with access to better sanitation. Global Pulse provided an analysis of social media in order to provide insight on the baseline of public engagement, and explore ways to monitor a new sanitation campaign. Using a custom keyword taxonomy, English language tweets from January 2011 to December 2013 were extracted, sorted into categories and analysed. The study showed that 33 percent of the relevant tweets focused on cholera. Excluding cholera-related conversations, tweets were mainly in the context of human rights, followed by health and policy and governance. The analysis also revealed increasing public engagement around gender and sanitation. By showing how the volume and content of public discourse around sanitation changed over time, the study provided a baseline that could be used to monitor the effectiveness and reach of a communications campaign in real-time using social media analytics.

BACKGROUND

The Water Supply and Sanitation Collaborative Council (WSSCC) is a global organization committed to promoting sanitation, hygiene and water access as a human right. WSSCC works with vulnerable communities, governments and small-scale entrepreneurs to improve sanitation and hygiene at scale. The UN Millennium Campaign (UNMC) have worked with UN partners and key global constituencies, such as civil society, parliamentarians, faith groups and youth since 2002 to inspire people around the world to take action for the achievement of the Millennium Development Goals.

In 2013, UNMC and WSSCC were asked to develop a communications campaign to support the UN Deputy Secretary-General's Call to Action on Sanitation, aiming to break the silence around open defecation and expand public engagement around this issue to improve numbers of citizens with access to improved sanitation.

In this context, UNMC and WSSCC wanted to understand the baseline public engagement level, and to have a mechanism in place to monitor and evaluate their advocacy and communication efforts when the campaign launched.

UNMC and WSSCC partnered with Global Pulse to conduct a baseline analysis of the global discourse on social media about sanitation to understand general perceptions of sanitation to shape the campaign, and for monitoring changes in public perceptions during the campaign.

USING SOCIAL MEDIA DATA FOR INSIGHTS ON PUBLIC PERCEPTIONS

In order to understand public perceptions on sanitation as expressed on social media, Global Pulse filtered Twitter to extract relevant conversations that could then be quantified.

A comprehensive list of keywords and phrases was developed in collaboration with UNMC and WSSCC. Tweets containing a combination of words from this taxonomy were most likely to be relevant to the topic of sanitation (for example, the words 'unclean' or 'contaminated' in a tweet with 'sewage' or 'pit toilet'). The taxonomy was used to filter English language tweets about sanitation posted from January 2011 to December 2013.

In order to measure the volume of tweets about different topics related to sanitation, relevant tweets were then filtered into five categories defined by UNMC and WSSCC:

1. Health (Cholera¹)
2. Human Rights
3. Gender
4. Policy and Governance
5. General Interest²

Social media data analysis was conducted using Crimson Hexagon ForSight, a social data analytics platform. The following analyses were performed on the extracted tweets:

- **Overall trends:** Measuring daily, monthly and yearly volumes from January 2011 to December 2013
- **Category trends and correlations:** Analysing tweet volumes over time, inferring causes of significant spikes (e.g. events, campaigns and key influencers)
- **Correlations:** Identifying correlations between categories in order to understand if topics are closely related in public conversations, which could potentially improve and target communication campaigns

¹ Cholera was selected as a sub-category of 'Health,' which was necessary because of the large quantity of tweets about cholera during the 2013 outbreaks in Mexico and Nigeria and continued social media discourse about cholera in Haiti

² This category contains all sanitation related tweets not included in the four other categories.

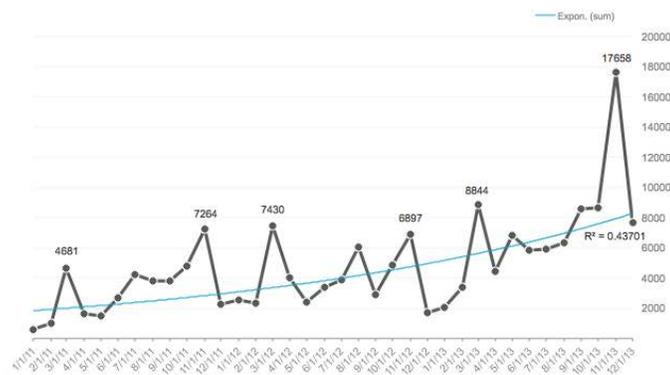
HOW TO CITE THIS DOCUMENT:

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- **Influencers:** Identifying the most influential Twitter accounts posting tweets about sanitation (both accounts with a significant number of followers and accounts mentioned most in tweets about sanitation)
- **Hashtags:** Exploring which hashtags are used most frequently in tweets about sanitation, the context within which hashtags are used and how long different hashtags last in public Twitter discourse

INSIGHTS & OUTCOMES

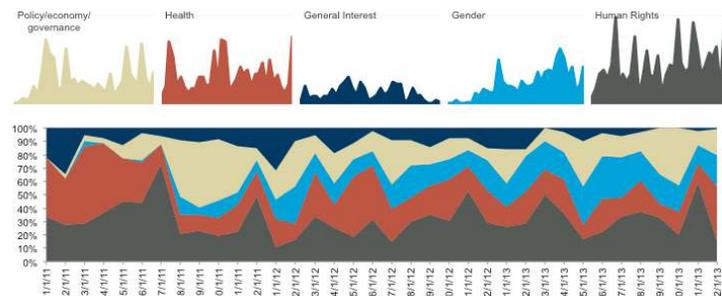
A total of 260,000 tweets related to sanitation from January 2011 to December 2013 were identified. 33 percent of tweets about sanitation were related to cholera. The remaining categories—Health, Human Rights, Policy and Governance and General Interest—showed relatively low volumes of tweets in comparison.



The trend shows an increasing number of tweets written about sanitation.

Overall trends: For a preliminary analysis of tweet volume, conversations related to cholera were excluded since the volume of tweets was significantly more than the other four categories. Results showed that people tweeted most about sanitation in the context of Human Rights (57,817 tweets), followed by Health (38,187 tweets), Policy and Governance (35,324 tweets), then Gender (29,073 tweets) and General Interest (12,378 tweets).

Category trends: The time periods with highest volumes of sanitation-related tweets coincided each year with World Water Day on 22 March and World Toilet Day on 19 November. The most significant increase in volume of tweets over time was found in Human Rights followed by Gender and Health. Tweets about sanitation in the context of Gender showed the largest proportional increase in volume, compared to other categories, demonstrating a greater percentage of public discourse focused on this issue.

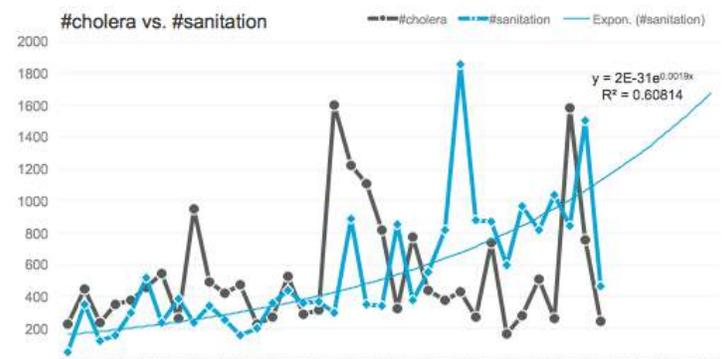


The figures above show the proportions of tweets in each category over time. The highest numerical increase in tweet volume was found in Human Rights (grey), but proportionally Gender (blue) had the highest increase.

The analysis revealed the strongest positive relationship between Gender and Policy and Governance with a correlation coefficient of 0.61, followed by Gender and Human Rights (0.584).

Influencers: The study revealed which Twitter accounts most often tweeted about sanitation with significant numbers of followers. These findings could be used in developing targeted messages and maximize the reach of campaign communications by leveraging influencers. These accounts included @unicef (2.46 million followers), @un (2.27 million), @charitywater (1.41 million) and @gatesfoundation (1.11 million). Accounts like @UberFacts and @MindBlowing are another avenue of getting “facts” out to a broader audience.

Hashtags: The hashtags #sanitation and #cholera were used most frequently—over 19,000 tweets contained each—followed by #water and #toilets4all. #Sanitation showed a clear upward trend, while the use of #cholera was less predictable, indicating the hashtag is event driven and is mainly used during actual cholera outbreaks and in media discussions about past outbreaks.



The figure above compares the number of tweets that contain #cholera (black) with #sanitation (blue) from 2011 to 2013.

CONCLUSIONS

This study set out to provide a baseline of public engagement on Twitter relevant to the sanitation, around different categories. By using these baseline indicators and categories it would be possible to monitor how public conversations changed over time, and evaluate campaign messaging reach and effectiveness. The study provides a model for how to integrate social media analytics into existing tools used to monitor campaign communications and understand public engagement around an issue.

IMPLICATIONS & RECOMMENDATIONS

- This study demonstrated that social media could provide useful insights about public perception and influence, and how public discourse changes over time.
- It is recommended that the UNMC and WSSCC campaign consider using both the general hashtag #sanitation as well as a campaign-specific hashtag for broader reach.
- It is recommended that taxonomies be developed in additional languages; this study could also analyse the geographic regions from which tweets were posted, in order to explore regional perceptions of sanitation.