




# Understanding the digital impact of World Hypertension Day: key takeaways

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## Aim

To understand the global digital impact of World Hypertension Day and identify areas for further improvement to steer future policy development.

## Methods and results

We used three social media assessment tools (Sprout Social, SocioViz, and Symplur) and Google Trends to obtain data about the total tweets and global impressions from countries worldwide about World Hypertension Day. Social network analysis of top influencers, associated hashtags, and keywords was performed to understand the context of the posts. With over 60 000 tweets reaching more than 250 million impressions, World Hypertension Day was a highly impactful event. A large spike of over 800% yearly increase was seen in 2021 that has greatly facilitated wider dissemination. However, there was limited collaboration among the top influencers and negligible participation from several African and non-English-speaking European countries.

## Conclusion

With support from several governmental bodies, organizations and media outlets, World Hypertension Day is a highly impactful healthcare awareness day and presents a global case study of effectively utilizing digital resources for creating awareness among the global audience. Prioritizing equitable involvement from underrepresented and underprivileged communities must be focused. Future policy development of other awareness events shall extract the constructive feedback from these findings to promote global and public health.

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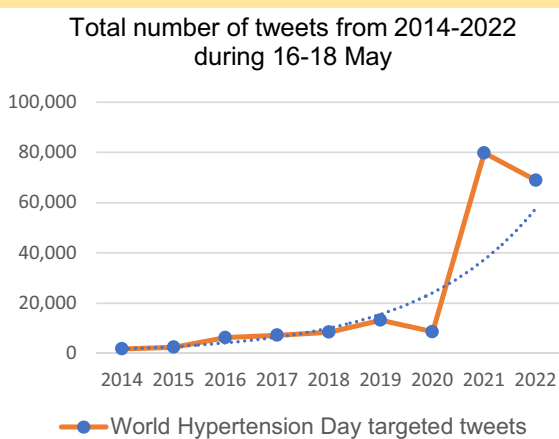
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## Graphical Abstract

## Digital Impact of World Hypertension Day

1. #WorldHypertensionDay and #Hypertension fetched over 250 million and 120 million impressions worldwide during 16-18 May, 2022.
2. With an yearly increase of over 800% in 2021, over 60,000 users tweeted about World Hypertension Day in 2022.
3. 51% of the top 100 users did not collaborate with any other top influencers.
4. Negligible involvement seen from several African and non-English speaking European countries.



#worldhypertensionday  
#worldhypertensionday17may  
#worldhypertensionday2022  
#hypertensionday

Top



Hashtags

#thebigsqueeze  
#hypertension  
#bloodpressure

#heartsamericas  
#health  
#pci

World Hypertension Day 2022 was a highly impactful healthcare awareness day, reaching a large global audience.

### Keywords

Hypertension • World Hypertension Day • Hypertension Awareness • Social media

## Introduction

Hypertension, widely recognized as 'the silent killer', is a known cause of increased morbidity and premature death with an estimated burden of over 1 billion cases worldwide. With over two-thirds of people with hypertension living in low- and middle-income countries with limited knowledge of this condition, it is important to create awareness about high blood pressure and its management globally.<sup>1</sup>

To advocate hypertension awareness, World Hypertension Day was initiated by World Hypertension League in 2005 and now, 17 May is observed as World Hypertension Day each year with dedicated themes.<sup>2,3</sup> This global event seeks active involvement from various stakeholders and media outlets in countries for the mass dissemination of credible information about the screening, prevention, and management strategies for hypertension. With the emergence of social media as a routine driver of building connections and sharing opinions with a global audience of over 4.5 billion users, it is also being actively used to promote World Hypertension Day. Our study evaluated the digital impact of World Hypertension Day to get a rough estimate of its social reach and areas for further improvement.

## Methods

We developed a novel four-step methodology to assess the digital impact of a healthcare awareness event evaluating the total number of tweets, impressions, popularity and collaboration, and interest by region. We extracted the total number of tweets posted between 16 and 18 May from 2014 to 2022 with the search queries, 'World Hypertension Day OR Hypertension Day OR WHD OR #WHD OR #HypertensionDay OR #WorldHypertensionDay,' using Sprout Social.<sup>4</sup> Total impressions were calculated using Symplur's algorithm, which roughly reflect the total number of Twitter users a tweet could have reached.<sup>5</sup>

To understand the context of the posts, social network analysis of both real-time recent and most popular tweets was done using SocioViz to find the top associated hashtags, keywords, and collaboration between top influencers.<sup>6</sup> In hashtags network analysis, each hashtag was depicted as a node and was linked to other hashtags if they were present in the same tweet. The colours represent different clusters of arguments that often go together. Beyond social media, Google Trends analysis was done for World Hypertension Day to look at the 'interest by region' in the past 5 years.



handles with the highest impressions for #WorldHypertensionDay, 8 were of news media outlets and other 2 were of World Health Organization and a sports personality.

On Google Trends analysis, there was negligible involvement seen from several African and non-English-speaking European countries.

## Discussion

World Hypertension Day has shown a wide global reach, both in terms of total impressions and tweets that are quite contrasting to some previously studied healthcare awareness events, namely DVT Awareness Month and Hernia Awareness Month.<sup>7,8</sup> As the evidence is quite limited on the actual impact and real-life positive changes brought by healthcare awareness events,<sup>9,10</sup> our evaluation of the World Hypertension Day for the first time may help steer future policy development in involving millions of people for a global cause. A sudden increase in total tweets in the last 2 years might be attributed to dedicated social media campaigns with active involvement from media outlets. With the current reach of over 250 million users, there is a high chance that with meticulous planning and commitment, this awareness day may disseminate to an even higher number each year.

Promoting dedicated themes for each year helps to advocate targeted campaigning among the public and drive the conversations. However, the lack of collaborations among the top users who generally have a significant following with high influence needs to be studied. This collaborative support may help in amalgamating communities and share perspectives about the challenges faced in low- and middle-income countries with high-income country users. A cooperative effort between various organizations, news outlets, government bodies, and the general public will greatly help reach the masses. Furthermore, synergistic promotion of other cardiovascular medicine-related awareness events may also be started so that their digital footprint is also increased with a wider audience.

Prioritizing equitable involvement from the underrepresented and underprivileged communities may help in promoting World Hypertension Day in those countries where the impact is emerging but nascent. Further studies shall focus on the African and non-English speaking European countries to understand the limited digital reach and utility of other local social media platforms that may be used for awareness and partnership.

Though no geographical or language preferences were set, our rough estimates shall be considered an underestimation because of the usage of specific keywords in search queries, exclusion of other

social media platforms (Facebook, Instagram, and LinkedIn) because of non-availability of API for historical data and non-inclusion of private profiles whose data was not available. With backing from several government bodies and medical organizations along with extensive media coverage, World Hypertension Day provides a good case study of targeting the global audience with an objective of preventing and managing high blood pressure disorders.

## Conclusions

World Hypertension Day is a highly impactful healthcare awareness day reaching a large global audience. More work needs to be done to promote collaboration between influencers and further create awareness in the underrepresented countries. Future policy development of other awareness events shall extract the constructive feedback from these findings to promote global and public health.

## Funding

None declared.

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## Data availability

The data underlying this article will be shared on reasonable request to the corresponding author.

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