**Mpox Viral Sentiments Capstone Project, May 2025**

**Harvard Extension School**

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## TARGET JOURNALS:

### BMC Digital Health:

[**https://bmcdigitalhealth.biomedcentral.com/**](https://bmcdigitalhealth.biomedcentral.com/)

#### Health promotion in the era of social media and digital communication

https://www.biomedcentral.com/collections/socdc

**Guest Editors:**Lorien C. Abroms: George Washington University, USA  
William Douglas Evans: George Washington University, USA  
Zhe He: Florida State University, USA

Digital technologies have become ubiquitous throughout much of the world. The digital media landscape, especially social media, shapes people’s awareness of health issues and perceptions about health-related behavioral norms. Additionally, digital health education programs and campaigns can help people reach goals, obtain social support, and change their behavior.

Yet, despite the widespread use of digital media and social media by the public, the full potential of utilizing digital technologies to support health promotion is yet to be reached. Currently, there is limited integration among the public health, technology, and government sectors. Public health researchers are investigating the impacts and potential of technology, industry is adopting policies and programs aimed at addressing health issues, and governments continue to provide medicine, public health, and social services. All too often, however, these sectors operate in silos and have yet to explore a common agenda regarding the use and evaluation of such technology to advance the goals of health promotion.

[*BMC Digital Health*](https://bmcdigitalhealth.biomedcentral.com/) is presenting a collection that focuses on the application and impact of social media and digital health on public health education and behavior. Contributions  include, but are not limited to, the following:

* The role of social media in disease monitoring and outbreak detection
* Effectiveness of social media campaigns on disseminating public health information and promoting health behaviors
* Social media analytics,  including developing data analysis methods to look at social media trends to understand health attitudes and behaviors as well as harnessing big data and machine learning techniques to facilitate public health research and decision-making
* Assessing the impact of mobile health apps, wearable devices, and telemedicine on public health outcomes
* Gamification and behavior change theories in digital health interventions
* The role of online communities and peer support, including how they may impact mental health and wellbeing or facilitate health education and behavior change
* Emerging technologies and tools to enhance the role of social media and digital health in advancing public health information and behavior change
* Ethical and legal considerations, including issues around privacy, data security and equitable access

Please email Alison Cuff, the editor for [*BMC Digital Health*](https://bmcdigitalhealth.biomedcentral.com/)*,*(alison.cuff@biomedcentral.com) if you would like more information.

1. [**Assessing changes in COVID-19 vaccine uptake and intentions among the *Brigada Digital* Latino social media audience: a repeated cross-sectional study**](https://bmcdigitalhealth.biomedcentral.com/articles/10.1186/s44247-024-00131-7)

U.S. Latinos experienced disproportionate COVID-19 impacts in terms of morbidity and mortality. Vaccination against COVID-19 is an important strategy for mitigating health impacts, and yet, vaccine uptake was ...

Authors:Courtney Riggle-van Schagen, E. L. Andrade, S. Chandarana, N. Lu, A. González, C. Favetto, V. Gómez, C. Palacios, M. Díaz-Ramírez and M. C. Edberg

Citation:*BMC Digital Health* 2024 2:72

Content type:ResearchPublished on: 11 October 2024

* + [ViewFull Text](https://bmcdigitalhealth.biomedcentral.com/articles/10.1186/s44247-024-00131-7)
  + [ViewPDF](https://bmcdigitalhealth.biomedcentral.com/counter/pdf/10.1186/s44247-024-00131-7.pdf)

1. [**Introduction and content analysis of "Nurse's voice" WhatsApp group during COVID-19 pandemic: a qualitative study**](https://bmcdigitalhealth.biomedcentral.com/articles/10.1186/s44247-024-00095-8)

At the beginning of the COVID-19 pandemic in Iran, the School of Nursing and Midwifery of Tehran University of Medical Sciences created several joint virtual groups to connect with people and answer their ques...

Authors:Maryam Nekoolaltak, Alireza Nikbakht Nasrabadi and Nasim Hatefimoadab

Citation:*BMC Digital Health* 2024 2:37

Content type:ResearchPublished on: 18 July 2024

* + [ViewFull Text](https://bmcdigitalhealth.biomedcentral.com/articles/10.1186/s44247-024-00095-8)
  + [ViewPDF](https://bmcdigitalhealth.biomedcentral.com/counter/pdf/10.1186/s44247-024-00095-8.pdf)

#### Natural language processing in medical informatics

[**https://www.biomedcentral.com/collections/rllm**](https://www.biomedcentral.com/collections/rllm)

**Submission Status: Open|   Submission Deadline: 30 June 2025**

**Guest Editors**

**Abeed Sarker, PhD, Emory University, USA  
Lina F. Soualmia, PhD, University of Rouen Normandie, France  
Honghan Wu, PhD, University of Glasgow, UK**

[***BMC Digital Health***](https://bmcdigitalhealth.biomedcentral.com/) is calling for submissions to our Collection, The role of large language models in revolutionizing digital health.  We invite contributions that examine a wide range of topics relating to the role of large language models in revolutionizing digital health, involving data from sources such as medical literature, electronic health records, and social media.

**BMC Digital Health is calling for submissions to our Collection, The role of large language models in revolutionizing digital health.**

Large language models (LLMs) have the potential of transforming healthcare delivery into a more efficient, personalized, and patient-centric experience. Interdisciplinary research between computational linguistics and healthcare has opened new avenues, from improved diagnostic accuracy through natural language processing to the development of virtual health assistants enhancing patient engagement. Continued research in the applications of LLMs in digital health has the potential of developing innovative tools for early disease detection, enabling more precise and personalized interventions, and healthcare characterized by accessibility, efficiency, and improved patient outcomes.

We invite contributions that examine a wide range of topics relating to the role of large language models in revolutionizing digital health, involving data from sources such as medical literature, electronic health records, and social media. Topics of interest include, but not limited to:

* Language models in clinical decision support
* Artificial intelligence in electronic health records
* Revolutionizing healthcare communication with language models
* Medical chatbots and patient engagement
* Healthcare innovation through precision medicine
* Language models in remote patient monitoring
* Advancements in clinical documentation with AI
* LLMs applications in health informatics
* Transformative role of language models
* Comparison/benchmarking of LLMs against more traditional NLP methods

### BMC Infectious Diseases

**Call for mpox papers: bmcinfectdis.biomedcentral.com**

#### Emerging threats and innovations in Mpox research

[**https://www.biomedcentral.com/collections/etim**](https://www.biomedcentral.com/collections/etim)

**Guest Editors**

Aroop Mohanty, MD, All India Institute of Medical Sciences Gorakhpur, India  
Bijaya Kumar Padhi, PhD, Postgraduate Institute of Medical Education and Research, India  
Ranjit Sah, MD, SR Sanjeevani Hospital, Nepal

**Submission Status: Open|   Submission Deadline: 31 July 2025**

[*BMC Infectious Diseases*](https://bmcinfectdis.biomedcentral.com/) is calling for submissions to our Collection on Emerging threats and innovations in Mpox research: addressing the challenges of new strains. This Collection invites researchers to advance the understanding of Mpox, with a focus on emerging threats and innovative approaches. We seek contributions that address the challenges of new strains, including their epidemiology, transmission dynamics, and implications for public health. Priority is given to research on novel diagnostic tools, therapeutic strategies, and vaccine development, aimed at enhancing preparedness and improving responses to future outbreaks.

### Journal of Medical Internet Research

[**https://www.jmir.org/about-journal/focus-and-scope**](https://www.jmir.org/about-journal/focus-and-scope)

The "*Journal of Medical Internet Research*" (JMIR; ISSN 1438-8871, Medline-abbreviation: *J Med Internet Res*) [(founded in 1999, now in its 25th year!](https://www.jmir.org/2019/12/e17578/)) is a leading health informatics and health services/health policy journal (ranking in the first quartile Q1 by Impact Factor in these disciplines) focusing on digital health, data science, health informatics and emerging technologies for health, medicine, and biomedical research. The journal is [ranked #1 on Google Scholar](https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng_medicalinformatics) in the 'Medical Informatics' discipline.

JMIR was the first open access journal covering health informatics, and the first international scientific peer-reviewed journal on all aspects of research, information and communication in the healthcare field using Internet and Internet-related technologies; a broad field, which is known as "eHealth" [see also [What is eHealth](https://www.jmir.org/2001/2/e20/) and [What is eHealth (2)](https://www.jmir.org/2001/2/e22/)], or now also "digital health", which includes mHealth (mobile health). This field also has significant overlaps with what is called "consumer health informatics", health 2.0/medicine 2.0, or participatory medicine. This focus makes JMIR unique among other medical or medical informatics journals, which tend to focus on clinical informatics or clinical applications. As eHealth/mHealth is a highly interdisciplinary field we are not only inviting research papers from the medical sciences, but also from the computer, behavioral, social and communication sciences, psychology, library sciences, informatics, human-computer interaction studies, and related fields.

The term "Internet" is used in its broadest sense, so we are also interested in high impact studies and applications of digital medicine, mobile technologies, social media, novel wearable devices and sensors, connected home appliances, domotics etc.

The journal invites manuscripts that deal with the following topics ([the main themes/topics covered by this journal and sample papers can also be found here](https://www.jmir.org/themes)):

* novel digital health approaches, methods, and devices
* large digital medicine / digital therapeutics trials with clinical impact
* data science, open data
* studies evaluating the impact of Internet/social media use or specific eHealth/mHealth interventions on individual health-related or social outcomes
* evaluations and implementations of innovative mhealth (mobile health) applications, social media apps, ubiquitous computing, or innovative and emerging technologies in health
* descriptions of the design and impact of Internet and mobile applications and websites or social media for consumers/patients or medical professionals
* use of the Internet, social media and mhealth in the context of clinical information and communication, including telemedicine
* use of the Internet, social media, and mhealth in medical research and the basic sciences such as molecular biology or chemistry (e.g. bioinformatics, online factual databases)
* medical information management and librarian sciences
* e-learning and knowledge translation, online-courses, social media, web-based and mobile programs for undergraduate and continuing education,
* eHealth/mHealth and social media applications for public health and population health technology (disease monitoring, teleprevention, teleepidemiology)
* evidence-based medicine and the Internet and mhealth (e.g. online development or dissemination of clinical guidelines, measuring agreement about management of a given clinical problem among physicians, etc.)
* the impact of eHealth/mHealth/pHealth/iHealth, social media, the Internet, or health care technologies on public health, the health care system and policy
* methodological aspects of doing Internet/mhealth/social media research, e.g. methodology of web-based surveys
* design and validation of novel web-based instruments
* ecological momentary assessment, sensors, mobile technologies for gathering and analyzing data in real-time
* analysis of e-communities, social media communities, or virtual social networks
* comparisons of effectiveness of health communication and information on the Internet/mHealth/social media compared with other methods of health communication,
* effects of the Internet/mhealth/social media and information/communication technology on the patient-physician relationship and impact on public health, e.g. the studies investigating how the patient-physician relationship changes as a result of the new ways of getting medical information
* ethical and legal problems as well as cross-border and cross-cultural issues of eHealth/mHealth
* systematic studies examining the quality of medical information available in various online venues
* methods of evaluation, quality assessment and improvement of Internet information or eHealth applications
* proposals for standards in the field of medical publishing on the Internet, including self-regulation issues, policies and guidelines to provide reliable healthcare information
* results and methodological aspects of Internet-based and social media studies, including medical surveys, psychological tests, quality-of-life studies, gathering and/or disseminating epidemiological data, use of the Internet/mobile apps/social media for clinical studies (e-trials), drug reaction reporting and surveillance systems etc.
* electronic medical publishing, Open Access publishing, altmetrics, and use of the Internet or social media for scholarly publishing (e.g. collaborative peer review)
* information needs of patients, consumers and health professionals, including studies evaluating search and retrieval behavior of patients
* web-based studies, e.g. online psychological experiments
* evaluations of mhealth (mobile) applications, as well as ambient / ubiquitous computing approaches, sensors, domotics, and other cutting edge technologies
* personal health records, patient portals, consumer health informatics applications
* behavior change technologies
* Reviews, viewpoint papers and commentaries touching on the issues and themes listed above are also welcome, but should be grounded in data and/or a thorough literature review

In addition, the Journal will occasionally publish original research, reviews and tutorials on more generic, related topics such as:

* Internet standards
* cybermetrics
* security and confidentiality issues
* Internet demographics
* social impact of the Internet
* digital imaging and multimedia
* health care records
* high-speed networks
* telecommunication
* electronic publishing
* software development

The *Journal of Medical Internet Research* is one of the flagship journals of [JMIR Publications](https://jmirpublications.com/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304) and is *highly selective*. We are not a megajournal that publishes everything regardless of impact. To ensure a rapid turnaround time, we encourage that authors consider [other JMIR journal titles](https://support.jmir.org/hc/en-us/articles/115001442707-Which-journal-titles-are-JMIR-Publications-currently-publishing-Journal-Portfolio-?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304) as well. While it is possible to transfer submissions from one journal to another before, during or after the review process (based on editorial suggestions), authors can avoid delays in decision-making by submitting to the right journal.

In order to be considered for*J Med Internet Res*, clinical informatics papers should have a clear connections to the major themes in this journal of consumer/patient empowerment and participatory healthcare, and/or evaluate the use of mobile/Internet-based/emerging technologies such as patient portals. Other clinical informatics studies with no relationship to consumer health informatics, or more technical papers are best submitted to [other JMIR journal titles](https://support.jmir.org/hc/en-us/articles/115001442707-Which-journal-titles-are-JMIR-Publications-currently-publishing-Journal-Portfolio-?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304), such as [Interactive Journal of Medical Research (i-JMR, a general medical journal with focus on innovation)](http://i-jmr.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304), [JMIR mHealth and uHealth](http://mhealth.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304), [JMIR Medical Informatics](http://medinform.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304), or [JMIR Human Factors](https://humanfactors.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304).

Machine-learning papers: Machine learning papers are now mostly published in JMIR Medical Informatics (see e-collection [Machine Learning](https://medinform.jmir.org/themes/500-machine-learning?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304)), JMIR Formative Research or JMIR AI, or another sister journal, unless they have reached clinical maturity and are being used and validated in routine clinical use. Our flagship journal J Med Internet Res no longer publishes ML papers unless 1) they show a direct clinical effect or impact on care, 2) are validated using an independent dataset not used for training, 3) are written in a language that can be understood by a healthcare professional, and provide open source or a publicly available tool that can be used by others to validate or apply the findings. We also request that 4) reporting strictly adheres to the "[Guidelines for Developing and Reporting Machine Learning Predictive Models in Biomedical Research](https://www.jmir.org/2016/12/e323/)". Highly technical papers (with mathematical formulas) are unsuitable for J Med Internet Res or this information needs to be provided in a Multimedia Appendix.

Digital psychiatry and digital mental health papers are best suited for [JMIR Mental Health](http://mental.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304) if they are impactful, otherwise JMIR Formative Research publishes early stage work.

Studies related to public health informatics and surveillance systems should preferably be submitted to [JMIR Public Health & Surveillance](https://publichealth.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304). JPHS is also highly selective.

Papers with focus on games in health or gamification aspects of apps and theoretical issues/commentary on gaming are now primarily published in / transferred to [JMIR Serious Games](http://games.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304).

Studies evaluating systematically the quality of health information or present tools for social listening may be best suited for [JMIR Infodemiology](https://infodemiology.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304).

Formative work such as usability studies, pilot studies, and feasibility studies are no longer published in our flagship journals and should be submitted to [JMIR Formative Research](http://formative.jmir.org/?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304).

Protocols and proposals can be submitted to [JMIR Research Protocols](https://www.researchprotocols.org/).

Submitted manuscripts are subject to a rigorous but speedy peer review process. We aim for a standard review time of less than 2 months, and a [review time of 4 weeks for submission to initial decision for fast-tracked papers](https://support.jmir.org/hc/en-us/articles/115001310127-How-to-fast-track-expedite-a-paper-and-what-are-the-benefits-?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304)).

The [review process](https://support.jmir.org/hc/en-us/articles/115004367848-What-does-the-peer-review-process-at-JMIR-journals-look-like-?__hstc=102212634.b2d199ce464b4b72d5e253450f988691.1745696064750.1745696064750.1745696064750.1&__hssc=102212634.1.1745696064751&__hsfp=1966047304) is designed to help authors to improve their manuscripts by giving them constructive comments on how to improve their paper, and to publish only those articles which comply to general quality criteria of a scholarly paper, especially originality, clarity, references to related work and validity of results and conclusions.

### Journal of Medical Internet Research – Public Health and Surveillance

<https://publichealth.jmir.org/>

A multidisciplinary journal that focuses on the intersection of public health and technology, public health informatics, mass media campaigns, surveillance, participatory epidemiology, and innovation in public health practice and research.

<https://ai.jmir.org/themes>

Editor-in-Chief:

**Travis Sanchez, DVM, MPH, Emory University Rollins School of Public Health, USA**

Impact Factor **3.5** CiteScore **13.7**

*JMIR Public Health & Surveillance* (JPHS, Editor-in-chief: Travis Sanchez, Emory University/Rollins School of Public Health) is a top-ranked (Q1) [Clarivate (SCIE, SSCI etc)](https://publichealth.jmir.org/announcements/235), [Scopus](https://publichealth.jmir.org/announcements/220), [PMC/PubMed](https://publichealth.jmir.org/announcements/128), [MEDLINE](https://publichealth.jmir.org/announcements/198), CABI, and EBSCO/EBSCO essentials indexed, peer-reviewed international multidisciplinary journal with a unique focus on the intersection of **innovation and technology in public health**, and includes topics like public health informatics, surveillance (surveillance systems and rapid reports), participatory epidemiology, infodemiology and infoveillance, digital disease detection, digital epidemiology, electronic public health interventions, mass media/social media campaigns, health communication, and emerging population health analysis systems and tools.

In 2024, *JMIR Public Health and Surveillance* received a [Journal Impact Factor™ of 3.5](https://publichealth.jmir.org/announcements/481) (5-Year Journal Impact Factor™: 4.7), ranked **Q1** #84/403 journals in the category Public, Environmental & Occupational Health) (Clarivate Journal Citation Reports™, 2024) and a Scopus [CiteScore of 13.7](https://www.jmir.org/announcements/471), placing it in the 97th percentile (#18/665) as a Q1 journal in the field of Public Health, Environmental and Occupational Health.

JPHS has an international author- and readership and welcomes submissions from around the world.

We publish **regular articles, reviews, protocols/system descriptions and viewpoint** papers on all aspects of public health, with a focus on innovation and technology in public health. [The main themes/topics covered by this journal can be found here.](https://publichealth.jmir.org/themes)

Apart from publishing traditional public health research and viewpoint papers as well as reports from traditional surveillance systems, JPH was one of the first (if not the only) peer-reviewed journals to publish papers with surveillance or pharmacovigilance data from non-traditional, unstructured big data and text sources such as social media and the Internet ([infoveillance](http://www.jmir.org/2009/1/e11/), digital disease detection), or reports on novel participatory epidemiology projects, where observations are solicited from the public.

Among other innovations, JPHS is also dedicated to support rapid open data sharing and rapid open access to surveillance and outbreak data. As one of the novel features we plan to publish **rapid** or even real-time **surveillance reports** and open data. The methods and description of the surveillance system may be peer-reviewed and published only once in detail, in a  "baseline report" (in a *JMIR Res Protoc* or a *JMIR Public Health & Surveill* paper), and authors then have the possibility to publish data and reports in frequent intervals rapidly and with only minimal additional peer-review (we call this article type "Rapid Surveillance Reports"). JMIR Publications may even work with authors/researchers and developers of selected surveillance systems on APIs for semi-automated reports (e.g. weekly reports to be automatically published in JPHS and indexed in PubMed, based on data-feeds from surveillance systems and minimal narratives and abstracts).

Furthermore, during epidemics and public health emergencies, submissions with critical data will be processed with expedited peer-review to enable publication within days or even in real-time.

We also publish descriptions of **open data** resources and **open source** software. Where possible, we can and want to publish or even host the actual software or dataset on the journal website.

## ABSTRACT:

**Background/Intro:** Socialmedia sentiment analysis has become an important method for assessing public perspectives during infectious disease outbreaks and in monitoring the associated public health response. The social media response to the 2022 Mpox outbreak has been analyzed previously, through Twitter, Reddit, and other platform analytics, however, this study provides a 3-year longitudinal view of the 2022-2025 outbreak through public Facebook posts.

**Objective:** A variety of natural language processing, sentiment analysis, and topic modeling approaches are used to evaluate how public sentiment regarding Mpox evolves over time, during the Clade-II outbreak in 2022, the follow-up public health response and renaming of Monkey pox to Mpox in 2022-23, and finally during the second Clade-I global outbreak of 2024-5.

**Methods:** This study leverages a set of 150,848 English language Facebook posts from widely known profiles and pages over the period March 23, 2022, to March 5, 2025. Topic modeling was performed using the BERTopic python package to isolate topics and themes presented within Facebook surface posts. Post responses are not included to preserve respondents’ privacy. To better understand how topics change over time, a Dynamic Topic Modeling analysis is performed over the three-year analysis period. Further, supporting analytics, including cTF-IDF, KeyBERT, MMR, and VADER sentiment, are performed and OpenAI large language models are used to aid in topic interpretation and evaluation.

**Results: Results:** The global outbreak of 2024 was identified as the largest topic (34% of posts), with the largest user reactions to these posts being the ‘like’ or ‘sad’ reactions, with 61% and 15% respectively. Top posts for this topic include advocacy for safer sex practices and vaccinations. During the 2022 outbreak, the two largest topic areas also pertained to Vaccines (21% of posts), and the Mpox outbreak in gay and bisexual men (8% of posts). The 2022-23 renaming of Mpox (from Monkeypox) was also a focus of two topics (~1% of posts, in total), with the ‘haha’ reaction being the highest ranked reaction (76% and 68%), indicating humor was the strongest reaction to the event, despite key words that include references to racism, discriminatory, and stigmatizing behaviors. Other topics identified include geographic areas of case rates, outbreaks and public health responses, including countries with large English-speaking populations, such as Europe, Canada, India, the Philippines, Nigeria, and Pakistan, given the English language posts were analyzed.

**Conclusions:** TheBERTopic topic modeling approach, in complement to other sentiment and key word analyses, provides a useful way to synthesize key themes within social media content and provides an effective surveillance method for infectious diseases such as Mpox**.** Using large language models to summarize topic content provides a useful measure for topic interpretation.

**Keywords:**

**mpox, topic modeling, social media sentiment analysis, large language models, infoveillance, health communication, LGBTQA, gay men, sexuality, vaccines, racism, public health, BERTopic**

## BACKGROUND:

### Topic Modeling and Sentiment Analysis

In 2003, Blei, Ng, and Jordan, introduced Latent Dirichlet Allocation (LDA), a probabilistic, hierarchical Bayesian model that allocates text samples from a corpus into distinct topic groups[1]. LDA has been widely adopted and has been used extensively within social media sentiment analytics to provide an unsupervised method to identify key themes in large amounts of data, including for public health surveillance during the COVID 19 pandemic and the subsequent Mpox global outbreak [2], [3], [4], [5], [6].

Blei and Lafferty expanded on this methodology in 2006 to introduce Dynamic Topic Modeling, as an expansion of LDA to create a dynamic time series model that could track the evolution of topics over time[7]. Dynamic Topic Modeling has also been used in studying the temporal changes in topics for both COVID and Mpox [3], [8].

In early 2020's, unsupervised topic models emerged to take advantage of the contextual understanding enabled with vector-based or BERT-based embeddings. This approach provided the same unsupervised nature of LDA, but without the need to pre-define the number of topics. These modern, unsupervised topic models generally process text samples using pre-trained embedding models, then UMAP to reduce the dimensionality of the embedding data set, and finally HDBSCAN to cluster the data into related topics. BERTopic [9] and Top2Vec [10] are two packaged Python implementations of these approaches. These unsupervised topic models have been applied to Mpox using twitter and reddit data with success [11],

### Evaluating Mpox Social Sentiment Through Topic Modeling:

In follow up to the 2022 Global Outbreak, several follow-on studies were performed regarding social media sentiment around Mpox. In November of 2022, Thakur provided a thorough meta-analysis of previous Mpox research studies as well as an open access set of Twitter (now X) tweet IDs, and set of open research questions [12]. Other specific topic modeling studies include (i) using Twitter and Facebook scraped data, using topic modeling to track LQBTQA sentiment and stigmatization using Latent Dirichlet Allocation[2] (ii) tracking misinformation in public health messaging through Twitter using deep learning techniques, including SBERT, UMAP, and K-Means clustering [3], (iii) tracking Mpox discourse by sexual minority men and gender diverse individuals on Twitter using the BERTopic topic modeling process[13], and (iv) tracking toxicity in social media using Twitter data, also using the BERTopic modeling and associated network analysis of key posters[14]. That said, no Mpox social sentiment study was found that provided data regarding the subsequent follow up period from 2023 to today, with analyzed data periods confined to 2022.

Similar to the findings of Amara, et, al. during the COVID 19 outbreak[6], very few articles have been written analyzing social sentiment for Mpox on Facebook, with the exception being Nia, et al, who relied on building a corpus of scraped, public data from both Twitter and Facebook limited to 2022[2]. In 2024, Pew Research estimated that 68% of adult American adults used Facebook, whereas only 22% used the X (previously Twitter) platform.[15]

Finally, with the emergence of large language models, like ChatGPT from OpenAI, use of LLMs with these topic models has also grown. This study takes advantage of these large language models as an interpreter, to aid in topic labeling and interpretation, thereby enhancing the abilities of modern topic models.

## METHODS:

### META DATA OVERVIEW:

This study leverages Meta data made available as an academic collaborator affiliated with the Inter-university Consortium for Political and Social Research, of the Institute for Social Research at the University of Michigan [16].

This analysis uses publicly downloadable data available through the Meta Content Library [17]. The Facebook public data source is available to qualified research organizations and contains posts from (i) pages with 15,000 or more likes or followers (ii) Posts from public profiles with a verified badge or at least 25,000 followers. Therefore, downloadable public data contains surface posts and post engagement metrics from widely-known individuals and organizations, but does not include the associated post comments.

The data dates started at 03/08/2022 and progressed to 03/22/2025, providing close to three years of data. For this analysis, results are tracked against three ‘analysis year’ periods, starting April 1 and ending March 31st. This lines up nicely to the timing of the first wave of posts in 2022, when the first US case of Monkeypox was confirmed in May 2022, and the follow-on wave of that outbreak. Two terms, ‘Mpox’ and ‘Monkeypox’, were selected as the two main terms that the virus had been widely known as through the time-period under evaluation. Data from ‘English’ language posts was analyzed, however in some cases samples included other languages. Limited pre-processing was done to the raw Facebook posts, however, posts were truncated to 2500 characters to remove larger outliers from the data set.

### MODERN TOPIC MODELING:

The BERTopic package was used as an unsupervised classification mechanism to identify relevant topics within the data. Two topic modeling Python packages are available, BERTopic (2022) [9] and Top2Vec (2020)[10], which both apply a transformer model to generate embeddings from samples, those embeddings are then reduced to lower dimensional space and clustered to generate topics. An overview of the BERTopic process is provided in **Figure 1.** BERTopic was selected over Top2Vec, based on the flexibility of the modeling pipeline to incorporate differing methods, integrations with OpenAI and other LLMs for interpretation, and more robust visualization modules with which to explore the topic modeling results. Egger and Yu provide a useful comparison of BERTopic vs. Top2Vec in their paper using COVID-19 Tweets about flights as an example data set [18].

**Figure 1: Overview of the BERTopic Process**[19]**:**

**A close-up of a chart

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The BERTopic implementation uses the SBERT-based SentenceTransformer module to encode text samples into contextual embeddings [20] , this enables selection from a large number of current embeddings model packages. The ‘paraphrase-multilingual-MiniLM-L12-v2’ and ‘all-MiniLM-L6-v2’ were both tested, which work with BERTopic’s ‘multilingual’ and ‘english’ features, respectively. When ‘multilingual’ is selected within the BERTopic model, the google translate API is used to translate content to the English language for cross-language evaluation. A portion of the sample data included non-English language words and characters, and the multilingual functionality was tested to see whether it would better interpret the full text.

The next step in the BERTopic process is to use UMAP [21] to reduce the dimensionality of the embeddings and then HDBSCAN [8] to cluster the results into specific topics. For the UMAP portion of the process, n\_neighbors was set to 10, which provided nice clustering when embeddings were visualized, balancing global differences and local similarities, while at the same time minimizing the level of unclustered data in an even manner across the time periods being evaluated. Higher neighbors numbers seemed to reduce the amount of data clustered from earlier time periods.

The UMAP minimum distance was set to 0 to encourage tight clustering, and ‘cosine’ was used as the distance measure as is customary in language processing, to preserve the intelligence of the embedding framework which uses cosine similarity to encode the data such that related words or phrases are positioned in proximity according to the same measure. The n\_components measure, which represents the number of UMAP dimensions, was set to 10 with the goal of better encoding variation from the embeddings into the topic modeling clusters. For visualization, dimensions were further reduced to 2-dimensions to aid in plotting the topics against the 2-dimensions, however topic clustering was performed on the 10-dimension data. For the UMAP portion of the topic modeling process, it Is important to set a random seed, so that the Topic results are repeatable from run to run.

HDBSCAN was then used to cluster the UMAP results. HDBSCAN [22] is a density-based clustering algorithm that looks around a given point and connects those points within a given distance proximity. Density-based methods are an improvement over pure distance from a centroid method, such as K-means, in that they better connect neighboring samples and can form irregular shapes versus a pure centroid/shape-based method which would be limited to aligning samples to a centroid shape. The HDBSCAN methodology improves upon DBSCAN [23], its broadly used precursor, in that HDBSCAN can better account for variations densities within a cluster and preserves a hierarchy over how topics may be related to each other [25]. This can be useful in topic modeling to help consolidate related topics, however, this was not used extensively during this analysis.

For HDBSCAN in the Mpox implementation, a minimum cluster size of 200 samples was used to create a floor for the number of clusters that text samples would be assigned, and min\_samples of 100 was selected. This was chosen to limit the topics to a practical number for processing and interpretation, but represents a compromise, in focusing on the dominant topic areas versus uncovering niche areas of sentiment. Excess of mass, or ‘eom’, was selected as the cluster\_selection\_method and ‘euclidean’ was used for distance calculations. The excess of mass method reviews clusters over a range of epsilon (or minimum distance from neighboring point) to ensure cluster stability [25]. Predicted probabilities from HDBSCAN data were returned (prediction\_data = True) and were useful for ranking the level alignment to samples to particular topic areas, as a quality control step to assess topic alignment. Text samples that don’t meet the minimum distance from a related text sample are aggregated in the -1 cluster and are considered ‘unclustered’.

### PARAMETER TUNING RESULTS

**Figure 3** belowshows the levels of unclustered data for differing UMAP and HDBSCAN hyperparameters. Selected hyperparameters were chosen to optimize a composite score of unclustered samples overall, and by analysis year. Note that for larger minimum cluster sizes of 400 and 200, we see a smaller value of unclustered topics overall, however, differing analysis years had better performance. A choice was made to select the higher overall clustering rate, even though a greater percentage of 2024 data would be represented than the percentage of 2023 and 2022 data.

**Figure 3: UMAP and HDBSCAN Parameter Tuning:**  A graph of a graph

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Further when comparing the performance of the ‘multilingual’ vs. ‘english’, and corresponding ‘paraphrase-multilingual-MiniLM-L12-v2’ and ‘all-MiniLM-L6-v2’ embedding models, we see that the ‘english’ embedding models provided lower levels of unclustered samples, **Figure 4**.

**Figure 4: Finetuning Language Embedding Model and Minimum Sample Size:**

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In **Figure 5** below, UMAP dimensions are further consolidated to two dimensions and are plotted for each text sample in the model, the HDBSAN Clusters for the Top 15 topics are then highlighted in color.

**Figure 5: Visualization of Top 15 Meta Mpox Topics: UMAP and HDBSCAN Clustering**

A screen shot of a computer screen

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SUPPORTING ANALYTICS FOR TOPIC RESULTS

Once the topics have been defined, the next phase is to calculate a cTF-IDF matrix to understand the relative importance of key terms within the assigned topic for fine tuning topic areas. First, sklearn CountVectorizer package is used to pre-process the text samples into an array to track word vocabulary occurrence in each sample. For this implementation, samples are tokenized, or separated into words, English language ‘stop words’ are removed, both one- and two-word phrases are tracked (n-grams = (1,2)) and single occurrence words are removed.

The resultant array is then processed in a categorical term frequency, inverse document frequency, or cTF-IDF framework. The cTF-IDF uses a custom implementation of the sklearn TDIFDVectorizer() function to produce key words associated with the clustered topic. In the resultant cTF-IDF measure, the term frequency rewards terms that are present frequently within a given class or topic, while the inverse document frequency term penalizes those terms that are more common across the full group of samples. More details are provided in the **Technical Acknowledgements** section.  
  
Finally, in the ‘Representation Model’ stage of BERTopic, additional analyses are performed to aid in topic interpretation. In addition to the cTF-IDF word frequency matrix, KeyBert and MMR were performed on the samples to give additional key word views for each topic. KeyBert compares embeddings from the words in the samples in the topic to the topic overall and identifies those terms that are most similar based on cosine similarity. MMR, or Maximal Marginal Relevance, is an older method that introduces a ‘diversity’ term, with the goal of adding more ‘diverse’ key words than had been selected previously, while maintaining ‘relevance’.[26] For the sake of brevity, more details on the methods are provided in **Technical Acknowledgements** section, MMR and KeyBert results for each topic can be found in **Appendix 1: Topic Level Overview**.

OpenAI’s gpt-3.5-turbo model was used to summarize each topic in 3-4 words topic labels, using a prompt that contained the text samples that have been selected for that topic and requesting a summary as a response. OpenAI is also used to provide more robust summaries of subsets of documents within the topic to aid in topic interpretation. Prompts used for the analysis can be found in the **Technical Acknowledgements** section.

As a note for reproducibility purposes, OpenAI API use contains stochasticity, so that the topic labels and summaries returned by the API may vary slightly for the same data from call to call. The rest of the BERTopic package analytics can be reproduced consistently from run to run, if one defines random seed parameters appropriately. The use of BERTopic as a foundation with LLMs used as an interpreter, enables a more repeatable, deterministic topic assignment process, while taking advantage of the LLMs to aid in interpretation.

**Appendix 1: Topic Level Overview**, provides a full list of topics for the Meta Mpox Data, including cTF-IDF and KeyBert key word analysis and OpenAI generated topic summaries. Word clouds generated by the cTF-IDF keywords and probabilities are found in **Append 2**. LLM-generated 100-word summaries and text samples for each topic were reviewed to ensure that samples had been assigned appropriately to topic areas, as a method of quality review. These appendices were also used to provide more details regarding interpretation of the topic areas in the results below.

## RESULTS:

### TOPICS OVERVIEW

In **Figure 6**. samples have been clustered into 64 topic areas with 34% of the samples remaining non-clustered. The data period starts on 3/22/22, prior to the declaration of first US cases in May of 2022 and ends on 3/8/2025. During that time period, there were a total of 150,848 posts with ‘Monkeypox’ or ‘Mpox’ as key words (case insensitive). The Top 15 topic areas accounted for 50.6% of the total posts.

**Figure 6: Count of Samples by Topic**

A screenshot of a graph

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In **Figure 7**, we see that the majority of the post samples (72%) occurred during the period Apr 1, 2022 to March 31, 2022 (purple coloring). The analysis year 2024 produced a second peak of data with a second outbreak of cases in the fall of 2024, and accounts for 24% of samples assigned to topics.

**Figure 7: Topics By Analysis Year: April 1 to March 31st.**

A graph of a number of people

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**Figure 8** provides the results for the Top 10 Words that best align to the topic area (based on the cTF-IDF matrix). Several of the topics cover care, including vaccinations (Topic 1), prevention (Topic 4), symptoms (Topic 7) and general questions (Topic 8) for monkey pox as well as overlap with Covid-19 (Topic 15). Specific topics address populations groups such as men, particularly gay and bisexual men (Topic 2) and school children (10). The first topic, Topic 0, addresses the outbreak at a global level and there are several topics that address particular geographies such as India (Topic 3), Philippines (Topic 9) Europe (Topic 12), County-level response (Topic 13), and Nigeria (Topic 14). Topic 6 also appears to address the global outbreak, but in inspecting the key words and underlying data, we see that the topic pertains largely to echoing recommendations or alerts issues by the WHO ‘ world health | health organization’. Note that the geographies covered align largely to countries where English is the predominant language spoken, given we are analyzing Facebook English language posts.

**Figure 8: Table of Top 15 Topics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Topic | Sample Count | % Total Samples | Topic Name | Top Ten Words (cTF-IDF) |
| 0 | 31,853 | 34% | Mpox Global Health Emergency | mpox | health | africa | cases | public | emergency | outbreak | https | mpox cases | public health |
| 1 | 12,031 | 21% | Monkeypox Vaccine Availability | vaccine | monkeypox vaccine | monkeypox | vaccines | doses | vaccination | available | monkeypox vaccines | health | people |
| 2 | 4,618 | 8.0% | Monkeypox outbreak in men | men | gay | sex | sexual | monkeypox | sex men | men sex | bisexual | gay bisexual | lgbtq |
| 3 | 4,503 | 3.1% | Monkeypox Outbreak India | india | kerala | delhi | monkeypox | case | positive | man | reported | hospital | suspected |
| 4 | 3,720 | 3.0% | Monkeypox Prevention Strategies | contact | rash | symptoms | monkeypox | virus | skin | smallpox | fever | person | close |
| 5 | 3,243 | 2.5% | COVID-19 and Infectious Diseases | covid | covid 19 | 19 | pandemic | monkeypox | diseases | health | dr | monkeypox covid | 19 monkeypox |
| 6 | 3,019 | 2.1% | Global Health Emergency | emergency | health emergency | global | global health | health | world health | world | international | monkeypox global | health organization |
| 7 | 2,990 | 2.0% | Monkeypox Outbreak Information | monkeypox | symptoms | virus | monkeypox outbreak | outbreak | know | https | monkeypox virus | questions | monkeypox symptoms |
| 8 | 1,892 | 2.0% | Understanding Monkeypox | monkeypox | know monkeypox | know | monkeypox monkeypox | need know | need | monkeypox need | monkeypox https | https | questions |
| 9 | 1,661 | 1.3% | Monkeypox in Philippines | doh | philippines | case | department health | filipino | department | old filipino | monkeypox | case monkeypox | country |
| 10 | 1,644 | 1.1% | Monkeypox in Schools | children | school | students | parents | schools | kids | monkeypox | child | college | school year |
| 11 | 1,398 | 1.1% | Monkeypox Public Health | health emergency | emergency | public health | monkeypox public | public | biden | biden administration | administration | declared | declared monkeypox |
| 12 | 1,353 | 0.9% | Monkeypox Outbreak Europe | countries | cases | europe | endemic | reported | outbreak | monkeypox | virus | africa | cases monkeypox |
| 13 | 1,232 | 0.9% | Monkeypox Cases in Counties | county | case monkeypox | case | county health | probable | confirmed | health department | monkeypox | probable case | department |
| 14 | 1,147 | 0.8% | Monkeypox Outbreak Nigeria | nigeria | ncdc | nigeria centre | centre | centre disease | cases | control ncdc | states | monkeypox nigeria | disease control |

In **Figure 9** below, the count of samples in 12, roughly quarterly, bins for the Top 15 Topics are displayed. The topics over time are bimodal, with two peaks, one in 2022 and one in 2024, to reflect the two main Monkeypox | Mpox outbreaks. In analysis year 2022, the largest topics pertain to vaccination (Topic 1), men (Topic 2), Indian monkeypox cases (Topic 3). In 2024, Global Mpox Emergency (Topic 0) is the largest topic, which accounts for the majority of content grouped by the model, with few additional topics during that time. This may account for the high level of clustering in 2024 demonstrated during hyperparameter tuning.

**Figure 9: Topics Over Time: Top 15 by Sample Count** A graph with different colored lines

AI-generated content may be incorrect.

### FURTHER EXPLORATION OF SELECT TOPICS:

Several topics were selected to explore further, including the top 3 topic areas by sample volume and an additional topic that represented areas of stigma or potential to uncover areas of politicization. Summaries of the top 20 posts, generated using OpenAI’s GPT 3.5-turbo model, are shown below for each of the selected topics (**Figure 10**).

**Figure 10: Topics of Interest: LLM Summaries for Key Topic Areas:**

|  |  |  |
| --- | --- | --- |
| Topic | Topic Name | Top Post Summary |
| 0 | Mpox Global Health Emergency | The Thanksgiving holiday is a time for men who have sex with men to stay up to date on recommended vaccines. Cases of Mpox (formerly known as monkeypox) have been reported in various countries, including Kenya and Vietnam. Health authorities are advising the public to seek medical advice if experiencing symptoms and to take preventive measures. Organizations like APLA Health and Bavarian Nordic are offering vaccines and treatments for Mpox. The spread of Mpox has led to outbreaks in several countries, prompting health ministries to issue warnings and provide testing and vaccination services. Nigeria has seen a significant number of Mpox cases and deaths. |
| 1 | Monkeypox Vaccine Availability | A study showed that smallpox vaccinations reduce the likelihood of testing positive for monkeypox among military personnel. The trial will assess the safety of a monkeypox vaccine in Kenya. There are concerns about the effectiveness of the Jynneos vaccine, and the urgency of vaccination in NYC due to shortages. The US has the highest number of monkeypox cases, but no plans to share vaccines with Africa. Monkeypox has become a global health emergency, particularly impacting Africa. Tonix Pharmaceuticals will conduct vaccine trials in Kenya. The EU is purchasing 110,000 doses of monkeypox vaccines. Some countries are using smallpox vaccines to combat monkeypox. |
| 2 | Monkeypox outbreak in men | The updated guidance on person-centered HIV care covers immunizations, cancer screening, and STIs including mpox. Important updates on statin use, caring for adolescents, transgender populations, and more are included. Monkeypox has been linked to sexual transmission, with a virulent strain gaining the ability to spread through sex. The outbreak was curbed by behavioral changes among gay and bisexual men, not just vaccination. Most monkeypox cases in Vietnam are among men who have sex with men. WHO experts suggest the outbreaks in Europe and North America were spread via sex at raves. The virus is mainly spread through close contact, including sex. |
| 19 | WHO renaming mpox | The World Health Organization renamed the 'monkeypox' virus as 'mpox' to avoid discrimination and stigma associated with the original name. The outbreak has been mistakenly linked to Africa, but the majority of cases are actually from Europe and the Americas. Public health experts are advocating for the name change to encourage more people to get tested and vaccinated. The new name aims to accurately describe the virus and prevent misconceptions. However, despite the push for a new name, a decision has yet to be made, and the WHO is still considering options to combat stigma and racism surrounding the disease. |
| 23 | Monkeypox renamed to MPOX | The World Health Organization (WHO) has renamed Monkeypox to "mpox" to address concerns about racist and stigmatizing language. Both names will be used for a year before fully phasing out "monkeypox." The outbreak of mpox has been observed in various countries, including Europe and Africa. The decision was made after consultations with experts and the public to combat stigma associated with the disease. The transition aims to eliminate discriminatory language and ensure a more inclusive approach towards the illness. |

The largest topic area, Topic 0: Global Mpox Health Emergency, concerns the most recent outbreak of Mpox in Africa in the analysis year 2024. In **Figure 11**, we see the presence of the terms ‘mpox, ‘cases’ and ‘africa’, in the top 10 most frequent words, normalized for presence in other categories and the word cloud derived from the topic keywords though the cTF-IDF analysis. In the topics over time subplot, the majority of the samples occur after April 2024. User-defined sentiment shows strong engagement with Facebook posts, with ‘likes’ (61%) and ‘sad’ (14.5%) as the top 2 emotions, indicating a level of compassion for others.

**Figure 11: Topic Level Insights: Topic 0: Global Health Emergency:**

Several graphs and charts

AI-generated content may be incorrect.

The second largest topic, Topic 1: Monkeypox Vaccination Availability, predominantly contains text samples at the start of the initial outbreak in the 2022 analysis year (**Figure 12**). Following a large share of ‘Likes’ (47%), ‘Haha’ (40%) was the second largest user sentiment category, indicating a level of humor, or potentially sarcasm.

**Figure 12: Topic Level Insights: Topic 1 Vaccination Distribution**

Several graphs and charts

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The third largest topic was Topic 2: Monkeypox outbreak in men, which includes key words ‘men’, ’gay’, ‘bisexual’ and ‘sex’. The top 2 post sentiments are the general ‘like’ and the more humorous ‘haha’ accounting for 48% and 37% of reactions. This topic shows a peak in 2022, when understanding was emerging that transmission through sexual contact was possible, in particular, for men who have sex with men, and that disease severity was higher for those with existing HIV infections.

**Figure 13: Topic 2: Monkeypox Among Gay Men**

A screenshot of several graphs

AI-generated content may be incorrect.

Finally, **Figure 14** shows data regarding Topic 19: WHO renaming mpox grouped posts and Topic 23: Monkypox to Mpox, both pertaining posts related to the renaming of Monkeypox to Mpox due to the inherent racism of the original virus common name. In both cases, the largest user-defined sentiment category was ‘haha’ indicating respondents found humor in the renaming and joking surrounding the potential names. The key words for Topic 19 include ‘discriminatory’ and ‘stigmatizing’ and both Topic 19 and 23 contain ‘rename’ and ‘racist’ sending a clear description of the topic areas. Topic 19 seems to have a peak in May of 2022, whereas Topic 23 has a peak sample level in September of 2022.

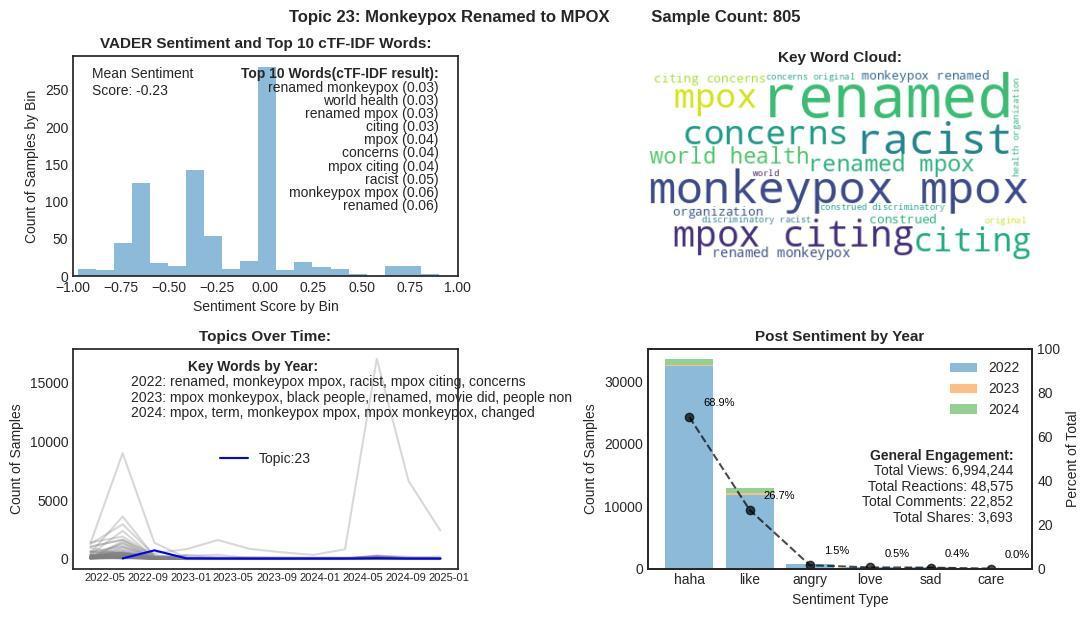
Topics areas like 19 and 23 are similar and may benefit from consolidation, depending on the analytics focus. Looking at the summaries of the topics in **Appendix 1** confirms that topics may be overlapping, with both referencing the World Health Organization.

Note that Topic 0, which is predominantly from 2024 transitions to having ‘mpox’ as the most frequent term, whereas Topics 1 and 2, which were predominantly from 2022, have ‘monkeypox’ as one of the most frequent terms, demonstrating the progression of common usage from monkeypox to mpox to align with the WHO recommendations.

**Figure 14: Renaming Monkeypox to Mpox:**

A close-up of several graphs

AI-generated content may be incorrect.



### AREAS FOR FURTHER EXPLORATION:

While the BERTopic process does an adequate job identifying relevant themes in social media datasets, several challenges exist.

**Challenge 1:** **34% of samples remain unclassified by the model**

A close-up of several graphs

AI-generated content may be incorrect.

As seen above, the unclustered Topic -1 samples span both the first and second wave of activity and account for a high degree of engagement. From the key words, it appears that many of the text samples include generic words that pertain to monkeypox and mpox. While we performed parameter tuning to maximize clustering, the topics should be considered as representative and not appropriate to describe sentiment comprehensively.

**Challenge 2: Samples with low probabilities of being in topic area may introduce noise to the analysis:**

In examining the probabilities of the samples assigned to the topics, we see that often the high probability samples are shorter and more succinct in their messages around Mpox. Longer samples may be less probable, given the diversity of topics covered in the messages.

|  |  |
| --- | --- |
| **Topic 1** |  |
| **Certainty** | **Representative Samples: Samples separated by ||** |
| Top: 0.76 to 1 | *The majority of adults and senior citizens who were vaccinated against smallpox will have no immunity to monkeypox, according to the Department of Medical Sciences. #BangkokPost || In an effort to stretch the limited supply of the Jynneos monkeypox vaccine, federal health officials this week authorized giving smaller doses using a different method of injection. || A vaccine by Danish biotech company Bavarian Nordic has been approved for the prevention of #monkeypox in the United States and Canada. https://bit.ly/3z9d7Wf || The EU is working on centralizing purchases of vaccines and treatments for monkeypox, with details to be agreed in the "coming days," the European Commission said in a report on Thursday. || The emergency use authorization allows doctors to use smaller doses of the monkeypox vaccine Jynneos in order to stretch the vaccine supply.* |
| Mid: 0.51 to 0.75 | *Appointments added! 📣 The monkeypox vaccination clinic at SFU Harbour Centre has plenty of availability for those looking to get their first or second dose of the monkeypox vaccine. Eligible people can book an appointment at: https://vchcdimms.janeapp.com/ || Today in The Download, our daily newsletter: Everything you need to know about the monkeypox vaccines, and how to get and use abortion pills. || It’s like we all just collectively forgot monkeypox was happening. Over 2,100 cases have been diagnosed in the US now. This is not going away like the last time it came here. It’s going to keep getting worse. The outbreak started two and a half months ago and it’s still nearly impossible to get a vaccine outside of a narrow eligibility criteria. This looks miserable, is fatal every once in a while, and it’s gonna ruin your hot girl summer. If you’re eligible for a vaccine, please vaccinate. Graph source: ourworldindata.org. || Monkeypox cases have been reported in 78 countries so far. Although no vaccine has been made official for mass inoculation, US, Canada, European nations have been vaccinating people against the viral disease. || The United States Centers for Disease Control and Prevention (CDC) warned of monkeypox vaccine shortage as the number of cases continue to rise. The health agency also said that it was expecting a rise in cases due to a multitude of factors.* |
| Low: 0.26 to 0.50 | *Kern County Public Health is hosting a monkeypox vaccination event this Sunday, according to a news release from the Kern County Public Health Services Department. https://trib.al/N2OWxru || Dr. Robert Malone: "Just because Monkeypox is related to Smallpox, this does not in any way mean that monkeypox represents a similar public health threat. Anyone who implies otherwise is basically engaged in or otherwise supporting weaponized public health-related propaganda. In other words, spreading public health fearporn." And there's more... ~J <3 || UPDATED 10:50 a.m. Aug. 18: Because of the increased interest, we’re adding MORE appointment slots to today’s special monkeypox vaccination clinic until 5 p.m. at Central Baptist Church, 110 Wilson Downing Road! You must register in advance at www.lfchd.org/monkeypox. The Lexington-Fayette County Health Department will host a special monkeypox vaccination clinic 9 a.m.-5 p.m. Thursday, Aug. 18, at Central Baptist Church, 110 Wilson Downing Road. While monkeypox can pose a risk to everyone, the limited number vaccines at this time means prioritization must be made for those people at highest risk. This clinic is only for men who have sex with men (MSM), including those who identify as gay, bisexual, transgender, gender non-conforming or gender non-binary, with certain risk factors (see below). You do not have to be a Fayette County resident to receive the vaccine. You MUST register in advance at: www.lfchd.org/monkeypox. About 55 appointment slots remain available (as of 10 a.m. Aug. 17). Anyone without internet access or who needs assistance registering can call 859-899-2222. We are experiencing a high number of calls, so there could be an extended wait. [truncated] || This is a look inside the Harris County #Monkeypox Hotline Call Center. They've had 1,317 calls since they opened one week ago today. Residents who have questions regarding testing, vaccinations, and want more guidance, can call (832)927-0707. KHOU 11 News || Can they make the #monkeypox vaccine in a pill form? And ship it out to all who want it ASAP! https://perezhilton.com/matt-ford-california-details-monkeypox-experience/* |

**Challenge 3: The default embeddings for BERTopic do not include support for emoji characters, which may be a driver for higher unclustered sample rates.**

As demonstrated in the text samples above, emojis are present in the text samples. Future investigation of additional embeddings frameworks that are tuned toward emojis may improve clustering and topic results.

**Challenge 4: Meta publicly facing data is skewed toward more publicly held sentiment and does not include the comments in response to posts or posts from individuals who are not widely known.**

Given the skew of the sample toward public profiles and pages with 15,000 or 25,000 followers, respectively, the data may be biased toward sanitized content created for publication versus individual sentiment regarding the topics. Additional insights may be derived from text analysis of response comments to these posts. While post response data is available to researchers, the process to manipulate the data requiring a virtual desktop had limitations, including process complexity, managing parallel code streams, and lack of LLMs as a tool for interpretation. In the interest of time, the public data set was used as it provided key insights on the topics of interest.

## CONCLUSIONS:

Topic modeling provides a useful method with which to group topics into common themes for further investigation and interpretation. Given the encode-cluster-interpret method is unsupervised, it can be useful to quickly classify large amounts of data present in social media data sources like Meta. The integration of LLMs aids in interpretation of the underlying data within the topic and drawing further insights into sentiment. Layering on other methods such as VADER polarity sentiment, keyword analysis, word clouds and frequencies also helps to aid in interpretation of the topic area.

That said, the accuracy of topic modeling results is difficult to assess. Precision classification methods such as direct data training of BERT-based models for classification based on ground truth data sets would be a better choice if the application requires a more precisely evaluated classification accuracy. However, in the case of social media sentiment analysis to support ‘Infoveillance’, topic models and use of LLMs to support interpretation provides a useful way to quickly sift through large amounts of data to uncover key themes and underlying sentiment. These insights can then be used to inform design of more structured interventions and outreach, which might in turn be assessed for more precise accuracy.

## AUTHOR CONTRIBUTIONS:

Erin Rebholz: BERTopic topic modeling process and related analytics, paper write-up; Ananth Pallipuram Ramachandran: Meta data acquisition, LLM modeling and ideation; Jason Ziqi Zhao: data integration, ideation and a cool head; Thomas Brauch and Muthu Venkataraman: general ideation and support.

## TECHNICAL ACKNOWLEDGEMENTS:

**Primary Package Used: BERTopic Documentation:**

**This project relies heavily on the documentation and code provided through BERTopic and as such, many thanks are extended to the developers and maintainers of the code base and associated materials, especially Maarten Grootendorst.**

BERTopic provides a flexible, well-documented Python topic model implementation, that applies text encoding, dimensionality reduction, clustering, then interpretation and fine-tuning of those clusters for interpretation and potential consolidation. **Figure 15** shows that the BERTopic process can accommodate other design choices in addition to the architecture chosen for this project’s implementation.

**Figure 15: BERTopic Flexible Implementation**

A diagram of a block diagram

AI-generated content may be incorrect.

**Image Link:** [BERTopic/images/modularity.svg at master · MaartenGr/BERTopic · GitHub](https://github.com/MaartenGr/BERTopic/blob/master/images/modularity.svg)

**Aboutthedocs:** <https://maartengr.github.io/BERTopic/index.html>

**Github repo:** <https://github.com/MaartenGr/BERTopic>

BERTopic continues to be enhanced with new features added regularly, as of April 2025.

**Key Python Packages Used Within BERTopic:**

**sBERT:** [**https://sbert.net/**](https://sbert.net/)Sentence Transformers (a.k.a. SBERT) is a Python module built to access embedding models with which to create embeddings, or numeric representations based on a common encoding framework that align a text sample against a pre-trained contextual representation of the text data. BERT models use a bi-directional encoding matrix to help track not just the specific word, but the context surrounding the word. The ‘all-MiniLM-L6-v2’ embedding model was used in the presented results as it works better for the predominantly English language posts. The ‘paraphrase-multilingual-MiniLM-L12-v2’ was also reviewed, selected due to the presence of additional non-English languages in the text samples, for better integration with common topics despite language differences. Additional embedding models are available for use on Hugging Face that may be used to be tailored to, for instance, emoji translation coverage, or English language text.

**UMAP:** [**https://umap-learn.readthedocs.io/en/latest/index.html**](https://umap-learn.readthedocs.io/en/latest/index.html)

**HDBSCAN:** [**https://hdbscan.readthedocs.io/en/latest/**](https://hdbscan.readthedocs.io/en/latest/)

Both UMAP and HDBSCAN were developed by the Tutte Institute for Mathematics and Computing, a Canadian government funded research agency which maintains stable version of the UMAP and HDBSCAN Python packages [27], [28].

**CountVectorizer:** [**https://scikit-learn.org/stable/modules/generated/sklearn.feature\_extraction.text.CountVectorizer.html**](https://scikit-learn.org/stable/modules/generated/sklearn.feature_extraction.text.CountVectorizer.html)

Once topics are assigned, the samples from each topic are then processed with more traditional NLP techniques using the sklearn CountVectorizer package. The samples are tokenized to separate words, English stopwords are removed, and then the vocabulary is expanded to track both the words itself as well as two consecutive terms together (n-grams = (1,2). A min\_df = 2 is selected to omit words that have only single occurrences.

**cTF-IDF:** [**https://maartengr.github.io/BERTopic/getting\_started/ctfidf/ctfidf.html**](https://maartengr.github.io/BERTopic/getting_started/ctfidf/ctfidf.html)The BERTopic implementation provides a useful way of evaluating topic level word importance using the TF-IDF framework.BERTopic’s cTF-IDFs framework is calculated as follows:

A screenshot of a math equation

AI-generated content may be incorrect.

1. Calculate the term frequency, tf, of the word or word phrase in a particular class, where Xc is the array returned by the CountVectorizer, filtered for a particular class/topic:

tf = np.squeeze(np.asarray(Xc.sum(axis=0)))

1. Calculate the frequency, f, of word or word phrase, across all classes, where frequency, f, is the sum of the number of times the word or word phrase is seen across all classes of topics, and where, X is the full array returned by the CountVectorizer analysis:

f = np.squeeze(np.asarray(X.sum(axis=0)))

3. Calculate the average number of terms per sample, A, as a regularization term:

A = int(X.sum(axis=1).mean())

4. Calculate the inverse document frequency, idf, normalized by the sample averages. Note: the one is added to ensure non-zero amounts, in case word frequency, f, is zero.

idf = np.log((A / f) + 1)

5. In the Resultant cTF-IDF measure, the term frequency reward terms that are present within a given class or topic, while the inverse document frequency term penalizes those terms that are more common across the full group of samples.

**KeyBert and MMR:** <https://maartengr.github.io/KeyBERT/guides/quickstart.html#max-sum-distance> Both KeyBERT and MMR are other useful methods to evaluate key words associated with topics. KeyBERT leverages the embeddings for each data sample and compares the sample to the full corpus of the topic or category. Cosine similarity is used as the comparison method to extract the terms that have the highest similarity to the topic embeddings.

MMR [26], or Maximal Marginal Relevance, is an older method, that continues to be useful to produce a diversity of key words. In MMR, striking a balance between an item’s relevance and its diversity compared to previously selected items. When picking the top n keywords, the first slot would be awarded to the most relevant, but then the next slot would be weighted between relevance and diversity, as measured by cosine similarity. In the Mpox implementation, ‘diversity’ term was set to 0.3, to give a balance between relevancy and diversity. If the parameter = 1 full weight is given to relevance, and if the parameter = 0, full weight is given to diversity.

**OpenAI:** <https://openai.com/api/> **and** <https://platform.openai.com/docs/overview>: OpenAIs API was used to help summarize and interpret content within the BERTopic process, including auto-labeling each Topic area, and providing 100 word summaries of top posts that align to each Topic area, or subsets of posts from the topics for further sentiment analysis.

**Topic label prompt:**

    prompt = """I have a topic that contains the following documents:

    [DOCUMENTS]

    The topic is described by the following keywords: [KEYWORDS]

Based on the information above, extract a short but highly descriptive topic label of at most 4 words. Make sure it is in the following format:

    topic: <topic label>

    """

**Topic summary prompt:**

prompt = f"Summarize this content in 100 words or less {top\_posts}”

**Matlab.plotpy:** <https://matplotlib.org/> For reporting from the BERTopic module, the Plotly interactive plots available native to BERTopic were refactored to static reports using the matplotlib package, simplifying saving of static reports for future reference, allowing for flexible incorporation of topic meta data and annotation, and enabling aggregation of reports into a single pdf report for insights generation.

**Top2Vec:** <https://github.com/ddangelov/Top2Vec>This package wasn’t used within the base code for this project but materials were assessed for ideas about applications and consistency with the BERTopic implementation.

**Sentiment Packages Used:**

**vaderSentiment:**  <https://vadersentiment.readthedocs.io/en/latest/> VADER, Valence Aware Dictionary and sEntiment Reasoner, is a lexicon and rules-based sentiment analysis method. The vaderSentiment python package uses the VADER method to analyze the amount of positive, neutral, and negative content present within a text sample. A compound sentiment score is then provided, between 1 and -1, to reflect the overall level of positive or negative content within the message, with 0 being considered neutral. VADER has been specifically tuned for social media sentiment analysis[29].

**TextBlob:** <https://textblob.readthedocs.io/en/dev/quickstart.html#sentiment-analysis>

Uses a lexicon-based, or word lookup, approach to calculate the sentiment associated with specific words found in a text sample. Returns two measures, polarity and subjectivity. The polarity range is [-1, 1], where <0 is considered ‘Negative’, >0 is considered ‘Positive’ and then ‘Neutral’ the polarity = 0. A compound score is calculated for the sample. The subjectivity range is [0.0 – 1.0], where 0 is very objective and 1 is very subjective. Subjectivity can be used for how much opinion or conjecture is contained in the sample.

**Additional Use of AI to Support Code Development:**

GitHub CoPilot and Gemini were used within the VSCode IDE and Google Colab IDEs, respectively, to automatically generate code and provide a chat module to support code improvement.

OpenAI’s ChatGPT was used extensively to develop initial frameworks for plots and graphs and then used to enhance those graphs to improve formatting, ChatGPT was also used to improve performance or make basic changes to code snippets.

## META DATA OVERVIEW:

**Key words**: Monkeypox, Mpox (Case Insensitive)

**Data Dates:** 03/22/2022 to 03/08/2024 **Languages:** English only

**Excerpts from Meta Content Library** [30]:  
  
Downloadable public data (from widely-known individuals and organizations)

Data includes the following publicly accessible content:

* Posts from public Pages with 15,000 or more likes or 15,000 or more followers
* Posts from public profiles with a verified badge or 25,000 or more followers
* Information about public Pages and public profiles that meet the above criteria
* Public Pages include both classic Pages and the new Pages experience.

To be included in the downloadable public dataset, profiles must not be locked and must be set to public with a verified badge or 25,000 or more followers. A verified badge in this context refers to accounts confirmed as authentic and not those with a paid Meta Verified subscription. Downloadable public data consists of posts from eligible profiles and Pages to all surfaces, including groups, events and Pages.

**Citations:**

Meta Platforms, Inc., (Month Accessed, Year Accessed). Meta Content Library version v5.0 <https://doi.org/10.48680/meta.metacontentlibrary.5.0>.

**Excerpts from Product Terms for Meta Research Tools** [31]:

2. Definitions

l. “Publication” means works containing the results and findings of the Research and any supporting information You propose to make available externally or to any third party.

m. “Research” means research and innovation programs, including with respect to general social welfare or health and well-being, conducted for non-commercial purposes in the public interest.

n. “Research Output” means the findings and results of Your Research using one or more Research Tools, which may include tables, charts, code, graphs, figures, and statistics. For clarity, Research Output does not include Confidential Information and Personal Data.

3. Access.

a. Meta may disclose Meta Data to You at its sole discretion.

b. Individuals who are interested in receiving access to Meta Data and any Research Tool must submit an application for access through a Meta-approved channel.

c. You will be required to recertify to Meta that You remain engaged in Research for an Approved Purpose and that You are affiliated with an Institution. In the event that You cannot or do not recertify the foregoing, Your access may be terminated immediately.

d. Meta may provide an opportunity to beta test and provide feedback about the Research Tools. Your participation in this test is voluntary and subject to the Beta Product Testing Terms, available at [hhttps://www.facebook.com/legal/BetaProductTestingTerms](https://www.facebook.com/legal/BetaProductTestingTerms) (or a successor URL).

4. Approved Purpose. Meta shall, in its sole discretion, provide You access to the Research Tools in furtherance of conducting Research (the “Approved Purpose”), and for no other purpose whatsoever without the prior written consent of Meta.

5. Data Use.

a. Obligations. You agree to:

i. process Meta Data and access Research Tool(s) solely as is necessary for the Approved Purpose;

ii. comply with the Meta Data privacy and security obligations and restrictions set forth herein, the Meta TOS, and any other applicable terms or policies;

iii. comply with Applicable Law when conducting Research via Research Tools including without limitation ensuring that any Personal Data is processed in compliance with all applicable Data Protection Requirements;

iv. promptly disclose to Meta any conflicts of interest that currently exist or may arise with respect to the Research performed in connection with the Research Tools or Product Terms; and

v. notify Meta in writing as soon as possible if You are no longer affiliated with the Institution on your application, Your research project or topic changes, or You no longer require access to the Research Tool(s).

b. Prohibited Practices. You will not:

i. make any attempt to link de-identified, anonymized, aggregated, or redacted Meta Data to an identifiable individual or process Meta Data for purposes of identifying an individual;

ii. make any attempt to export or download Meta Data outside the Meta-approved environment in which the Meta Data is accessed, unless otherwise allowed by Meta;

iii. make any attempt to combine Meta Data with any other data or datasets, including other Meta Data provided for a Research purpose, and any other data provided by Meta, unless otherwise allowed by Meta;

iv. make any attempt to incorporate the Meta Data (or any portion or derivative work thereof) in any services or products (whether or not intended for a commercial purpose);

v. make any attempt to sell, rent, or commercially exploit any Meta Data (or any portion or derivative work thereof);

vi. “crawl” or “scrape” any Research Tool;

vii. use any Research Tool or Meta Data in connection with the development of a competing product or for benchmarking purposes;

viii. make any attempt to circumvent any privacy or security protections that have been applied to Meta Data, including, without limitation, attempts to de-anonymize, de-aggregate or re-identify Meta Data;

ix. violate or abuse any research, privacy, or security related policy at Your Institution including but not limited to misuse of Institution-provided assets or equipment; or

x. seek patent protection for any patentable inventions conceived or reduced to practice in connection with Research conducted in connection with these Product Terms or assert any patents resulting from Research conducted in connection with these Product Terms against Meta or its products or services.

c. Publication. You may publish Your Research Outputs, **which may include making available information to support such results, to other scholars, researchers, and research organizations for purposes of verifying and reproducing those results, subject to the obligations and restrictions set forth herein**. For clarity, You may not disclose Confidential Information or Personal Data with the exception of Personal Data relating to the subject matter of Your Research that has been disclosed by Meta via the Research Tools. For publications based solely on Meta Data, Meta asks that You make efforts to provide notice to Meta upon publishing any Publications. Submission of drafts for review and notice of publication should be made by emailing research\_publications@meta.com. You acknowledge and agree to comply with any attribution or other publication requirements or guidelines that Meta may make available from time to time. Unless otherwise notified in writing, You shall include the following attribution format of any and all publications and derivative works: “Meta Platforms, Inc., (Month Accessed, Year Accessed). Product Name and Version. Digital Object Identifier.” Except for the foregoing attribution, these Product Terms grant You no right to use the Meta name, trademarks, or other logos or make any statement or act in any manner to imply that Meta endorses, advocates, recommends, or supports any publications.

d. You will make efforts to ensure that any published results and findings from Research are published in Open Access journals or publications consistent with the principles of “Open Science.”

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## MULTIMEDIA APPENDIX 1: TOPIC LEVEL OVERVIEW:

| **Topic** | **Sample Count** | **Topic Name** | **Top Ten Words (cTF-IDF)** | **KeyBERT Key Words** | **MMR Key Words** | **Top Post Summary (OpenAI gpt-3.5-turbo)** |
| --- | --- | --- | --- | --- | --- | --- |
| 0 | 31,853 | Mpox Global Health Emergency | mpox | health | africa | cases | public | emergency | outbreak | https | mpox cases | public health | ['outbreak', 'mpox cases', 'public health', 'health emergency', 'congo', 'disease', 'mpox outbreak', 'world health', 'vaccine', 'health organization'] | ['mpox outbreak', 'mpox virus', 'mpox vaccine', 'mpox vaccines', 'mpox monkeypox', 'mpox', 'declared mpox', 'new mpox', 'mpox cases', 'cases mpox'] | The Thanksgiving holiday is a time for men who have sex with men to stay up to date on recommended vaccines. Cases of Mpox (formerly known as monkeypox) have been reported in various countries, including Kenya and Vietnam. Health authorities are advising the public to seek medical advice if experiencing symptoms and to take preventive measures. Organizations like APLA Health and Bavarian Nordic are offering vaccines and treatments for Mpox. The spread of Mpox has led to outbreaks in several countries, prompting health ministries to issue warnings and provide testing and vaccination services. Nigeria has seen a significant number of Mpox cases and deaths. |
| 1 | 12,031 | Monkeypox Vaccine Availability | vaccine | monkeypox vaccine | monkeypox | vaccines | doses | vaccination | available | monkeypox vaccines | health | people | ['monkeypox vaccine', 'vaccines', 'doses', 'available', 'monkeypox vaccines', 'appointment', 'monkeypox vaccination', 'jynneos', 'doses monkeypox', 'vaccinated'] | ['monkeypox vaccine', 'monkeypox vaccination', 'vaccine monkeypox', 'monkeypox vaccines', 'doses monkeypox', 'vaccine available', 'vaccines available', 'vaccine doses', 'monkeypox', 'vaccine'] | A study showed that smallpox vaccinations reduce the likelihood of testing positive for monkeypox among military personnel. The trial will assess the safety of a monkeypox vaccine in Kenya. There are concerns about the effectiveness of the Jynneos vaccine, and the urgency of vaccination in NYC due to shortages. The US has the highest number of monkeypox cases, but no plans to share vaccines with Africa. Monkeypox has become a global health emergency, particularly impacting Africa. Tonix Pharmaceuticals will conduct vaccine trials in Kenya. The EU is purchasing 110,000 doses of monkeypox vaccines. Some countries are using smallpox vaccines to combat monkeypox. |
| 2 | 4,618 | Monkeypox outbreak in men | men | gay | sex | sexual | monkeypox | sex men | men sex | bisexual | gay bisexual | lgbtq | ['sexual', 'monkeypox', 'men sex', 'gay bisexual', 'lgbtq', 'bisexual men', 'hiv', 'sexually transmitted', 'outbreak', 'sexual health'] | ['monkeypox outbreak', 'monkeypox virus', 'monkeypox gay', 'spread monkeypox', 'monkeypox spread', 'monkeypox cases', 'monkeypox', 'cases monkeypox', 'sexual health', 'gay disease'] | The updated guidance on person-centered HIV care covers immunizations, cancer screening, and STIs including mpox. Important updates on statin use, caring for adolescents, transgender populations, and more are included. Monkeypox has been linked to sexual transmission, with a virulent strain gaining the ability to spread through sex. The outbreak was curbed by behavioral changes among gay and bisexual men, not just vaccination. Most monkeypox cases in Vietnam are among men who have sex with men. WHO experts suggest the outbreaks in Europe and North America were spread via sex at raves. The virus is mainly spread through close contact, including sex. |
| 3 | 4,503 | Monkeypox Outbreak India | india | kerala | delhi | monkeypox | case | positive | man | reported | hospital | suspected | ['monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypoxvirus', 'positive monkeypox', 'tested positive', 'disease', 'health minister', 'monkeypox india', 'suspected monkeypox'] | ['suspected monkeypox', 'monkeypox kerala', 'monkeypox monkeypoxvirus', 'monkeypox india', 'monkeypoxvirus', 'monkeypox virus', 'india monkeypox', 'monkeypox cases', 'monkeypox reported', 'monkeypox delhi'] | Kerala has detected its first case of Monkeypox while a new variant of the chickenpox-causing virus was discovered in India during a study of monkeypox. The outbreak has raised concerns globally, with multiple cases reported in India. Despite this, experts suggest that Monkeypox is not as infectious or fatal as SARS-CoV-2. States like Maharashtra and Delhi have issued guidelines and are taking measures to curb the spread of the virus. It is important to stay informed, cautious, and not fall for misleading information. The WHO has declared Monkeypox a global health emergency, prompting increased surveillance and public awareness. |
| 4 | 3,720 | Monkeypox Prevention Strategies | contact | rash | symptoms | monkeypox | virus | skin | smallpox | fever | person | close | ['rash', 'symptoms', 'virus', 'smallpox', 'fever', 'monkeypox virus', 'lymph nodes', 'infection', 'lesions', 'swollen lymph'] | ['monkeypox virus', 'symptoms monkeypox', 'monkeypox symptoms', 'monkeypox rare', 'monkeypox spread', 'monkeypox', 'monkeypox monkeypox', 'contact infected', 'smallpox', 'infection'] | Monkeypox is a viral illness caused by the Monkeypox virus, which is part of the Orthopoxvirus genus. The virus is primarily transmitted from animals to humans, but human-to-human transmission is also possible. Symptoms of Monkeypox include fever, headache, muscle aches, swollen lymph nodes, rash, and fatigue. The virus can spread through close contact with infected individuals or objects. Monkeypox is not highly transmissible from surfaces, but close contact should be avoided. The disease can present with flu-like symptoms and a rash of raised bumps, similar to smallpox but less severe. Early detection and communication with a healthcare provider are important. |
| 5 | 3,243 | COVID-19 and Infectious Diseases | covid | covid 19 | 19 | pandemic | monkeypox | diseases | health | dr | monkeypox covid | 19 monkeypox | ['covid', 'covid 19', 'monkeypox covid', 'flu', 'polio', 'covid monkeypox', 'vaccines', '19 pandemic', 'infectious', 'outbreaks'] | ['covid 19', 'covid', '19 pandemic', 'covid19', 'like covid', 'coronavirus', 'monkeypox covid', 'covid monkeypox', 'infectious diseases', 'infectious disease'] | The CDC, USDA, and DOI released the National One Health Framework to Address Zoonotic Diseases in the US, emphasizing the importance of the One Health approach in dealing with shared health threats between humans and animals like COVID-19, mpox, and Ebola. Scientists warn that the next pandemic could be a deadly disease originating from animals due to climate change. It is important to leave wildlife alone and seek professional help if needed to avoid risks of getting bitten or spreading zoonotic diseases. With many infectious diseases originating from animals, it is crucial to address the drivers of spillover at the human-animal-environment interface to prevent future pandemics. |
| 6 | 3,019 | Global Health Emergency | emergency | health emergency | global | global health | health | world health | world | international | monkeypox global | health organization | ['health emergency', 'global health', 'health organization', 'monkeypox outbreak', 'emergency international', 'international concern', 'outbreak', 'declared monkeypox', 'emergency committee', 'emergency world'] | ['monkeypox outbreak', 'emergency monkeypox', 'monkeypox declared', 'declared monkeypox', 'monkeypox public', 'declares monkeypox', 'global monkeypox', 'monkeypox', 'monkeypox global', 'global emergency'] | The World Health Organisation has officially declared the Monkeypox disease a global health emergency, activating its highest alert level for the growing outbreak. Monkeypox is a rare viral zoonotic infectious disease transmitted from animals to humans. The WHO's declaration of a global health emergency highlights the urgent need for global attention and resource support to contain the spread of the virus, which has already affected multiple countries. Despite semantics, the actions taken in response to the outbreak are crucial in controlling the pandemic. The declaration underscores the severity of the situation and the need for immediate and coordinated international efforts to address the Monkeypox crisis. |
| 7 | 2,990 | Monkeypox Outbreak Information | monkeypox | symptoms | virus | monkeypox outbreak | outbreak | know | https | monkeypox virus | questions | monkeypox symptoms | ['symptoms', 'virus', 'monkeypox outbreak', 'outbreak', 'monkeypox virus', 'questions', 'monkeypox symptoms', 'monkeypoxvirus', 'bit ly', 'infection'] | ['monkeypox outbreak', 'outbreak monkeypox', 'monkeypox virus', 'monkeypoxvirus', 'monkeypox monkeypoxvirus', 'monkeypox spreading', 'virus monkeypox', 'spread monkeypox', 'risk monkeypox', 'monkeypox'] | Dr. Jai Krishan outlines key symptoms of Monkeypox and shares prevention tips to protect oneself and loved ones from this infectious disease. The outbreak is a growing concern, with unknown capabilities. Symptoms causing confusion among individuals include common signs of Monkeypox. The global outbreak is prompting the need for research and surveillance efforts to understand and combat the virus. Monkeypox is spreading rapidly, and experts emphasize the importance of swift action to prevent further escalation. New symptoms and differences in outbreaks are being discovered, highlighting the urgency for understanding and addressing Monkeypox effectively. |
| 8 | 1,892 | Understanding Monkeypox | monkeypox | know monkeypox | know | monkeypox monkeypox | need know | need | monkeypox need | monkeypox https | https | questions | ['monkeypox', 'know monkeypox', 'monkeypox monkeypox', 'monkeypox need', 'monkeypox https', 'monkey', 'questions monkeypox', 'worried monkeypox', 'facts monkeypox', 'pox'] | ['monkeypox questions', 'monkeypox need', 'monkeypox things', 'know monkeypox', 'monkeypox really', 'monkeypox', 'monkeypox know', 'monkeypox read', 'monkeypox monkey', 'monkeypox just'] | The content includes mixed reactions and discussions about the monkeypox virus, ranging from humorous comments to expert advice and personal fears. Some posts express concern and fear, while others joke about the situation. One post mentions a model catching monkeypox from touching dirty money at a gas station. Overall, the topic of monkeypox is being discussed with a mix of seriousness and humor on social media platforms. |
| 9 | 1,661 | Monkeypox in Philippines | doh | philippines | case | department health | filipino | department | old filipino | monkeypox | case monkeypox | country | ['philippines', 'department health', 'old filipino', 'case monkeypox', 'health doh', 'monkeypox philippines', 'monkeypox case', 'isolation', 'patient', 'documented'] | ['monkeypox detected', 'monkeypox virus', 'monkeypox cases', 'monkeypox philippines', 'documented monkeypox', 'cases monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox country', 'monkeypox'] | The Philippines has detected its first confirmed case of Monkeypox, a 31-year-old Filipino who arrived from abroad in July 2022, with prior travel to countries with documented monkeypox cases. The Department of Health is monitoring the situation and trying to obtain vaccines and medicines. The case does not have a travel history to and from countries with monkeypox cases. Health officials are implementing measures to prevent further spread of the disease in the country. The public is advised to be aware of the symptoms of Monkeypox and take necessary precautions. #Monkeypox #Philippines #HealthDepartment. |
| 10 | 1,644 | Monkeypox in Schools | children | school | students | parents | schools | kids | monkeypox | child | college | school year | ['children', 'students', 'parents', 'schools', 'school year', 'monkeypox children', 'new school', 'toddler', 'children diagnosed', 'covid'] | ['monkeypox children', 'diagnosed monkeypox', 'monkeypox virus', 'monkeypox', 'monkeypox cases', 'positive monkeypox', 'cases monkeypox', 'public schools', 'new guidance', 'pediatric'] | Monkeypox is a virus that poses a risk to children, with higher mortality rates in young children. Colleges and universities are preparing for potential outbreaks as students return to campus, with a focus on prevention and monitoring. Experts emphasize the importance of being informed about monkeypox and taking preventive measures. Schools and childcare settings are advised on how to prevent the spread of the virus. With cases on the rise, education and preparedness are key in mitigating the impact of monkeypox on student populations. Parents and educators are urged to stay vigilant and prioritize safety measures. |
| 11 | 1,398 | Monkeypox Public Health | health emergency | emergency | public health | monkeypox public | public | biden | biden administration | administration | declared | declared monkeypox | ['health emergency', 'public health', 'monkeypox public', 'monkeypox outbreak', 'emergency monkeypox', 'outbreak public', 'declare monkeypox', 'administration declared', 'federal response', 'emergency bolster'] | ['emergency monkeypox', 'monkeypox outbreak', 'monkeypox infected', 'monkeypox declared', 'declared monkeypox', 'monkeypox public', 'declare monkeypox', 'outbreak monkeypox', 'declares monkeypox', 'monkeypox'] | The government has activated public health emergency operation centers across the country after a case of Monkeypox was confirmed in Taita Taveta County. Some individuals question why a state of emergency was not declared for the opioid crisis, which claims over 100,000 lives annually. Declaring Monkeypox a health emergency does not necessarily increase the risk of contracting it. Various states and organizations have declared Monkeypox a public health emergency. There are differing opinions on the necessity of this declaration due to limited knowledge about Monkeypox. The Biden administration plans to change how Monkeypox is referred to and has declared it a public health emergency. Public health efforts are focused on protecting high-risk individuals from contracting Monkeypox. |
| 12 | 1,353 | Monkeypox Outbreak Europe | countries | cases | europe | endemic | reported | outbreak | monkeypox | virus | africa | cases monkeypox | ['endemic', 'outbreak', 'monkeypox', 'virus', 'cases monkeypox', 'monkeypox cases', 'world health', 'monkeypox outbreak', 'central africa', 'monkeypox virus'] | ['monkeypox outbreak', 'monkeypox endemic', 'outbreak monkeypox', 'monkeypoxvirus', 'monkeypox virus', 'europe monkeypox', 'countries monkeypox', 'monkeypox reported', 'monkeypox cases', 'current outbreak'] | There is a global outbreak of monkeypox, with 780 cases reported in 27 countries. The World Health Organization (WHO) is closely monitoring the situation as the virus spreads beyond Africa. Non-endemic countries are also reporting outbreaks, with the US seeing over 9,000 cases. The virus is likely to become endemic in wild animals, making it challenging to control. More than 60,700 cases have been confirmed globally, prompting the WHO to declare a global health emergency. The spread of monkeypox continues to be a significant concern globally, with over 80 countries reporting outbreaks. |
| 13 | 1,232 | Monkeypox Cases in Counties | county | case monkeypox | case | county health | probable | confirmed | health department | monkeypox | probable case | department | ['county health', 'health department', 'health officials', 'king county', 'public health', 'sacramento', 'cases monkeypox', 'cases', 'county confirmed', 'monkeypox county'] | ['county monkeypox', 'monkeypox county', 'monkeypox cases', 'monkeypox identified', 'monkeypox case', 'probable monkeypox', 'cases monkeypox', 'case monkeypox', 'monkeypox confirmed', 'monkeypox reported'] | Multiple cases of monkeypox have been confirmed in various counties, including Fayette, Carroll, Jackson-Madison, Duplin, Cumberland, Broome, Bell, Spokane, Yakima, Clark, Cameron, Columbus, and Walla Walla. Patients are in isolation, and confirmatory testing is pending from the CDC. Monkeypox has been found in these counties without recent travel history, suggesting local transmission. Residents are urged to stay safe and follow public health guidelines. Monkeypox cases are being closely monitored by local health departments to prevent further spread of the disease. |
| 14 | 1,147 | Monkeypox Outbreak Nigeria | nigeria | ncdc | nigeria centre | centre | centre disease | cases | control ncdc | states | monkeypox nigeria | disease control | ['nigeria', 'nigeria centre', 'control ncdc', 'monkeypox nigeria', 'disease control', 'monkeypox', 'cases monkeypox', 'suspected cases', 'death', 'monkeypox cases'] | ['monkeypox nigeria', 'monkeypox cases', 'cases monkeypox', 'outbreak monkeypox', 'monkeypox', 'monkeypox ncdc', 'cases nigeria', 'nigeria recorded', 'nigeria records', 'agency nigeria'] | Since January, Nigeria has confirmed a total of 277 cases of monkeypox, with 6 deaths recorded across 30 states. The Nigeria Centre for Disease Control (NCDC) has been monitoring the spread of the disease, reporting an increase in cases from 21 to 277. The NCDC also confirmed 157 cases in 26 states, with Lagos having the highest number of cases. The outbreak has been declared a global public health emergency by WHO. The NCDC has developed a treatment regime and continues to track new cases across different states in Nigeria. |
| 15 | 1,126 | Monkeypox Cases in Quebec | canada | quebec | cases monkeypox | cases | confirmed | province | ontario | canada confirms | confirmed cases | agency canada | ['cases monkeypox', 'province', 'ontario', 'canada confirms', 'confirmed cases', 'agency canada', 'health agency', 'monkeypox cases', 'https trib', 'monkeypox canada'] | ['monkeypox cases', 'monkeypox quebec', 'canada monkeypox', 'monkeypox canada', 'monkeypox confirmed', 'monkeypox province', 'confirmed monkeypox', 'cases monkeypox', 'case monkeypox', 'monkeypox country'] | Canada has confirmed a total of 1,363 cases of monkeypox, with 38 hospitalizations. The cases are distributed among various provinces, with Ontario having the highest number at 656, followed by Quebec with 515 cases. British Columbia has 150 cases, Alberta has 34, and there are smaller numbers in other provinces. The Public Health Agency of Canada has been monitoring and reporting on the increasing cases of monkeypox across the country. The situation is serious, with multiple hospitalizations and a need for continued vigilance and prevention measures to control the spread of the disease. |
| 16 | 1,042 | Monkeypox Outbreak in Caribbean | guyana | jamaica | case | ministry | case monkeypox | trinidad | caribbean | ministry health | monkeypox | health wellness | ['jamaica', 'case monkeypox', 'ministry health', 'patient', 'dr', 'anthony', 'virus', 'monkeypox virus', 'dr frank', 'monkeypox case'] | ['monkeypox grenada', 'monkeypox virus', 'monkeypox patient', 'monkeypox guyana', 'guyana monkeypox', 'cases monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox', 'jamaica confirmed'] | The lead stories tonight include a man impaled by metal rods after falling from a mango tree, a man remanded for a double murder, over 260 health practitioners trained to treat MPOX in Guyana, 8000 dengue cases recorded in 2024, and the government restarting a dental technician training program. Additionally, Guyana has recorded its first case of Monkeypox, with a 57-year-old man isolated at the Infectious Diseases Hospital. The Caribbean Public Health Agency has not confirmed any Monkeypox cases in the region, and Jamaica is now able to test for the virus. Health authorities in Guyana are preparing to address possible Monkeypox cases and improve the health system. |
| 17 | 979 | Monkeypox State Emergency | state emergency | state | emergency | new york | york | california | emergency monkeypox | newsom | city | san | ['state emergency', 'york', 'emergency monkeypox', 'san francisco', 'declared state', 'health emergency', 'public health', 'monkeypox outbreak', 'mayor', 'disaster emergency'] | ['emergency monkeypox', 'monkeypox state', 'declares monkeypox', 'declared monkeypox', 'monkeypox outbreak', 'state emergency', 'monkeypox cases', 'monkeypox public', 'states emergency', 'monkeypox'] | New York and California are dealing with a surge in monkeypox cases, prompting local emergency proclamations and state of emergency declarations. Cities like New York City, San Francisco, and Pasadena have taken measures to address the outbreak, including education, prevention efforts, and vaccine scheduling portals. The monkeypox emergency in San Francisco is set to end on Oct. 31. Los Angeles County and California as a whole are also grappling with increasing monkeypox cases. The situation has raised concerns about public health and the need for coordinated responses to infectious disease outbreaks. |
| 18 | 912 | Nigerian Political Developments | fg | apc | tinubu | pdp | lagos | nigeria | police | court | buhari | says | ['fg', 'apc', '2023', 'edo', 'govt', 'ogun', 'nigerian', 'atiku', 'strike', 'inec'] | ['nigeria', 'lagos', 'nigerians', 'niger', 'nigerian', 'kaduna', 'abuja', 'ekiti', 'govt', 'ogun'] | The newspaper headlines cover a variety of topics including political challenges, security issues, court cases, economic updates, and regional news. Some highlights include a challenge to Ganduje in Kano, burial of an Oyo monarch's mother, reopening of markets in Abia, probes into salary underpayment in Kano, alerts on Ramadan moon sighting, INEC's neutrality questioned in Rivers crisis, tragic bus crash, a warning from CAN on Muslim-Muslim ticket, health workers' unpaid salaries in Ondo, and ongoing ASUU strike impacting students. The headlines also touch on security concerns, court cases, political developments, and humanitarian issues across Nigeria. |
| 19 | 887 | WHO renaming monkeypox | rename | rename monkeypox | racist | variants | world health | organization | world | health organization | stigmatizing | discriminatory | ['rename', 'rename monkeypox', 'world health', 'stigmatizing', 'renaming', 'virus', 'renaming monkeypox', 'monkeypox virus', 'new names', 'naming'] | ['rename monkeypox', 'renames monkeypox', 'renaming monkeypox', 'names monkeypox', 'disease monkeypox', 'change monkeypox', 'new monkeypox', 'monkeypox new', 'changing monkeypox', 'monkeypox'] | The World Health Organization renamed the 'monkeypox' virus as 'mpox' to avoid discrimination and stigma associated with the original name. The outbreak has been mistakenly linked to Africa, but the majority of cases are actually from Europe and the Americas. Public health experts are advocating for the name change to encourage more people to get tested and vaccinated. The new name aims to accurately describe the virus and prevent misconceptions. However, despite the push for a new name, a decision has yet to be made, and the WHO is still considering options to combat stigma and racism surrounding the disease. |
| 20 | 871 | Monkeypox Case in South Africa | south africa | south | africa | case | case monkeypox | morocco | monkeypox | monkeypox case | cape | year old | ['south africa', 'africa', 'monkeypox case', 'monkeypox south', 'uganda', 'gauteng', 'sa', 'old male', 'cape town', 'minister joe'] | ['monkeypox case', 'cases monkeypox', 'monkeypox south', 'monkeypox sa', 'case monkeypox', 'monkeypox', 'second monkeypox', 'morocco monkeypox', 'monkeypox recorded', 'africa confirmed'] | South Africa has confirmed multiple cases of Monkeypox, including a second case in KwaZulu-Natal and the first case in the Western Cape. The National Department of Health reported a 32-year-old man in Cape Town as the latest patient. The public is advised to seek medical attention if experiencing symptoms. Local transmission is a concern, and the country remains on high alert. This news has sparked attention and concern in South Africa, with authorities monitoring the situation closely. |
| 21 | 834 | Monkeypox Transmission to Pets | dog | dogs | pets | pet | animals | human | household pets | case human | human dog | infected monkeypox | ['pets', 'household pets', 'case human', 'human dog', 'infected monkeypox', 'people infected', 'dog transmission', 'warning people', 'catching virus', 'animals risk'] | ['monkeypox suspected', 'infected monkeypox', 'monkeypox avoid', 'pets monkeypox', 'monkeypox virus', 'dog monkeypox', 'contracted monkeypox', 'caught monkeypox', 'monkeypox stay', 'animals risk'] | A dog in Paris has caught monkeypox from one of its owners, marking the first known case of transmission from a human to a dog. This raises concerns about the virus infecting pets and wild animals. Experts are discussing ways to mitigate the risk of transmission in pets, as this development could potentially establish animal reservoirs outside of Africa for monkeypox. The CDC has issued new guidance regarding the virus in animals, emphasizing the need to isolate pets from individuals who are infected. This case highlights the potential for monkeypox to spread from humans to pets, prompting increased precautions to protect animals from reverse spillover of the disease. |
| 22 | 807 | Monkeypox Outbreak in Pakistan | pakistan | karachi | airport | islamabad | passengers | monkeypox | sindh | nih | saudi arabia | arabia | ['karachi', 'airport', 'passengers', 'monkeypox', 'monkeypox pakistan', 'pk', 'virus', 'institute health', 'patients', 'health nih'] | ['monkeypox pakistan', 'pakistan monkeypox', 'monkeypox virus', 'virus pakistan', 'monkeypox cases', 'cases monkeypox', 'monkeypox case', 'pakistan health', 'case monkeypox', 'monkeypox'] | A third case of monkeypox was reported in Karachi, Pakistan's capital city, at Jinnah Postgraduate Medical Centre. The National Institute of Health confirmed the first cases of monkeypox in Pakistan, raising concerns about potential outbreaks. Cases have also been reported in other provinces, including Khyber Pakhtunkhwa and Punjab. Health authorities are issuing guidelines and working to contain the spread of this rare but serious viral disease. There is a call for adopting protective measures against monkeypox, and the Ministry of Health is implementing vaccination protocols for medical personnel. The WHO has declared monkeypox a global health emergency. |
| 23 | 805 | Monkeypox Renamed to MPOX | renamed | monkeypox mpox | racist | mpox citing | concerns | mpox | citing | renamed mpox | world health | renamed monkeypox | ['renamed', 'monkeypox mpox', 'renamed mpox', 'renamed monkeypox', 'monkeypox renamed', 'citing concerns', 'discriminatory racist', 'organization renamed', 'original decades', 'animal disease'] | ['mpox monkeypox', 'monkeypox renamed', 'renaming monkeypox', 'renamed monkeypox', 'monkeypox mpox', 'rename monkeypox', 'renames monkeypox', 'monkeypox', 'synonym monkeypox', 'renamed mpox'] | The World Health Organization (WHO) has renamed Monkeypox to "mpox" to address concerns about racist and stigmatizing language. Both names will be used for a year before fully phasing out "monkeypox." The outbreak of mpox has been observed in various countries, including Europe and Africa. The decision was made after consultations with experts and the public to combat stigma associated with the disease. The transition aims to eliminate discriminatory language and ensure a more inclusive approach towards the illness. |
| 24 | 775 | Monkeypox Outbreak in USA | monkeypox cases | cases | states | cdc | cases monkeypox | according | centers disease | centers | control prevention | 000 | ['monkeypox cases', 'cdc', 'cases monkeypox', 'monkeypox', 'disease control', 'prevention', '000 monkeypox', 'according cdc', 'florida', 'states according'] | ['monkeypox cases', 'monkeypox reported', 'reported monkeypox', 'cases monkeypox', 'confirmed monkeypox', '000 monkeypox', 'cdc monkeypox', 'monkeypox', 'new monkeypox', 'number monkeypox'] | There have been 28,000 reported cases of monkeypox worldwide, resulting in 11 deaths. In the US, there have been 14,115 confirmed cases and a total of 15,433 cases reported nationwide. The CDC has identified nine cases of monkeypox across seven states, triggering public health action. The cases have been detected in California, Florida, Massachusetts, New York, Utah, Virginia, and Washington. The CDC has not confirmed if all cases are indeed monkeypox. Close contact with body fluids is required to contract the disease. |
| 25 | 752 | Monkeypox Testing Expansion | testing | test | pcr | kit | testing monkeypox | tests | kits | laboratory | monkeypox | commercial | ['testing monkeypox', 'monkeypox testing', 'rt pcr', 'monkeypox test', 'test kits', 'test monkeypox', 'begin testing', 'pcr test', 'monkeypox tests', 'commercial laboratory'] | ['monkeypox testing', 'testing monkeypox', 'monkeypox tests', 'test monkeypox', 'monkeypox test', 'detecting monkeypox', 'detect monkeypox', 'labcorp', 'monkeypox company', 'monkeypox wednesday'] | Kevin Kwong was diagnosed with monkeypox and it took three weeks to confirm with CDC antibody tests. GenScript offers a new Monkeypox Virus Real-time PCR kit for research and surveillance. Chico State WellCath health center will offer monkeypox testing for students. Prof. Priya Abraham stated that only government labs are testing for monkeypox. The World Health Organization declared monkeypox a public health emergency. GenScript offers a ready-to-use Monkeypox Virus real-time PCR testing kit with high sensitivity. India launched the first indigenously-developed RTPCR kit for monkeypox testing. Transasia Bio-Medicals released the first 'Made in India' monkeypox test kit for early detection. Montefiore Einstein created an in-house test for faster monkeypox diagnosis. |
| 26 | 744 | Monkeypox spread in UK | uk | england | uk health | cases | ukhsa | security agency | health security | monkeypox cases | cases monkeypox | security | ['england', 'uk health', 'security agency', 'health security', 'monkeypox cases', 'agency ukhsa', 'cases uk', 'monkeypox england', 'uk monkeypox', 'number'] | ['uk monkeypox', 'monkeypox cases', 'monkeypox uk', 'monkeypox detected', 'monkeypox identified', 'monkeypox virus', 'monkeypox england', 'cases monkeypox', 'monkeypox notifiable', 'monkeypox confirmed'] | A case of Monkeypox has been confirmed in the UK, with a total of 2,859 confirmed or highly probable cases in the country. The outbreak has spread to Essex County, with 45 cases reported there. Two additional cases have been identified in England, and a total of 10 cases have been confirmed in London and Middlesex County. The UK Health Security Agency has been investigating the spread of the virus and implementing prevention measures. The situation is concerning as more cases continue to emerge, prompting health authorities to closely monitor and respond to the outbreak. |
| 27 | 708 | Monkeypox Outbreak Southeast Asia | thailand | phuket | thai | cambodia | monkeypox thailand | bangkok | nigerian | man | thailandnews | thailand monkeypox | ['phuket', 'cambodia', 'monkeypox thailand', 'thailandnews', 'thailand monkeypox', 'nigerian man', 'thaipbsworld', 'phnom penh', 'disease control', 'ddc'] | ['monkeypox thailand', 'thailand monkeypox', 'monkeypox cases', 'monkeypox patient', 'monkeypox thai', 'monkeypox case', 'case monkeypox', 'monkeypox', 'cases thailand', 'thailand reports'] | Thailand has reported several confirmed cases of Monkeypox, with the latest being a 25-year-old woman returning from Dubai. Health officials are conducting screening measures for rashes and fever among international arrivals. Close contacts of confirmed cases are being monitored, but so far, there hasn't been widespread transmission within the country. The Ministry of Public Health is actively involved in managing and preventing further spread of the virus. The cases highlight the importance of vigilant monitoring and public health measures to prevent outbreaks in Thailand. #Monkeypox #Thailand #PublicHealth #Screening #Prevention |
| 28 | 582 | Monkeypox deaths in US | death | texas | died | los angeles | angeles | los | severely | angeles county | severely immunocompromised | immunocompromised | ['died', 'angeles county', 'severely immunocompromised', 'death person', 'diagnosed monkeypox', 'died monkeypox', 'death monkeypox', 'monkeypox death', 'health officials', 'death texas'] | ['monkeypox death', 'monkeypox died', 'died monkeypox', 'diagnosed monkeypox', 'death monkeypox', 'monkeypox', 'monkeypox texas', 'person monkeypox', 'monkeypox local', 'monkeypox played'] | An immunocompromised adult in Texas may be the first reported monkeypox death in the United States, according to local health officials. The Texas Department of State Health Services has confirmed the first death of a person diagnosed with monkeypox in Texas. Both individuals who died had underlying conditions that placed them at a higher risk of severe outcomes from monkeypox infection. Additionally, a second person in Los Angeles County has died from monkeypox, and a suspected monkeypox patient in Malawi has also died. The deaths are a stark reminder of the dangers of monkeypox, especially for those with compromised immune systems. |
| 29 | 564 | Monkeypox Concern in Biden's Administration | biden | joe biden | joe | president joe | president | concerned | biden says | everybody | white house | everybody concerned | ['president joe', 'biden says', 'white house', 'consequential', 'cases concerned', 'monkeypox response', 'federal emergency', 'demetre daskalakis', 'serve white', 'house coordinators'] | ['concerned monkeypox', 'monkeypox cases', 'biden monkeypox', 'cases monkeypox', 'monkeypox outbreak', 'concerned biden', 'monkeypox identified', 'says monkeypox', 'monkeypox everybody', 'monkeypox'] | President Joe Biden is addressing the monkeypox outbreak, expressing concern and emphasizing the need for vigilance. He acknowledges the potential impact of the disease spreading further and states that health officials are working on possible treatments and vaccines. Biden's administration is implementing a pandemic treaty in response to the global health threat posed by monkeypox. Despite supply shortages and pandemic challenges, Biden has created over half a million jobs. There is criticism directed towards Biden for his handling of the monkeypox crisis, but he remains steadfast in addressing the issue. Biden's comments on monkeypox and the actions taken by his administration are under scrutiny and discussion in various media outlets. |
| 30 | 558 | Monkeypox in UAE | uae | ministry | saudi | saudi arabia | arabia | kuwait | ministry health | bahrain | monkeypox uae | arab | ['uae', 'saudi arabia', 'ministry health', 'bahrain', 'monkeypox uae', 'health prevention', 'mohap', 'uae health', 'cases monkeypox', 'uae ministry'] | ['uae monkeypox', 'monkeypox uae', 'monkeypox cases', 'monkeypox detected', 'cases monkeypox', 'monkeypox case', 'uae health', 'case monkeypox', 'monkeypox', 'new monkeypox'] | The Health Ministry in Malaysia has detected the country's first two cases of monkeypox, with one case involving a foreign individual who traveled to a country with reported cases. Dubai hospitals and Abu Dhabi health facilities are enhancing surveillance and investigating potential monkeypox cases. UAE issues alerts and guidelines for healthcare facilities to conduct tests and report suspected cases. Iran also reported its first case of monkeypox in a 34-year-old woman in Ahvaz. The WHO has urged caution after a dog caught monkeypox, prompting India to request the UAE to intensify exit screening for the virus. |
| 31 | 554 | Pakistani News Alerts | pakistan | whatsapp | news | pti | india | channel | page | thailand | pm | headlines | ['pakistan', 'channel', 'thailand', 'punjab', 'khan', 'thai', 'islamabad', 'samaa news', 'weather', 'follow whatsapp'] | ['samaa news', 'samaatv', 'monkeypox punjab', 'aug 2024', 'punjab', 'weather monkeypox', 'samaatv armychief', 'samaa', 'headlines 18', 'islamabad'] | A pharmacy assistant in Malaysia was charged for causing the death of his physically challenged sister. In other news, Prime Minister Narendra Modi praised vaccinators and healthcare workers for achieving a milestone of 200 crore vaccine doses. Heavy floods hit Konaseema and Yanam, while top business stories from the week include updates on markets, inflation, and Vijay Mallya. Monkeypox cases were reported in India, and the Indian contingent for the Commonwealth Games 2022 interacted with the Prime Minister. Various topics such as justice reform, Beti Bachao Beti Padhao scheme, and unparliamentary words were discussed in daily current affairs. |
| 32 | 535 | Monkeypox Outbreak Singapore | singapore | japan | case | malaysia | tokyo | case monkeypox | monkeypox | imported | indonesia | monkeypox case | ['singapore', 'japan', 'malaysia', 'case monkeypox', 'monkeypox', 'imported', 'monkeypox case', 'health ministry', 'south korea', 'monkeypox singapore'] | ['monkeypox singapore', 'singapore monkeypox', 'monkeypox infection', 'monkeypox virus', 'monkeypox cases', 'imported monkeypox', 'monkeypox case', 'cases monkeypox', 'case monkeypox', 'monkeypox southeast'] | The news report covers the discovery of monkeypox cases in various countries, including Malaysia, Macao, Taiwan, and Singapore, as well as efforts to contain the disease and prevent its spread. There is also mention of political decisions and actions taken in response to the monkeypox outbreak, such as restrictions on seafood imports and the installation of early warning systems. The World Health Organization has reported a sharp increase in monkeypox cases in Southeast Asia, highlighting the need for vigilance and preparedness in managing the infectious disease. |
| 33 | 496 | Monkeypox Outbreak in Massachusetts | massachusetts | case | case monkeypox | rare | massachusetts department | rare case | department public | monkeypox massachusetts | man | confirmed | ['case monkeypox', 'massachusetts department', 'rare case', 'monkeypox massachusetts', 'monkeypox', 'massachusetts health', 'massachusetts man', 'monkeypox case', 'confirmed massachusetts', 'virus infection'] | ['monkeypox massachusetts', 'monkeypox virus', 'cases monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox confirmed', 'monkeypox', 'monkeypox man', 'monkeypox year', 'massachusetts reported'] | A man in Massachusetts has been diagnosed with monkeypox, a rare but potentially serious viral illness, marking the first confirmed case in the United States in 2022. The patient has been admitted to Massachusetts General Hospital. Health officials are holding a news conference for more information. Monkeypox is a cousin of smallpox and can be fatal. The Massachusetts Department of Public Health has confirmed the single case of the virus, and state officials are monitoring the situation closely. The Centers for Disease Control and Prevention has labeled the spread of monkeypox as an "outbreak." |
| 34 | 487 | Monkeypox Outbreak Information | nga | sang | sa | ang | mga | ni | pictures | kag | na | ka | ['sang', 'ang', 'kag', 'sang mpox', 'kaso sang', 'sa mga', 'nga kaso', 'isa ka', 'suno sa', 'pungsod'] | ['nga mga', 'sang mga', 'sa mga', 'ang mga', 'nga kaso', 'ini nga', 'nga wala', 'nga', 'una nga', 'kaso sang'] | The content discusses the outbreak of Monkeypox (MPOX) in different countries like South Africa, the Philippines, and other African nations. It highlights the search trends, detection of new cases, and warnings from health authorities regarding the spread of the virus. The World Health Organization (WHO) expresses concern over the sustained outbreak of MPOX in Congo, Burundi, and Uganda. The Department of Health (DOH) in the Philippines reports the first case of MPOX in the country in 2024. Additionally, there are mentions of variant strains of MPOX being detected in India and Germany, with health authorities closely monitoring the situation. |
| 35 | 475 | Monkeypox Public Health | monkeypox | health | https | information | know | public | public health | concern comes | advisory | know monkeypox | ['information', 'public health', 'concern comes', 'expert https', 'questions', 'questions monkeypox', 'health concern', 'health advisory', 'information monkeypox', 'advisory monkeypox'] | ['monkeypox health', 'monkeypox public', 'advisory monkeypox', 'monkeypox ruhealth', 'monkeypox said', 'questions monkeypox', 'monkeypox', 'know monkeypox', 'comes monkeypox', 'monkeypox monkeypox'] | The content includes information about the validity and reliability of an instrument regarding Monkeypox in Peru, offering monkeypox PCR testing at healthcare centers, updates and guidelines from various health organizations, research on monkeypox, public health advisories, studies on the spread of monkeypox, and collaborations for emergency medicine projects related to Monkeypox. It emphasizes the importance of staying informed and taking preventive measures against Monkeypox for both healthcare professionals and the general public. |
| 36 | 435 | Monkeypox in Texas | texas | dallas | dallas county | county | austin | state | case | travis county | cases | travis | ['dallas county', 'travis county', 'monkeypox texas', 'cases texas', 'monkeypox cases', 'monkeypox case', 'texas department', 'county health', 'austin public', 'cases monkeypox'] | ['texas monkeypox', 'monkeypox texas', 'monkeypox cases', 'monkeypox dallas', 'monkeypox case', 'cases monkeypox', 'case monkeypox', 'monkeypox reported', 'monkeypox confirmed', 'confirmed monkeypox'] | Monkeypox cases have been spreading across Texas, with Travis County reporting 176 cases and Dallas County having 348 cases. Austin Public Health has administered 4,000 doses to help stop the spread. Nationwide, there are almost 13,000 cases, with over 1,000 in Texas. Despite Texas not having any known cases, cities like Dallas and Austin are preparing for potential outbreaks by declaring a public health emergency. Vaccines are in short supply, and public health officials are warning residents about the virus as festival season approaches in Austin. Dallas County dealt with its first case almost a year ago and is ready for potential future cases. |
| 37 | 397 | Baby Monkey Playtime | monkeyloren | monkeyloren monkeylola | monkeylola | california ohio | losangeles mexico | usa usarmy | usarmy america | lovely cutemonkey | edshare | ronaldo edshare | ['monkeyloren monkeylola', 'monkeylola', 'losangeles mexico', 'usarmy america', 'monkeys lovely', 'messi ronaldo', 'edshare monkeys', 'monkeylola reelsfb', 'reelsvideo monkey', 'monkeypox fyp'] | ['baby monkey', 'monkeyloren monkeylola', 'monkey', 'baby monkeys', 'monkeylola', 'monkeylola reelsfb', 'monkeys lovely', 'monkey monkeypox', 'monkeys', 'reelsvideo monkey'] | Boosie Badazz is looking for Booty Eaters at his pool party, potentially causing a monkeypox outbreak in Houston. A sad-eyed cat finds a home in New Jersey. Monkeypox is gaining attention, with humorous takes on the virus and baby monkey videos circulating on social media. Videos show monkeys in various situations, such as crying, bathing, climbing trees, and drinking milk. Despite the lighthearted content, some videos depict monkeys in distress, highlighting the complexities of wildlife interaction and the need for compassion towards animals. |
| 38 | 371 | Monkeypox Virtual Townhall | town hall | hall | town | virtual | live | virtual town | monkeypox town | podcast | join | watch | ['town hall', 'town', 'live', 'virtual town', 'monkeypox town', 'podcast', 'townhall', 'www', 'county', 'hall monkeypox'] | ['monkeypox townhall', 'monkeypox town', 'monkeypox virtual', 'virtual monkeypox', 'hall monkeypox', 'discuss monkeypox', 'monkeypox', 'live monkeypox', 'hear monkeypox', 'town hall'] | Various organizations and individuals are hosting virtual town hall discussions on Monkeypox, aiming to educate the public on prevention, testing, and vaccination. This includes Ga-Rankuwa FM, NCDHHS, Montgomery County, and local healthcare leaders. Podcast episodes and live conversations are also available on platforms like Spotify and Zoom. The focus is on providing updated information and answering community questions about Monkeypox. The discussions cover symptoms, prevention measures, and the latest updates on the virus. Tune in to these events to stay informed and learn how to stay safe and healthy. |
| 39 | 339 | Monkeypox cases in Australia | australia | nsw | queensland | case | case monkeypox | sydney | victoria | returned | 7news | man | ['nsw', 'queensland', 'case monkeypox', 'sydney', 'nsw health', 'monkeypox', 'melbourne', 'australian', 'returned europe', 'monkeypox detected'] | ['monkeypox nsw', 'monkeypox detected', 'monkeypox rare', 'monkeypox case', 'case monkeypox', 'monkeypox', 'nsw health', 'queensland health', 'infection', 'rare viral'] | Victoria has detected a new case of monkeypox, the first in six months, while Australia is working to go cashless. Queensland and South Australia have also reported cases of monkeypox, with health authorities taking proactive measures but stating low public health risk. Monkeypox cases have doubled in Victoria, triggering a renewed public health warning. Additionally, a data breach in Western Australia leaked personal details of passengers on a flight with a monkeypox-infected individual. Overall, Australian health authorities are on high alert due to the spread of monkeypox, with cases reported in multiple states. |
| 40 | 331 | monkeypox-related deaths in Europe | spain | brazil | death | monkeypox related | related death | related | outside | outside africa | rio | spain reported | ['monkeypox related', 'outside africa', 'spain reported', 'deaths', 'current outbreak', 'spain brazil', 'sÃ£o paulo', 'reported monkeypox', 'brazil reported', 'death europe'] | ['monkeypox deaths', 'monkeypox death', 'monkeypox spain', 'reported monkeypox', 'monkeypox brazil', 'death monkeypox', 'report monkeypox', 'outbreak spain', 'monkeypox related', 'spain reported'] | The State Department of Health of Rio de Janeiro confirmed the first death from monkeypox in the state, with a 33-year-old man succumbing to the disease. This marks the second death from monkeypox in Brazil. Additionally, Spain and Brazil have each reported a death from monkeypox, the first outside Africa. Monkeypox has also claimed lives in other countries like Spain, India, and Belgium. The virus has two groups, with different lethality rates. Spain and Brazil are taking measures to address the outbreak, with Spain reporting its second monkeypox-related death. The virus has become a global health emergency, prompting urgent responses worldwide. |
| 41 | 325 | Global Monkeypox Outbreak | countries | cases | cases monkeypox | 12 countries | monkeypox cases | confirmed | 80 | reported | 12 | confirmed 12 | ['cases monkeypox', 'monkeypox cases', '80 cases', 'cases confirmed', '000 cases', 'countries reported', 'monkeypox reported', 'cases reported', 'suspected cases', 'monkeypox 20'] | ['monkeypox cases', 'cases monkeypox', 'monkeypox detected', 'monkeypox reported', 'reported monkeypox', 'monkeypox confirmed', 'confirmed monkeypox', 'countries monkeypox', 'monkeypox', '000 monkeypox'] | Monkeypox cases have been confirmed in California, Sweden, Egypt, Japan, South Korea, China, and across Europe, with over 40,000 cases reported globally since early May. The World Health Organization (WHO) is monitoring the situation, with suspected cases being investigated in various countries. The total number of cases continues to rise, with over 26,000 cases detected worldwide across 87 countries. The situation is concerning, and a Public Health Emergency of International Concern (PHEIC) alert may soon be warranted by the WHO. The spread of monkeypox is a significant issue, with more cases likely to be reported in the future. |
| 42 | 306 | Wastewater Disease Tracking | wastewater | testing | track | wastewater surveillance | sewage | wastewater testing | researchers | testing wastewater | covid | wastewater monkeypox | ['wastewater', 'wastewater surveillance', 'wastewater testing', 'testing wastewater', 'wastewater monkeypox', 'monkeypox wastewater', 'monitoring', 'detected wastewater', 'started testing', 'covid 19'] | ['wastewater epidemiology', 'wastewater monkeypox', 'wastewater surveillance', 'monkeypox wastewater', 'testing wastewater', 'detected wastewater', 'wastewater testing', 'wastewater', 'wastewater samples', 'wastewater monitoring'] | Wastewater surveillance has been proven useful in tracking diseases like COVID, monkeypox, and more. Researchers suggest expanding this surveillance to track other diseases such as dengue, malaria, Zika, and typhoid. Funding for wastewater surveillance has not been consistent, leading to pauses in data collection. The technique has also been used to monitor the spread of diseases like monkeypox. Cities like Philadelphia have been using wastewater testing to track diseases, but data is not always informing policy decisions. Wastewater surveillance is being adapted for monitoring the spread of diseases like monkeypox across different communities. |
| 43 | 303 | Monkeypox Quarantine in Belgium | quarantine | belgium | belgium country | 21 | introduce | 21 day | country introduce | monkeypox quarantine | compulsory | isolate | ['quarantine', 'belgium country', 'monkeypox quarantine', 'compulsory', 'monkeypox patients', 'quarantine monkeypox', 'isolate 21', 'day quarantine', 'self isolate', 'contacts monkeypox'] | ['quarantine monkeypox', 'monkeypox quarantine', 'monkeypox belgium', 'country quarantine', 'quarantine global', 'mandatory monkeypox', 'quarantine period', 'monkeypox patients', 'mandatory quarantine', 'monkeypox cases'] | The Ministry of Health is conducting contact tracing to quarantine individuals who interacted with the first case of Monkeypox in the country. Quarantine measures are being implemented in various places, including Iloilo province and Pittsburgh. Despite being vaccinated, individuals are still being placed in quarantine if they are exposed to Monkeypox. Belgium has introduced mandatory 21-day quarantine for those with Monkeypox, with other countries also reporting outbreaks. The WHO has warned of more cases, particularly in Europe, and children are at higher risk of severe illness. Overall, efforts are being made globally to control and prevent the spread of Monkeypox. |
| 44 | 303 | Monkeypox Update | right america | monkeypox right | patch | right | know monkeypox | america | know | monkeypox | swissin | http swissin | ['right america', 'monkeypox right', 'patch', 'monkeypox', 'http swissin', 'plus app', 'swi', 'bunkers', 'including latest', 'android'] | ['know monkeypox', 'monkeypox know', 'monkeypox', 'monkeypox right', 'patch', 'plus app', 'latest', 'including latest', 'app', 'swi plus'] | Across America Patch provides updates on monkeypox, summarizing all current information. |
| 45 | 295 | Monkeypox treatment concerns | drug | tecovirimat | antiviral | tpoxx | treat | treat monkeypox | antiviral drug | treatment | drug available | available treat | ['tecovirimat', 'tpoxx', 'treat monkeypox', 'antiviral drug', 'treatment', 'drug available', 'mutation virus', 'tecovirimat tpoxx', 'monkeypox', 'treatment monkeypox'] | ['treat monkeypox', 'treating monkeypox', 'monkeypox antiviral', 'monkeypox treatment', 'treatment monkeypox', 'treatments monkeypox', 'patients monkeypox', 'monkeypox infection', 'monkeypox virus', 'monkeypox mutate'] | Clinical trials for the antiviral drug tecovirimat, approved for smallpox, are underway to treat monkeypox in the Democratic Republic of the Congo and Malaysia. Studies have shown tecovirimat ineffective against monkeypox virus clades. Other potential treatments like TRANILAST are being explored. The University of Oxford is conducting trials on tecovirimat to aid in monkeypox recovery. However, limited data and supplies pose challenges, and regulators are requiring more evidence before approving the drug. Compassionate access to tecovirimat for severe cases is being debated. Access to this treatment remains difficult, hindering its widespread use for monkeypox patients. |
| 46 | 285 | Monkeypox Outbreak in Ghana | ghana | ghana health | ghs | health service | service | service ghs | accra | greater accra | recorded | regions | ['ghana', 'ghana health', 'health service', 'service ghs', 'cases monkeypox', 'ghana records', 'western greater', 'ghana recorded', 'accra regions', 'recorded cases'] | ['monkeypox ghana', 'monkeypox cases', 'monkeypox disease', 'cases monkeypox', 'monkeypox regions', 'case monkeypox', 'monkeypox', 'ghana health', 'outbreak ghana', 'cases ghana'] | Ghana has recorded cases of Monkeypox, with four deaths and 116 confirmed cases in 2022. The Ghana Health Service is urging the public to protect themselves from contracting the disease. The diseases in Ghana, including Monkeypox, COVID-19, Marburg virus disease, and Lassa fever, are zoonotic. The Ghana Association of Medical Laboratory Scientists is calling for improved COVID-19 testing labs to target Marburg. There have been suspected cases of Monkeypox in Greater Accra. It is important to take precautions and stay informed to prevent the spread of Monkeypox in Ghana. |
| 47 | 274 | Live Video Updates | live | com au | com | au | www | latest | video | https | radio | ll | ['com au', 'radio', 'll', 'news', 'seminar', 'https www', 'live events', 'facebook', 'live video', 'kpfa org'] | ['covid', 'video update', 'news', 'live events', 'monkeypox', 'tonight video', 'timely information', 'au', 'com au', 'latest'] | The content includes various topics such as the latest news on monkeypox, updates on elections, interviews with members of the band Blue, Rupert Murdoch's actions, updates on the Russia-Ukraine war, and government responses to monkeypox outbreaks. It also covers information on speed camera rules, justice victories, Senate votes on same-sex marriage, and reactions to news events by Dave Rubin. Additionally, there are discussions on government appointments, campaigns for governor, conservative viewpoints, and health officials' responses to monkeypox outbreaks. |
| 48 | 273 | Mandatory Face Mask Policy | masks | mask | wearing | wear | face masks | face | covid | covid 19 | 19 | wear masks | ['masks', 'face masks', 'covid 19', 'wear masks', 'cdc', 'alert level', 'mphs', 'wear mask', 'wearing mask', 'mask protect'] | ['wear masks', 'wear mask', 'face masks', 'wearing mask', 'face mask', 'mask protect', 'mask wearing', 'masks', 'protect covid', 'need mask'] | Canada is pushing for mask mandates and tracking, with Chief Public Health Officer Theresa Tam advising everyone to be prepared. Monkeypox is also a concern, with experts discussing the importance of wearing masks in hospitals and for protection against the disease. The Pan American Health Organization recommends mask-wearing and social distancing as the festive season approaches. COVID-19 precautions are effective against monkeypox, which is showing a decrease in new cases. It is emphasized to continue wearing masks and practicing social distancing to prevent the spread of both COVID-19 and monkeypox. |
| 49 | 268 | Monkey Reels Animallovers | reels | monkey | reelsfb reelsviral | animallovers | reels reelsfb | monkeylife monkeypox | monkeylove monkeyface | monkeypox monkeylove | lover | monkeyface monkeys | ['reelsfb reelsviral', 'animallovers', 'reels reelsfb', 'monkeypox monkeylove', 'monkeyface monkeys', 'reelsviral monkey', 'monkey monkeylife', 'reelsfb', 'reelsviral', 'monkey animals'] | ['reelsviral monkey', 'monkeypox monkeylove', 'monkeylove monkeyface', 'monkey monkeylife', 'monkeylove', 'monkeybaby monkeypox', 'monkeylife monkeypox', 'monkey', 'monkeyface monkeys', 'monkeybaby'] | This content repeatedly mentions hashtags related to monkey lovers, reel videos, animal lovers, monkey life, monkey pox, monkey love, monkey face, monkeys, and viral reels on social media platforms. The focus is on showcasing videos or content related to monkeys for entertainment or educational purposes, targeting audiences interested in animal videos. |
| 50 | 257 | Public Health Emergency Management | sierra | sierra leone | leone | npha | public | national public | sl | health | health agency | sahr | ['sierra leone', 'leone', 'sl', 'health agency', 'public health', 'foday sahr', 'freetown', 'ministry health', 'npha gov', 'government sierra'] | ['leone mpox', 'sierra leone', 'confirms mpox', 'public health', 'health agency', 'outbreak', 'npha gov', 'leone', 'mpox', 'leone confirms'] | Sierra Leone is taking proactive measures to protect against the spread of Mpox, with health authorities confirming no cases but remaining vigilant. There have been urgent calls for action to secure the country against Mpox, a viral disease that can have serious health implications. Despite rumors on social media, Sierra Leone has reported no confirmed cases of Mpox, and the government is prepared to respond swiftly if any cases arise. The Executive Director of the National Public Health Agency assured the population that surveillance has been intensified at all border points to prevent an outbreak. |
| 51 | 255 | Philippine News Highlights | pna | ph | marcos | duterte | philippines | classes | pnagovph | rappler | deped | school | ['pna', 'ph', 'marcos', 'duterte', 'philippines', 'classes', 'students', 'manila', 'www rappler', 'schools'] | ['pna gov', 'visit pna', 'pna newsroom', 'www pna', 'watch pna', 'pna website', 'pna', 'pnagovph pna', 'share pna', 'pna twitter'] | The 2025 academic year in Uganda started on February 3rd with challenges like low student attendance and concerns about Ebola and Mpox outbreaks. JFCU is working to address these issues to improve access to education. Some schools defied the national calendar and opened a week earlier, causing further disruptions. The low student turnout is a recurring problem that needs to be addressed. The concerns about Ebola and Mpox are impacting the education landscape in Uganda, highlighting the need for intervention and support to ensure a successful academic year. |
| 52 | 254 | Monkeypox Outbreak in Iberia | spain | portugal | cases | portuguese | dgs | cases monkeypox | confirmed | monkeypox cases | total | monkeypox | ['cases monkeypox', 'monkeypox cases', 'monkeypox', 'confirmed cases', 'health dgs', 'monkeypox portugal', 'spain portugal', 'infection monkeypox', 'spain health', 'health authorities'] | ['infection monkeypox', 'monkeypox portugal', 'monkeypox virus', 'monkeypox cases', 'cases monkeypox', 'spain monkeypox', 'monkeypox spain', 'confirmed monkeypox', 'finds monkeypox', 'monkeypox'] | Colombia navy seized 6,600 pounds of cocaine in a high-speed boat chase in the Caribbean Sea. Spain has over 6,000 confirmed cases of monkeypox, with the highest rates in Europe. Portugal has 710 confirmed cases and the US has become the global epicenter of the monkeypox outbreak. Spain is struggling to control the spread of the virus. Recommendations on preventing the spread of monkeypox are being issued by health authorities.Brazil has recorded nearly 1,000 cases of monkeypox. |
| 53 | 248 | Monkeypox Investigation Broward | florida | broward | broward county | florida department | county | presumptive | south florida | presumptive case | case | case monkeypox | ['broward county', 'florida department', 'case monkeypox', 'monkeypox', 'florida health', 'monkeypox broward', 'health officials', 'county florida', 'monkeypox investigated', 'health broward'] | ['monkeypox investigated', 'monkeypox cases', 'monkeypox florida', 'florida monkeypox', 'monkeypox reported', 'monkeypox case', 'cases monkeypox', 'presumptive monkeypox', 'case monkeypox', 'monkeypox broward'] | The OC Health Care Agency reported three probable cases of monkeypox in Orange County, the first since April 2023. While case counts are lower this year, monkeypox cases continue to be reported in Southern California and across the country. In Florida, Marion County has low transmission risk, while Broward and Miami-Dade counties are the epicenter of the outbreak. Statewide, Florida has over 1,000 infections, with Central Florida having the third most confirmed cases in the US. Various counties in Florida have reported monkeypox cases, and prevention measures are being shared to help curb the spread of the virus. |
| 54 | 243 | Monkeypox in Europe | france | belgium | case | germany | case monkeypox | czech | sweden | monkeypox | denmark | confirms | ['germany', 'czech', 'sweden', 'switzerland', 'european north', 'confirms case', 'detecting disease', 'nations detecting', 'france belgium', 'cases monkeypox'] | ['monkeypox virus', 'monkeypox cases', 'cases monkeypox', 'confirmed monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox', 'monkeypox joining', 'disease endemic', 'detecting disease'] | Germany has reported its first case of a new variant of Monkeypox, the virus that caused a major outbreak in the Democratic Republic of Congo. Denmark also reported its first case of Monkeypox in a woman, while Belgium and France have seen an increase in cases. A hotline has been established in Brussels for information on Monkeypox. The Czech Republic and Montenegro have also reported cases. The virus is spreading, and misinformation is circulating online. Germany and France have seen cases in children, and Belgium is ramping up its vaccination campaign. France has confirmed 51 cases of Monkeypox. |
| 55 | 237 | Monkeypox Outbreak in Carolina | carolina | north carolina | south carolina | north | dhec | nc | south | cases monkeypox | cases | carolina department | ['carolina', 'north carolina', 'south carolina', 'nc', 'cases monkeypox', 'carolina department', 'monkeypox north', 'confirmed cases', 'monkeypox south', 'weather'] | ['monkeypox infection', 'monkeypox identified', 'monkeypox cases', 'monkeypox north', 'cases monkeypox', 'monkeypox south', 'case monkeypox', 'confirmed monkeypox', 'monkeypox', 'monkeypox women'] | Monkeypox cases are on the rise in North Carolina, with over 100 confirmed cases, including cases in Mecklenburg County. South Carolina has reported 72 cases. State prisons have not reported any cases yet, but are preparing for the virus. An infectious diseases expert predicts many more cases in South Carolina. Health officials are warning people to take precautions against monkeypox, with the virus most commonly spread through close skin-to-skin contact. North Carolina state health officials are actively monitoring and responding to the outbreak, while UNC has developed a test to quickly diagnose the illness. |
| 56 | 231 | Global Monkeypox Outbreak | deaths | reported | deaths reported | cases | 000 | countries | cases monkeypox | 000 cases | monkeypox cases | world | ['deaths', 'deaths reported', '000 cases', 'monkeypox cases', 'world health', 'monkeypox', '75 countries', 'monkeypox deaths', 'reported africa', 'deaths monkeypox'] | ['monkeypox deaths', 'deaths monkeypox', 'monkeypox cases', 'monkeypox worldwide', 'monkeypox reported', 'reported monkeypox', '000 monkeypox', 'cases monkeypox', 'confirmed monkeypox', 'monkeypox'] | Dr. Rajan highlights potential risks of monkeypox outbreak, with most fatalities under 15 years old. The World Health Organization reports over 35,000 cases of monkeypox in 92 countries, with twelve fatalities. Health Minister Joe Phaahla confirms the fifth case in Gauteng, contributing to a global total of 11 deaths and over 28,000 cases. The WHO states over 35,000 cases and 12 deaths worldwide, with a recent 20% increase. Monkeypox has spread to numerous countries and territories, with no deaths in the US but over 7,000 cases. African countries are also experiencing a significant number of cases and deaths related to monkeypox. |
| 57 | 221 | Italian Man Health Issues | hiv | man | monkeypox hiv | positive | italian man | italian | hiv time | 36 year | covid | monkeypox covid | ['hiv', 'monkeypox hiv', 'italian man', 'hiv time', 'monkeypox covid', '19 hiv', 'covid 19', 'tested positive', 'positive monkeypox', 'covid hiv'] | ['monkeypox hiv', 'hiv monkeypox', 'positive hiv', 'tested positive', 'monkeypox covid', 'covid hiv', 'covid monkeypox', 'hiv covid', 'diagnosed monkeypox', 'testing positive'] | Multiple cases of individuals being diagnosed with both Monkeypox and Covid-19, along with underlying conditions such as HIV, have been reported in Italy, Germany, and Peru. The co-occurrence of these viruses in patients with compromised immune systems has resulted in severe reactions, including fatalities. A 36-year-old man in Italy is the first documented case of being diagnosed with Covid-19, Monkeypox, and HIV simultaneously. These cases highlight the importance of monitoring and treating individuals with underlying health conditions to prevent severe outcomes. |
| 58 | 219 | False claims on social media | today historic | westminster dog | emergency sports | considers monkeypox | monkeypox fbi | search mar | fbi search | lago | mar lago | westminster | ['today historic', 'westminster dog', 'emergency sports', 'considers monkeypox', 'monkeypox fbi', 'fbi search', 'facts social', 'false claims', 'mourns', 'week monkeypox'] | ['monkeypox fbi', 'considers monkeypox', 'monkeypox health', 'monkey monkeypox', 'monkeypox fyp', 'false claims', 'monkeypoxsymptoms monkeytype', 'monkeytype monkeypox', 'week monkeypox', 'monkeyart monkeyattacks'] | False claims circulating on WhatsApp and Telegram include that monkeypox isn't a real virus, Russian war propaganda targeting Hispanic voters in the U.S., and unfounded assertions that the FBI raid of Mar-a-Lago was ordered by President Biden. Social media users have been spreading these false claims, and it's important to separate fact from fiction. |
| 59 | 219 | Monkeypox Outbreak in Georgia | georgia | prevention georgia | atlanta | according centers | monkeypox according | confirmed | metro atlanta | centers disease | georgia case | georgia confirmed | ['prevention georgia', 'monkeypox according', 'georgia confirmed', 'case monkeypox', 'monkeypox georgia', 'disease control', 'georgia department', 'confirmed cdc', 'cases monkeypox', 'cases georgia'] | ['monkeypox georgia', 'georgia monkeypox', 'monkeypox cases', 'cases monkeypox', 'monkeypox case', 'monkeypox virus', 'monkeypox according', 'monkeypox state', 'case monkeypox', 'monkeypox confirmed'] | Georgia is experiencing a significant increase in Monkeypox cases, with over 1,000 reported cases, ranking the state fourth in the nation for the virus. The Centers for Disease Control and Prevention (CDC) has confirmed over 9,000 cases of Monkeypox in the US, with Georgia accounting for a significant number. Health officials are closely monitoring the outbreak and providing tips on prevention. The rising number of Monkeypox cases in Georgia, along with a resurgence in COVID-19, is raising concerns among residents and visitors. The state is seeing a substantial increase in Monkeypox cases, with over 700 reported cases, surpassing 1,000 for the first time. |
| 60 | 213 | Topic: Health Committee Preparedness | na | sa | dengue | ang | ng | covid | covid 19 | 19 | mga | po | ['sa', 'dengue', 'ang', 'covid 19', 'senate', 'committee health', 'healthcare', 'iii dr', 'status', 'nurse'] | ['committee health', 'pandemic', 'covid 19', 'vaccination updates', 'covid', 'health', 'dengue situation', 'vaccination', 'diseases', 'dengue'] | Senator Bong Go urges public vigilance against monkeypox in the Philippines to prevent cases. Health authorities conduct information drives on preventive measures for monkeypox, dengue, and other diseases. Public health briefings emphasize staying vigilant and implementing preventive measures to combat diseases. Various lectures and updates on emerging infectious diseases like monkeypox and dengue are provided to health staff and community members. Authorities in different countries are prioritizing discussions on monkeypox, dengue, and malaria outbreaks. World Vision distributes hygiene kits to combat dengue and monkeypox threats in communities. COHSOD meetings highlight the urgent need for collective action against rising disease cases. |
| 61 | 211 | Global Monkeypox Emergency | previously | strain | ib reached | previously contained | contained democratic | emergency convened | committee amid | reached previously | strain previously | concerns deadlier | ['emergency convened', 'unaffected countries', 'congo news', 'africa strain', 'virus clade', 'deadlier strain', 'declared ongoing', 'strain virus', 'attributed monkeypox', 'clade ib'] | ['mpox outbreak', 'outbreak africa', 'ongoing mpox', 'outbreak global', 'africa strain', 'mpox', 'declares mpox', 'outbreak', 'strain virus', 'global health'] | The World Health Organization declared the ongoing mpox outbreak in Africa a global health emergency, as a deadlier strain of the virus had spread to four previously unaffected countries. This strain, clade Ib, was previously contained in the Democratic Republic of Congo. The situation prompted WHO to convene an emergency committee to address the escalating threat in Africa. |
| 62 | 205 | Monkeypox Transmission Symptoms | mpx | mpxv | contact | symptoms | mpv | monkeypox mpx | sexual | skin | rash | risk | ['mpx', 'mpxv', 'monkeypox mpx', 'rash', 'risk', 'provider', 'sexual health', 'develop symptoms', 'contact mpx', 'mpx symptoms'] | ['mpx symptoms', 'monkeypox mpx', 'monkeypox mpxv', 'monkeypox', 'mpx', 'au monkeypox', 'contact mpx', 'mpxv', 'rash', 'infection'] | Monkeypox is a viral infection that can be transmitted through close contact with infected persons or animals. Symptoms include fever, headache, rash, and swollen lymph nodes. People at risk include sexually active individuals, pregnant women, children, elderly persons, and those living with HIV. Close contacts of infected individuals may be contacted for monitoring. Prevention includes reducing the number of sexual partners and seeking medical advice for symptoms. Vaccination is recommended for high-risk individuals. Public health authorities are preparing for potential cases. Monitoring and isolation protocols are in place for confirmed or suspected cases. Stay informed and seek medical attention if needed. |
| 63 | 204 | Monkeypox at Summer Events | festivals | summer | gatherings | gatherings festivals | events | event | festival | decadence | canceled | officials countries | ['gatherings festivals', 'event', 'festival', 'canceled', 'countries warned', 'southern decadence', 'warned monkeypox', 'summer festivals', 'skin contact', 'orleans'] | ['monkeypox concerns', 'monkeypox cases', 'getting monkeypox', 'warned monkeypox', 'spread monkeypox', 'monkeypox', 'cancelled monkeypox', 'canceled monkeypox', 'outbreak instead', 'summer festivals'] | Organizers of LGBTQ events like Southern Decadence in New Orleans are canceling concerts due to concerns about the monkeypox virus. The Bourbon Street Extravaganza, a popular free concert, was canceled over monkeypox fears. This comes after the cancellation of other events like the Halloween Carnaval in West Hollywood due to COVID-19, monkeypox, and security concerns. The rise in monkeypox cases, especially among LGBTQ individuals, has led to decisions to prioritize safety by canceling events. The larger six-day Southern Decadence festival in New Orleans will still take place, but some events within it have been canceled to mitigate the risk of monkeypox outbreaks. |
| 64 | 203 | Monkeypox Cases in Virginia | virginia | presumed | west virginia | virginia department | presumed case | case monkeypox | case | northern virginia | monkeypox virginia | west | ['west virginia', 'virginia department', 'presumed case', 'monkeypox virginia', 'virginia monkeypox', 'presumed monkeypox', 'virginia woman', 'virginia https', 'commonwealth', 'total centers'] | ['monkeypox virginia', 'presumed monkeypox', 'virginia monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox woman', 'monkeypox', 'monkeypox count', 'monkeypox west', 'virginia health'] | Virginia currently has 122 cases of monkeypox, with over 7,500 cases nationwide. Camille Seaton was the first known Georgia woman to contract the virus, and health officials and students are on high alert as colleges and universities prepare for the fall semester. Dr. Cynthia Morrow provided updates on the risks of monkeypox in southwest Virginia. West Virginia also has multiple cases of monkeypox. The Virginia Department of Health is actively tracking cases, with 105 confirmed cases as of Monday. Experts advise caution despite Virginia's lower case numbers compared to other areas. West Virginia has confirmed and probable cases of monkeypox. Governor Justice mentioned the challenges in getting people vaccinated and announced a third monkeypox case in the state. |
| -1 | 51,126 | Monkeypox Global Outbreak |  | ['monkeypox', 'outbreak', 'virus', 'disease', 'monkeypox cases', 'cases monkeypox', 'case monkeypox', 'covid', 'public health', 'monkeypox outbreak'] | ['monkeypox outbreak', 'monkeypox virus', 'monkeypox cases', 'cases monkeypox', 'monkeypox case', 'case monkeypox', 'monkeypox', 'outbreak', 'covid 19', 'covid'] | Equality NC and the North Carolina Department of Health are hosting a virtual town hall on Monkeypox testing and treatment. Monkeypox cases have been confirmed in Hungary, with the first case in a 38-year-old man. Virology expert Joe Osmundson discusses Monkeypox and other topics on the House of Mystery Radio Show. If you suspect Monkeypox, separate from others and get screened. Hungary has also reported a new Monkeypox case. Additionally, France has reported over 1,700 Monkeypox cases. Stay informed and sign up for events to learn more about Monkeypox and its testing and treatment. |

## MULTIMEDIA APPENDIX 2: TOPIC WORD CLOUDS BASED ON cTF-IDF:

A collage of words

AI-generated content may be incorrect.A collage of words

AI-generated content may be incorrect.A close-up of several words

AI-generated content may be incorrect.