

# Qualitative Analysis of Twitter Data on Attitudes of Men Who Have Sex with Men Related to Long-Acting Injectable PrEP

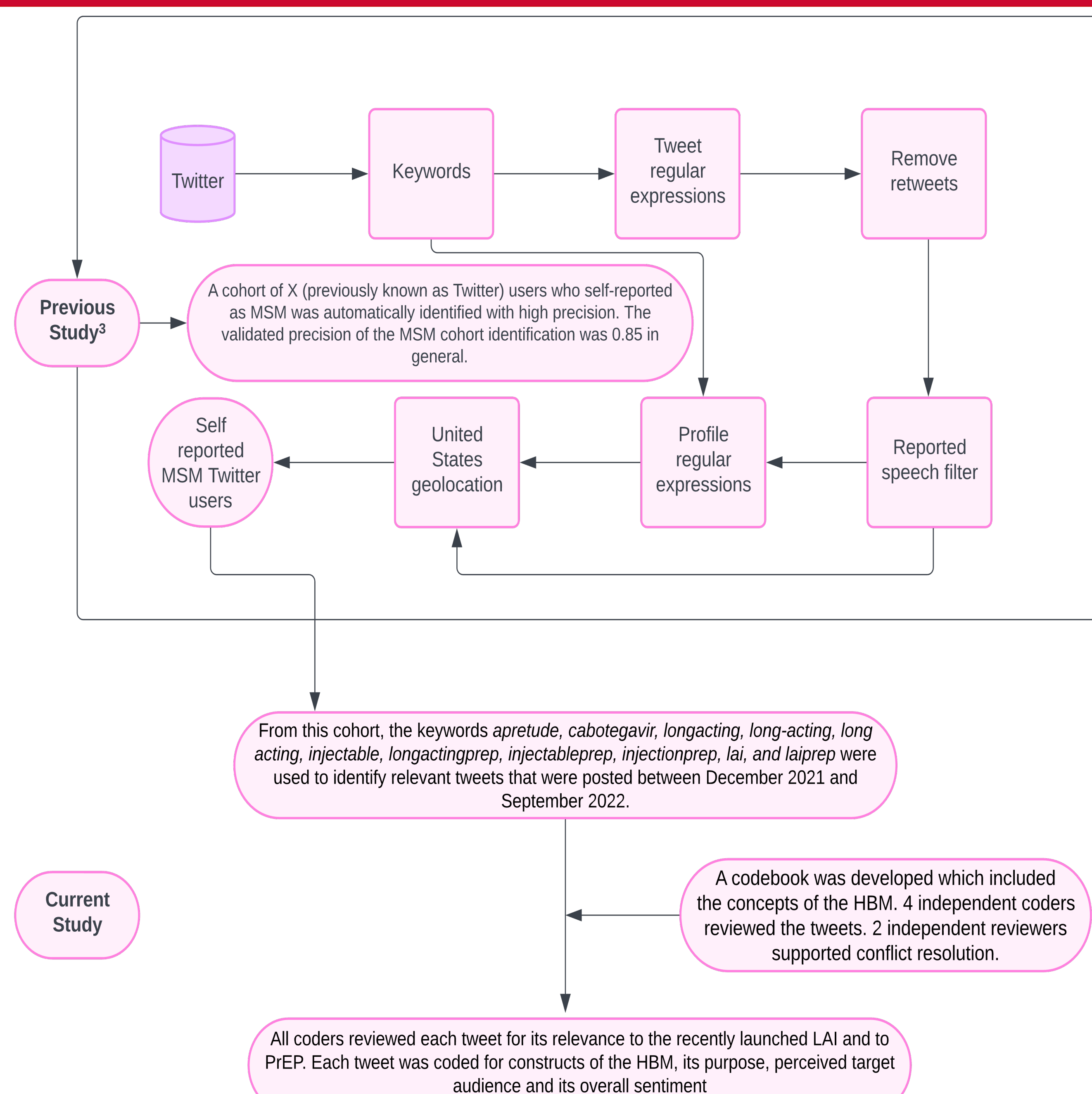
## Background

- Pre-exposure prophylaxis (PrEP) is recommended as a novel biomedical human immunodeficiency virus (HIV) prevention tool for key populations. The burden of HIV is disproportionately high among men who have sex with men (MSM).<sup>1</sup>
- While studies have used social media as a source of data regarding the attitudes of MSM toward PrEP, they have not included long-acting PrEP (LAI-PrEP), which was more recently approved in December 2021.
- LAI-PrEP may hold promise in solving some disadvantages of oral PrEP in terms of access, retention, and adherence.
- The Health Belief Model (HBM) posits that one's beliefs about health-related problems, perceived benefits and barriers to taking action, and self-efficacy determine whether one would engage in a certain health-promoting behavior.<sup>2</sup>

## Objective

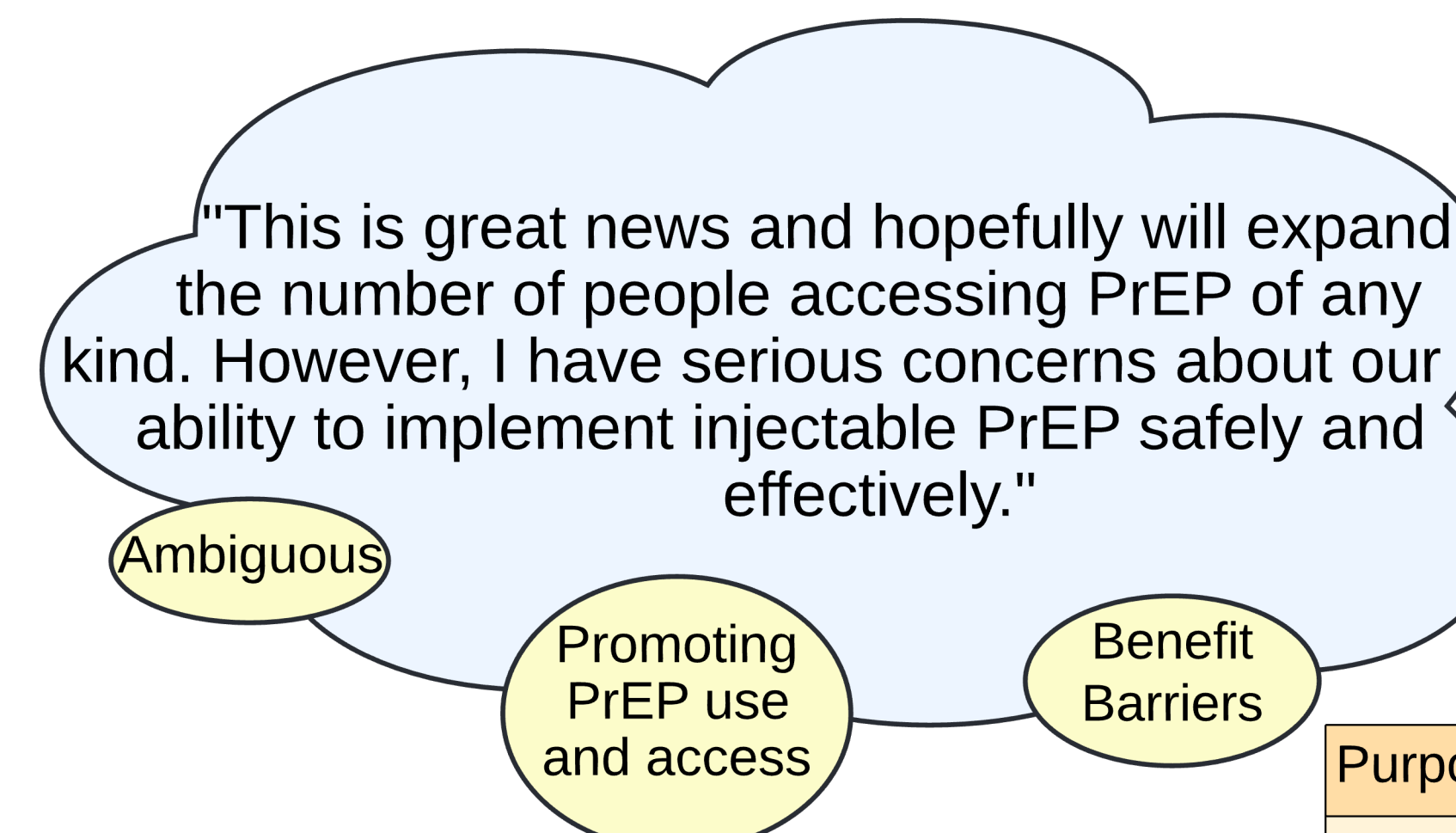
This study aimed to evaluate content about MSM and LAI-PrEP shared through Twitter. In addition, we examined characteristics of Tweet sentiment, user engagement, and theoretical constructs from the Health Belief Model (HBM) present in identified tweets.

## Methods



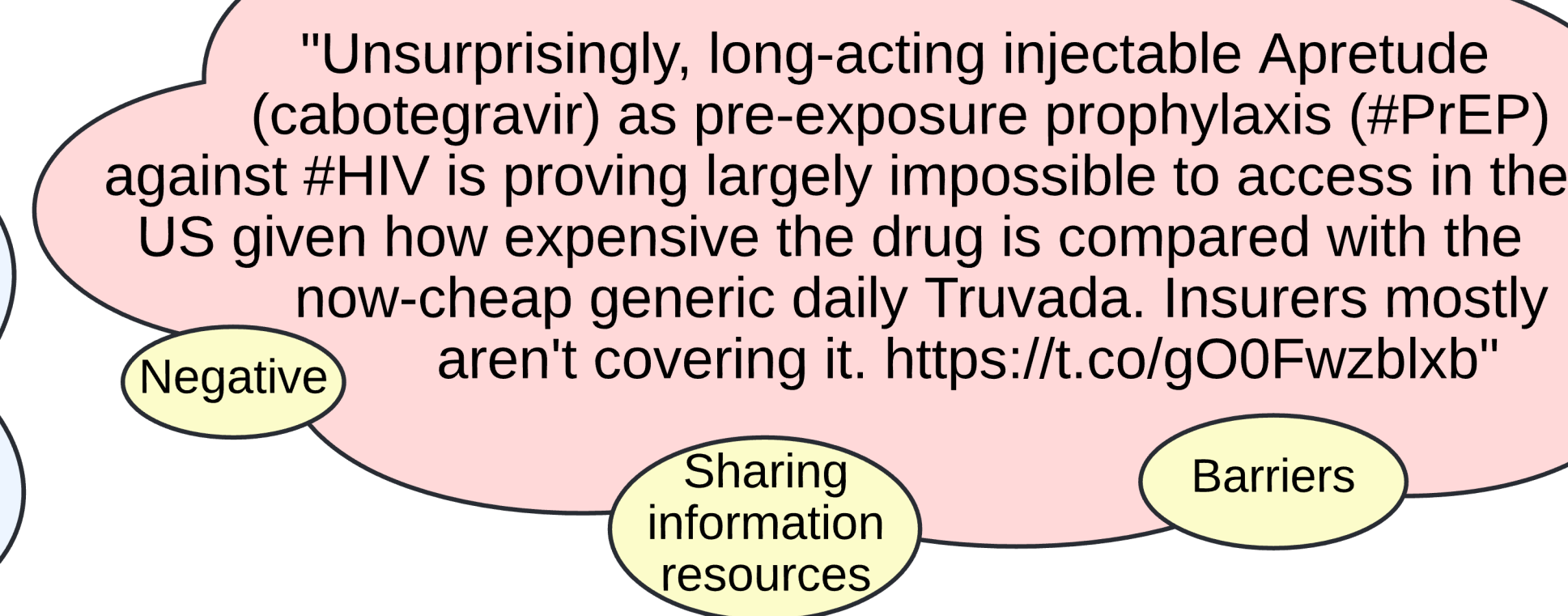
## Results

➤ Of the 179 posts reviewed, 42 (23.4%) tweets from 31 users had at least one of the keywords and were relevant.



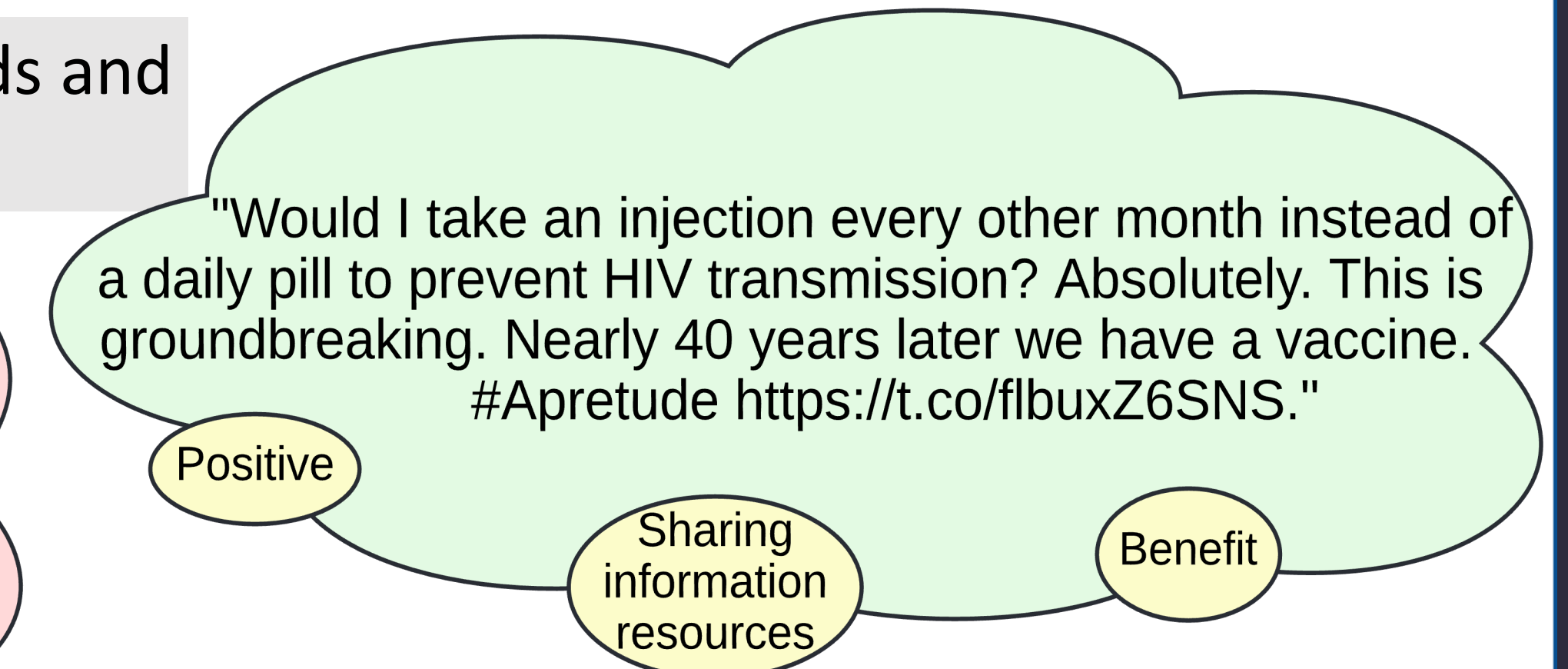
| Sentiment | Tweets, n (%) |
|-----------|---------------|
| Positive  | 24 (57.1)     |
| Negative  | 9 (21.4)      |
| Ambiguous | 9 (21.4)      |

Table 1 – Sentiments Analysis



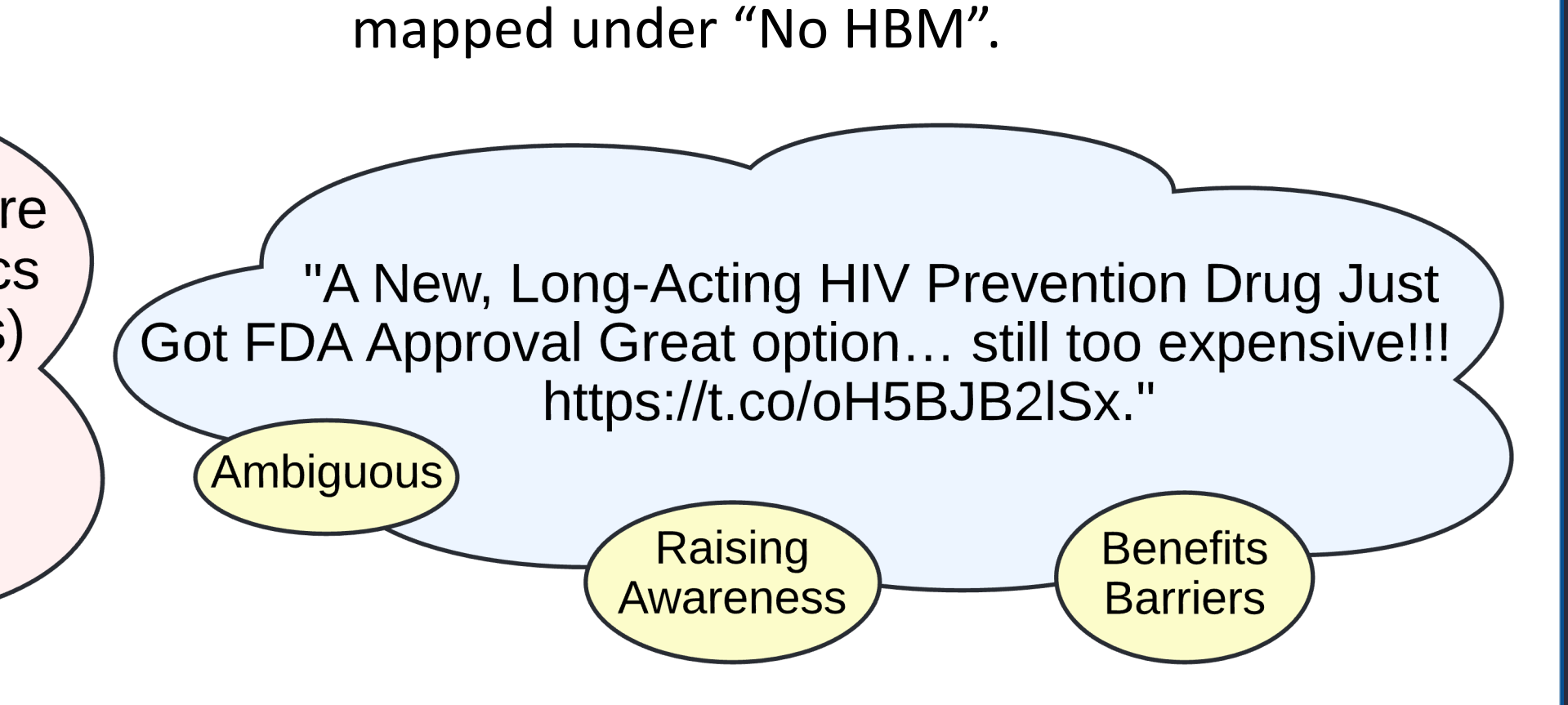
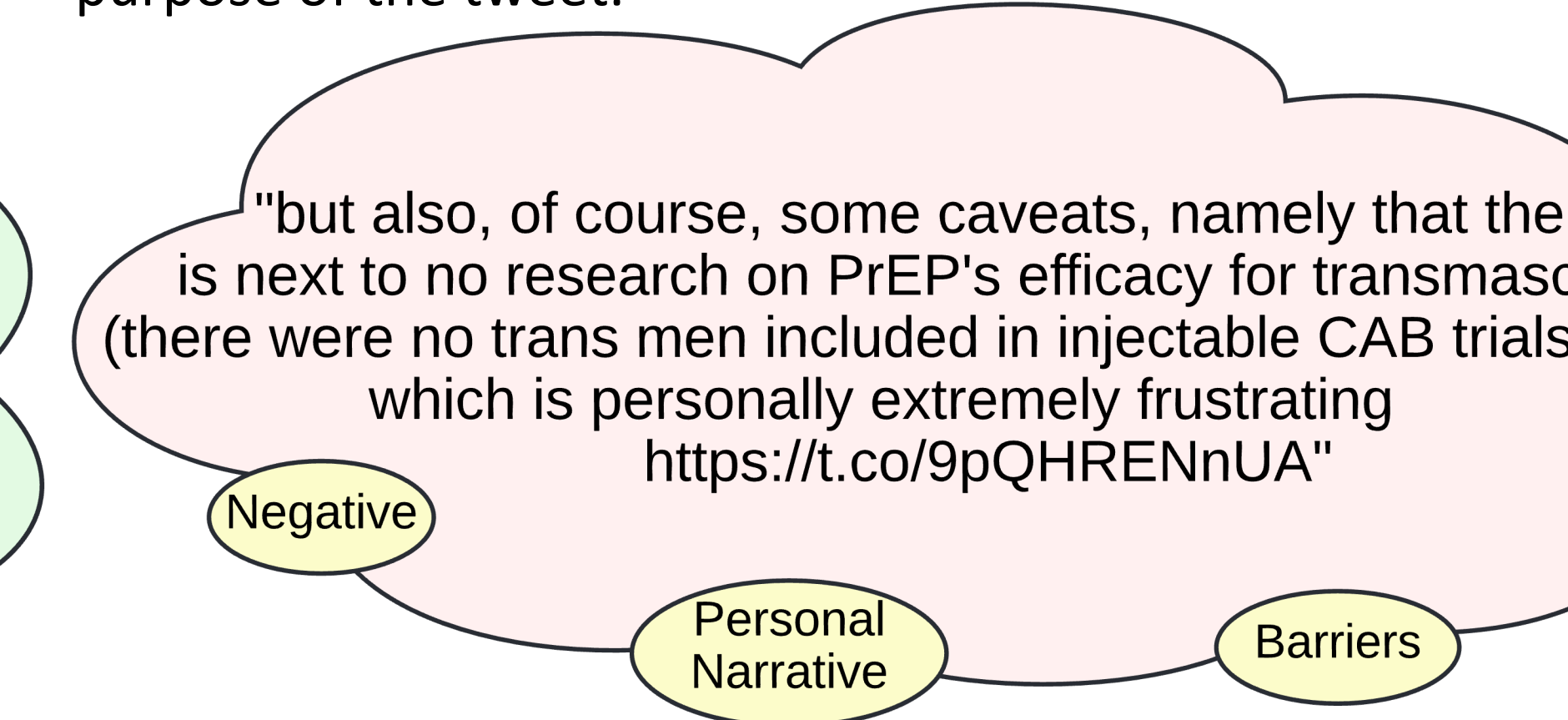
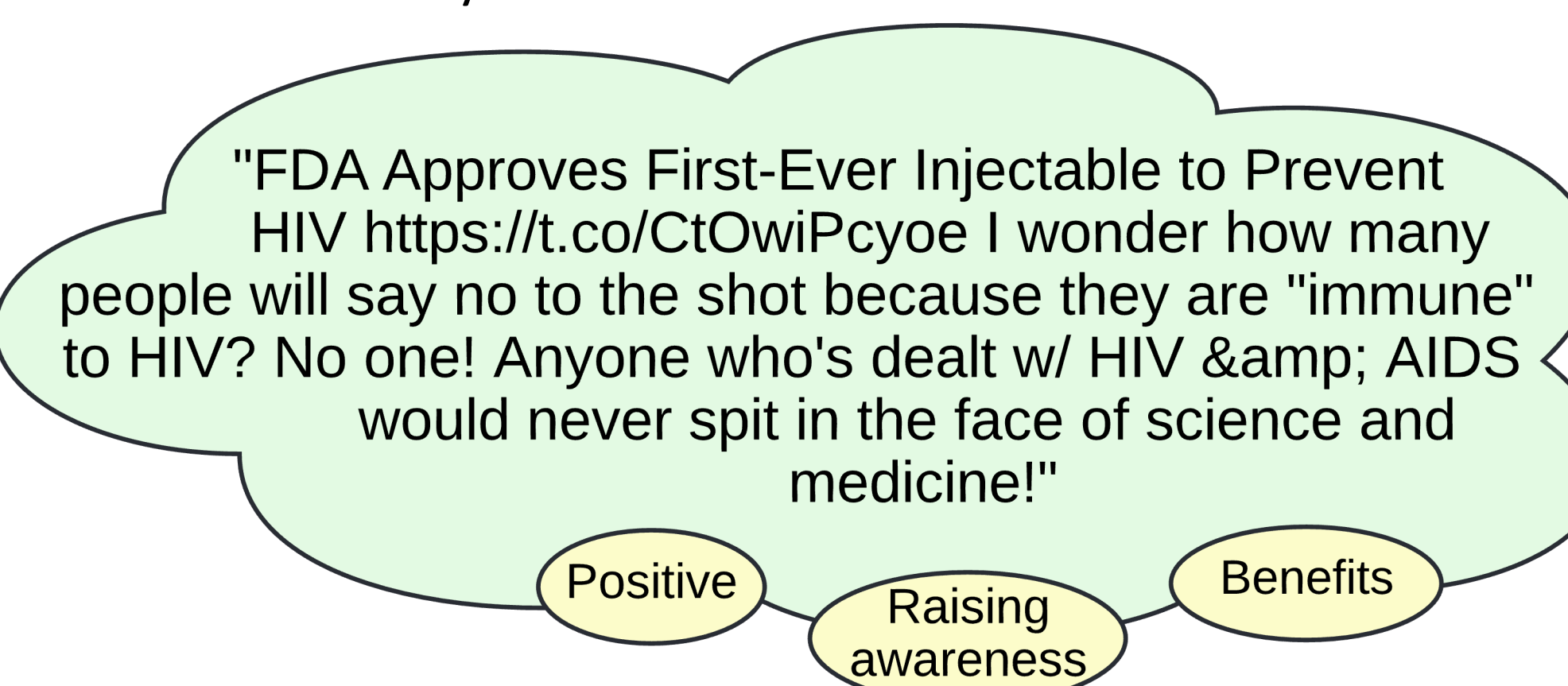
| Purpose of the Tweet                     | Tweets, n (%) |
|--|---------------|
| Promoting PrEP use and access            | 5 (11.9)      |
| Sharing information/resources            | 11 (26.1)     |
| Describing personal narrative/experience | 9 (21.4)      |
| Raising PrEP awareness                   | 9 (21.4)      |
| Request for Information                  | 4 (9.5)       |
| Others                                   | 4 (9.5)       |

Table 2 – Perceived purpose of the tweet  
 If a tweet had a relevant link it was used to ascertain the purpose of the tweet.



| Construct - HBM  | Tweets, n (%) | Broad themes                       |
|------------------|---------------|------------------------------------|
| Benefits of PrEP | 18 (42.8)     | Dosing Form and Dosing Frequency   |
| Self-efficacy    | 2 (4.7)       | Approval and access to a safe drug |
| Barriers to PrEP | 14 (33.3)     | Cost and Insurance coverage        |
| Cues to Action   | 3 (7.1)       | Promote PrEP                       |
| No HBM           | 9 (21.4)      |                                    |

Table 3 – HBM mapping of Tweets  
 A few tweets had multiple constructs of HBM and in such scenario data was captured under all possible constructs. Tweets that did not have any determinable HBM construct were mapped under "No HBM".



## Conclusion

- Results of this study demonstrate that though MSM perceive benefits of LAI-PrEP, the cost is a significant barrier to uptake.
- Many tweets were positive and corresponded to the excitement of a newly available preventive strategy in this vulnerable population.
- Tweets regarding LAI PrEP were limited in the initial few months post-approval by the FDA.

## Future Direction

- While we could have used a computer algorithm for coding, we chose to use traditional manual qualitative data analysis methods to allow for the interpretation of nuances.
- The scope of our analysis was limited to posts on Twitter. Incorporating data from a broader range of social media platforms may deepen insights into the nature of discussions surrounding LAI-PrEP.

## Key References

- Butts SA et al. Addressing disparities in Pre-exposure Prophylaxis (PrEP) access: implementing a community-centered mobile PrEP program in South Florida. BMC Health Serv Res. 2023 Nov 27;23(1):1311. doi: 10.1186/s12913-023-10277-1.
- Carpenter CJ. A meta-analysis of the effectiveness of health belief model variables in predicting behavior. Health Commun. 2010 Dec;25(8):661-9. doi:10.1080/10410236.2010.521906.
- Klein AZ et al. Toward Using Twitter for PrEP-Related Interventions: An Automated Natural Language Processing Pipeline for Identifying Gay or Bisexual Men in the United States. JMIR Public Health Surveill. 2022 Apr 25;8(4):e32405. doi: 10.2196/32405.

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