INNOVATIVE PUBLIC HEALTH SURVEILLANCE

Understanding Human Papillomavirus Vaccine Misinformation Through Social Listening in Nigeria

Track: Generative AI in Healthcare.
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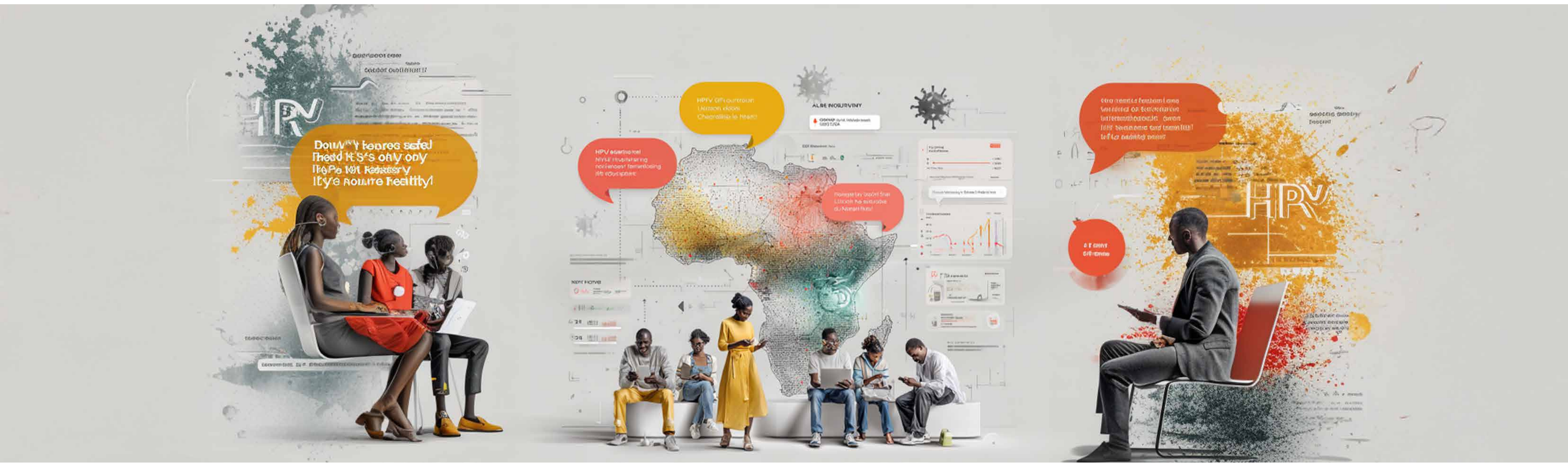


Background:

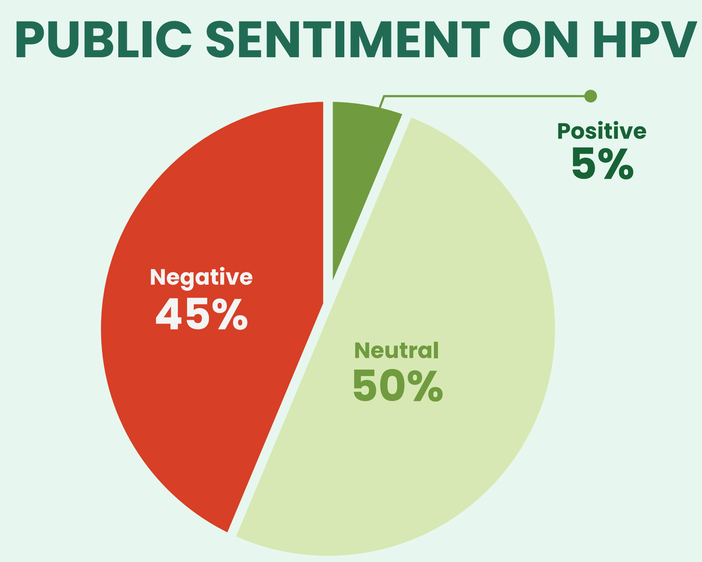
Human Papillomavirus (HPV) vaccination uptake remains low in Nigeria despite its potential to prevent cervical cancer. Limited understanding exists regarding public perceptions and barriers to HPV vaccine acceptance. This study aimed to analyze public discussions about HPV and HPV vaccines in Nigeria to identify misinformation patterns, knowledge gaps, and community concerns that influence vaccine uptake.

Methods:

Social listening, an innovative digital surveillance tool, was employed to monitor HPV related conversations from August 1-14, 2025. Data was collected using Determ software across multiple platforms including X (formerly Twitter), Facebook, YouTube, and web articles. A total of 881 HPV related conversations were captured and analysed for themes, sentiment, reach, and engagement patterns. Risk matrix, categorized misinformation, knowledge gap, questions, and concerns on HPV into high risk, moderate risk and low risk based on reach, engagement, virality and potential to cause harm.

Results:

The analysis revealed 881 posts reaching over 3.32 million users with 8,608 engagements. X platform dominated with 553 posts and highest reach (1,847,531 users). Four critical themes emerged: widespread misinformation linking HPV vaccines to cancer and death (high-risk category), significant knowledge gaps about HPV transmission and prevention, persistent public concerns about vaccine safety and ethics, and practical questions about vaccine accessibility. Public sentiment was predominantly negative (45%) and neutral (50%), with only 5% positive sentiment. Major barriers included conspiracy theories, affordability concerns (N120,000 cost), and limited access points.



Conclusion:

Social listening represents an innovative approach for understanding public health communication challenges in African context. The findings revealed urgent need for targeted interventions addressing misinformation through trusted voices, improving vaccine accessibility, and implementing culturally appropriate health education. Recommendations include leveraging community health workers, religious leaders, and affordable vaccination programs specifically designed for Nigerian communities to rebuild public confidence in HPV vaccine acceptance and uptake.

Keywords: HPV vaccine, social listening, Nigeria, misinformation, public health innovation, Africa