

The “Michael Douglas” Effect

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INTRODUCTION

In June 2013, celebrity actor Michael Douglas announced that he had received a diagnosis of throat cancer, which he attributed to the human papillomavirus (HPV). HPV is the most common sexually transmitted disease, however the HPV vaccination rates are lower than other vaccines. Given the health disclosure of Michael Douglas’s cancer, we queried whether this event had an effect on public awareness for HPV-related head and neck cancers (HNCs) or its prevention.

METHODS

Using Google Trends and Twitter, we retrospectively analyzed search trends and Tweets for the keywords “throat cancer”, “oral cancer”, “hpv vaccine”, and “human papillomavirus infection”. We extracted data and compared it to an expected forecast found using an autoregressive integrated moving algorithm (ARIMA).

RESULTS

Increase in Twitter Activity after Michael Douglas’s Disclosure

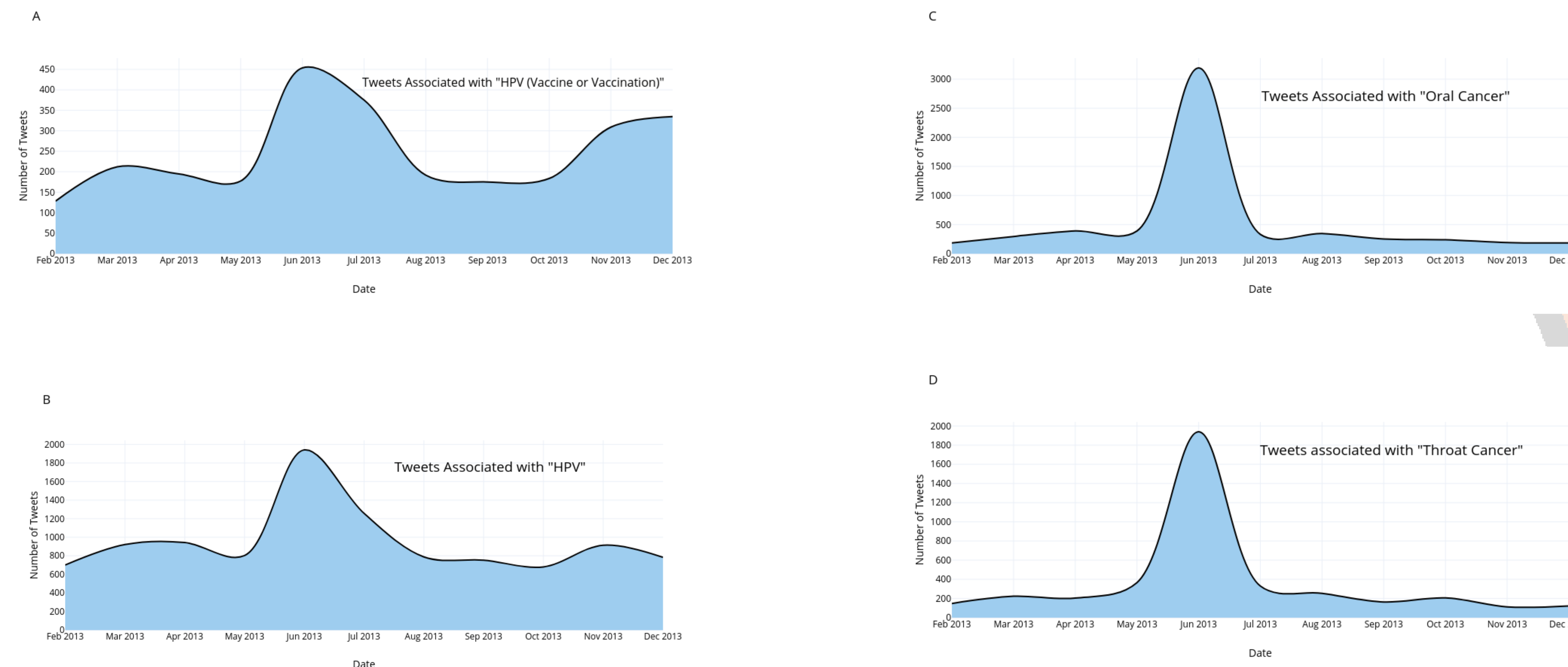


Figure 1: Mean Tweets per Day per Month in 2013

^A Mean tweets per day, per month containing “hpv (vaccine OR vaccination)”. ^B Mean tweets per day, per month associated with “hpv”. ^C Mean tweets per day, per month containing “oral cancer”. ^D Mean tweets per day, per month containing “throat cancer”.

Increase in Search Interest after Michael Douglas’s Disclosure

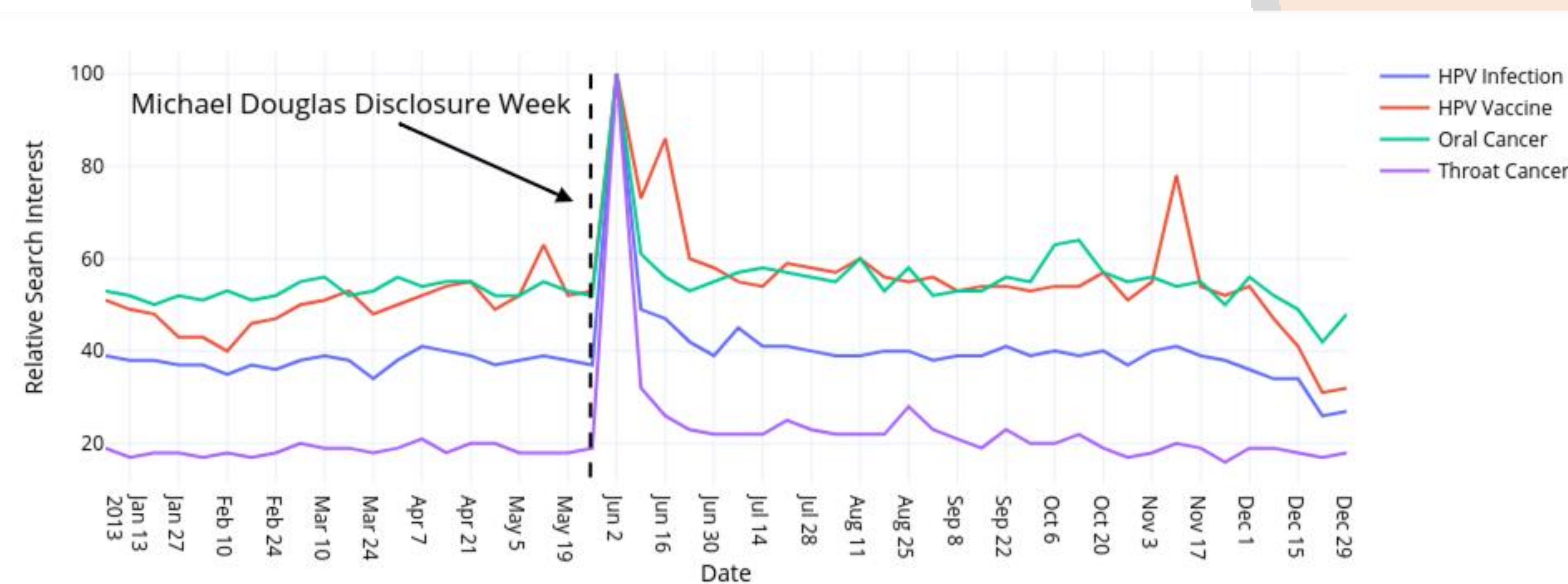


Figure 2: Google Search Trends in 2013

Relative search interest for search terms HPV infection (blue), HPV vaccine (red), oral cancer (green), throat cancer (purple) from January 1, 2013 to December 29, 2013.

During the week of disclosure, Google Trends data demonstrated an increase of 62.5% in “hpv infection” inquiries, 47.0% in “hpv vaccine” inquiries, 47.0% in “oral cancer” inquiries, and 81.5% in “throat cancer” inquiries above the expected. Tweets referencing “hpv” increased 127.2%; tweets referencing “hpv (vaccine OR vaccination)” increased 98.8%; tweets referencing “hpv awareness” increased 778.4%; tweets referencing “oral cancer” increased 1038.7%; and tweets referencing “throat cancer” increased 811.7% compared to the rest of 2013.

CONCLUSION

Data from Google Trends and Twitter indicated that Michael Douglas’s disclosure of HPV-related HNC resulted in a substantial increase in public awareness and prevention methods for HPV-related HNC. Celebrity health disclosures may thus prove to be a cost-effective strategy to advocate for public health literacy, and positively influence public interest of specific health issues.

REFERENCES OR ACKNOWLEDGEMENTS

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