

**TITLE: A topic analysis of traditional and social media news coverage of the early COVID-19 pandemic and implications for public health communication**

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**ABSTRACT**

Knowledge gaps may initially exist among scientists, medical and public health professionals during pandemics, which are fertile grounds for misinformation in news media. We characterized and compared COVID-19 coverage in newspapers, television, and social media, and discussed implications for public health communication strategies that are relevant to an initial pandemic response. We conducted a Latent Dirichlet Allocation (LDA), an unsupervised topic modelling technique, analysis of 3,271 newspaper articles, 40 cable news shows transcripts, 96,000 Twitter posts, and 1,000 Reddit posts during March 4 - 12, 2020, a period chronologically early in the timeframe of the COVID-19 pandemic. Coverage of COVID-19 clustered on topics such as epidemic, politics, and the economy, and these varied across media sources. Topics dominating news were not predominantly health-related, suggesting a limited presence of public health in news coverage in traditional and social media. Examples of misinformation were identified particularly in social media. Public health entities should utilize communication specialists to create engaging informational content to be shared on social media sites. Public health officials should be attuned to their target audience to anticipate and prevent spread of common myths likely to exist within a population. This will help control misinformation in early stages of pandemics.