Collaborative, multisectoral, and multidisciplinary approach to enhance FDA One Health Initiative communication strategies

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Background

- The One Health Approach (OHA) involves a collaborative, multisectoral, multidisciplinary framework to address public health challenges and achieve optimal health outcomes.
- OHA recognizes the interconnection between people, animals, plants, and their shared environment.
- To enhance pandemic preparedness, the FDA has developed strategies to gather public inputs which can enhance its communication strategies
- This M-CERSI project amplifies the OHA by augmenting and synergizing different disciplines (e.g., social, and behavioral sciences, machine learning, and artificial intelligence options) with expertise from various FDA centers, offices, and academia to harness narrative COVID-19 unstructured publicly available data.

Methodology

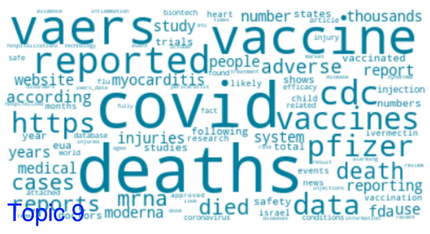
- Human curation and machine learning techniques were augmented with social and behavioral science methods and input by subject matter experts, across four sequential components.
- Publicly available data was collected from various FDA input and output sources.
- We systematically narrowed the scope of inclusion to public comments submitted to Regulations.gov in response to COVID-19 related meetings and dockets.
- We extracted approximately 140,000 comments using computational methods assisted by the newly available Open GSA Application Programming Interface (API).
- We preprocessed and analyzed the data to generate insights using a machine learning technique, topic modeling, combined with human curation techniques with subject matter experts.

Steps Taken

CDER CBER CFSAN NCTR CDRH CVM CTP OC ORA

Located publicly available COVID-19 FDA Docket Comments

Utilized Open Data at GSA with API key → Human Curation and Machine Learning Methods → Extracted over 140K COVID-19 data in minutes



Thematic Analysis → Topic Models → Subject Matter Experts

Focus Group Discussions

Conclusions

- This multidisciplinary research collaboration supports the public health mission and the OHA, by effectively reducing silos and leveraging expertise across the scientific spectrum.
- This approach can be implemented to advance methods to structure unstructured data (e.g. docket comments) .
- The next phase of research will apply discovered insights to design focus group sample populations, contrast emerging themes, and develop clear messaging that is responsive to public interests and concerns.

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Reference

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