Using social media to understand health risks and deliver health interventions at scale

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The Fifth Annual Global Health Economics Colloquium: The Economics of Vulnerable Populations, at Home and Abroad
Roadmap

- Definitions/ Rationale
  - Why approach health with social media

- Framework for online research and interventions
  - Paradigms
  - Examples

- New directions
Social Media Health Research

Definition: Transdisciplinary research that utilizes online social media data, platforms, or networks to inform or improve health

As of 2016:

- 69% of U.S. adults use social media
- 90% of 18-24 year olds trust medical information shared on their social media networks
- 40% of consumers say that information found via social media affects how they deal with their health
- 88% of businesses use social media for marketing purposes

Sources: Pew Internet Research/ Health Fact Sheet, 2017
Why vulnerable populations?

- Overcomes barriers of time/ distance
- Communication strategies addressing language, literacy, cognition
  - Audio
  - Video
  - Translation
  - Responsive learning
- Improves access to peer support
- Scaling interventions for wider reach
  - Automation
  - Triggers
  - Efficiency in targeting health care worker time/effort

Using social media to deliver health interventions at scale
Conceptual Framework:
Social Media Content as a Data Source

Experts → Social Media Content

Analysis

Health/Behavioral Insights
Example: Instagram and Codeine Misuse

- Qualitative study: To what extent is codeine misuse represented on social media (Instagram) and how is it characterized?
Example: Instagram Study cont.

- Representations of codeine misuse on Instagram suggests a subculture of misuse

Hashtags representing cultural referents

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Social Media as a Data Source: Challenges and Next Steps

- Automated text analysis
  - NLP
  - Neural networks
- Needs human input → Mixed methods
- Challenges
  - Representativeness
  - Bots
  - Interdisciplinary collaboration
Conceptual Framework: Social Media Public Health Campaigns

Experts

Public Health Recommendations
Example: Public Health Messaging

Linos team: Spread evidence-based message for cancer prevention through social media

- Google Ads for skin cancer prevention
- High risk groups: targeting teen girls, gay men
- Feasible and relatively inexpensive using Google Ad Words

- Scientific/public health insight: what types of messages garner the most “clicks”

January 2016

Online Advertising for Cancer Prevention: Google Ads and Tanning Beds

Wilmarie Cidre Serrano, BA¹; Mary-Margaret Chren, MD²; Jack S. Resneck Jr, MD²,³; et al
Next step in public health campaigns

- Do they change behavior?
- How can we follow people long enough to assess behavior change?
- Measurement challenges in real-world, not simulated social networks
Conceptual Framework: Online Interventions

Clinicians

Online Interactions

Health behavior change
Facebook intervention with young adult smokers (N=79) to help them quit smoking

Participants joined motivationally tailored private FB groups and received daily posts over 12 weeks

Outcome: 75.4% of quit attempts were undertaken with FB intervention alone over 12 months

Findings show potential use of online social networks for behavior change

(Thrul and Ramo. Subst. Use Misuse 2017)
Challenges

- Online not equal to real life
- Platform choice
- Trust
  - Enrollment/ Consent
- Implementation Considerations
  - Tailoring for platform and population
  - Demographics
  - Engagement
  - Retention
- Potential impact more than proven impact
New Directions

- Community-directed rather than individual-focused
- Long-term follow-up
- Using marketing strategies
  - Bots
  - Influencers
  - Harnessing online behavioral/ perceptual contagion
- Health outcomes
Save the Date!

December 7th, 2018

Mission Bay Campus
Thank you
Results: Using social media to learn about health behaviors – Instagram Study

- Representation of codeine misuse on Instagram uses a unique lexicon

Hashtags representing codeine lexicon

- promethazine
- lean
- doublecup
- sizzurp
- quali
testsippin
- codeinecups
- doublecup
- wock
- spritex
tea
- poedup
- spritex
tea
- oilmobb
Example: Representations of Codeine Misuse on Instagram: Methods

- Analysis of 100 posts gathered in an iterative sampling process suggest that codeine misuse occurs alongside other substances and may be becoming ritualized, normalized and commercialized.