TWEET TWEET TICK
A Quantitative Content Analysis of Risk Communication About Ticks on Twitter

Cheng-Xian Yang
Lauri M. Baker
Ashley McLeod-Morin

BACKGROUND
61% of pathogen species that cause human disease were confirmed to be zoonotic. Vector-borne diseases in the U.S. doubled, and ticks are one of the main reasons. Ticks create serious health issues for people (e.g., Lyme disease). It reduced productivity in economic animals and fever in companion animals. Climate and environmental change and some human behaviors allowed for rapid vector-borne diseases to spread.

Two qualities of social media:
- Communicating with the public in real-time
- Enhancing public engagement with its two-way communication nature

70% of Twitter users receive news from this representative platform.

Twitter engagement can be calculated as (replies + likes + retweets) / total number of followers.

AIM & RESEARCH QUESTIONS
This study aimed to understand the current discussions on ticks and their prevention on Twitter.

Q1: How do tweets present risk from ticks?
Q2: What is the engagement rate of tweets?
Q3: How do tweet frames and engagement rates change over time within a year?
Q4: What is the relationship between the content elements and the engagement rate of tweets?

METHODS
Data collection
Nov.2021 - Oct.2022
(N = 340)
- prevent
- protect
- attach
- bite
- remove
- Lyme
- disease
- tickborne

RESULTS
TWEET PRESENTATION

visual information
- none (58%)
- illustrations (12%)
- still photo (25%)
- moving photo (4%)
- other (4%)

situational awareness
- research (23%)
- specific prevention (27%)
- health/gov. organization (20%)
- blog (10%)
- news media (22%)

engagement rates

CONTENTS & ENGAGEMENT RATE

conclusions
This study is the first to analyze visual information and frames of tick risk communication on Twitter to our knowledge. Our findings improve the understanding of tick-borne diseases presented on social media.

Southeastern Center of Excellence in Vector-Borne Diseases