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### Are News Media Organizations Protecting Youth Mental Health? A Content Analysis Of The Top 4 News Organizations On Tiktok

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**Are News Media Organizations Protecting Youth Mental Health?  
A Content Analysis of the Top 4 News Organizations on TikTok**

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Social and Behavioral Sciences  
Yale School of Public Health  
2023**

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Secondary Advisor: Jonathan Purtle, DrPH, MSc**

*Content warning:  
This paper includes descriptions of distressing topics such as suicide and mass shootings*

## **ABSTRACT**

**Background:** In response to worsening mental health among adolescents, the U.S. Surgeon General issued an advisory on December 7, 2021 calling for action to address the youth mental health crisis. The advisory makes several recommendations, including actions media organizations can take to protect viewers' mental health. The advisory specifically mentions news coverage that can negatively impact mental health, such as depictions of mental illness and traumatic events including natural disasters, pandemics, and mass violence. High rates of youth consume news on social media, with TikTok as one of the most popular apps for this demographic. Although research indicates that both news and social media are associated with worse adolescent mental health outcomes, there have been no attempts to my knowledge to examine whether news outlets adhere to the U.S. Surgeon General's recommendations on or off social media.

**Aims:** This study aims to describe how news media organizations adhere to federal recommendations to protect youth mental health while reporting stories on mental health or illness and collective trauma events, including climate change or weather-related disasters, mass shootings, and the COVID-19 pandemic.

**Methods:** The study uses a directed content analysis method guided by the U.S. Surgeon General advisory titled "Protecting Youth Mental Health." The data source is videos published on TikTok by news media organizations within a one-year time frame - the day the advisory was published, December 7, 2021, to December 6, 2022. Using a list of the top news sites in the United States, I selected four news organizations with the highest follower count on TikTok: ABC News, CBS News, NBC News, and Daily Wire. Basic data – including topic, number of likes, and number of comments – were collected for all videos in the specified time period. If videos met the content inclusion criteria, they were coded based on their adherence to advisory guidelines. Analysis includes both descriptive statistics and qualitative methods.

**Results:** The selected news media organizations published a total of 5,344 videos during the specified time period. Of those videos, 950 (17.8%) covered news related to mental health or illness, climate change or weather-related disasters, mass shootings, and the COVID-19 pandemic. All content had a median adherence rate of 19.5% (range = 0.0 – 83.9 percent). Across outlets, ABC News had a median adherence rate of 34.6% (range= 0.0 – 95.1%), followed by CBS News at 14.3% (range= 0.0 – 100.0%), NBC News at 9.8% (range= 0.0 – 100.0%), and Daily Wire at 7.7% (range= 0.0 – 75.0%). Low adherence rates to U.S. Surgeon General recommendations show that, overall, news media organizations are not protecting youth mental health. Variation was observed in the extent to which videos by exposure type aligned

with the Surgeon General recommendations. For mental health and illness videos, 83.9% of news media organization content did not mention harmful stereotypes while only 8.1% of videos included stories of successful recovery. The adherence rate for news coverage of collective trauma events ranged from 0.0% to 76.1%. Across all four platforms, the two recommendations with the highest adherence rate were “fact-based reporting” and “no language that shocks, provokes, or creates a sense of panic” (40.0% - 76.1%). The recommendations with the lowest adherence rate (0.0 – 8.0%) were “include ways the public can make a positive difference” and “include content warnings on distressing content.”

**Conclusion:** Public health research at the intersection of news and social media can help practitioners understand ways to address the youth mental health crisis. This study is the first to determine if news media organization content on TikTok follows U.S. Surgeon General recommendations to protect youth mental health. Public health leaders can use these findings to inform interventions that ensure media organizations follow U.S. Surgeon General recommendations to protect youth and help end the mental health crisis.

## **ACKNOWLEDGEMENTS**

I'd like to thank my primary thesis advisor, Sarah Lowe, PhD, for her comprehensive guidance and support. During my first semester at YSPH, the department chair shared a list of opportunities compiled from several faculty. When I saw the description and requirements for Dr. Lowe's Trauma and Mental Health Lab, it was clear that the goal was not only to produce quality research but to invest in and teach students who may not have had prior experience in academic research. I have both benefitted from your mentorship and witnessed you dedicate countless hours to mentoring other students. I would also like to thank my secondary thesis advisor, Jonathan Purtle, DrPH MSc, who helped me better understand content analyses, inspired me to consider TikTok, and provided feedback during study design and writeup. The following Yale University Master of Public Health candidates contributed to the coding process: Dara Gleeson, Hannah Scott, and Victoria McClare, in addition to Yale College Bachelor of Science candidate Rhayna Poulin. Your contribution is greatly appreciated, and I look forward to following and supporting the great work you will do in public health. And a tremendous thank you to my husband, Riley, for being my number one champion.

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## INTRODUCTION

From 2011 to 2021, adolescents in the United States experienced significantly worse mental health, with a 14.0% increase in students experiencing persistent feelings of sadness or hopelessness (28.0 to 42.0%) and a 6.0% increase in students seriously considering suicide (16.0 to 22.0%).<sup>1</sup> Recognizing the significance of this trend, the U.S. Surgeon General's Office issued an advisory on December 7, 2021 that called for action to address the youth mental health crisis.<sup>2</sup>

The advisory, titled "Protecting Youth Mental Health," puts forth a set of recommendations for whole-of-society efforts to improve youth mental health.<sup>3</sup> One set of recommendations in the advisory highlights actions media organizations can take to protect viewers' mental health including ways to report negative news and stories about mental health and illness. The advisory mentioned negative news coverage of natural disasters, pandemics, and mass violence, also known as collective trauma events. Collective trauma events can be characterized as long-term with an unclear endpoint and a broad population-level impact.<sup>4</sup> Coverage of these events can contribute to viewers' psychological distress.<sup>5,6,7</sup> For example, a longitudinal study found that media exposure about the 2013 Boston Marathon bombing predicted post-traumatic stress symptoms and subsequent worry about future traumatic events predicted an increase in media consumption and acute stress after the 2016 Orlando Pulse nightclub mass shooting.<sup>7</sup> Regarding coverage of mental health and illness, false or misleading stories can perpetuate stigma,<sup>8</sup> which can lead to delays in seeking and receiving treatment.<sup>9</sup>

The concern regarding news media and mental health is made worse by the high percentage of youth who consume news on social media, another source shown to negatively impact mental health.<sup>10</sup> Ninety-three percent of youth, specifically Generation Z born between 1997 and 2012, consume news content on social media weekly.<sup>11</sup> Top Gen Z social media platforms for news include: Instagram, TikTok, and Snapchat.<sup>12</sup> While political and national security concerns regarding TikTok call into question the app's future in the U.S.,<sup>13</sup> it is clear the app is growing in popularity. A Google Executive acknowledged the uptick in Gen Z using the app as a search engine instead of Google Search<sup>14</sup> and the Pew Research Center reported an increasing trend in American users consuming news on TikTok, whereas apps like Snapchat, YouTube, and Instagram are seeing declining or stagnant trends.<sup>15</sup>

Existing research examines the negative impact on mental health as it relates to each domain separately: news media or social media. However, there is a gap in research that characterizes social media content produced by news

organizations as it relates to youth mental health. One systematic review analyzed 25 studies that primarily used a content analysis approach to describe TikTok content about public and mental health topics such as eating disorders and the COVID-19 pandemic; however, the content sources were public health accounts, charities, and personal accounts.<sup>16</sup> Studies about news media on TikTok focused on how companies are adapting to TikTok culture through use of text on screen, filters, stickers, original audio clips, and funny challenges.<sup>17,18</sup> No published studies to my knowledge have examined how news media organization content on TikTok may impact mental health. Additionally, there have been no attempts to my knowledge to examine whether news outlets adhere to the U.S. Surgeon General's recommendations on or off social media.

This study aims to describe how news media organizations adhere to federal recommendations to protect youth mental health while reporting stories on mental health or illness and collective trauma events, including climate change or weather-related disasters, mass shootings, and the COVID-19 pandemic. Study findings can be used to inform interventions that protect youth mental health as they consume news on social media.

## **METHODS**

The study used a directed content analysis method to examine news media coverage of collective trauma events and mental health. The content analysis is directed by the U.S. Surgeon General advisory recommendations for media organizations to protect youth mental health. This approach allows for the study to be grounded in existing public health efforts to address the mental health crisis so that results can build upon work already underway. Further, operationalizing the Surgeon General's recommendations first requires a baseline understanding of how news media organization content aligns with the guidelines. TikTok was selected due to the rising popularity of consuming news on the app and the high percentage of youth who consume news on social media generally.

### ***Inclusion Criteria***

Collective trauma events included in the analysis are: weather-related disasters, climate change, the COVID-19 pandemic, and mass shootings. Natural disasters are specifically mentioned in the advisory's guidelines, but this study uses the term "weather-related disasters." The term "natural disasters" is thought to be misleading<sup>19</sup> since it obscures the role humans play in mediating the impacts of natural hazards on human health and well-being. While not mentioned in the advisory, videos referencing "climate change" or "climate crisis" or "global warming" are included due to their

connection to extreme weather and the rise in climate anxiety among youth.<sup>20</sup> The COVID-19 pandemic, mentioned in the advisory's media guidelines, is particularly significant because it exacerbated the already growing mental health crisis.<sup>3</sup> While the advisory mentions mass violence, I specifically selected mass shootings because of their negative impact on the mental health of directly and indirectly affected communities.<sup>21</sup> Additionally, a majority of U.S. teens worry a shooting could happen at their school.<sup>22</sup> Following the AP/USA Today/Northeastern University and Everytown for Gun Safety Support Fund definitions, mass shootings included incidents in which four people were fatally injured, excluding the shooter, in any location and for any motivation.<sup>23</sup> Other content included in the analysis are any videos mentioning mental health or mental illness topics, such as exercising to improve your mental health, youth mental health in the face of gun violence, celebrities diagnosed with mental illness, substance use disorder, and antipsychotic medication.

I selected news media organizations based on their follower count. Of the top 50 news sites in the United States,<sup>24</sup> only 32 are on TikTok. Excluding foreign-based news organizations, such as The Daily Mail, the top four news organizations on TikTok based on follower count are: ABC News (4.6 million), NBC News (3.8 million), CBS News (3.0 million), and Daily Wire (2.7 million). ABC News, NBC News, and CBS News represent the broadcast networks in the United States. Fox News, a cable network, is the main news source for nearly half of conservatives.<sup>25</sup> While Fox News is not on TikTok, Daily Wire describes itself as right-of-center media<sup>26</sup> and is a popular conservative news source.<sup>27</sup>

The study period is December 7, 2021, when the Surgeon General advisory was published, through to December 6, 2022. This year-long time frame allows for greater content volume and variability resulting in a more comprehensive analysis.

### ***Data Collection and Processing***

A Qualtrics survey was used to code all videos from ABC News, NBC News, CBS News, and Daily Wire posted on TikTok between December 7, 2021 to December 6, 2022. Data collected for all videos include: URL link to the post, date of post, number of likes, number of comments, main topic using IPTC media topic categories,<sup>28</sup> and subtopic. If the subtopic did not fit the study's inclusion criteria (weather-related disaster, climate change, COVID-19 pandemic, mass shooting, mental health, or mental illness), the survey terminated. If the subtopic did fit the study's inclusion criteria, the survey collected data to assess videos for their adherence to the advisory recommendations. Table 1 lists



the Surgeon General recommendations for mental health and illness content and the corresponding coding survey question. Table 2 similarly lists the recommendations and corresponding questions, but for collective trauma content. As shown in the Additional Information column, some recommendations provided only broad guidance and needed further definition. For example, the advisory did not define language that shocks, provokes, or creates a sense of panic, so this study used a narrow definition to include content that: says “shock\*,” says “panic\*,” has a hopeless or doomsday message, indicates you are in danger, or makes a claim or accusation about a group of people. While the advisory only mentions individual-level action such as donating supplies during a disaster, it is also important for news media to highlight community- and structural-level action. I added and collected data for a recommendation to include actions that address the issue at a level beyond the individual.

The coding team consisted of four Master of Public Health candidates, including myself, and one Bachelor of Science candidate, supervised by one Associate Professor thesis advisor. We held a meeting to discuss inclusion criteria and the Qualtrics survey. All coders analyzed the same set of 24 videos and held a subsequent meeting to review results and discuss clarifications for future coding. The team achieved 90.3% agreement on coding not including irrefutable survey answers such as the date of the post. With a high level of agreement, the team decided to proceed with dividing and coding all videos. To ensure data quality throughout the coding process, the team discussed any remaining questions on a daily basis via email and during two additional meetings before coding the videos in question.

Further data integrity measures were taken during the data processing phase. I double coded all mental health and illness videos and reconciled any discrepancies. Of the collective trauma event content, 5.0% (n=45) were randomly sampled and double coded. The agreement rate was 94.4%.

### ***Quantitative and Qualitative Content Analysis***

I analyzed the content using quantitative and qualitative methods. Descriptive statistics, including medians and ranges for count variables, and frequencies and percentages for dichotomous variables, were calculated in Microsoft Excel. To operationalize the Surgeon General’s guidelines and provide tailored recommendations for improvements, data were disaggregated by news media organization.

For qualitative analysis, the process was organized by subtopic: (1) mental health or illness (2) climate change or weather-related disasters with or without mentions of climate change (3) mass shootings and (4) the COVID-19

pandemic. Team members inductively coded videos and included a brief summary of each video in the survey. I analyzed inductive codes and summaries for themes.

	Advisory Guideline: “Example best practices include...” <sup>3</sup>	Corresponding Survey Question	Additional Information
1	Avoiding harmful stereotypes about mental illness, such as the idea that people who have a mental illness are prone to violence or that mental illness causes violence.	Does it mention harmful stereotypes about those with mental illness without debunking the stereotype?	Other examples not mentioned in the advisory include: incapable of rational thinking, to blame for their disorder, irresponsible. <sup>29</sup>
2	Avoiding demeaning language (e.g. “crazy,” “psycho,” “looney,” “wacko,” “nut,” “junkie”). This includes using person-centered language, or language that focuses on the person rather than the disease label.	Does it include demeaning language about those with mental illness? (If yes, list the word(s))	This study used the stigmatizing vocabulary list provided in Appendix 3 of the Pavlova 2020 study in Health Communication. <sup>30</sup>
		Does it use person-centered language when referring to someone with mental illness?	The advisory uses the example of referring to a “person living with schizophrenia” instead of a “schizophrenic”
3	Include stories of people seeking help, getting treatment, and successfully recovering. These can also include examples of people getting help from friends, family neighbors, or even strangers (not just mental health professionals).	Does it include stories of people pursuing self-help strategies?	Self-help strategy examples include: meditation, taking time off, exercising
		Does it include stories of people seeking external help and/or getting treatment?	External help or treatment can come from friends, family, neighbors, strangers, or mental health professionals.
		Does it include stories of successful recovery?	A story of someone’s mental health improving or mentioning a recovery process.
4	Direct consumers to mental health resources.	Does it direct viewers to mental health resources?	Resources examples include: a hotline number, a website, or another resource of support
5	Craft more authentic stories by consulting with subject matter experts and people with personal experience of mental illness or mental health challenges.	Does it feature subject matter experts and/or people with personal experience of mental illness and mental health challenges?	People with personal experience can include those with mental illness or mental health challenges and their family members and friends.
6	When depicting suicide, convey that suicide is complex and often caused by multiple factors, not a single event.	If “yes” to “does it mention suicide?”, then: Does it convey that suicide is complex and often caused by multiple factors, not a single event?	If a video did not convey that suicide is often caused by multiple factors, then the answer is “No,” even if the video did not convey suicide is caused by a single event.
7	When depicting suicide, show that help is available.	If “yes” to “does it mention suicide?”, then: Does it show that help is available?	Help can include concrete resources in addition to social and emotional support.
8	When depicting suicide, adhere to best practices such as the National Recommendations for Depicting Suicide <sup>31</sup>	If “yes” to “does it mention suicide?”, then: Does it *avoid* showing or describing the details about the suicide method?	While there are eight total National Recommendations, the advisory directly mentions two (6 and 7 above). A third criterion was selected from the National Recommendations: Avoid showing or describing suicide method details. “Details” is defined by sharing specific details of the suicide (e.g. what kind of firearm and how the firearm was discharged) and sharing the method itself (e.g. firearm).
9	N/A	Does it mention action that is being taken or can be taken to address the issue at a level beyond the individual? Ex. changing laws or policies, whole community-level action, school-based interventions, increasing treatment access	While this was not included in the advisory, the social-ecological model <sup>32</sup> recognizes that relationships, community, and society impact public health and a sole focus on individual level behaviors and actions is insufficient.
10	N/A	List other codes for the video separated by commas	Used for qualitative analysis
11	N/A	Provide a brief description of the video	Used for qualitative analysis

**Table 1. Survey Questions for Videos Meeting Study Inclusion Criteria for Mental Health or Mental Illness**

	Advisory Guideline: “Example best practices include...” <sup>3</sup>	Corresponding Survey Question	Additional Information
1	Being fact-based in reporting and avoiding language that shocks, provokes, or creates a sense of panic.	Is the reporting entirely fact-based? (i.e. statements are presented with evidence or the nature of the video is about the "what" of the topic and not opinion or interpretation)	Videos were not fact-checked. Rather they were assessed for statements being presented as fact instead of adding opinion or interpretation.
		Does it include language that shocks, provokes, or creates a sense of panic?	This only mentions language, which excludes visual content that shocks, provokes, or creates a sense of panic. This criterion can be highly subjective, so without further definition from the advisory, the definition used for this study is narrow: says “shock*,” says “panic*,” the message is hopeless or doomsday, the message indicates you are in danger, makes a claim or accusation about a group of people.
2	Being more cautious about showing distressing content, particularly graphic images or video, without context or warnings for viewers. Help viewers decide whether they want to engage with the content.	Are there content warnings or other methods for helping viewers decide if they want to engage in watching distressing content, particularly graphic images or videos?	This focused solely on content warnings for distressing content shown via image and video. I defined distressing content as people or animals injured or dead, blood, life-threatening circumstances (ex. destroyed homes, no clean water access), scenes from a crime that depict the unfolding danger, emotion, or chaos. (ex. families crying after a mass shooting; people running into a building to respond to a mass shooting)
		Does the video content include life-threatening circumstances?	While the advisory guideline emphasizes graphic images or video, that does not account for distressing content shared via audio, caption, or text on screen. This survey question was added to capture any video content that depicts life-threatening circumstances.
		(If yes to the above), what element(s) of the video mention the life-threatening circumstance(s)? (select all that apply)	Options include: video, audio, still image, text on screen, caption.
3	Giving audiences context, including highlighting uncertainties and conflicting reports. When discussing preliminary research... be forthright about the preliminary nature of the findings, get independent experts to weigh in...	Not included	It is difficult to operationalize what giving audiences “context” means in all scenarios. While the research example is helpful, it would only apply to a very small subset of videos.
4	Offering the public ways to make a positive difference (for example, ways to donate funds or supplies to victims of a natural disaster).	Does it include ways the public can make a positive difference? (ex. Donate funds or supplies to victims of a natural disaster)	Videos that show people making a positive difference (ex. donating supplies) but do not offer the public ways to do so or tell them to go do so are coded as “no.” These were captured in number 5 below.
5	Including positive messages and stories of hope and healing (particularly when covering pandemics, natural disasters, and incidents of mass violence).	Does it include positive messages (i.e. stories or mentions of hope and healing; solutions)	One example of a positive message is a story about people donating supplies and helping rebuild after a disaster.
6	N/A	Does it mention action that is being taken or can be taken to address the issue at a level beyond the individual? Ex. changing laws or policies, whole community-level action, school-based interventions, increasing treatment access	While this was not included in the advisory, the social-ecological model <sup>32</sup> recognizes that relationships, community, and society impact public health and a sole focus on individual level behaviors and actions is insufficient.
7	N/A	List other codes for the video separated by commas	Used for qualitative analysis
8	N/A	Provide a brief description of the video	Used for qualitative analysis

**Table 2. Survey Questions for Videos Meeting Study Inclusion Criteria for Collective Trauma Event**

## RESULTS

ABC News, CBS News, NBC News, and Daily Wire published a total of 5,344 videos from December 7, 2021 – December 6, 2022. Of those videos, 950 (17.8%) covered news related to mental health or illness, climate change or weather-related disasters, mass shootings, and the COVID-19 pandemic. Across all exposure types, results show a median adherence rate of 19.5% (range = 0.0 – 83.9 percent). ABC News had a median adherence rate of 34.6% (range= 0.0 – 95.1%) to U.S. Surgeon General recommendations to protect youth mental health, followed by CBS News at 14.3% (range= 0.0 – 100.0%), NBC News at 9.8% (range= 0.0 – 100.0%), and the Daily Wire at 7.7% (range= 0.0 – 75.0%).

COVID-19 pandemic coverage had the highest median adherence rate (35.7%; range= 0.0 – 70.2%) and weather-related disaster content with no mention of climate change had the lowest median adherence rate (12.5%; range= 0.0 – 76.1%). Coming in second, third, and fourth, climate change coverage had a median adherence rate of 21.5% (range= 8.0 – 53.8%), mental health and illness stories had a median adherence rate of 18.6% (range= 8.1 – 83.9%), and mass shooting content had a median adherence rate of 15.4% (range= 0.6 – 73.2%). The recommendation with the highest overall adherence rate across all four platforms (83.9%) was: do not include harmful stereotypes about mental illness. Two recommendations had a 0.0% adherence rate: include content warnings on distressing pandemic content and include ways the public can make a positive difference in weather-related disaster content with no mention of climate change. Nearing 0.0%, news media organizations had a low adherence rate of 0.6% on including content warnings on distressing mass shooting content.

### *Overall Content Characteristics*

The 950 videos included in this study had a median of 5,893.50 likes (range= 50 – 3,400,000) and 307.50 comments (range= 0 – 62,400). The 4,394 videos that did not meet inclusion criteria had a similar median number of likes and comments – 6,835.50 (range= 12 – 6,400,000) and 327.00 (range= 0 – 136,200), respectively. I also looked at the engagement for collective trauma videos with distressing content (n=456) compared to collective trauma videos without distressing content (n=450). Distressing content had a median of 5,278.00 likes (range= 89 – 2,600,000) and 187.50 comments (range= 0 – 62,400). Non-distressing content had a median of 5,807.50 likes (range= 50 – 3,400,000) and 428.50 comments (range= 2 – 33,400). The median number of likes and the range is higher for non-distressing

content. The median number of comments is higher for non-distressing content, while the range is wider for distressing content.

Table 3 lists characteristics of all videos published by exposure type and news organization. Only 1.2 percent of all videos are about mental health or illness. ABC News, NBC News, and Daily Wire had 2 to 8 times more posts about mental illness than mental health, whereas CBS News had an equal number of videos on both topics. News coverage of collective trauma events amounted to 17.0 percent of all published videos. The topic with the most coverage was the pandemic (5.6%), followed by mass shootings (4.9%), weather-related disasters with no mention of climate change (4.9%), and climate change (1.2%).

The exposure type with the highest engagement from ABC, CBS, and NBC News was mass shootings. The median number of likes ranged from 10,150.00 – 49,850.50 and the median number of comments ranged from 589.00 – 1,381.00. The exposure type with the highest engagement from Daily Wire was the COVID-19 pandemic with a median of 36,000.00 likes and 1,770.00 comments. The exposure type with the least engagement was climate change for ABC and CBS News and weather-related disasters with no mention of climate change for NBC News and Daily Wire.

### ***Content that Covered Both Mental Health or Illness Stories and a Collective Trauma Event***

A total of 18 videos fell into both categories of mental health or illness stories and collective trauma event. Ten (55.6%) were about mass shootings and eight (44.4%) were about the COVID-19 pandemic. Median number of likes and comments were not separately analyzed for these 18 videos; instead, they were factored into the median number of likes and comments for all mental health and illness or collective trauma event coverage.

When mental health is mentioned in the context of mass shootings, three videos refer to the mental health of the community, specifically the “psychological trauma” of or the “psychological toll” on survivors. Four videos referred to the mental health of the Uvalde shooter – who killed 19 children and two adults. The content called into question whether he was mentally ill, labeled him as a “deranged shooter,” a “violent psychopath,” and “demented” with “evil in his heart.” Prominent individuals made these remarks including: Ben Shapiro, founding editor-in-chief of The Daily Wire; Matthew McConaughey, actor who spoke at a White House press conference; Ted Cruz, U.S. Senator for Texas; and Greg Abbott, Texas Governor. Two videos attempted to discredit narratives blaming mental health for U.S. mass shootings. In one video, President Biden asked, “why do mass shootings happen more here?” when other countries

have mental health problems, too. California Governor Gavin Newsom criticized Texas Governor Abbott's press conference by calling the mentions about evil and mental health "crap."

Three videos referred to legislation that addresses mental health in the context of mass shootings; however, two of them only referred to the need to invest in mental health programs generally. They did not specify if the legislation would address the mental health of potential shooters or the potential survivors. One video featured President Biden calling for funding to "address the youth mental health crisis, including the trauma experienced by survivors of gun violence." In no instance did a video include an explicit call for mental health funding to prevent mass shootings or other forms of gun violence.

There were eight videos that mentioned mental health in the context of the COVID-19 pandemic, half of which were from the Daily Wire. These videos categorized people with a certain set of beliefs around COVID as "crazy." President Donald Trump said, "they're crazy" when referring to people who did not recognize immunity from infection as protective and only focus on immunity from vaccination. Ben Shapiro reacted to an SNL skit that made fun of anti-vaccine and anti-mask sentiment by saying it portrayed anti-maskers as crazy, subsequently referring to "crazed pro-maskers" yelling at people in public. Commentator Matt Walsh reacted to a story of a teacher putting her COVID-positive son in the trunk of her car while she got tested by expressing his distress thinking about "the kids who are in these households governed by these COVID psychopaths" whose brains have been "broken by the media." The fourth video mentioned virologist Robert Malone's appearance on Joe Rogan's podcast where he discussed his widely discredited theory on "mass formation psychosis," but the video did not offer or imply a definition. Instead, the video focused on Malone's criticism of how the government rolled out the vaccines and his ultimate ban from Twitter for sharing COVID-19 misinformation.

The remaining four videos from ABC News and CBS News mentioned the increase in mental health struggles during the pandemic such as depression and anxiety, with two emphasizing the impact on youth. One video from CBS News mentioned the U.S. Surgeon General advisory on the youth mental health crisis while describing a nonprofit in Washington, DC that helps boost mental health and wellbeing through participation in nature-based experiences.

Category	Sub-category*	ABC News				CBS News				NBC News				Daily Wire		
		No. of Posts	Median Likes (range)	Median Comments (range)	No. of Posts	Median Likes (range)	Median Comments (range)	No. of Posts	Median Likes (range)	Median Comments (range)	No. of Posts	Median Likes (range)	Median Comments (range)	No. of Posts	Median Likes (range)	Median Comments (range)
Mental Health and Illness	Mental health and illness n of 62 (%)	15 (24.2%)	1,696.00 (221 – 36,000)	65.00 (0 – 8,649)	16 (25.8%)	4,217.00 (146 – 84,800)	249.50 (2 – 1,679)	5 (8.1%)	14,600.00 (5,211 – 67,200)	783.00 (311 – 1,386)	26 (41.9%)	30,150.00 (1,460 – 481,000)	3,012.00 (26 – 15,100)			
	Climate change n of 65 (%)	28 (43.1%)	1,133.00 (50 – 178,500)	54.00 (5 – 17,900)	19 (29.2%)	743.00 (144 – 21,500)	23.00 (5 – 1,296)	4 (6.2%)	24,500.00 (6,633 – 46,200)	1,253.50 (75 – 2,354)	14 (21.5%)	17,650.00 (4,816 – 403,500)	896.00 (262 – 8,750)			
Collective Trauma Event	Weather disasters, no mention of climate change n of 264(%)	59 (22.3%)	1,761.00 (157 – 87,800)	67.00 (2 – 5,048)	154 (58.3%)	1,519.50 (147 – 467,200)	37.00 (0 – 11,100)	47 (17.8%)	9,576.00 (486 – 2,400,000)	99.00 (4 – 21,800)	4 (1.5%)	1,797.00 (895 – 4,699)	113.50 (6 – 334)			
	Mass shooting n of 272(%)	122 (44.9%)	10,150.00 (89 – 1,200,000)	589.00 (3 – 16,500)	87 (32.0%)	11,900.00 (221 – 3,400,000)	632.00 (21 – 33,400)	50 (18.4%)	49,850.50 (2,348 – 2,600,000)	1,381.00 (66 – 29,100)	13 (4.8%)	31,300.00 (11,900 – 124,900)	1,529.00 (708 – 7,169)			
Other	COVID-19 pandemic n of 305 (%)	109 (35.7%)	1,354.00 (75 – 157,200)	270.00 (7 – 19,500)	86 (28.2%)	2,031.50 (99 – 166,200)	179.00 (2 – 2,954)	21 (6.9%)	10,600.00 (1,350 – 1,000,000)	557.00 (42 – 62,400)	89 (29.2%)	36,000.00 (2,658 – 341,200)	1,770.00 (55 – 15,100)			
	--- n of 4,391 (%)	1403 (32.0%)	3,803.00 (54 – 1,600,000)	288.00 (0 – 34,600)	1,759 (40.1%)	4,278.00 (12 – 2,200,000)	168.00 (0 – 66,500)	702 (16.0%)	21,850.00 (362 – 6,400,000)	703.50 (3 – 136,200)	530 (12.1%)	34,300.00 (572 – 5,200,000)	1,151.00 (4 – 35,900)			

**Table 3. Characteristics of All Videos by News Media Organization**

\*18 videos met the criteria for both collective trauma event and mental health or illness.

†Those videos are reflected in both categories on this table. Therefore, the subcategory column totals to more than 5,334 videos.



***Mental Health and Illness***

There were 62 total videos about mental health or illness, including 10 that were also about mass shootings and eight that were also about the pandemic. Only two recommendations were met more than 50.0% of the time: do not include harmful stereotypes about mental illness (83.9%) and do not include demeaning language (66.1%). The remaining six U.S. Surgeon General recommendations – defined by the inclusion of a positive element instead of the exclusion of a negative element – were met in less than 35.0% of videos. Stories of successful recovery were only included in 8.1% of videos, the lowest adherence rate. The ninth recommendation, added for the purposes of this study, was highlight actions to address the issue beyond the individual. Less than twenty percent (17.7%) of videos adhered to that recommendation.

Table 4 shows the number and percentage of mental health and illness videos by news media organization that met each Surgeon General recommendation. Of the four organizations, Daily Wire had the lowest adherence rate to the recommendation of not including harmful stereotypes (65.4%) and not using demeaning language (26.9%) about mental illness. ABC News most consistently met Surgeon General recommendations; however, some recommendations were met as low as 20.0% of the time. When looking at all videos, the adherence rate ranges from 8.1 to 82.3 percent, and when looking at videos by outlet, the rate ranges from 0.0 to 100.0 percent.

Surgeon General Recommendation	Total Videos n (%)	ABC News n (%)	CBS News n (%)	NBC News n (%)	Daily Wire n (%)
Total	62	15	16	5	26
No harmful stereotypes	52 (83.9%)	12 (80.0%)	16 (100.0%)	5 (100.0%)	17 (65.4%)
No demeaning language	41 (66.1%)	13 (86.7%)	16 (100.0%)	5 (100.0%)	7 (26.9%)
Seeking self-help	9 (14.5%)	4 (26.7%)	2 (12.5%)	0 (0.0%)	3 (11.5%)
Seeking external help	9 (14.5%)	5 (33.3%)	1 (6.3%)	0 (0.0%)	3 (11.5%)
Successful recovery	5 (8.1%)	4 (26.7%)	0 (0.0%)	0 (0.0%)	1 (3.8%)
Shares mental health resources	6 (9.7%)	3 (20.0%)	2 (12.5%)	0 (0.0%)	1 (3.8%)
Features subject matter experts	14 (22.6%)	8 (53.3%)	1 (6.3%)	0 (0.0%)	5 (19.2%)
Highlights actions to address the issue beyond the individual	11 (17.7%)	4 (26.7%)	5 (31.3%)	1 (20.0%)	1 (3.8%)
Person-centered language*	10 (34.5%)*	5 of 9 (55.6%)	4 of 7 (57.1%)	1 of 2 (50.0%)	1 of 11 (9.1%)
Average adherence rate**	31.7%	45.3%	36.8%	31.25%	20.3%

**Table 4. Mental health and illness videos that follow Surgeon General recommendations by news media organization**

\*Of the 62 total videos, only 29 referred to a person or group with a mental illness and therefore had the opportunity to use person-centered language.

\*\*Only includes U.S. Surgeon General recommendations. Does not include the criteria added for the purposes of this study: actions beyond the individual.

Qualitative analysis further revealed examples of best practices and areas in which news media organizations can improve their content to protect youth mental health. While the majority of videos adhered to the recommendation to not include harmful stereotypes or demeaning language, there were several harmful stereotypes. Harmful stereotypes included: portraying exercise or self-care as the solution to recovering from mental illness without portraying other therapeutic approaches; finding inner strength to overcome addiction without mentioning other means of coping with substance use problems; saying that people with ADHD “don’t have brains that work;” portraying people with mental illness as evil and violent; insisting psychiatric drugs are dangerous and not part of the solution; mislabeling antisocial personality disorder as psychopathy and only mentioning violence as a defining criterion for the illness; describing feminists as “crazy women” who have relationship troubles; portraying substance use disorder as a choice; and portraying mental illness as doing whatever you want with no thought.

Videos with demeaning language most often included terms like “crazy,” “psycho,” and “sociopathic” to label people who exhibit a single behavior or thought and, therefore, mischaracterize the complexity of mental illness. For example, in a Daily Wire video, President Donald Trump compared himself to actor Alec Baldwin by saying “Nobody gets treated worse than me by the press, but I don’t end up in fist fights with them...I think he’s crazy.” Another Daily Wire video called actress Amber Heard a “sociopathic liar” because something she said in a court trial “didn’t make sense” and contradicted forensic evidence. More than sixty percent of videos did not adhere to person-centered language (i.e., “a person diagnosed with schizophrenia” instead of “schizophrenic”). These videos fell into the following categories: references to mass shooters; calling someone “insane,” “crazy,” or a “psychopath” without evidence of a clinical diagnosis; and referencing those with a known diagnosis “being” instead of “having” their diagnosis (i.e., “an addict,” “bipolar people,” or “appear to be severely mentally ill”).

Eighteen videos (29.0%) featured stories of people seeking help, with half portraying self-help and half external help. Self-help strategies shared included: sharing your story to connect, cope, and raise awareness; exercise; finding inner strength; reading self-help books; sleeping; “putting yourself first;” and walking in nature. External help or treatment methods shared included: seeking therapy, emotional support animals, connecting with religious leaders, attending AA meetings, attending rehab, and using prescription medication. Seventeen out of 18 videos portrayed seeking help as either beneficial or neutral with no value judgment placed on them. One video talked about negative experiences while trying to seek external help. This Daily Wire video included a clip from CNN of a commentator

talking about the hardship caregivers of youth with special health care needs face in trying to access care for their loved one, and how some consider suicide because of the difficulty, isolation, and financial issues involved in seeking external help. Seven out of 18 (38.9%) featured celebrities.

The criteria news media organizations adhered to the least (8.1%) was including stories of successful recovery. Three out of five videos focused on how self-help fueled the recovery, the fourth focused on community and therapy, and the fifth focused on faith in miracles and God while also putting in “the footwork.”

The next lowest criteria adhered to by news media organizations was sharing resources (9.7%). The resource most frequently shared (4) was the National Suicide Prevention Line phone number 1(800)-273-8255. One video included the phone number as well as the text message number and the website for the hotline. Another video included the recently shortened version of the 10-digit phone number to 988. The other two resources were the SAMHSA National Helpline 1(800)-662-4357 and the Washington D.C. nonprofit City Kids Wilderness Project.

Beyond individual-level interventions, 11 videos mentioned community-level factors and policies. For mental health and illness, examples included: city-level policy, the opioid crisis television show “Dopesick” and other multimedia created to raise awareness, federal legislation to address gun reform and student mental health, employment strikes to advocate for increased mental health support, and interventions led by community-based organizations.

Only 10 out of 62 videos mentioned suicide – two from ABC, five from CBS, one from NBC, and two from Daily Wire. Of those videos, only one conveyed that suicide is complex and often caused by multiple factors and only three conveyed that help is available. Two of the videos described the suicide method. In one ABC News video, Ashley Judd reveals her mother died by firearm because she wanted the news to come from her family and not tabloids. In a CBS News video, the reporter said Former Miss USA, Chelsie Kryst, was found outside of a high-rise building, which suggests she jumped. The types of stories shared include: individuals dying by suicide (n=5), individuals having or not having suicidal ideation (n=3), national suicide rates increasing (n=1), and discussing the consequence of attacking a nuclear power plant as suicide (n=1). Of the five videos about individuals dying by suicide, two were military members and three were celebrities or public figures.

### ***Collective Trauma Events: Weather-related disasters without no mention of climate change***

There was a total of 276 weather-related disaster videos, but only 4.3% percent (n=12) mentioned climate change. This suggests the connection between the frequency, intensity, and duration of weather-related disasters and climate change is not made clear by news media organizations. The small number of disaster weather-related videos mentioning climate change precluded a meaningful content analysis in its own category, so further content analysis grouped these videos (n=12) with all other content that mentioned “climate change” or “climate crisis” or “global warming” (n=53), for a total of 65 videos in that category. This resulted in a total of 264 weather-related disaster videos that did not mention climate change. Examples of weather-related disasters covered during this time period include: Hurricane Ian in Florida, Kentucky tornadoes, Hurricane Fiona in Puerto Rico, California wildfires, extreme heat in the U.S. and Europe, and flash floods.

Table 5 shows the number and percentage of weather-related disaster videos without a mention of climate change that met each Surgeon General recommendation sorted by news media organization. The recommendation adherence rate ranged from 0.0% to 76.1% with media organizations least frequently following the recommendation to include ways the public can make a positive difference and most frequently following the recommendation to not include language that shocks, provokes, or creates a sense of panic. The criterion with the second highest adherence rate (75%) was to focus on entirely fact-based reporting. In combination, 58.7% of weather-related disaster videos (n=155) adhered to both of the top two recommendations, which on its own may seem positive. However, further analysis of the content showed a more complex picture. Many of these videos showed brief footage of the disaster unfolding or its aftermath with no reporting and only a simple caption or text on the video to explain the scene. For example, one video from CBS News showed footage of Hurricane Ian with text on screen that said, “Debris washes along road on Cayman Islands as Hurricane Ian affects region.” Another video from NBC News showed timelapse footage of Hurricane Ian with the caption “A timelapse shows how Hurricane Ian flooded a Fort Myers, Florida street in under 1.5 hours.” While these videos (n=155) were fact-based with no language that shocks, provokes, and creates a sense of panic, 87.1% of them (n=135) included distressing content. Only 3 of those 135 (2.2%) had a content warning.

The distressing nature of weather-related disasters is, in part, why the advisory recommends including positive messages and ways the public can make a positive difference. Only 12.5% of videos (n=33) included positive messages and zero videos included ways the public can make a positive difference. Positive messages fell into the following categories: people or animal rescues; announcements of funding and other support for recovery from federal or state

ected officials; and community members contributing to recovery efforts. Zero videos offered direct ways the viewing public can contribute to recovery efforts.

Only 8.3% of videos (n=22) highlighted actions to address the issue beyond the individual. Actions most frequently mentioned included government action to support recovery and emergency responders reporting to the scene. Only one video mentioned proactive action to reduce future damage. In that CBS News video, the federal administration announced a 10-year plan to “aggressively reduce catastrophic damage from wildfires.”

Lastly, 220 videos out of 264 (83.3%) included distressing content. Only seven of these videos (3.2%) included a content warning.

Surgeon General Recommendation	Total Videos n (%)	ABC News n (%)	CBS News n (%)	NBC News n (%)	Daily Wire n (%)
Total	264	59	154	47	4
No language that shocks, provokes, or creates a sense of panic	201 (76.1%)	52 (88.1%)	135 (87.7%)	11 (23.4%)	3 (75.0%)
Entirely fact-based reporting	198 (75.0%)	52 (88.1%)	109 (70.8%)	35 (74.5%)	2 (50.0%)
Ways public can make a positive difference	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Positive Messages	33 (12.5%)	10 (16.9%)	17 (11.0%)	4 (8.5%)	2 (50.0%)
Highlights actions to address the issue beyond the individual	22 (8.3%)	10 (16.9%)	4 (2.6%)	8 (17.0%)	0 (0.0%)
Content warnings for distressing content*	7 (3.2%)*	0 of 48 (0.0%)	3 of 125 (2.4%)	4 of 45 (8.9%)	0 of 2 (0.0%)
Average adherence rate**	33.4%	38.6%	34.4%	26.6%	43.75%

**Table 5. Weather-related disaster videos with no mention of climate change that follow Surgeon General recommendations by news media organization**

\*220 out of 264 videos included distressing content. 7 out of 220 included a content warning.

\*\*Only includes U.S. Surgeon General recommendations. Does not include the criteria added for the purposes of this study: actions beyond the individual.

### ***Collective Trauma Events: Climate change***

A total of 65 videos mentioned “climate change,” “climate crisis,” or “global warming.” Table 6 shows the number and percentage of climate change videos by news media organization that met each Surgeon General recommendation. The recommendation adherence rate ranged from 8.0% to 53.8% with media organizations least frequently following the recommendation to include content warnings for distressing content and most frequently following the recommendation to focus on entirely fact-based reporting. The criterion with the second highest adherence rate (50.8%) was do not include language that shocks, provokes, or creates a sense of panic.

Surgeon General Recommendation	Total Videos n (%)	ABC News n (%)	CBS News n (%)	NBC News n (%)	Daily Wire n (%)
Total	65	28	19	4	14
No language that shocks, provokes, or creates a sense of panic	33 (50.8%)	17 (60.7%)	12 (63.2%)	1 (25.0%)	3 (21.4%)
Entirely fact-based reporting	35 (53.8%)	25 (89.3%)	8 (42.1%)	2 (50.0%)	0 (0.0%)
Ways public can make a positive difference	7 (10.8%)	4 (14.3%)	3 (15.8%)	0 (0.0%)	0 (0.0%)
Positive Messages	14 (21.5%)	9 (32.1%)	5 (26.3%)	0 (0.0%)	0 (0.0%)
Highlights actions to address the issue beyond the individual	21 (32.3%)	14 (50.0%)	6 (31.6%)	0 (0.0%)	1 (7.1%)
Content warnings for distressing content*	2 (8.0%)*	1 of 9 (11.1%)	0 of 10 (0.0%)	1 of 4 (25.0%)	0 of 2 (0.0%)
Average adherence rate**	29.0%	41.5%	29.5%	20.0%	4.28%

**Table 6. Climate change videos that follow Surgeon General recommendations by news media organization**

\*25 out of 65 videos include distressing content. 2 out of 25 include a content warning.

\*\*Only includes U.S. Surgeon General recommendations. Does not include the criteria added for the purposes of this study: actions beyond the individual.

Only 25 out of 65 videos (38.5%) included distressing content, and only two (8.0%) included a content warning. One video from NBC News showed a group of climate activists in Santa Claus costumes pouring fake oil, chemicals, and blood on stuffed animals and ripping them apart. Viewers had the option to click the option listed first and in red “Skip video” or the option listed second and in light gray “Watch anyway” after seeing the warning “Sensitive content: Some people may find this content to be disturbing.” The other video only included a verbal content warning “a warning tonight, the images are difficult” before the ABC News anchor reported on famine and drought in Kenya with video of dead livestock and young children on the “verge of starvation” traveling more than 20 miles to find palm fruit with “meager calories.” The former content warning may be a stronger deterrent given the active opt-in required for users to view the content. Both ABC News and NBC News applied content warnings inconsistently. For example, there was no content warning for an ABC News video that showed the life-threatening circumstance of homes destroyed by a wildfire amid “a record 1200-year drought.”

Roughly 1 out of every 2 climate change videos (52.3%) avoided language that shocks, provokes, or creates a sense of panic. The Daily Wire adhered to this recommendation the least (21.4%) while ABC News (64.3%) and CBS News (63.2%) adhered to this recommendation the most. Examples of language that did not meet this recommendation included: “the world is going to end in 12 years if we don’t address climate change,” “code red for humanity,” and “the most alarming thing is the fact that we are so unprepared for these high temperatures.” Content from the Daily Wire

included partisan claims or accusations, for example, “the left loves to cause panic,” “unserious people are running our government,” and criticism of politicians who “want us to eat bugs” and “Hollywood elites” who “love to talk the talk, but can’t walk the walk” when it comes to their private jet use.

Ways the public can make a positive difference were only mentioned in 12.3% of videos and general positive messages were only mentioned in 23.1% of videos. Videos mentioned consuming less, buying used clothing, planting trees, buying electric vehicles, and making your home more energy efficient as ways the public can make a positive difference. Positive messages fell into the following categories: stories about efforts to protect wildlife or the environment, mitigation or adaptation efforts to address climate change, and political or public figures (e.g. President Biden, King Charles, California Governor Newsom) taking action.

A higher percentage of videos (33.8%) mentioned actions to address climate change beyond the level of an individual. When compared to the other news organizations, ABC News adhered to this recommendation most frequently with half of their climate change videos mentioning actions beyond the individual. Examples include city-level action to address infrastructure resiliency to storms, scientific experts’ efforts to slow glacial melt, state and federal collaboration on disaster response, state legislation such as banning carbon emitting vehicles in California, federal legislation such as the Inflation Reduction Act, and policy proposals that could better regulate plastics.

### ***Collective Trauma Events: Mass shootings***

There was a total of 272 videos about mass shootings. Table 7 shows the number and percentage of mass shooting videos by news media organization that met each Surgeon General recommendation. The recommendation adherence rate ranged from 0.6% to 73.2% with media organizations least frequently following the recommendation to include content warnings for distressing content and most frequently following the recommendation to not include language that shocks, provokes, or creates a sense of panic. The second highest adherence rate was for entirely fact-based reporting (54.0%), followed by highlight actions to address the issue beyond the individual (17.3%), include positive messages (15.4%), and include ways the public can make a positive difference (5.5%). ABC News had a higher adherence rate compared to other platforms for all U.S. Surgeon General criteria except for content warnings for distressing content. The following mass shootings were covered: Uvalde TX Robb Elementary School, Parkland FL Stoneman Douglas High School, Sandy Hook Elementary School, Buffalo NY supermarket, Virginia Walmart,

Colorado Springs nightclub, Tulsa, and the Highland Park IL July 4<sup>th</sup> Parade. Most videos featured politicians or public figures, such as political commentators, celebrities, and police department officials, while some featured victims’ family members.

Surgeon General Recommendation	Total Videos n (%)	ABC News n (%)	CBS News n (%)	NBC News n (%)	Daily Wire n (%)
Total	272	122	87	50	13
No language that shocks, provokes, or creates a sense of panic	199 (73.2%)	116 (95.1%)	58 (66.7%)	22 (44.0%)	3 (23.1%)
Entirely fact-based reporting	147 (54.0%)	94 (77.0%)	23 (26.4%)	29 (58.0%)	1 (7.7%)
Ways public can make a positive difference	15 (5.5%)	9 (7.4%)	3 (3.4%)	2 (4.0%)	1 (7.7%)
Positive Messages	42 (15.4%)	27 (22.1%)	9 (10.3%)	5 (10.0%)	1 (7.7%)
Highlights actions to address the issue beyond the individual	47 (17.3%)	28 (23.0%)	10 (11.5%)	6 (12.0%)	3 (23.1%)
Content warnings for distressing content*	1 (0.6%)*	0 of 89 (0.0%)	0 of 42 (0.0%)	1 of 39 (2.6%)	0 of 1 (0.0%)
Average adherence rate**	29.7%	40.3%	21.4%	23.7%	9.2%

**Table 7. Mass shooting videos that follow Surgeon General recommendations by news media organization**

\*171 out of 280 videos include distressing content. 1 out of 171 include a content warning.

\*\*Only includes U.S. Surgeon General recommendations. Does not include the criteria added for the purposes of this study: actions beyond the individual.

While 73.2% of videos did not include language that shocks, provokes, or creates a sense of panic, the highest rate of adherence, 73 videos across four platforms did. Some videos conveyed children and communities are still in danger due to continued gun violence. For example, Senator Chuck Schumer said, “No American is safe from it;” a young survivor of the Uvalde shooting said, “I’m scared that it might just happen again. What if it happens again, who will be next;” and President Biden said, “we keep letting this happen.” Most videos accused politicians for allowing gun violence to continue; however, some blamed the gun lobby and a smaller number of videos blamed the person with the gun and not the gun itself. Democrats were accused of “political posturing” and ignoring the problem by not wanting to “commit people who seem to be violent” or “talk about what will actually stop shooters like locked doors, single points of entry with multiple exits,” and instead focusing on legislation that “targets law-abiding gun owners” and “background checks that won’t stop shooters.” Republicans were accused of “hold[ing] us hostage” and several videos included remarks of frustration at the insufficiency of “thoughts and prayers.”



The recommendation with the lowest adherence rate was to include content warnings for distressing content. Only one video out of 171 videos with distressing content included a warning. In this NBC News video, a 32-second clip played scenes on the ground of the Highland Park July 4<sup>th</sup> shooting with audio of several shots fired and people yelling “gun shots” in the background. Text on screen indicated: “Warning: Disturbing content. July 4<sup>th</sup> parade shooting leaves 6 dead, 38 injured in Highland Park, Illinois.” Content warnings were not included on videos that described the shootings in detail including a Robb Elementary student who covered herself in blood so the shooter would not hurt her or showed footage of the chaos unfolding on the scene as people ran away or police responded.

Only 5.5% to 17.3% of content met recommendations to highlight positive messages, ways the public can make a difference, and actions to address the issue at a level beyond the individual. On June 25, 2022, President Biden signed the Bipartisan Safer Communities Act, known as the “first major gun safety legislation passed by Congress in nearly 30 years.”<sup>33</sup> Only three videos referenced this legislation passing both chambers and being signed into law. One video from ABC News included a 46-second clip of President Biden’s speech touting the legislation; however, the clip featured the father of a Parkland shooting victim interrupting the speech to say “We have to do more than that. I’ve been trying to tell you this for years!” An NBC News video featured a clip of President Obama’s speech ten years after the Sandy Hook shooting during which he expressed his frustration at the “utter failure of Congress to respond.” The 81-second clip mentioned President Biden’s signed legislation in the last 10 seconds. CBS News had the only video that described some of what the law includes, via a clip of President Biden’s speech.

Examples of positive messages shared included: describing possible policy solutions, communities coming together to pay tribute to the victims, and survivors expressing gratitude for being alive and witnessing people helping each other.

### ***Collective Trauma Events: COVID-19 pandemic***

There was a total of 305 videos about the COVID-19 pandemic. Table 8 shows the number and percentage of pandemic videos by news media organization that met each Surgeon General recommendation. The recommendation adherence rate ranged from 0.0% to 70.2% with media organizations least frequently following the recommendation to include content warnings for distressing content and most frequently following the recommendation to not include language that shocks, provokes, or creates a sense of panic. The second highest adherence rate was for entirely fact-

based reporting (40.0%), followed by include positive messages (35.7%), highlight actions to address the issue beyond the individual (23.9%), and include ways the public can make a positive difference (17.4%).

Surgeon General Recommendation	Total Videos n (%)	ABC News n (%)	CBS News n (%)	NBC News n (%)	Daily Wire n (%)
Total	305	109	86	21	89
No language that shocks, provokes, or creates a sense of panic	214 (70.2%)	91 (83.5%)	76 (88.4%)	13 (61.9%)	34 (38.2%)
Entirely fact-based reporting	122 (40.0%)	51 (46.8%)	54 (62.8%)	17 (81.0%)	0 (0.0%)
Ways public can make a positive difference	53 (17.4%)	39 (35.8%)	11 (12.8%)	2 (9.5%)	1 (1.1%)
Positive Messages	109 (35.7%)	58 (53.2%)	33 (38.4%)	11 (52.4%)	7 (7.9%)
Highlights actions to address the issue beyond the individual	73 (23.9%)	47 (43.1%)	18 (20.9%)	4 (19.0%)	4 (4.5%)
Content warnings for distressing content*	0 (0.0%)*	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Average adherence rate**	32.7%	43.9%	40.5%	41.0%	2.25%

**Table 8. COVID-19 pandemic videos that follow Surgeon General recommendations by news media organization**

\*40 out of 301 videos include distressing content. 0 out of 40 include a content warning.

\*\*Only includes U.S. Surgeon General recommendations. Does not include the criteria added for the purposes of this study: actions beyond the individual.

The Daily Wire adhered the least to the recommendation to not include language that shocks, provokes, or creates a sense of panic when compared to the other three news organizations. Most content not following this recommendation fell into three categories: (1) accusing Democrats for being a “liberal ruling class” implementing “full authoritarian tyranny” and setting up a “defense between everyday Americans and autocracy,” (2) claiming “the media don’t care about the truth” in pandemic reporting and (3) highlighting inconsistencies in implementation of regulations such as the mask requirement for Los Angeles county schools while celebrities at the Super Bowl are not masking and calling COVID rules in “blue areas” “wildly stupid.” Shocking, provoking, or panic-inducing content from ABC, CBS, and NBC News was different, with language focused on the death toll, hospitals at “exploding capacities” unable to care for everyone, comparing the pandemic to a “war” and a “wildfire,” and the despair in not knowing if your loved one will survive and in believing “it’s hard to see an end in sight.”

To make a positive difference, news organizations highlighted getting vaccinated and masking. The Daily Wire, however, highlighted ways to resist pandemic regulations. For example, a series of Daily Wire videos called for viewers to sign a petition against the Occupational Safety and Health Administration (OSHA) rule mandating large employers to implement a vaccine requirement for employees or pay a fine. A Daily Wire executive celebrated the Supreme Court’s

ruling against the mandate, asserting that states and Congress have the power to respond to the pandemic, not federal agencies such as OSHA.

Despite showing footage of body bags, strained hospitals, and an individual being forcefully taken into quarantine in China, no content warning was included on any of the 40 videos that included distressing content.

## **DISCUSSION**

This study is the first to determine if news media organization content on TikTok follows U.S. Surgeon General recommendations to protect youth mental health. Public health leaders can use these findings to design interventions that ensure media organizations follow U.S. Surgeon General recommendations to protect youth and help end the mental health crisis. As news media organizations respond to interventions, this study's results can serve as a baseline to evaluate any changes made in recommendation adherence rates and content quality.

The team collected videos published from the date the advisory was issued – December 7, 2021 – to one year later from the four news outlets with the most followers on TikTok: ABC News, CBS News, NBC News, and Daily Wire. Content that covered stories about mental health and illness, mass shootings, the COVID-19 pandemic, weather-related disasters, and climate change were coded for adherence to recommendations. I then summarized the data based on the percentage of videos that met the advisory's recommendations and conducted qualitative analysis of video content.

Results show low adherence rates to U.S. Surgeon General recommendations. All content had a median adherence rate of 19.5% (range = 0.0 – 83.9 percent). ABC News had the highest median adherence rate (34.6%) with the Daily Wire having the lowest median adherence rate (7.7%). Mental health and illness content followed recommendations 8.1% to 83.9% of the time with news media organizations least frequently including recovery stories and most frequently avoiding harmful stereotypes. For collective trauma content, the two recommendations with the highest adherence rate (40.0% - 76.1%) were “fact-based reporting” and “no language that shocks, provokes, or creates a sense of panic.” The recommendations with the lowest adherence rate (0.0 – 8.0%) were “include ways the public can make a positive difference” and “include content warnings on distressing content.” NBC News and Daily Wire have higher median likes and comments compared to ABC News and CBS News. This higher level of engagement is concerning given NBC and Daily Wire also have lower adherence rates. More investigation into audience demographics

for each outlet is necessary to better understand exposure to youth populations. These data show that, overall, news media organizations content is not protecting youth mental health.

Given the link between stigmatizing or distressing media coverage and mental health, the results indicate that the observed lack of adherence to guidelines could have grave implications for youth mental health. For mental health and illness coverage, the adherence rate was much lower (8.1 – 34.5%) for positive mental health and illness recommendations such as including stories of recovery and help-seeking, sharing resources, and using person-centered language compared to negative-exclusion criteria (ex. do not use stereotypes or demeaning language.) While anti-stigma campaigns may have successfully discouraged the promotion of stereotypes and use of demeaning language, it is also important to promote positive messages on mental health.

For collective trauma content, there are several concerning results. As climate anxiety among youth worsens,<sup>20</sup> it is concerning that coverage of weather-related disasters and climate change has a low adherence rate (0.0 – 21.5%) to recommendations that could balance the content's distressing nature: include content warnings, highlight ways the public can make a positive difference, and include positive messages. Another topic tragically relevant to youth is mass shootings, with firearms as the leading cause of death among children in the United States.<sup>34</sup> As youth grapple with the fear of mass shootings, it is concerning that only 1 out of 171 videos with distressing content had a content warning and only 15.4 – 17.3% of coverage included positive messages or action being taken to address the issue. Lastly, while the COVID-19 pandemic public health emergency declaration is set to expire on May 11, 2023,<sup>35</sup> coverage of future pandemics could exacerbate youth mental health if it focuses only – or mostly – on death tolls, strained hospital resources, and uncertainty and not on positive messages and solutions.

One somewhat promising result regarding climate change content is that three out of four outlets did not call into question the existence of climate change, the anthropogenic cause of climate change, or the high level of alarm about the crisis. Daily Wire was the only outlet that called these elements into question. Of Daily Wire's 14 videos on climate change, 2 (14.3%) called into question the existence of global warming and its anthropogenic cause while the remaining 12 videos debated or criticized other points related to climate change. While the two videos including misinformation are concerning, the relatively small number of videos debating the existence and cause of climate change may indicate a shift in debate towards other aspects of the issue such as the appropriate level of alarm.

### ***Limitations and Future Research***

There are limitations in both the data and analysis. The scope of the data included was limited. For example, the definition employed for mass shootings excluded media coverage of attempts thwarted by police, shootings with less than four fatalities such as the University of Virginia bus shooting, and shootings with no fatalities such as the New York City subway shooting on April 12, 2022 in which several people were injured. Future studies could use an expanded definition (ex. Stanford's Mass Shootings in America<sup>23</sup>). Secondly, the advisory mentioned mass violence but this study only included mass shootings due to their direct impact on youth in the United States. There are other types of mass violence and collective trauma events that could have been included. Future studies may expand the scope to include war, terrorist attacks, racially motivated violence, and economic recessions. While not mentioned in the advisory, coverage of individual trauma such as sexual assault could also be included in future analyses. The study time frame consisted of one year to account for events that may occur at different times of the year; a longer time frame could give insight into trends. Additionally, the content analyzed originated from only four outlets due to the size of the research team. While those four outlets have the most followers, including more outlets could give a better picture of the overall media landscape. Researchers may consider adding outlets such as Yahoo News, Washington Post, and USA Today which are all U.S.-based outlets with more than 1 million followers on TikTok. Future studies could also compare performance of U.S.-based outlets with other countries' media organizations. This study was limited to the United States given the significance of a federal agency issuing an advisory on the youth mental health crisis. Another comparison that future studies could investigate is legacy media performance versus emerging media performance – ABC, CBS, and NBC are legacy media organizations and performed better on average than Daily Wire; analyzing content from more emerging outlets could identify trends. If emerging outlets, such as the Daily Wire, include more partisan content, tone may be another element to analyze for future studies. A news report could have a fact-based message, but the way it is delivered could fall under the “provoking” category. Lastly, with limited definitions in the advisory of “distressing content” and “language that does not shock, provoke, or create a sense of panic,” I created and implemented restrictive definitions [Table 2]. Data for these two criteria may be underestimates. Further clarity from the Surgeon General's office can inform future research on measuring content that is distressing and includes shocking, provoking, panic-inducing language.

TikTok itself poses some limitations. I selected TikTok because it is widely used by youth, but there are other social media platforms and sources where youth may consume news content. TikTok's proprietary algorithm and

minimal data analytics are also limiting. It is unknown to what extent youth were exposed to the videos included in this study. Without insight into how TikTok's algorithm shares news media content with youth users, I operated under the assumption that news accounts with the most followers are more likely to be seen by users, many of whom are in the study's age demographic. While TikTok content creators can see some follower data such as gender and where audiences are viewing from,<sup>36</sup> these in-app metrics do not include age ranges and it is unclear if this data would even be accessible to third parties. Future studies could first verify a set of news media content that youth consumed and then analyze that data. Research involving TikTok may become easier following the platform's announcement in February of 2023, after this study's time frame, to expand access to its data for research conducted by nonprofit academic institutions.<sup>37</sup>

Regarding analysis, while I piloted coding with the team, double coded mental health and illness content, and spot-checked other content, a small margin of error may still exist due to limited interrater reliability.

### ***Practice-Based Recommendations***

While there are behavioral interventions that could encourage youth to moderate their consumption of distressing content, it is equally - if not more - important for interventions to target the content source: news media organizations. There are several recommendations for the U.S. Surgeon General's office, advocacy organizations, and news media organizations to consider.

The advisory and its accompanying recommendations for whole-of-society efforts to address the youth mental health crisis is a critical first step. The Surgeon General's office can go further by (1) adding additional recommendations, (2) clarifying certain recommendations, and (3) promoting the recommendations.

One recommendation to add for news media is: highlight actions that address the issue at a level beyond the individual. While the advisory does mention ways the public can make a positive difference, the examples shared are individual-led. Attention solely on individual actions could place unrealistic expectations on youth to solve problems that also require systemic solutions. Systemic actions such as state and federal policies are critical in addressing mental health, climate change, mass shootings, and other collective trauma events, and should receive adequate news coverage. The office should also encourage news media organizations to consider the purpose behind sharing distressing content knowing the impact it can have on youth mental health. Is it merely to increase engagement and viewership? Or is it to educate and inform audiences? For example, several videos showing Hurricane Ian's destruction as it approaches Florida

may persuade Florida viewers to follow evacuation orders and ultimately save lives, but it is difficult to identify how several videos of devastating destruction serves audiences outside of Florida.

Secondly, the Surgeon General's office should clarify two of their existing recommendations. First, a definition should be shared for language that "shocks, provokes, or creates a sense of panic." While this study employed the aforementioned definition [Table 2], it is important for news organizations to better understand what the Surgeon General means by this type of language so the recommendation is easier to follow. The office should also define distressing content so news media can appropriately and consistently apply content warnings. I recommend the definition go beyond hearing or seeing gunshots and showing bodily injuries and include depictions of life-threatening circumstances, extreme fear, and deprivation. Examples include showing people trapped during weather-related disasters and children running out of school buildings during a mass shooting. Similarly, the recommendation should go beyond graphic images and video and extend to graphic language both spoken in and written on the video. Given some videos play automatically and without audio, it is important to clarify the importance of visual content warnings that appear before the video plays and offers the viewer the opportunity to actively opt-in to viewing by pressing a button.

Stakeholders should share recommendations with producers at news media outlets, specifically staff that curate news content for social media platforms. While the Surgeon General's office can play a role in this, advocacy organizations should provide support. Support from these organizations is especially necessary as federal officials devote resources and political capital on combatting health misinformation, one of the five Surgeon General's office priorities. The Surgeon General's office can spotlight any third-party efforts to track media outlet adherence to the recommendations.

Aside from helping promote the recommendations, advocacy organizations should educate news media organizations on best practices and incentivize staff to follow them. A coalition of mental health organizations can encourage outlets to promote the 988lifeline.org website in addition to the phone number and decide if there are resources other than 988 that should be shared. They can also share stories with content producers of successful recovery and a list of individuals with lived experience who are media-trained and can answer inquiries. Gun violence prevention groups can also share a list of subject matter experts who can speak to the press about positive stories, implemented solutions, and other solutions in progress. Climate change organizations can educate outlets on avoiding

climate doom messages and reporting on the systemic solutions in place and in progress. Awareness of the recommendations and an understanding of best practice content may fall short in driving necessary changes to news media content. Advocacy groups should consider ways to incentivize news media organizations. For example, advocates can track media outlet performance based on the advisory recommendations and share the data with the outlets and the public. They can then encourage youth and the general public to follow outlets that adhere to the guidelines and not like, comment, or share content that does not.

The study's results illuminate several ways news media organizations can improve their content to protect youth mental health. While adherence rates still have room for improvement, news media organizations should continue to avoid stereotypes and demeaning language about mental illness. Stereotypes to avoid include portraying self-care and inner strength as leading to recovery without mentioning other factors such as treatment. Improvement can also be made in the use of person-centered language, sharing resources, and including subject matter experts. If clips show politicians using non-person-centered language, the caption or the reporting along with the story can incorporate the correct language. Coverage of suicide should show that help is available and the cause is often complex. The National Suicide Prevention Hotline was most frequently shared as a resource. Producers should consider including not only the hotline but the website [988lifeline.org](http://988lifeline.org) and other mental health resources. Lastly, most videos including people with lived experience of mental illness featured celebrities or public figures. While those stories may inspire viewers, stories featuring other community members may also provide inspiration and be more relatable.

Regarding coverage of collective trauma events, it is important for news media organizations to adhere to the full set of recommendations instead of focusing on individual items. For example, it is insufficient for outlets to report collective-trauma events as fact-based and exclude shocking language; they should also adhere to other protective or positive recommendations such as including content warnings, highlighting ways the public can make a positive difference, and including positive messages. Future analysis should determine if the median number of likes and comments for distressing versus non-distressing content is statistically significant. If there is no statistically significant difference or if non-distressing content has a statistically significant higher level of engagement, some content producers may need to adjust perceptions that distressing content receives more engagement. If distressing content has a statistically significant higher level of engagement, content producers should exercise caution in using this content type to increase engagement, especially on platforms with a large youth audience. Social media and news media experts



should develop creative strategies to increase engagement on content that protects youth mental health. Positive messages in mass shooting coverage could include highlighting and explaining signed legislation intended to address the issue. In weather-related disaster content, positive messages can include measures government officials are taking to mitigate the harm of future disasters and ways community members are coming together to rebuild. While some content did highlight the latter, no weather-related disaster videos provided specific ways the public can make a positive difference. If there are no ways to donate money or supplies to disaster relief efforts, there may be specific ways the public can support disaster preparedness efforts in their community.

Low adherence rates to U.S. Surgeon General recommendations show that news media producers should act urgently to improve content. Given the higher engagement on mass shooting content, producers could prioritize rethinking how they report these stories. However, all coverage of mental health and illness and collective trauma events outside of mass shootings should be promptly addressed.

## **CONCLUSION**

Public health research at the intersection of news and social media can help practitioners understand ways to address the youth mental health crisis. This study is the first to determine if news media organization content on TikTok is following U.S. Surgeon General recommendations to protect youth mental health. All content had a median adherence rate of 19.5% (range = 0.0 – 83.9 percent). Across outlets, ABC News had a median adherence rate of 34.6% (range= 0.0 – 95.1%), followed by CBS News at 14.3% (range= 0.0 – 100.0%), NBC News at 9.8% (range= 0.0 – 100.0%), and the Daily Wire at 7.7% (range= 0.0 – 75.0%). Low adherence rates to U.S. Surgeon General recommendations show that, overall, news media organizations' content is not protecting youth mental health. Public health leaders can use these findings to inform interventions that ensure media organizations follow U.S. Surgeon General recommendations to protect youth and help end the mental health crisis. As the digital media landscape rapidly evolves and additional outlets enter the market, public health leaders will need to respond quickly and effectively to ensure news producers protect youth mental health.

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