

Crowdfunding Cannabidiol (CBD) for Cancer: Hype and Misinformation on GoFundMe

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Objectives. To use crowdfunding campaigns to better understand how cannabidiol (CBD) is represented (and misrepresented) as cancer-related care.

Methods. We analyzed CBD-related crowdfunding campaigns (n = 155) created between January 2017 and May 2019 in multiple countries on GoFundme.com.

Results. More than 81.9% of campaigns fundraised CBD for curative or life-prolonging reasons, and 25.2% fundraised for pain management.

Conclusions. Most campaigns seeking funds for CBD for cancer-related care on GoFundMe are for curative or life-prolonging purposes and present CBD definitively as an effective treatment option. In general, campaigners supported their funding requests with anecdotal claims of efficacy and referenced sources of information that were either not evidence-based or that misrepresented existing evidence.

Public Health Implications. Misinformation around CBD for cancer is widespread on medical crowdfunding campaigns. Given the potential adverse impact, crowdfunding platforms, like GoFundMe, must take steps to address their role in enabling and spreading this misinformation. (*Am J Public Health.* 2020;110:S294–S299. <https://doi.org/10.2105/AJPH.2020.305768>)

 See also Chou and Gaysynsky, p. S270, and Walsh-Buhi, p. S292.

Health misinformation is an increasing problem for public health. Misinformation—understood here as any claim that is misleading or false based on the best current scientific evidence—has spread since the rise of social media, with substantial negative consequences.^{1,2} For example, diseases such as measles are reemerging in part because of misinformation about vaccine safety.³ Public health efforts to vaccinate those at risk are undermined by antivaccination misinformation on social media, which policymakers have acknowledged as a challenge. In Samoa, the effects of this misinformation have been deadly; approximately 63 persons died from measles there in December 2019 amid a large outbreak made possible by increased resistance to vaccination spurred by misinformation.⁴

While misinformation around vaccine safety is a prominent example of the challenges and impacts of health misinformation, this problem is not limited to vaccines and infectious diseases. Other forms of health misinformation surrounding a wide range of

health issues are spread through online pathways. These include exposure to health misinformation on social media platforms such as Facebook, Instagram, Reddit, and Twitter; viewing of online advertisements for businesses selling products directly to consumers; and visiting “fake news” Web sites specifically peddling both health misinformation and intentional disinformation about the safety and efficacy of health products and procedures. These sources of health misinformation are easy to inadvertently access, as when individuals search symptoms or treatments of common conditions online and are then exposed to Web sites that appear credible but offer misinformation on the efficacy of alternative treatments and misrepresent the safety and efficacy of conventional

treatments.⁵ More generally, search engine results, such as those provided by Google, can contain misinformation and can have an impact on public perceptions of an issue.⁶

One product now capturing widespread interest and, potentially, serving as a focus of health misinformation, is cannabidiol (CBD). CBD, a cannabinoid found in the cannabis plant, is commonly described online as a cure-all for numerous conditions or ailments.⁷ CBD is popular and under a so-called “health halo” because of the suggestive efficacy from its categorization as a natural health product.⁸ CBD is currently marketed, sold, and used for minor conditions and purposes such as pain relief and skin health, as well as more serious conditions such as Alzheimer’s disease, attention deficit hyperactivity disorder, autism, anxiety, schizophrenia, menstrual pain, insomnia, eczema, erectile dysfunction, posttraumatic stress disorder, Crohn’s disease, arthritis, and depression.^{7,9,10} However, there is little or no robust clinical evidence to support the use of CBD for any of these purposes.¹¹ At this time, only Epidiolex—a CBD medication to prevent seizures—is accepted by US regulatory entities as having sufficient evidence of efficacy.¹²

Commercial businesses have cashed in on CBD’s popularity, making available more than 500 CBD products.¹³ CBD-infused cosmetic products are available as shampoos, makeup, bath bombs, moisturizers, toothpaste, and soap.¹⁰ Food establishments and companies are presently offering CBD in a range of food products and beverages. The claimed effects of CBD-infused products vary by product and manufacturer. For example, a CBD shampoo from Emera claims that CBD

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This editorial was accepted May 6, 2020.

<https://doi.org/10.2105/AJPH.2020.305768>

“naturally integrates with the body’s endo-cannabinoid system to help reduce common dry hair conditions.”¹⁴ These offerings are not limited to small or fringe companies as even the Coca-Cola Company is exploring introducing a wellness drink infused with CBD.¹⁵ Prominent celebrities are also entering the CBD business. Gwyneth Paltrow, the founder and owner of the controversial wellness brand Goop, is a business partner with a company that sells CBD called MedMen.¹³ Speaking to the benefits of cannabis, Paltrow comments: “[I]t can really be an alternative pain management system, and, in some cases, helpful for depression.”¹⁶ Other celebrities such as Whoopi Goldberg and Willie Nelson have launched their own cannabis and CBD products for uses such as menstrual cramp relief, hormone balancing, increasing insulin sensitivity, reducing inflammation, and skin care.^{17,18}

A particularly concerning form of misinformation around the efficacy of CBD is its representation as effective for cancer-related care. There is little evidence that CBD is an effective treatment of cancer and limited evidence for the side effects of cancer treatment, such as pain relief or nausea from chemotherapy.^{19,20} Nonetheless, numerous natural health Web sites and CBD companies make unsupported claims about the efficacy of CBD for cancer treatment and therapeutic care. In December of 2019, the US Food and Drug Administration sent notices to 15 CBD companies for misleading health claims on their Web sites and CBD products.²¹ Of these 15 companies, 12 had products or blogs claiming CBD as an effective cancer treatment. For example, Mr. Pink Collections, a Beverly Hills, California, CBD supplier, shared articles and social media posts with statements representing CBD as a “natural deterrent to cancerous cells” and claiming that it “arrests cancerous growth.”²² Similarly, Koi CBD, another California-based CBD company, claims under a Web page titled “8 Proven Benefits of CBD” that “CBD relieves pain and inflammation” and “inhibit[s] the invasion of lung and colon cancer.”²³

Limited research is available to determine how this misinformation is being received by people with cancer and incorporated into their cancer treatment regimens, how this misinformation is being replicated and spread by patient consumers of CBD, and the effects

of this misinformation. As both public and private insurance generally do not provide coverage for CBD treatment, especially for cancer-related care, many would-be CBD users seek financial support for this intervention. Thus, a useful means of gaining insight into the understanding of potential users of CBD for cancer-related care is through analyzing medical crowdfunding campaigns appealing for help paying for CBD. Crowdfunding allows users to fundraise costs of medical treatment and share their campaigns on social networks, such as Facebook, to appeal for donations. To receive donations, campaigners need to share the details of their proposed treatment and rationale for seeking it. Unsolicited campaign descriptions allow for exploration into patient testimonials and explanations for treatment choices, as has been demonstrated by other analyses of crowdfunding data.²⁴ Thus, the content of campaigns for those fundraising for CBD for cancer-related care can provide insight into why people with cancer are seeking this substance and whether they are well- or misinformed about its safety and efficacy, and help guide policy responses.

METHODS

We retrieved crowdfunding campaigns on GoFundMe.com on October 28, 2019, using targeted word searches for CBD term variants and “cancer” on a database of campaign data. This database, initiated in April 2019, was created using the GoFundMe.com sitemap to identify campaign URLs for data scraping. Continuously scraped data included the campaign title, description and updates, funding received, funding requested, geographic location of the campaigner, and number of Facebook shares. We selected GoFundMe because this platform is by far the largest host of medical crowdfunding campaigns worldwide.²⁵ Terms searched with “cancer” included “cannabidiol,” “CBD,” “Rick Simpson Oil,” and “RSO.” Rick Simpson Oil is a cannabis oil product with both CBD and tetrahydrocannabinol (THC) and is used for cancer treatment purposes. We added it after an initial review of campaigns for cancer treatment with CBD included specific references to this form of CBD.

The initial search retrieved 955 campaigns. After we removed duplicate campaigns (n = 94) and campaign categories irrelevant to medical uses (n = 170), 691 campaigns remained. We excluded campaigns created before January 2017 to ensure campaigns were relevant to current CBD public discourse and debate, leaving 434 campaigns. The first author (M. Z.) reviewed each campaign to determine inclusion. Campaigns were included if they were crowdfunding CBD treatment of cancer-related care in humans. The second author (J. S.) reviewed campaigns flagged for inclusion. After reviewing each campaign, 155 remained for analysis. Campaigns were excluded for not crowdfunding for CBD (n = 231), not using CBD for cancer-related care (n = 24), using CBD for a nonhuman animal (n = 15), CBD for business ventures and legal issues (n = 8), or not available in English (n = 1).

The first and second authors independently reviewed half of the included campaigns and met to develop an initial coding framework. After discussing observed themes, an initial coding framework captured efficacy claims (curative or life prolonging; pain, symptom, and side-effect management; unspecified) and treatment regimen classification (complementary to mainstream treatment, elective exclusive of mainstream treatment, no other mainstream options rationale, or unspecified). After presenting the coding structure to the third author (T. C.), a third code was added to capture CBD efficacy presentation (definitive, possible, or not stated). The first author independently coded each campaign and recorded the specific cancer type and stage. Campaign codes flagged as unclear were reviewed by the second author and any disagreement was resolved through discussion or by the decision of the third author. The second and third authors each audited 50% of campaigns to ensure consistent coding.

RESULTS

The 155 included campaigns raised \$904 750.39 (median = US \$3015.00) from 12 362 donors (median = 39) and requested \$2 748 785.96 (median = \$7698.42). The campaigns were shared 67 641 times on Facebook, or averaged 442.1 shares per

campaign (median = 262). Campaign host locations were the United States (n = 107), the United Kingdom (n = 28), Canada (n = 11), unknown (n = 3), Australia (n = 2), Ireland (n = 2), Germany (n = 1), and France (n = 1). Most commonly, campaign beneficiaries were patients described as experiencing stage 4 or terminal cancer (n = 71; 45.8%), with others facing unspecified stages (n = 66; 42.6%) and stages 1 to 3 (n = 18; 11.6%).

Campaigns using CBD for curative or life-prolonging reasons were observed in 127 campaigns, raising \$757 551.52 (average = \$5964.97; median = \$3421.95) from 11 006 donors (average = 88 per campaign; median = 42) and shared 61 088 times on Facebook (average = 488.7; median = 272). These campaigns requested \$2 394 720.35, for an average request of \$19 157.76 (median = \$8500.00). Campaigns typically fundraised for CBD alongside other conventional or complementary cancer treatments. Most of these campaigns (n = 72; 56.7%) presented CBD as definitively effective in curing cancer or prolonging the recipient’s life (Table 1). For example, a campaigner diagnosed with late-stage cancer stated that CBD “will kill the cancer entirely and also help deal with the after effects of other treatments.” Often campaigns referenced the experience of others or themselves to justify these definitive efficacy statements. For example, one campaigner wrote

[A]fter doing much research since the beginning of our Mothers diagnosis she read on about Cannabis oil and Rick Simpson’s oil and about people healing themselves of tumours and cancer by ingesting very high levels of THC and CBD and all of the 66 different Cannabinoids to help eat and kill cancer cells.

Numerous campaigns reference research or statistics that allegedly prove CBD to be a

viable cancer treatment, such as one campaigner from Colorado: “There have been amazing studies on CBD oil. Helps fight cancer . . . this approach I feel is way better than pumping your veins full of poison, at least this is natural.”

A smaller group of campaigners raising funds for curative or life-prolonging reasons presented CBD as a treatment that may possibly cure or prolong their lives (n = 47; 37.0%). These campaigns, while still fund-raising CBD for curative purposes, are more limited in their claims. Frequently, they are motivated by hope rather than certainty that CBD will cure their cancer or improve their health. For example, one campaigner raising funds for a family member with limited treatment options wrote: “One treatment we have recently become aware of is CBD oil and although not scientifically proven, has shown signs to many people with cancer, of having remarkable reduction in the disease process.” Eight campaigns raising funds for curative or life-prolonging reasons did not have enough information for categorization.

We observed crowdfunding CBD for pain, the side effects of treatment, or other symptoms in 39 campaigns, raising \$159 702.56 (average = \$4094.94; median = \$1970.80) from 2013 donors (average = 51.6; median = 28) and shared 11 008 times on Facebook (average = 282.3; median = 205). These campaigns requested \$486 609.09 (average = \$12 477.08; median = \$5000.00). Many of these campaigns sought to utilize CBD to lessen the side effects of conventional treatments such as radiation or chemotherapy or to use alongside other complementary cancer treatments. Reported uses ranged from stimulating appetite, general pain relief, assisting with sleep, countering nausea, or general recovery

purposes. Most campaigners presented the efficacy of CBD for pain or symptom management purposes as definitively effective (n = 30; 76.9%). For example, one campaigner described CBD countering the effects of chemotherapy: “There is literally nothing else that helps more to get him through rough times like that. It truly helps him with appetite and pain.” Another campaigner wrote: “Although CBD isn’t a cure it’s certainly something we’ve found to massively alleviate the symptoms and help to make him comfortable.”

A small number of these campaigns represented CBD as only possibly effective for pain and side-effect management (n = 7; 17.9%). For example, one campaigner who had not yet tried CBD wrote: “I have been reading up on the effectiveness of CBD oil for cancer sufferers and would like to take this to aid my recovery.” Two campaigns did not have enough information for categorization.

Proposed uses of CBD for cancer-related care fell into 4 distinct categories: complementary to mainstream treatment (n = 97; 62.6%), elective exclusive of mainstream treatment (n = 28; 18.1%), no other mainstream options rationale (n = 22; 14.2%), or unspecified (n = 8; 5.2%; Table 2).

The most commonly observed category, complementary to mainstream treatment, refers to campaigns in which campaigners propose using CBD complementary to evidence-based cancer treatments to cure, prolong life, enhance the effectiveness of cancer treatment, or deal with side effects of cancer or cancer treatment. For example, a campaigner used CBD both to supplement chemotherapy and manage its side effects: “We started alternative therapies such as CBD immediately in June 2018 alongside what the oncologist prescribed. I’m pretty sure she wouldn’t be here today without the oil.”

Elective exclusive of mainstream treatment refers to campaigners using CBD on its own or as part of an alternative treatment regimen in place of mainstream treatment options and against medical opinion. These campaigns signify the choice to forgo conventional treatment. For example, the campaign of a terminally ill man living with cancer for the past 4 years wrote

We pulled together a huge benefit 4 years ago when he was given 6 months to live after refusing

TABLE 1—Intended Outcomes of Incorporating Cannabidiol Into Cancer Treatment by GoFundMe Crowdfunding Campaign Efficacy Presentation: January 2017–May 2019

Intended Outcome	Efficacy Presentation	No. (%)
Curative or life prolonging	Definitive	72 (56.7)
	Possible	47 (37.0)
	Not stated	8 (6.3)
Pain or symptom management	Definitive	30 (76.9)
	Possible	7 (17.9)
	Not stated	2 (5.1)
Unspecified	Not stated	6 (100.0)

TABLE 2—Cannabidiol (CBD) Cancer Treatment Regimen Type by Cancer Stage in GoFundMe Crowdfunding Campaigns: October 2017–October 2019

	Stage 1	Stage 2	Stage 3	Stage 4 and Terminal	Unspecified	Unspecified but Spread	Total
Complementary to mainstream treatment	1	5	9	44	25	13	97
Elective exclusive of mainstream treatment or CBD itself	...	...	2	12	13	1	28
No other mainstream options rationale	...	...	1	12	7	2	22
Unspecified	...	...	...	3	3	2	8
Total	1	5	12	71	48	18	155

chemo and radiation, both industry recommended “fixes.” [Name] decided to fight it holistically and with the original donation amounts rendered then, purchased CBD oil and it has prolonged his ‘due date’ to God for more than 3.5 years!

The no other mainstream options rationale category refers to campaigns in which CBD use is for curative or pain-relief purposes when no other evidence-based curative options are available. Those in this category are not opting out of traditional cancer treatments but rather have been told that no curative options exist, leading them to try CBD as an alternative. For example, a campaigner in the United Kingdom wrote

We are raising money for alternative treatment as her particular tumor is non-responsive to chemotherapy. Alternative treatments are very expensive and not covered by insurance. We will order a customized CBD Oil, a strength not sold over the counter.

The majority of such cases are terminally ill patients trying something that could potentially cure or prolong life. Finally, we labeled 8 campaigns “unspecified,” given that not enough information was available to categorize them.

DISCUSSION

Our results suggest that most campaigners seeking funds for CBD for cancer-related care purposes on GoFundMe are for curative or life-prolonging purposes and presented definitively as an effective treatment option. Campaigners support their funding requests with anecdotal claims of efficacy and reference sources of information that are either not evidence-based or that misrepresent existing evidence. This demonstrates that

misinformation around CBD for cancer is widespread on GoFundMe.

The spread of CBD efficacy misinformation is compounded by sharing on social networks. Campaigns for curative or life-prolonging purposes were shared more than 60 000 times or approximately 488.7 times (median = 272) per campaign. These shares may influence the treatment decisions of others who may, in turn, share misinformation about CBD. Campaign hosts must write compelling and sympathetic narratives considered worthy of donations by potential donors—an issue described previously.^{26–30} The financial success of the campaigns demonstrates the perceived credibility of claims of CBD’s efficacy for cancer-related care. The campaigns were very successful and averaged \$5946.97 (median = \$3421.95) raised per campaign, indicating at least a minimum level of acceptance of campaign claims by donors. Campaign success also shows the power of crowdfunding narratives to persuade readers that unproven medical treatments are valid options.

CBD is primarily used as complementary to evidence-based treatment in our sample. Most campaigns were not relying on CBD as their sole or primary treatment option, but instead incorporating CBD into mainstream options such as chemotherapy or radiation to extend life expectancy or for pain relief. An additional 22 instances were of cases in which the campaign beneficiary did not have any standard treatment option available and thus was trying CBD as a last option. This is a somewhat positive finding because of the lack of evidence of CBD’s efficacy for cancer-related care. However, even incorporated as a complementary treatment, there are concerns. People with life-threatening illnesses are appealing for and spending substantial amounts of money on CBD for purposes that

are not evidence-based. Raising funds for CBD as a potentially curative or life-prolonging treatment without appropriate evidence represents a context in which misinformation exploits hope in a particularly vulnerable group, spreads misinformation, and wastes resources. In addition, there is potential for CBD interaction with medications, and the side effects of CBD are still not fully known.^{10,13}

We classified a sizable portion of campaigns using CBD as exclusive of mainstream treatment ($n = 28$). While these campaigns represent a smaller portion of the campaigns retrieved (18.1%), they are especially alarming. Most of our sample were persons with advanced stages of cancer, with approximately 45% describing a stage 4 or terminal cancer diagnosis. These campaigners were forgoing routine care to use CBD on its own or as part of an alternative treatment regimen for curative or life-prolonging treatment. Forgoing evidence-based treatment leads to potentially treatable cancer worsening and opportunities for positive outcomes diminished. The claims made by those within this category particularly heighten the risk of misinformation to others by advocating against cancer treatments such as chemotherapy or radiation in favor of “natural” or alternative treatment regimens incorporating CBD.

This study provides an example in which unproven cancer treatments are promoted on GoFundMe without intervention by this crowdfunding platform. It adds to crowdfunding research literature examining fundraising for scientifically unsupported or unproven treatments, such as unproven stem-cell interventions,^{31,32} homeopathy,²⁴ and naturopathy, hyperbaric oxygen therapy, and long-term antibiotics for Lyme disease.³³ The evidence presented provides a strong

rationale to encourage or require GoFundMe to intervene by restricting the most problematic campaign types observed in our study. Researchers have proposed crowdfunding platforms to act as gatekeepers to deter campaigns for scientifically unsupported treatments.³⁴ While all these campaigns include misinformation about the known efficacy of CBD for cancer-related care, campaigns making definitive statements about CBD's efficacy and promoting CBD as an alternative to available and evidence-based care are particularly dangerous. Unsubstantiated hype and inaccurate claims can cause people to forgo effective treatment and spread treatment misconceptions and distrust of conventional treatments, undermining public health systems.

GoFundMe directly enables and profits from the sharing of this misinformation and thus is responsible for ensuring content on its platform does not harm others. Facebook shares increase public exposure to misinformation and can inspire donations and the creation of new campaigns. While current mechanisms are in place to report campaigns, such as the "report fundraiser" button, these mechanisms are insufficient as they focus on fraudulent campaigns and do not include blocking the sharing of misinformation. GoFundMe should devote resources to identify campaigns with misinformation shortly after posting to their Web site, particularly those with implications for life-saving treatment decisions. Identifying campaigns at the early stages is crucial as this limits the spread of misinformation. Any activities to identify campaigns with misinformation should be transparent. To improve transparency and improve trust around these interventions, GoFundMe should share the process of campaign identification and report results, such as the number of campaigns identified as spreading misinformation. Relying on potential donors to report campaigns with misinformation is an inadequate response.

Crowdfunding platforms such as GoFundMe can work with recognized cancer institutions to determine acceptability of proposed fundraising asks. Other social media platforms have partnered with reputable health organizations to determine which content is appropriate or not. In 2019, Facebook announced that they would partner

with the US Centers for Disease Control and Prevention to identify sources of vaccine misinformation.³⁵ GoFundMe can take similar action with cancer and potentially other diseases or conditions about which misinformation is spread. If GoFundMe chooses not to take these actions on its own, then greater regulatory involvement preventing the hosting and spread of medical misinformation around CBD for cancer-related care and beyond will be justified.

PUBLIC HEALTH IMPLICATIONS

CBD is associated with substantial misinformation. There are critical misconceptions about the current evidence base and acceptable uses, such as in the case of cancer. Crowdfunding platforms spread this misinformation. Campaign content is not checked for validity, and claims surrounding CBD efficacy for purposes such as curative or life-prolonging cancer treatment are shared widely on social media. This misinformation is dangerous; consequences include unnecessary financial strain and the delay and, in some cases, exclusion of evidence-based cancer treatment. GoFundMe must intervene to address its role in enabling and spreading this misinformation. **AJPH**

CONTRIBUTORS

All authors reviewed the data, identified coding structure, and edited the article. M. Zenone wrote the article and coded data. J. Snyder and T. Caulfield audited coded data.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

Ethics approval was not required for this study because the data used were publicly available and posted without an expectation of privacy.

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