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TRUVADA: PROMOTING GAY PROMISCUITY OR ENDING THE HIV STIGMA? *THE NEW YORK TIMES* AND *THE ADVOCATE* AS FACILITATORS OF ONLINE DEBATES AROUND THE HIV PREVENTION PILL

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Abstract

In Communication scholarship, a number of studies address the role of online commenting platforms in allowing for debates on issues of public interest. In consideration of the important roles of underlying policy designs in shaping these debates, the current study assessed differences in online reader perceptions around the HIV prevention pill Truvada on the mainstream news platform, *The New York Times*, and the LGBT platform, *The Advocate*. The study's results suggest that readers of both platforms were primarily concerned with the medical and scientific implications of Truvada. Moreover, readers of *The New York Times* were significantly more likely to frame the issue in terms of political/economic concerns, while readers of *The Advocate* were significantly more likely to frame the issue in terms of medical/science concerns. The paper's conclusion will discuss implications of these results for future research and preventative health strategies.

Introduction

According to the Centers for Disease Control and Prevention (CDC), more than 1.2 million people in the United States are living with HIV infection, with almost 1 in 8 being unaware of their infection (CDC, 2015). Among the groups at greatest risk for HIV infection are gay and bisexual men of all races and ethnicities. It is estimated that 50,000 individuals are diagnosed each year with HIV, while in 2012 close to 14,000 individuals diagnosed with AIDS died (CDC, 2015).

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In July 2012, the Food and Drug Administration (FDA) approved Truvada, a controversial pill regimen promising to significantly lower the risk of HIV infections among high-risk groups (Park, 2012). While some celebrated the pill as a scientific breakthrough that could put an end to HIV, others expressed skepticism, with prominent AIDS activists Michael Weinstein (2014) and Larry Kramer (2014) becoming vocal opponents. The public divide over the new HIV prevention strategy was also reflected across the news media, with a *Huffington Post* headline calling Truvada “the most celebrated, mistrusted little pill in the world” (Shapiro, 2014).

The twenty-first century was not only significant in terms of breakthroughs in HIV prevention, but also entailed the emergence of new communication and information platforms that have had significant impacts on the journalistic profession, free expression, and access to information. For example, the rise of online news and blogs has significantly altered how individuals access news and information. Individuals now have the opportunity to not only access news and information from mainstream news media sources (e.g., *The New York Times*), but can also access a wide range of special interest and community-related news platforms, such as LGBT news media (e.g., *The Advocate*).

Moreover, digital media not only increased the number and type of choices for media content, but also afforded individuals with new ways to engage with news and information. One of the most significant ways in which this type of user engagement manifests is through the ability for users to directly comment on news items online. As some scholars note, science communication now includes not only the media’s published materials, but also online comments (Shanahan, 2010). As a result, many scholars have documented the role of commenting platforms in fostering democratic discussion (e.g. Freelon, 2015). Other researchers have examined user comments as a way to identify public sentiment on different health and science issues (e.g., Len-Rios, Bhandari, & Medvedeva 2014), as well as the effects of comments on individual perception and opinion (Anderson, Brossard, Scheufele, Xenos, & Ladwig, 2009).

The current study examines the nature of online comments to news coverage on the HIV prevention pill Truvada, allowing for an assessment of how different members of the public view the relevance of the pill within the context of their lives. Specifically, this study seeks to identify potential differences in public sentiment by analyzing news articles and corresponding comments from the mainstream news media platform *The New York Times* and the LGBT news platform *The Advocate*. Seeking to understand the role of online platforms as “infrastructure of free expression” (Balkin, 2009), the study also discusses how policy designs like real name requirements may impact public expression around Truvada.

In order to assess differences in reader perceptions, all articles discussing Truvada between May 1, 2014 and October 31, 2014 were accessed through the platform’s online archives, including the population of comments associated with each article. This six-month period in 2014 allowed for the analysis of public sentiment related to discussion forums facilitated on both platforms. In a discussion series titled, “Is PrEP a Good Way to Fight H.I.V. Infections”, *The New York Times* published commentaries from AIDS activists such as Michael Weinstein as well as other activists and health

professionals. On the LGBT news platform, *The Advocate*, a forum titled “31 Days of Prep” included articles written by health professionals, community members, and science journalists.

Based on a deductive literature review as well as an inductive review of a sample of comments posted to articles, this study relies on an original coding framework to examine different frames of reference among commenters. Based on these findings, this paper seeks to provide a framework for future research on media coverage of AIDS/HIV prevention, as well as the social, cultural, and political representations that develop around the drug. In addition, the paper makes several recommendations for journalists and their work in communicating preventative health strategies to the public.

News Media Frames Helping us Understand Public Health Debates

This study seeks to advance the current literature by focusing not only on the frames of reference journalists adopt in their coverage on public health issues, but by further examining how reader perceptions align or differ with the news platforms’ framing.

Studies focusing on framing as a theoretical construct frequently refer to frames as the “central organizing idea or story line that provides meaning to an unfolding strip of events [...]. The frame suggests what the controversy is about, the essence of the issue” (Gamson & Modigliani, 1994, p.376). In the news media, framing occurs on both the side of media production and media consumption. For example, the organizational and structural factors of the media system as well as the individual characteristics of the journalist can impact the framing of news content. As audiences receive frames from the media, individuals internalize these frames to help them understand the issue at hand (Scheufele, 1999). While some scholars describe this process in terms of *frame accessibility*, or *salience* (Zaller, 1992), most scholars observe that individuals rely on a more deliberative process. Rather than uncritically adopting these views, audiences actively weigh frames and their implications as they relate to their pre-existing interpretations and schema (Scheufele & Tewksbury, 2007).

In scholarship on media framing, a number of studies have focused on how framing and narratives presented in news media help the public understand public health issues and intervention strategies. As part of “risk reporting”, media coverage of HIV/AIDS “requires interpretive judgment in the face of technical uncertainty and scientific disagreement” (Nelkin, 1991, p.294). In the early days of the epidemic in the 1980s, HIV/AIDS was primarily considered a “gay disease” resulting in little coverage in mainstream news media (e.g., Gross, 2001; Kinsella, 1989). Mainstream news media also came under attack by the emerging HIV/AIDS movement for publishing questionable scientific information around HIV transmission (Epstein, 1996; Streitmatter, 1995). It was not before the mid 1980s when scientists concluded that the virus now coined HIV could impact the larger population that the virus became part of the mainstream media agenda (e.g., Santa Cruze Bell, 2006). A rise in media coverage also resulted from the news that movie legend Rock Hudson had lost his life to AIDS (Kinsella, 1989). Rather than a focus on “high-risk groups” and their “immoral behavior” that had characterized early news coverage (Nelkin, 1991), media started adopting an “innocent victims” frame, focusing on HIV transmission among children and those that had been infected through

blood transfusions (Gross, 2001; Nelkin, 1991). In a study conducted among a sample of Australian print media, Brown (et al., 1996) demonstrate how both the “innocent victims” narrative and the “presumably gay villain” narrative was used in the same context to discuss doctor-to patient transmission.

In addition to shaping narratives about those impacted by the HIV virus, studies also show that scientific and medical concerns like HIV transmission were of significant concern in the media discourse (e.g., Brodie et al., 2006), with journalists adopting different strategies to communicate scientific findings to the public. While Schwartz and Murray (1996) conclude that the news media discourse painted a pessimistic picture about the disease by ignoring key findings and research and making alarmist generalizations, Cohen (1997) emphasizes the positive outlook of news media in discussing the future of HIV prevention.

Comments Sections as Forums of Debate

In the digital public sphere, media audiences are no longer mere consumers of media content, but expect communication platforms to allow for user engagement and interactivity (Jenkins, 2006). As news media platforms started publishing content online, comments sections to news article created new ways for readers to engage in deliberation. While some consider commenting platforms as reflective of critical components of the public sphere (e.g., Ruiz et al., 2011), comments sections also allow journalists to receive constant reader feedback (Ksiazek et al., 2014). At the same time, opportunities for user engagement have been found to generate more user traffic, supporting the advertising-driven business models of media companies (Ksiazek et al., 2014; Loke, 2012). While user comments may constitute challenges to the quality standards of the journalistic profession, (Diakopolous & Naaman, 2011), they have become a central feature of the online news experience.

In scholarship, news commentary has produced a wide range of studies that are primarily concerned with civility and politeness on commenting platforms. A frequently cited example for the analysis of online discussion is Papacharissi’s (2004) study on deliberation in political forums. The scholar concludes that the discourse was overall polite and civil, thus suggesting the promise of democratic discussion online. Papacharissi’s work, however, also emphasizes that uncivil comments pose a challenge to norms of democratic discussion. Following up on this research, Anderson (et al., 2009) presented research participants with manipulated comments to news articles on nanotechnology, concluding that uncivility in comments sections can reinforce political polarization.

Issues of uncivil and toxic debates have also prompted a scholarly debate on the role of real name requirements in fostering online civility. A study comparing the debate around immigration in a sample of anonymous and non-anonymous comments to news articles, for instance, finds that real name identification was significantly more likely to generate a civil discourse (Santana, 2013). The study’s results are consistent with an analysis of comments posted to the technology news site *TechCrunch* (Omernich & Owsley Sood, 2013). In an effort to disallow anonymous user commentary, the site had switched to a commentary platform created by Facebook. Based on a content analysis of news

comments posted before and after the news site switched to the non-anonymous platform, the scholars find that opportunities for anonymous speech generated more user comments. At the same time, anonymous comments were less likely to satisfy quality and relevance measures.

While these studies suggest that real name requirements may foster a more civil discourse, an inability to comment anonymously also raises the distinct question of whether real name requirements may prevent some from participating in online debates. Discussing the multiple governance functions performed by social media platforms, DeNardis and Hackl (2015) suggest that real name requirements can pose a threat to political activists and vulnerable communities like LGBT people. Similarly, a lack of anonymity could prevent vulnerable groups from weighing in on comments sections. Given the sensitivity of the issue of HIV prevention in general and the HIV prevention pill more specifically, an inability to comment anonymously could exclude many critical voices from the debate. While the current study does not primarily focus on the issue of civility in debates around HIV prevention, it is critical to understand the importance and potential impacts of real name requirements on online debates. Acknowledging the critical role of real name requirements in fostering or constraining debates, the study will place the issue of online commenting within the context of user policies.

News Comments, Issue Framing, and Public Sentiment

While news media discourse is a central aspect in the formation of individual perception and public opinion, journalists and their framing of an issue are similarly influenced by public opinion. Studies that examine the relationship between online news and public opinion rely on several methodological and theoretical frameworks. Few studies, however, describe the interactive process between journalistic frame-building and individual frame-setting. Zhou and Moy (2007) provide one of the few studies documenting this process. The authors analyzed news articles and user comments related to a local trial involving two peasants and a businessman. Their findings suggest that early on in the coverage of the issue, commenter frames dictate media frames, but as coverage continues, news media frames become less influential on the frames used for online discourse. While the authors note that the low level of media and government trust in China may not allow for a generalizations of their findings to western media systems, the study does provide an elaborate example of the interactive process of framing in online environments.

While the Zhou and Moy study provides a novel framework for the interaction between online news and user comments, most studies only examine the association between online news articles and user comments. Relying on content analysis of health related news articles, Holton et al. (2014) examine the relationship between news frames and commenters' frames through the framework of *episodic/thematic* frames established by Iyengar (1991) and *gain/loss* frames established by Tversky and Kahneman (1981). The authors find that news articles employing thematic frames were more likely to prompt users to focus on negative health outcomes in their comments, while episodic frames were more likely to generate personal comments. Using a similar framework, Suran et al. (2014) expand upon the study of Holten et al. (2014) to identify how the

health related topic of a news article affects user responses. The authors find that users relied on different frames of reference depending on the health topic.

While these studies focused on quantitative content analysis, other studies rely on mix-methodological approaches to examine the relationship between online news articles and user comments. For example, in their analysis of news articles and user comments on scientific evidence related to breastfeeding, Len-Ríos et al. (2014) use the framework of social *representation theory* first established by Wagner and Hayes (2005) to understand how user comments construct meaning around the issue. Based on this framework, the scholars assess how individuals anchor certain concepts through their personal experiences. The authors also employ a traditional content analysis through the framework of the *integrative model of behavioral prediction* (Fishbein, 2009), which identifies variables associated with whether people engage in health behaviors. Overall, the authors find that user comments focus on personal experience, in contrast to the journalistic focus on scientific evidence.

The current study seeks to contribute to this emerging field of scholarship by investigating how readers of the mainstream news platform *The New York Times* and the LGBT-related platform *The Advocate* differ in their framing of the HIV prevention pill Truvada. Based on content analyses of news articles and comments published during a six-month period, the study investigated the extent to which reader framing corresponded with the frames presented on the respective platforms as well as potential cross-platform differences in reader framing.

About this Study

The current study examined differences in news media narratives and reader perceptions around the HIV prevention pill Truvada on the mainstream news platform *The New York Times* and the LGBT platform *The Advocate*. Qualitative analysis of news articles and quantitative content analysis of a representative sample of news comments were conducted to examine (a) how news media and their readers made sense of Truvada as well as (b) the extent to which the readers of these platforms differed in their framing of the HIV prevention pill. Based on these methodological approaches, the study addressed the following key research questions: (1) To what extent did online comments on the mainstream news platform, *The New York Times*, and the LGBT news platform, *The Advocate*, around the HIV prevention pill Truvada correspond with frames presented on the respective platforms?; and (2) to what extent did commenters on *The New York Times* and *The Advocate* differ in their *framing of the prevention strategy*?

About the News Platforms

While *The New York Times* (NYT) is among the international opinion leaders (The New York Times Company, 2014), *The Advocate* is considered the “world’s leading gay news source” (Here Media, 2014). The platforms differ in their user policies around user comments. *The New York Times* (2014) does not require real name identification, but moderators monitor comments. In addition to several restricted forms of speech like vulgar and obscene speech, user policies maintain that “while most comments will be

posted if they are on-topic and not abusive, moderating decisions are subjective” (NYT, 2014). Verified commenters, referring to those commenters with “a track record of high-quality comments” are not subject to moderator reviews before posting their comments (NYT, 2015). Commenting on *The Advocate* requires real name identification based on Facebook’s commenting feature.

Sample Design

News articles and reader comments were analyzed between May 1, 2014 and October 31, 2014. The time frame allowed for the analysis of news media narratives and reader comments during several key moments in the Truvada debate. In May, 2014, the CDC recommended Truvada for HIV prevention. Shortly after, AIDS activists Larry Kramer and Michael Weinstein publicly spoke out against the prevention strategy, bringing the debate around the HIV prevention pill into the mainstream. During the selected time frame, both news media platforms also devoted debate forums to Truvada. In *The New York Times*’ “Room for Debate” series, activists and public health advocates weighed in on the Truvada debate. In *The Advocate*, the GLAAD award winning series “31 of PrEP” presented the perspectives of public health professionals, activists as well as individuals and couples that had adopted Truvada as prevention strategy.

During the selected time frame, fifteen articles in *The New York Times* and thirty-four articles in *The Advocate* discussed Truvada.¹ Altogether, 669 comments in *The New York Times* and 557 reader comments in *The Advocate* responded to the coverage of the news platforms. After removing duplicates and irrelevant comments, 555 reader comments for *The New York Times* and 390 comments for *The Advocate* remained. These comments were manually retrieved from the platforms’ online archives. A representative sample of 200 *The New York Times* comments and 206 *The Advocate* comments were drawn for the study’s analysis.²

Coding Categories

The paper’s analysis is based on three overarching frames that were established based on a thorough analysis of relevant literature as well as the analysis of several key articles. The “political/economic” frame assessed the extent to which readers primarily placed Truvada in political or economic context. Examples for these kinds of comments are reader perspectives discussing the affordability of Truvada or questioning the economic relationships between the Truvada manufacturer Gilead and doctors. The “medical/science/health” frame assessed the extent to which reader comments focused on the science behind the HIV prevention pill or discussed Truvada in context of other prevention strategies. Examples include reader comments supported by scientific evidence or comments emphasizing the need for an HIV vaccination rather than a prevention pill. Reader comments coded as “social/cultural” emphasized the larger

¹ Of the fifteen articles in *The New York Times* that discussed Truvada, only seven articles provided commenting platforms. Two articles posted in *The Advocate* did not generate any comments.

² Since the number of user comments on each article were not equal, a proportional sampling procedure was used to determine the adequate number of comments to draw from each article. After calculating the proportionate sample, every other comment within each article was selected.

societal and cultural implications of Truvada. Examples for comments coded under this frame include references to the AIDS epidemic of the 1980s as well as the extent to which the pill could lead to a change in sex practices within the gay community. All reader comments were mutually exclusive and coded based on the primary frames used in each comment.

Inter-Coder Reliability

To ensure inter-coder reliability, two coders analyzed a sub-sample of fifty reader comments from both *The New York Times* and *The Advocate*. After familiarizing themselves with the coding categories, each of the coders analyzed the subset of comments and discussed questions and potential modifications to coding categories. Inter-coder reliability was calculated using the online tool ReCal (<http://dfreelon.org/utills/recalfront/>). After the coders reached satisfactory inter-coder reliability (political/economic frame: 0.73, medical/science/health: 0.59, social/cultural: 0.61), one of the coders analyzed the 202 *New York Times* comments and the other coder analyzed the 206 *Advocate* comments.

Results: Commenters Primarily Placing Truvada in Medical and Scientific Context

In the selected time frame, fifteen articles in *The New York Times* discussed the HIV prevention pill. A majority of these articles adopted the medical/science frame in the discussion of the HIV prevention pill (ten articles, sixty-seven percent), while social/cultural (three articles, twenty percent) and political/economic concerns (two articles, thirteen percent) were considered less relevant. Altogether, thirty-four articles in *The Advocate* discussed the HIV prevention pill, with most articles placing the HIV prevention pill in “medical/science” context (twenty-one articles, sixty-one percent). While “socio/cultural” framing was predominant in nine articles (twenty-six percent), only four articles (thirteen percent) placed the debate in “political/economic” context.

Consistent with the overall focus on *The New York Times* coverage, the platforms’ users were primarily concerned with the medical and scientific implications of Truvada (seventy-five comments, thirty-seven percent). In contrast to the platforms’ issue framing, readers were more likely to place Truvada in a political and economic context (sixty comments, thirty percent), rather than a social or cultural context (fifty-five comments, twenty-seven percent). Twelve *New York Times* readers adopted other issue frames (six percent).

Similar to *The New York Times findings*, both the majority of articles and user comments on *The Advocate* focused on medical/scientific concerns. Overall, 113 readers (fifty-five percent) of *The Advocate* considered Truvada an issue of medical/scientific concern. However, unlike commenters on *The New York Times*, commenters on *The Advocate* were more likely to focus on social/cultural concerns rather than political/economic concerns. Thirty-nine readers (nineteen percent) primarily framed the debate as one of political/economic concern, while social/cultural concerns were at the forefront of the Truvada debate for forty-nine readers (twenty-four percent). Only five *Advocate* (two percent) readers adopted other issue framing in discussing the HIV prevention pill.

Significant Cross-Platform Differences in Framing Truvada

In addition to investigating the prominence of issue themes on each platform, this study also identified cross-platform differences. Results suggest several significant differences between the comments posted to *The New York Times* and *The Advocate*. Readers of *The Advocate* were significantly more likely to adopt medical/science issue frames in discussion of Truvada ($p < 0.05$), while readers of *The New York Times* were significantly more likely to adopt political/economic frames in their online discussion ($p < 0.05$). No statistical difference exists across platforms in regards to the social cultural frame, although *New York Times* readers were slightly more likely to place Truvada in this context.

Representations of Truvada on The New York Times

In addition to the quantitative content analysis, this study also focused on the themes that emerged from commenters on each platform. On *The New York Times*, for example, those placing Truvada in medical/science context frequently argued that the HIV prevention pill did not protect from other sexually transmitted diseases. For example, in response to the article “Ask Well: AIDS and Truvada” Jerome W. (2014, June 15) commented:

If a guy takes Truvada daily as recommended for maximum protection against contracting HIV, that drug offers no protection against hepatitis C (for which there is no immunization option), which is transmitted via the same pathways as HIV. And then of course there are such challenging infections as drug-resistant gonorrhea. If their hepatitis B immunization is not up to date, that is an added risk. This is a tough mine field to navigate, especially when the mines don't explode, but can lead to disability and death almost silently.

In addition to concerns over the potentials of drug resistance, readers like Bill Bauer (2014, June 18) also expressed concerns about the possible side effects of the HIV prevention pill:

This is all very well, but there is another very important factor that should be made clear to every user. Truvada has a nasty side effect that has affected two of my friends so far: it can cause serious kidney disease. In affected individuals it causes elevation in creatine [*sic*] levels and calcium based kidney stones. If it is not stopped at once upon development of these symptoms, the kidney damage can be irreversible.

To refute concerns over Truvada's potential side effects, some readers discussed their own experience with their prevention pill: “i must wonder if you are mistaken, i am on Truvada for six years now as part of my treatment. i note no side effects from it, and Truvada has long been considered a very-low-side-effects medication [...]” (Jeton Ademaj, 2014, May 15). Some readers also commented that resources should rather be directed at advancing other prevention strategies:

While I am glad that this alternative to condoms has been deemed safe and effective by the CDC, I fear that any push for a vaccine or cure will be relegated to the back (very back) burner. Call me cynical, but for this extremely expensive medication there is now a captive body of guys that will be taking it for life. Will it ever go generic in this country? Will ANY HIV meds ever go generic in this country? (Mine currently retail at \$2300 a month.) With all of that money coming in, is there any real incentive for Gilead or others to be at work on a one time, universal fix? What do you think?
(Michael, 2014, May 16)

To support these arguments, some commenters also presented findings from research studies on Truvada and drew comparisons to other preventative measures like the birth control pill. Those considering the HIV prevention pill an issue of political/economic concern frequently discussed the affordability of the prevention measure and the burden for taxpayers. A reader identifying as Rob (2014, July 3), for example, raised the question of “Who is going to pay the \$1400 a month for this drug? It seems to me that it is a tad unfair to saddle the taxpayer with this expense when for just a few bucks a month you can buy 30 condoms.” Others also questioned the economic motives of the pharma industry in releasing new HIV prevention methods:

This prevention method costs 1,000 TIMES as much a condoms, by some estimates \$350,000 to prevent one infection. Who is going to pay? Taxpayers, evidently. I don't see Big Pharma Gilead cutting down on profits or not using PreP as a means of extending its patent monopoly.
(Artwit, 2014, July 3)

Others believed that public funding was justified to curb HIV infections. In response to commenter Artwit's comment, a reader responded that:

Truvada will be off patent in far less than 48 years. And, within 10 years or so we'll have a vaccine, or another less expensive alternative. So, \$350,000 is too high an estimate. But, more importantly, all of society benefits if HIV infections become extremely rare. Do we regret spending many millions to eliminate the risk of polio? Why should we not be equally willing to pay to eliminate risk of AIDS.
(Barry, 2014, July 6)

Again, several readers drew comparisons to other prevention measures to justify the costs of Truvada. A user identifying as dc (2014, September 17), for example argued that “[...] Clearly the reason people are concerned are the costs. If the drug was as much as birth control, people won't be as up in arms about it as birth control. Every moral has its price.” Those placing the HIV prevention pill in social/cultural context frequently argued that the prevention measure would lead to promiscuity within the gay community. In an alarmist comment, reader Jean (2014, May 15) pointed:

I saw a 20-year-old at a bathhouse in New Orleans last month passing out Truvada at an orgy, because he knew there were HIV-positive

people there he and his friends wanted to have sex with and no way were they doing that stupid condom thing. Doesn't get much more "party drug" than being passed out at a party, now does it?

Other users like JBailey (2014, November 2) argued that the debate should not only focus on gay men:

[...] I do not like the singling out of gay men. Sure anal sex is the riskiest sex when it comes to HIV infections, but that goes for everyone not just gay men. When their mentioned it gives heterosexuals the idea that they are somehow immune for this deadly disease, and that's not the message that should be conveyed in mass media.

Some responses that framed Truvada as an issue of social/cultural concern also placed the pill in discussion of the HIV/AIDS epidemic of the 1980s/90s:

It is unfortunate that the response of Mr Weinstein, Mr Kramer and like-minded advocates who lived through the darkest days of the epidemic in this country to the promise of PrEP is to double down on fear. [...] I did not live through the 80s the way these gentlemen did. I did live through the 90s and the 00s, and I can assure you that the side-effect of a reliance on condom-based safer sex in the era where HIV is no longer a death sentence (and just to be clear- we're happy no one needs to die from HIV anymore, right?) is the resurgent epidemic we are currently experiencing. We have the medical means to prevent additional transmission of HIV. How many more gay men, other men who have sex with men, and transgender persons need to be infected before we have a story full enough to satisfy you, Mr Kramer? Do you know what evidence you are demanding?
(TEL, 2014, June 18)

Representations of Truvada on The Advocate

Similar to *The New York Times*, several dominant themes emerged from commenters on *The Advocate*. For example, many of the comments that focused on the medical and scientific implications of Truvada focused on the argument that it is an appropriate and necessary measure to prevent HIV infection:

[...] thank you for your 20th Century perspective, however there are now multiple theoretical models for VIRAL CURES, which were not conceivable even in late 1999. furthermore, HIV does not even truly need a cure to be eradicable...it simply needs to be made non-transmissible, THAT technology exists now.
(JetonAdemaj, 2015, October 25)

Scott Gisborne No, we aren't treating "sexuality in a sense like a disease." We are treating a disease like a disease. There are now multiple ways to prevent this

disease, HIV, from both killing and spreading. That is a wonderful thing.
(Jody Wheeler, 2014, October 14)

Other comments on the medical and scientific implications had a more cautious tone. These include themes that questioned the ability of individuals to follow the guidelines of the regimen as directed, including taking Truvada in tandem with other prevention measures such as condoms. However, several other themes emerged with more serious concerns, including side effects of taking the drug:

This article also does not address the side effects and how difficult PrEP is on your body. Not to mention how difficult it is to find a doctor willing to prescribe it. PrEP is difficult to get and more so to maintain, and requires constant medical supervision. I think it's great but I worry about the long term effects on patients.
(Jeanelle Klein, 2015, October 15)

Likewise, a similar theme that emerged within the medical and science frame includes the concern that the drug will not prevent other infectious diseases:

Pointless if you consider that Prep does nor prevent other opportunistic sexual disease transfers. Under many circumstances HIV is transmitted with these diseases.
(Diederik Pretorius, 2014, December 26)

Several themes also emerged among the commenters that focused on the social/cultural implications of Truvada. These include sexual promiscuity, the stigmatization surrounding the drug, and specific emphasis on different socioeconomic and ethnic groups. For example, the themes of sexual promiscuity and the stigmatization surrounding the drug often overlapped:

Good informative article. I don't know why there would be a stigma to taking PrEP? Seems sensible to me. Some folks just like to judge even in the gay community.
(John M Eschenbaum, 2014, October 6)

The lazy way! Just like with smoking and other health risk. Don't do the crime if you are not willing to take responsibility. I have never understood why gay men risk their health and lives for sex? And then expect health insurance to pay for 20 years of treatment [...]
(Arthur B Raleigh, 2014, October 13)

Several of the commenters also directed their comments at highlighting how the drug will affect individuals of different ethnic and socioeconomic status, including the transgender population. The majority of comments that focused on specific groups highlighted how the drug targets young gay men:

HIV: New cases down, gay males still overrepresented The rate of new HIV cases has fallen about 6 percent over the last five years, but remains stubbornly high in some demographic groups, including gay and bisexual males, a federal

report says.
(Bradford McIntyre, 2014, November 6)

Some are irresponsible therefore no one should be given the responsibility? How far do you take that? 18-21 yr olds are immature, uninformed, inexperienced and irresponsible, therefore we shouldn't let them vote? 18, 19 and 20 yr olds can give up life and limb in the military, but we don't let them drink alcohol. Is that the model? How do we decide is worthy of PrEP? Or do you think HIV prevention is a waste of resources altogether if we don't all do it the way we've always done it (which has led to a steady 50,000 new infections every year)?
(Sheldon Campbell, 2014, October 24)

I'm neg and your poz. Who's prevention failed? I failed on your behalf? We're the same age. An absolute lie to make this a generational thing. If anything it's reversed. I'm younger than all but one of the guys profiled in these "31 (or 29 or whatever. They can't seem to keep up. Something indicative of this whole cult) days of PrEP". Odd for you of all people to take pot shots at the older generation.
(Andrew Jones, 2014, October 14)

Finally, those primarily concerned with the political/economic implications of Truvada generally focused on the costs associated with the drug as well the relationship between the pharmaceutical industry, doctors, and *The Advocate*. For example, many commenters were optimistic about the cost of the drug, suggesting that the price of the pill is justified and that the price of the pill will eventually come down:

It's actually cheaper to prevent HIV than to treat it. Also, Truvada comes off US patent in 2020. It's already being sold for pennies-a-pill in third-world countries.
(Jody Wheeler, 2014, August 13)

my insurance company, Humana, approved payment of the drug even before I got the Rx. for it. It is much cheaper to pay for the drug than pay for the expenses if I get AIDS.
(Ron Health, 2014, October 26)

Others, however, were less optimistic and argued that the cost was not justified nor was it adequately covered by insurance:

Would any of these 35 Advocates for PrEP like to pick up the monthly bill for \$1200 since my Health Plan won't cover one red cent? Probably not and I make too much money to qualify of Gilead's assistance.
(Shawn Ochampaugh, 2014, October 25)

a 30 day supply of Truvada is \$1300. That is not a minor consideration, where is the pressure to make this drug more affordable?
(Debra Carroll-Beight, 2014, October 27)

Besides from the comments focused on costs associated with the drug, the other dominant theme that emerged within the political/economic frame focused on the relationship between the pharmaceutical industry, doctors and *The Advocate*:

One of the West Hollywood doctors mentioned in the above Advocate piece is on the ProPublica list as having received gifts from three companies in 2013. (2014 data not available of course.) Patients should be asking what doctors might be receiving in the way of gifts or incentive from manufacturers and representatives. (Darrell Emile, 2014, October 25)

Great, now let's watch all the other sexually transmitted diseases skyrocket. Condoms do more than just stop HIV. Genital warts anyone!? Congrat's The Advocate on winning all the pharma sponsorship over the past month that's enabled you to run these articles. (Lee Matthews, 2014, October 30)

Be sure to check out my post at my FB campaign site entitled, Truvada's Gilead Gave How Much \$ to HIV Groups? Let's follow the Gilead money and see where it leads us, and ask if AIDS groups that are receiving bucks from the pharma giant are deploring the high price of their drugs. (Petrelis for Supervisor 2014, 2014, November 1)

Discussion and Conclusion

Examining sentiments around Truvada expressed in online comments, the current study investigated how the public makes sense of the controversial HIV drug Truvada. Building on past research that examined sentiment in online comments and their correlation with news article framing, this study analyzed both the prominence of different issue frames in reader comments as well as cross-platform differences. Comparing differences in reader framing on the mainstream news platform *The New York Times* and the community-based platform *The Advocate*, the study's results not only seek to make a significant contribution to research in science communications, but also have implications for news media and their role in communicating preventative strategies to different publics.

The study's results suggest that the news platforms did not significantly differ in their framing of the HIV prevention pill, with the medical and scientific issue frame being the most prevalent across both platforms. Consistent with the news platforms' framing of Truvada, commenters primarily placed the prevention pill in medical and scientific context. Despite these similarities in news media and reader framing, several significant differences emerged. For example, commenters on *The Advocate* were significantly more likely to adopt the medical/scientific frame, while commenters on *The New York Times* were more likely to adopt the political/economic frame. While this study did not account for the analysis of audience composition for each of the platforms, one possible explanation for these differences in media framing could be related to the underlying differences between the news platforms. For example, past research indicates that health related news items tend to induce audiences to offer personal experiences in their comments (Secko, Talalka, Dunlop, Kingdon, & Amend 2011). Given that *The*

Advocate is a community-based website with a focus on LGBT news and audiences, commenters may be more open and comfortable than *New York Times* readers in sharing personal experiences as well as health related concerns. However, some evidence contradicts this claim. Suler (2004) explains how individuals are more likely to self-disclose when real name requirements are not required -- a phenomena known as *the online disinhibition effect*. On *The Advocate* platform, users are required to sign in via Facebook, while *The New York Times* does not require real name requirements. Future research should examine how these differences, including type of news platform as well as technical design characteristics, influence reader's comments.

These results also have significant implications for preventative strategies presented in news media discussions around HIV/AIDS and other public health concerns. Inviting doctors and other health professionals to weigh in on their discussion forums, both news platforms at the center of this study understand the importance of making scientific findings accessible for their readers. News platforms need to continue to work with medical professionals, scientists and other public officials to help different publics better understand the science behind HIV prevention. Past research highlights the significant role of scientists and other experts in helping the public understand controversial science issues (Nisbet & Scheufele, 2009). Scientists need to take this role serious and actively work with public institutions as well as mainstream and community media to find ways to engage different publics in public health discussions. The study's results suggests that *The New York Times* readers were also concerned about the high costs of Truvada and the potential burden for taxpayers. News platforms should also weigh the costs of HIV prevention against HIV/AIDS treatment. Especially on the community-related platform *The Advocate*, commenters used their own experience with Truvada to discuss side effects and related issues with the HIV prevention pill. Debates discussing the personal experiences of those adopting Truvada as preventative strategy present yet another possibility to make HIV/AIDS prevention more accessible for the public.

While the current study is unique in its research design and analysis, the study has several limitations and implications for future research. For example, the current study did not account for opinion valence, an important aspect that needs to be addressed in future research. Further, the current study only assessed primary framing in reader comments. In order to investigate the full range of sentiments around the HIV prevention pill, future research should also assess secondary frames adopted in both news media and corresponding comments. This study also only focused on news articles and comments associated with PrEP and the drug Truvada. This approach overlooks other news media debates that may focus on different aspects of HIV/AIDS prevention. In addition, this study focused on only two news platforms -- *The New York Times* and *The Advocate*. These audiences may be more engaged in public health debates, significantly limiting the study's generalizability. Finally, this study used a single comment as the unit of analysis, not accounting for the number of comments per commenter. The study also did not account for users who may have used both platforms to weigh in on the debate. Despite these limitations, the study makes a significant contribution to scholarship on science communications by providing first insights into online debates around the HIV prevention pill Truvada.

References

- Anderson, A. A., Brossard, D., Scheufele, D. A., Xenos, M. A., & Ladwig, P. (2009). The “nasty effect.” Online incivility and risk perceptions of emerging technologies. *Journal of Computer-Mediated Communication*, 19(3), 373-387.
- Balkin, J. M. (2009). The future of free expression in a digital age. *Pepperdine Law Review*, 36(2), 427-444.
- Brodie, M., Hamel, E., Brady, L. A., Kates, J., & Altman, D. E. (2004). *AIDS at 21: Media coverage of the HIV epidemic 1981-2002*. Menlo Park, CA: The Henry J. Kaiser Family Foundation.
- Brown, J., Chapman, S., & Lupton, D. (1996). Infinitesimal risk as public health crisis: News media coverage of a doctor-patient HIV contact tracing investigation. *Social Science & Medicine*, 43(12), 1685–1695.
- Centers For Disease Control and Prevention. (2015). Basic information about HIV and AIDS. Retrieved from: <http://www.cdc.gov/hiv/>
- Cohen, J. (1997). The media's love affair with AIDS research: Hope vs. hype. *Science*, 275(5298), 298-299.
- DeNardis, L. & Hackl, A.M. (2015). Internet governance by social media platforms. *Telecommunications Policy*.
- Diakopoulos, M., & Naaman, M. (2011). Towards quality discourse in online news comments. *CSSW '11: Proceedings of the ACM 2011 Conference on Computer Supported Cooperative Work*, 133-142. New York, NY: ACM.
- Epstein, S. (1996). *Impure science: AIDS, activism, and the politics of knowledge*. Berkeley, CA: University of California Press.
- Fishbein, M. (2009). An integrative model for behavioral prediction and its application to health promotion. In R. Diclemente, J. R. A. Crosby, & M. C. Kegler (Eds.), *Emerging theories in health promotion practice and research* (2nd ed., pp. 215-234). San Francisco, CA: John Wiley.
- Freelon, D. (2015). Discourse architecture, ideology, and democratic norms in online political discussion. *New Media & Society*, 17(5), 772-791.
- Gamson, W. A., & Modigliani, A. (1994). The changing culture of affirmative action. In P. Burstein (Ed.), *Equal employment opportunity: Labor market discrimination and public policy* (pp. 373-394). Hawthore, NY: Walter de Gruyter Inc.
- Gross, L. (2001). *Up from invisibility: Lesbians, gay men, and the media in America*. New York, NY: Cambridge University Press.
- Here Media. (2014). *Company profile*. Retrieved from <http://www.heremedia.com/company>
- Holton, A., Lee, N., & Coleman, R. (2014). Commenting on health: A framing analysis of user comments in response to health articles online. *Journal of Health Communication: International Perspectives*, 19(7), 825-837.
- Iyengar, S. (1991). *Is anyone responsible?: How television frames political issues*. University of Chicago Press.

- Jenkins, H. (2006). *Convergence culture. Where old and new media collide*. New York, NY: NYU Press.
- Kinsella, J. (1989). *Covering the plague: AIDS and the American media*. Brunswick, NJ: Rutgers University Press.
- Kramer, L. (2014, June 18). We don't know the full effects of Truvada yet. *The New York Times*. Retrieved from <http://www.nytimes.com/roomfordebate/2014/06/17/is-prep-a-good-way-to-fight-hiv-infections/we-dont-know-the-full-effects-of-truvada-yet>
- Ksiazek, T. B., Peer, L., & Lessard, K. (2014). User engagement with online news: Conceptualizing interactivity and exploring the relationship between online news videos and user comments. *New Media & Society*.
- Len-Ríos, M. E., Bhandari, M., & Medvedeva, Y. S. (2014). Deliberation of the scientific evidence for breastfeeding online comments as social representations. *Science Communication*, 36(6), 778-801.
- Loke, J. (2012). Public expressions of private sentiments: Unveiling the pulse of racial tolerance through online news readers' comments. *Howard Journal of Communications*, 23(3), 235-252.
- Nelkin, D. (1991). AIDS and the news media. *The Milbank Quarterly*, 69(2), 293-307
- The New York Times. (2015). *Verified commenters*. Retrieved from <http://www.nytimes.com/content/help/site/usercontent/verified/verified-commenters.html#verified-no-moderation>
- The New York Times. (2014). *Help – comments*. Retrieved from <http://www.nytimes.com/content/help/site/usercontent/usercontent.html>
- The New York Times Company. (2014). *Our history*. Retrieved from <http://www.nytimes.com/who-we-are/culture/our-history/#1835-1880>
- Nisbet, M. C., & Scheufele, D. A. (2009). What's next for science communication? Promising directions and lingering distractions. *American Journal of Botany*, 96(10), 1767-1778.
- Omernick, E., & Owsley Sood, S. (2013). The impact of anonymity in online communities. *Proceedings of International Conference on Social Computing*, 526 – 535. Alexandria, VA: Institute of Electrical and Electronics Engineers
- Papacharissi, Z. (2004). Democracy online: civility, politeness, and the democratic potential of online political discussion groups. *New Media & Society*, 6(2), 259-283.
- Park, A. (2012, July 17). Truvada: 5 things to know about the first drug to prevent HIV. *Time Magazine*. Retrieved from <http://healthland.time.com/2012/07/17/truvada-5-things-to-know-about-the-first-drug-to-prevent-hiv/>
- Ruiz, C., Domingo, D., Lluís Micó, J., Díaz-Noci, J., Meso, K., & Masip, P. (2011). Public sphere 2.0? The democratic qualities of citizen debates in online newspapers. *The International Journal of Press/Politics*, 16(4), 463-487

- Santana, A. D. (2013). Virtuous or vitriolic. The effect of anonymity on civility in online newspaper reader comment boards. *Journalism Practice*, 18(1), 18-33.
- Santa Cruze Bell, J. (2006). Framing the AIDS epidemic: From "homo" genous deviance to widespread panic. In L. Castañeda & S. B. Campbell (Eds.), *News and sexuality: Media portraits of diversity: Media portraits of diversity* (pp. 95-110). Thousand Oaks, CA: Sage Publications.
- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1), 103-122.
- Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. *Journal Of Communication*, 57(1), 9-20.
- Schwartz, J., & Murray, D. (1996). AIDS and the media. *Public Interest*, 125, 57-71.
- Secko, D. M., Talalka, S., Dunlop, M., Kingdon, A., & Amend, E. (2011). The unfinished science story: Journalist-audience interactions from the Globe and Mail's online health and science sections. *Journalism*, 12, 814-831.
- Shanahan, M.-C. (2010). Changing the meaning of peer-to-peer? Exploring online comment spaces as sites of negotiated expertise. *JCOM: Journal of Science Communication*, 9(1), 1-13.
- Shapiro, L. (2014, December 1). The most celebrated, mistrusted little pill in the world. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2014/12/01/prep-hiv-truvada_n_6185028.html
- Streitmatter, R. (1995). *Unspeakable: The rise of the gay and lesbian press in America*. Collindgale, PA: Diane Publishing.
- Suler, J. (2004). The online disinhibition effect. *Cyberpsychology & behavior*, 7(3), 321-326.
- Suran, M., Holton, A. E., & Coleman, R. (2014). Topical punch: Health topics as drivers of idiosyncratic reader responses to online news. *Journalism & Mass Communication Quarterly*, 91(4), 725-739.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453-458.
- Wagner, W., & Hayes, N. (2005). *Everyday discourse and common sense: The theory of social representations*. Houndmills, England: Palgrave Macmillan.
- Weinstein, M. (2014, June 18). Truvada can't make us let our guard down. *The New York Times*. Retrieved from <http://www.nytimes.com/roomfordebate/2014/06/17/is-prep-a-good-way-to-fight-hiv-infections/truvada-cant-make-us-let-our-guard-down>
- Zaller, J. (1992). *The nature and origins of mass opinion*. New York: Cambridge University Press.
- Zhou, Y., & Moy, P. (2007). Parsing framing processes: The interplay between online public opinion and media coverage. *Journal of Communication*, 57(1), 79-98.