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CHAPTER 12

Social media and drug markets

Danica Thanki and Brian Frederick

Introduction

This chapter provides an overview of social media platforms and how they can affect drug markets. Drawing on the literature to explore the drug-related content existing on various social media channels, the chapter discusses how social media have both a direct impact on drug supply and an indirect impact on demand for drugs. The chapter goes on to provide a summary of responses and discusses the need for future research to develop our understanding of social media and how they affect drug supply and demand.

Social media

Social media, according to Mandiberg (2012), are new technological frameworks that enable 'formerly passive media consumers to make and disseminate their own media'. They reflect the evolution of Web 2.0 technologies, which allow users to continuously create, modify and/or publish content and applications 'in a participatory and collaborative fashion' (Kaplan and Haenlein, 2010, p. 61). Social media sites predominantly exist on the surface web and are, therefore, visible to all internet users, although they require varying levels of user registration for participation. Nevertheless, user-modified content also exists on the deep web, for example in forum discussions such as Silk Road's 'Ask a Drug Expert Physician about Drugs and Health' (see Chapter 7), while some social media sites established on the surface web, including the social networking giant Facebook, have recently allowed users anonymous access on the deep web through the Tor Browser.

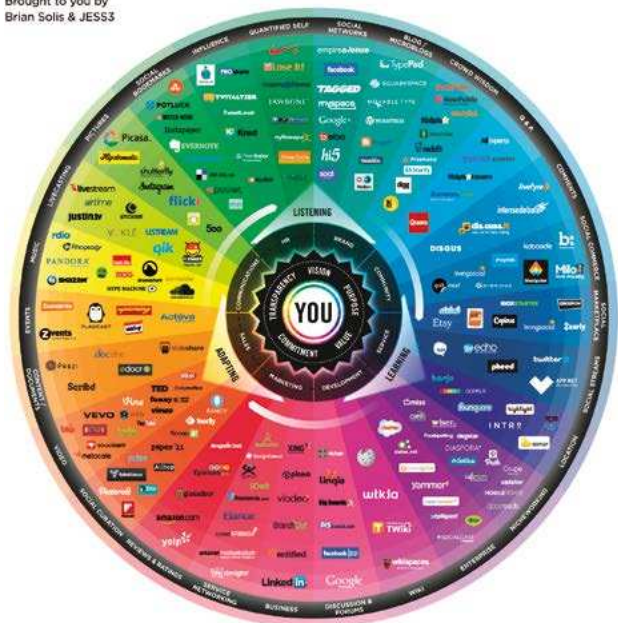
The term 'social media' encompasses numerous types of social interaction sites and apps, including social networking sites, photo- and video-sharing sites, blogs and micro-blogs, discussion and forum sites, review and ratings sites, and social streams. Figure 12.1 provides a visual overview of the different types of social media through what Solis (2015) calls the 'conversation prism'. Although sites differ in communication mode, they all

feature significant user interactivity and participation, as well as multidirectional lines of communication, and represent a transformation in the way in which we use the internet.

FIGURE 12.1
The different types of social media

THE CONVERSATION PRISM

Brought to you by
Brian Solis & JESS3



Source: Brian Solis and Jesse Thomas.

The recent exponential growth of the internet, and in particular of social media, and the impact it has had on contemporary society is vast. According to Nielsen (2012), a US- and Netherlands-based global information and measurement company, internet users spend more time engaging with social media sites and applications than on any other type of site. Facebook, which became publicly accessible at the end of 2006, currently has more than 1.6 billion registered users worldwide, 1.35 billion of whom have been active in the previous 30 days; YouTube, the video-sharing site, has more than 1 billion active users; and Twitter, the social streaming site, has more than 500 million registered users. In

addition to providing opportunities for increased communication and knowledge sharing among individuals, social media have substantially changed the way that businesses, organisations, communities and individuals interact.

As the world of social media develops at a rapid pace, many new technologies go 'viral' before their potential impact can be determined. Although there are undoubtedly benefits to the increased opportunities for social interaction, there are also well-documented concerns around the negative impact of social media, particularly in relation to bullying and sexual exploitation. There are also reports of social media being used to orchestrate the activities of subversive and extremist groups (Schils and Pauwels, 2013), organised crime syndicates (Kingston, 2014) and terrorist organisations (Zeng et al., 2010).

Although some social media users concerned about their privacy may protect their identity, many others do not take precautions and may have poor security levels. Similarly, some users may refrain from posting content that may be unlawful or that they know to be unlawful on social media platforms, while others may succumb to what has been called an 'illusion of anonymity' and openly post content that transgresses legal and/or moral thresholds (Zheleva and Getoor, 2009).

Social media and drug markets

In general, social media can affect drug markets in two ways. First, social media may have an impact on the supply of drugs by providing opportunities for buying and selling drugs (direct impact). Second, they may have an impact on the market by affecting the demand for drugs in general and for individual drugs through, for example, the impact of drug-related experience sharing, drug-themed photo and video sharing, and drug-focused opinion forming (indirect impact).

There are, however, few research studies exploring social media and drug markets. Where research on social media does address drugs, it tends to be in the fields of behavioural health, epidemiology and public health, rather than criminology. Research, therefore, tends to focus on the influence of drug-related social media content on young people's demand for drugs rather than on the supply of drugs through social media channels. Although concerns exist about the impact of greater exposure to drug-related content on demand for drugs, particularly among young people, the evidence of its impact remains scarce, although some studies have

shown that traditional media coverage of drugs can increase interest in buying drugs (Forsyth, 2012). Nevertheless, there remains insufficient evidence to provide us with a good understanding of the impact of social media on the demand for drugs.

In order to better understand the role of social media in drug markets, systematic analyses of numerous social media platforms are needed, incorporating a wide range of different perspectives. Currently, research studies looking at a specific social media application are more common in peer-reviewed journals (as well as in 'grey' literature). These often focus only on the existence of drug-related content rather than its impact, generally on the premise that this content increases the demand for drugs. Examples of the different types of drug-related content on social media and of current knowledge and research are given below.

Supply of drugs

Social media can facilitate the supply of drugs in a number of ways. One way is that users can directly advertise drugs for sale. In 2014, drugabuse.com published an infographic documenting drug dealer activity on the picture- and video-sharing service Instagram (drugabuse.com, 2014). By searching for hashtags relating to drug sales, the researchers were able to identify 50 drug dealer accounts in a day. Many contained photographs of drugs for sale. Social media were used to advertise the drugs for sale, but the transactions took place through other communication channels, such as mobile phones or messaging apps, which often allow users to remain anonymous. However, the researchers found that more than one-third of the drug dealers identified displayed a photograph of their face. There have also been numerous media reports of dealers caught by law enforcement agencies after posting details of their drug dealing activities through personal social media accounts, for example through Facebook accounts. Some researchers have begun to use web analytics to discover the presence of drugs for sale on social media.

Social media can also provide potential buyers with information on how and where they can purchase drugs, as well as evidence of successful purchases in the form of positive feedback. In his article 'Teens on Tumblr can't stop bragging about Silk Road drug deals', journalist Patrick Howell O'Neill analysed the microblogging site Tumblr for material posted by teenagers who were interested in how to buy drugs on the dark web site Silk Road (O'Neill, 2013). The posts included details and

pictures (including selfies) of users, as well as advice on how to shop on Silk Road. O'Neill discovered that adolescents often implicated their friends, girlfriends and boyfriends in their Tumblr posts; some even mentioned their parents: '5/5, package came on schedule. My dad intercepted the package though, so no Xanax for me!'

Research has consistently found that young people obtain drugs through their social networks (Duffy et al., 2008), with friends being the most common source of drugs (European Commission, 2014). It stands to reason that, as social networks move increasingly from the real world to the digital world, the buying and selling of drugs will follow suit. Nevertheless, although social media can facilitate drug supply, the exchange of the product must still take place in the physical environment, through the postal service or face-to-face.

Drug-related content on social networking sites

There are concerns that the presence of drug-related content on social networking sites could influence normative behaviours regarding drug use and increase demand for drugs, particularly among young people. Cavazos-Rehg et al. (2014) analysed the demographics of the almost 1 million followers of a pro-marijuana Twitter handle ('handle' being Twitter jargon for a user's screen name) and the content of the tweets posted using that handle. They found that the majority of the followers were 19 years old or under (73 %) and that 54 % of them were female. The content mainly concerned positive cannabis discourse; many of the tweets were perceived as humorous. The authors warned of the influence of social media during adolescence and the potential impact on drug using behaviours.

Another study by Hanson et al. (2013a) performed a qualitative analysis of the quantity and content of tweets containing the drug name 'Adderall'. The study reported 213 633 Adderall-related tweets over a six-month period, with a peak coinciding during the examinations period. Tweets were also analysed for content related to motives, side effects, poly-use and possible normative influence. The authors concluded that Adderall discussions through social media such as Twitter may contribute to normative behaviour regarding its abuse. A similar conclusion was drawn by Hanson et al. (2013b) in relation to social circles and prescription drug abuse.

Concerns around online social networks mirror those related to offline social networks; principally, that exposure to certain behaviours within a social network will affect an individual's behaviour and social norms. However, what is unclear is the added impact that easier access to groups of like-minded individuals through online communities has on individual behavioural norms. This may be of particular importance for traditionally hidden activities such as drug use and supply, with individuals able to seek out online groups easily and anonymously.

Specific drug forums

There are a large number of user forums dedicated to the discussion of illicit drugs, such as [Bluelight.ru](#), [Erowid](#) and [Drugs-forum.com](#). Most research has explored the harm reduction aspects of these forums, with the majority of users claiming that they access the sites primarily to learn how to use drugs more safely (Chiauszi et al., 2013). Research often highlights the opportunity to use forums for targeted prevention (Soussan and Kjellgren, 2014). Nevertheless, there are concerns that the forums' content could encourage experimentation with a wider range of drugs and increase demand for certain substances. For example, information about how to extract active ingredients from pharmaceuticals may increase demand for such substances. Conversely, bad trip reports on forums and warnings about individual substances and methods of drug use may decrease demand for particular substances and influence types of use. Although there is limited evidence of the impact of forums on drug use behaviours, the ability to monitor discussions can be a useful tool for the identification of emerging trends in drug use and markets and to inform policy and practice (Davey et al., 2012).

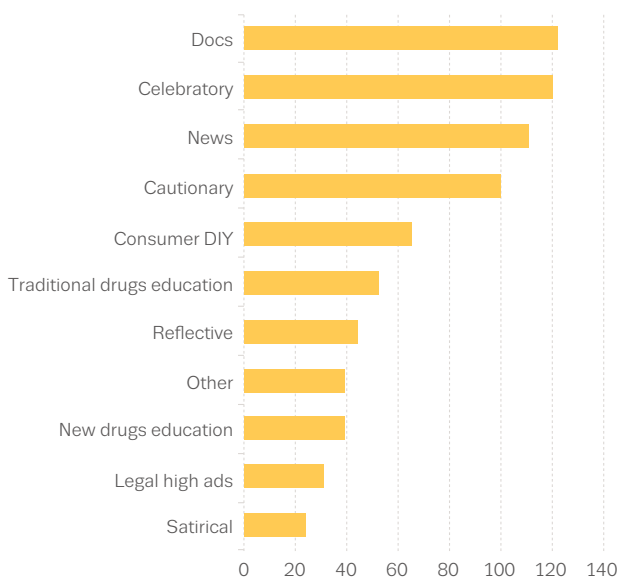
Video and picture sharing

YouTube is the most popular video-sharing site, while the picture-sharing sites Flickr and Instagram are also very popular at the time of writing. In addition, many other social media channels not specifically viewed as focused on picture or video sharing provide users with opportunities to share these types of media. Lau et al. (2012) highlight the potential negative impact of social media content depicting behaviours such as drug use, although the authors suggest that further research is needed on how this online content is disseminated and how individuals process it.

Much research focuses on the content of social media. For example, Manning (2013) examined the link between YouTube, drug videos and drug education. The study involved a content analysis of 750 drug videos (sampled from over 300 000 individual YouTube videos), of which 12 % had been posted by official agencies (see Figure 12.2). The study found that a minority (16 %) of the drug-related videos on YouTube were celebratory (i.e., hedonistic), but that these differed by drug — for example, no celebratory videos about heroin or crystal meth were found. Many cautionary videos (also known as ‘vernacular prevention’ videos) were also identified. ‘Do-it-yourself’ (DIY) videos (e.g. videos that provided instructions on how to grow your own cannabis) and legal high advertisements were also identified. The study concluded that official prevention campaigns should use more modern methods to reach individuals.

A similar study (Lange et al., 2010) also identified a large number of drug use-related videos on YouTube. It found that the researchers were able to analyse the effects and side effects of *Salvia divinorum* solely by viewing YouTube user-uploaded videos. Walsh (2011) argued that the existence of *Salvia* videos on YouTube increased public awareness of the substance and stimulated demand, but also put it on the agenda of law-makers in the United Kingdom, thus contributing to its prohibition and attempts to restrict the market.

FIGURE 12.2
The sample of YouTube drug videos coded by drug discourses



Source: Manning (2013).

Drug-themed apps

There are a large number of drug-themed apps available from app stores such as Google Play and Apple’s App Store. These include apps designed to prevent drug use such as Your Face on Meth, which allows users to upload a picture and see the physical degradation that would result over time from using methamphetamine. Other apps promote drug use. Research by Bindham et al. (2014) focused on apps promoting illicit drug use, with the author observing an increase in these types of apps over a three-month period. By the end of the study (in 2012), 410 drug-promoting apps were identified, the majority of which (98 %) were found to promote cannabis, with many providing a forum for like-minded drug-users. Some examples of the types of apps that were found included drug-themed ‘wallpaper’ apps; apps that provided information on drug use; drug-themed gaming apps; drug use simulations; drug-themed clock widgets; a drug-themed battery icon widget; drug-related stickers; and apps that were used to share substance use stories. Others, such as the How to Sell Weed app, provide instructions for the production and selling of cannabis. The authors of the study voiced public health concerns, particularly in relation to young people, and suggested government intervention as a means ‘to enforce [the] proper standardisation of app-rating processes’.

In the United States, where the sale of cannabis in licensed outlets has recently become legal in some states, news reports have highlighted the existence of apps related to the cannabis trade. For example, one report likened the Leafy App (launched on 26 January 2015) to a ‘Grindr for weed’ in that the app ‘offers an interactive catalogue of different varieties of cannabis, their characteristics and availability (mostly in medical cannabis outlets) based on the nearest GPS location’ (Neal, 2014). Another journalist reported on Weedhire — an app that was designed to ‘connect pot labs, dispensaries and even government regulators’ to potential employees in the (legal) cannabis industry (O’Neill, 2013).

Social media sites and networks facilitating drug-related encounters between men who have sex with men

One of the most common ways to access and interact with social media is through smartphone and tablet apps. Some geosocial networking apps employ location-based mobile social computing using the Global

Positioning System to establish a user's proximity to other users. Grindr, which claims to have 5 million users in 192 countries worldwide ⁽¹⁾, is an example of this type of app and is used primarily by men who have sex with men (MSM). It has recently been reported to be a conduit for the facilitation of high-risk behaviours (such as drug-seeking). For example, Bourne et al. (2014) reported that some men use Grindr to locate partners for 'chemsex' or 'party-and-play' (PNP) sessions. Chemsex and PNP refer to sex among MSM while using various drugs, including methamphetamine, cocaine, gamma-hydroxybutyrate (GHB), gamma-butyrolactone (GBL) and mephedrone. Grindr can also facilitate 'slamming parties' — prolonged MSM sex parties that involve the injection of illicit drugs (Frederick, 2015).

In addition to Grindr, there also exist numerous MSM virtual social networks (VSNs) that feature a high number of self-identified drug users.

This sort of social networking is best described as taking place on VSNs, rather than online social networks, as much communication takes place via smart phones and tablets. VSNs can be categorised into static networks, which are more permanent and may include user profiles and terms of use (e.g. Facebook), and dynamic networks (e.g. Skype or ooVoo video chat), which are temporary and often by invitation only. A feature of VSNs is the creative use of slang and argot to get around moderation. Static (and especially) dynamic VSNs that use webcams have been recently associated with 'chemsex' parties and/or 'slamming' among MSM.

A few examples of MSM VSNs include PlanetRomeo.com (a German-based VSN), which has at least 11 member-created drug-themed 'clubs'; NastyKinkPigs.com (a US-based VSN with members throughout the United States, the United Kingdom and Europe), which allows individuals to specify drug use preferences in their member 'profiles'; and Get2ThePoint (ynotmingle.com), which describes itself as 'an online clubhouse for Slamming enthusiasts' (ynotmingle.com, 2015). '2ThePoint' refers to the injection of methamphetamine and/or mephedrone, in particular, as well as other drugs. Unlike Get2ThePoint, PlanetRomeo and NastyKinkPigs also have smartphone apps that employ location-based technology.

Another recent trend among MSM drug users is the online sharing of sexualised drug ingestion experiences via real-time webcam broadcasts — either on MSM VSNs with webcam chat rooms, in group conference calls (Skype or Zoom) or privately (Skype). MSM seeking

webcam drug experiences can often locate other Skype members and/or active Zoom conference calls through services such as Google+ Communities.

Some MSM share their drug ingestion experiences by uploading video content to video-sharing websites. Gay pornography producer Treasure Island Media maintains one such site, ToxxxicTube, which features hundreds of user-uploaded videos of men apparently smoking or injecting illicit drugs such as crystal methamphetamine.

As well as sharing drug use experiences, there are suggestions that sites may also facilitate drug supply. A recent online article by Vice found that 'One of the most common profile names or sub-headings on Grindr has become "GMTV" which implies that the person is using, has to share, or has to sell, G (GBL), M (mephedrone), T (Tina AKA crystal meth) or V (Viagra). By using colloquial slang for drugs, and using search fields on certain sites, you can hunt for the drug you're after, or people who are using it who might be willing to hook you up electronically with someone who'll get some for you' (Daly, 2015).

Using web analytical methods to monitor drug use and markets

Recently, researchers have analysed social media data using data mining techniques to explore the different ways in which large numbers of social media data might be processed and how social media analysis can provide an additional source of data on drug use and markets. Yakushev and Mityagin (2014) found that, through data mining, the level of interest in drugs among the users of these media could be determined. In addition, the authors were able to obtain information on the interests of individuals who had posted drug-related content. They suggest that social media can provide a better picture of those with 'light' addiction problems than traditional sources of data on drug use.

Web analytics have also been used by criminal justice researchers to explore social media and drug supply. One of these studies (Watters and Phair, 2012) developed a new methodology known as Automated Social Media Intelligence Analysis to analyse social media platforms for the presence of drug buying and selling. The search found many examples of sellers advertising drugs and buyers requesting drugs on social media. They also found that no examples of illicit drug advertising were found among paid advertisements.

⁽¹⁾ See Grindr.com

Social media policies, supply and demand reduction responses

Owing to the large volume of drug-related social media user content, the numerous and varied types of environments in which such content is posted and a lack of understanding about the impact of different types of social media content, a comprehensive response to drug-related social media content is not anticipated any time soon. Although law enforcement agencies continue to develop their practices to respond to evolving online methods of drug supply, other stakeholders will be important in tackling the negative impact of drug-related social media content. For example, the policies and practices of social media owners are under scrutiny, particularly with respect to the monitoring of member-user activities. The research world also has a role to play in creating a better understanding of the impact of different types of social media content on behaviour and in developing methods of online social media monitoring. In addition, researchers can use the opportunities provided by increased online social contact to recruit hitherto hidden research subjects. Similarly, professionals in the prevention, harm reduction and treatment fields need to develop their services to align them better with today's digital modes of communication.

Tackling the buying and selling of drugs: law enforcement responses

According to numerous sources (e.g. grey literature, news media reports, peer-reviewed journal articles), the drug-related monitoring of social media by police and other law enforcement entities does occur. However, because of the sheer volume of data involved, the automatic (or semi-automatic) screening of drug-related social media content by law enforcement can often be very tedious, making such operations difficult or even impracticable (Watters and Phair, 2012). Moreover, the results of such screenings often include false positives. Where law enforcement monitoring does lead to arrests, media reports suggest that they often involve young people found with small amounts of illicit drugs and who have little to no prior history of criminal behaviour, or small-scale dealers who lack sophistication in their operations (Knibbs, 2013; Storm, 2013; Chicoer, 2014; Taylor, 2014).

An additional complication for law enforcement agencies monitoring social media is that member-users often

employ special language when communicating about drugs or drug-related activities and behaviours, as described in the section on sites and apps for MSM. This argot, or drug-related slang words, develops over time, making it exceedingly difficult for those monitoring to keep up with the changing use of language. This is because the purpose of drug-related argot is to 'maintain secrecy so as to hide subculture communications from outsiders' (Johnson et al., 2006), especially law enforcement agents.

Some law enforcement actions are successful, though. Some social media-related drug arrests concern the illegal sale of prescription drugs (rather than the dealing of illicit drugs). Others are made in conjunction with larger 'sting' operations. For example, an August 2013 Instagram-related 'gun bust' sting operation in New York City led to hundreds of arrests (the largest in NYC history) and in April 2014 a large US-wide sting operation (conducted by the US DEA and the FBI) led to the arrest of more than 350 drug dealers, all of whom had posted drug-related content on Instagram.

Social media policies and practices

The British Broadcasting Corporation (BBC) recently reported that most social media owners do not actively monitor and/or remove drug-related content (BBC Trending, 2013a). Some social media owners responded to these accusations, citing reasons of impracticality or invasiveness. Legal reasons were also cited. Others claimed to take a 'reactive' approach to the presence of drug-related content on member-user pages. Typically, social media owners give their member-users the opportunity to report inappropriate or illegal content, and some owners stress their commitment to reviewing such reports within a short period of time, usually 48 hours.

In a follow-up to its original investigative report, the BBC noted that Instagram had responded by blocking numerous drug-related hashtags on its site (BBC Trending, 2013b). Still, many lay and professional members of the public have demanded that Instagram and other social media owner-operators take a more proactive approach to removing drug-related and other content of an illegal nature.

Further research and monitoring

Research exploring the link between new forms of media, in particular social media, and drug supply and

demand is still in its infancy. In particular, the extent of drug supply through social media channels is underexplored. Improved methods of monitoring online social media content, possibly through web analytics, and also research with drug users themselves will be required to understand fully the role of online supply in drug markets. Research needs to move beyond merely identifying drug-related social media content to assessing its impact on drug use behaviours.

There has been a growing acknowledgement of the need to incorporate digital monitoring into drug monitoring systems through the identification of drug-related content on social media apps and sites. For example, the University of Maryland's Center for Substance Abuse Research has been commissioned by the US National Institute on Drug Abuse (NIDA) to run the National Drug Early Warning System (NDEWS) for the next five years; part of its role will be, for the first time, to collect data from social media and web platforms in order to identify emerging illicit drug trends. NIDA is also funding a USD 11 million, three-year research programme to explore the use of social media to improve our understanding of drug use, addiction, prevention and treatment ^(?).

As well as using social media to identify emerging trends and understand drug use behaviours, some researchers have used it to assess the impact of responses aimed at reducing drug misuse. For example, McNaughton et al. (2014) analysed social media to assess the impact of the introduction of reformulated opioid analgesics designed to prevent abuse. The European I-TREND project (see Chapter 10) also used social media to inform its online monitoring of shops selling new psychoactive substances, and Ledberg (2015) used internet forums to explore interest in new psychoactive substances before and after control.

| Demand reduction responses

Health services have been slow to adapt to changing modes of communication and to develop new methods of reaching target groups (EU Task Force on eHealth, 2012). Manning (2013) found some examples of official drug prevention videos on YouTube, but, unlike other drug videos, these did not allow user comments. Social media engage users in conversations, and services, need to adapt, moving away from one-way messaging to more participatory approaches (Neiger et al., 2013). In the

absence of appropriately delivered services, other actors will fill the void. Thus, forums may become the go-to place for harm reduction advice, despite concerns about the quality of the information provided. Analysis of forums has identified demand for harm reduction and treatment advice, particularly among users who may not feel comfortable attending treatment services, such as socially integrated recreational drug users. Social media provide opportunities for engaging with hard-to-reach client groups (Davey et al., 2012) and show similar levels of use across ethnic groups. Targeted messaging using demographic and other information (such as interest in nightlife) may provide a cost-effective way of reaching the right individuals and tailoring messages and responses to their specific needs. In addition, social media can provide opportunities for creating online communities that support recovery from drug dependence.

| Conclusion

The growth of social media has revolutionised methods of communication and affected the way we interact with each other. In terms of the direct impact on drug markets, there remains insufficient evidence of its role in the supply of drugs. More vigilant controls by social media owners, and greater clarity about their level of responsibility for ensuring that services are not used to facilitate criminal activity, may help to restrict drug supply through these channels.

In terms of the indirect impact on drug markets in relation to demand for drugs, the impact of increased exposure to drug-related content online, particularly on younger people, needs better exploration. This will not only increase our understanding of how social media influence behaviour but also allow us to target responses to the areas with the greatest potential negative effects and help us to design more appropriate responses. At the same time, there is a need to have a balanced approach to the issue, identifying and responding to the negative aspects but also identifying ways in which social media can be harnessed by the research and monitoring community and prevention and treatment agencies to better understand drug use and to improve demand reduction responses.

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