

# **Awareness Level of Health Risks Associated with Obtaining Health Information and Products from Mobile Drug Vendors in Lagos State, Nigeria**

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## **Abstract**

This study was carried out to determine the awareness level of health risks associated with obtaining health information and products from Mobile Drug Vendors (MDVs) in Lagos State, Nigeria. The objectives of the study were to determine which social media platforms MDVs operate frequently, find out the frequency of exposure to accurate health information from MDVs on social media and ascertain the awareness level of health risks associated with obtaining health information products from MDVs. The researchers adopted exploratory research design. The findings showed that an average of 81% of the respondents had seen MDVs post on their different social media platforms. The findings also showed that more MDVs operated from Facebook and WhatsApp when compared to their counterpart with an average percent score of 85 and that more of the respondents were exposed to and received the messages as advertisements from the social media. More so, it was discovered that while more than 72% of the respondents rarely believe the health information of MDVs, more than average of these respondents still feel there is no health risks associated with the patronage of MDVs. Based on the findings, it was concluded that the problem of fake drug proliferation in Nigeria has harmed the trust of the healthcare system, resulting in illness, incapacity and even death for consumers and anyone can be a victim. Thus, it was recommended, among others, that regulatory measures, including licensing and monitoring of mobile drug vendors, are essential to ensure the provision of accurate information and adherence to appropriate medication practices.

**Keywords:** Awareness, Health Communication, Risk, Mobile Drug Vendor

## **Introduction**

Mobile Drug Vendors (MDVs), colloquially known as “drug hawkers,” or illegal/unauthorised drug sellers have emerged as a prevalent source of pharmaceutical products in

Nigeria, particularly in urban areas. These vendors offer a convenient alternative for individuals seeking immediate access to medication, often circumventing the traditional healthcare system. However, the unregulated nature of their operations poses significant challenges to health literacy and risk communication. In time past, these vendors were seen as drug hawkers often traveling from place to place with these drugs either in moving vehicles or on their heads in plastic containers. Where this is still in place, the proliferation of the internet, however, has led these dealers to devise new means of selling their commodity. Presently, social media are the new market place for which these mobile drug operators sell their products, flooded with different individuals and platforms sharing and selling diversity of drugs and health information (Abubakar *et al.* 2015; Venture & Grow, 2020; Nwalobi & Asemah, 2021).

Medically, concerns have been raised regarding the safety and legality of certain drugs and health information being spread on the internet. This is a result of the rise of mobile drug dealers on social media platforms. Social media platforms like Facebook, Instagram, Twitter and Snapchat have become essential elements of people's everyday lives, providing chances for networking, content sharing and discovering new businesses and services. The growing use of social media has altered how we connect, communicate and interact with others. However, the tremendous development in social media usage has created new opportunities for illegal operations such as drug sales.

Just like the internet, the operations of mobile drug vendors are largely unregulated, which raises concerns about the quality and accuracy of the products and information they provide. Since the last pandemic, health literacy among resident has raised several key salient issues. Where health literacy refers to the way individuals obtain, process and understand basic health information and services to make informed decisions about their health (New South Wales Department of Health, Australia, 2006), Effective risk communication, on the other hand, is essential for disseminating accurate information about potential hazards associated with medication use.

According to Nkanunye & Obiechina (2017), effective risk communication ensures that individuals receive accurate information about potential side effects, contraindications, proper usage and instructions for medication use. It plays a crucial role in enabling individuals to make informed decisions and mitigating potential health risks associated with improper medication use. Hence, this study seeks to examine the perceptions, behaviours and experiences of residents regarding mobile drug vendors, health literacy, and risk communication are important variables to consider. The study aims to explore how social media exposure influence audience reliance on mobile drug vendors, their level of health literacy, and their perceptions of risk communication practices in order to assess the overall impact of mobile drug vendors on health literacy and risk communication.

The risk of communicating in the age of the digital media poses challenges that draw beyond mere sharing of information, especially in relation to health. These challenges which range from effective communication of the potential risks and adverse effects associated with certain medications, to limited healthcare knowledge/training from the MDVs down to selling of fake drugs, to the over populated health information, contribute to the risk in health communication.

Following the unregulated nature of social media and the popularisation of mobile drug vendors on this platform, there is need for immediate intervention to intentionally communicate the adverse effect of patronising unauthorised pharmaceutical or medical personnel or following unverified health information. By addressing these challenges, policymakers and healthcare providers can enhance the quality of risk communication, thereby promoting patient safety, informed decision-making and improved healthcare outcomes. Therefore, there is need for comprehensive research to explore audience exposure to accurate

health information from these mobile drug vendors as well as identify and analyse audience awareness to the risk involved in patronising unverified medical sources

### **Research Objectives**

The objectives of this study were to:

1. Determine which social media platforms MDVs operate frequently.
2. Find out the frequency of exposure to accurate health information from MDVs on social media.
3. Ascertain the awareness level of health risks associated with obtaining health information/products from MDVs.

### **Conceptualisation of Risk Communication in Health Literacy**

Every aspect of human activity, whether it is in the fields of engineering, medicine, agriculture or tourism, depends on information (Asemah, 2015). Information is the hallmark for which knowledge is acquired and transferred. No matter the sector, communication cannot be said to have occurred when information has not been properly passed across. Our basic survival depends on communication. According to Carey (2020), communication fulfils a practical function (for example, it helps people stay informed) as well as a formal function, one that reflects people as individuals from a social community. In the context of health communication, it is the symbolic exchange of significant health messages that seeks to influence peoples' lifestyle and health behaviours. Giving credence to this, Asemah (2015) adds that it is absolutely important for people who want to be healthy to have access to adequate and accurate information about health precautions, medical conditions and diseases, as well as government health care programmes and policies. Access to this information can aid and improve efforts to reduce the prevalence of risk factors for both communicable and non-communicable health issues (Glik, 2004, cited in Asemah, 2012)

In retrospect, risk communication for health literacy can be conceptualised as the totality of all exchange, mediation and dissemination of information, messages, advice, statistics and curtailment tactics regarding a prevalent health crisis between health experts and groups susceptible to a particular health crisis. It includes a totality of communication activities required for the preparation, control and management of public health issues. This form of communication focuses on encouraging rational decision making, constructive behavioural modifications and the trust building (Gamhewage, 2019; Asemah 2021). Risk communication interventions constitute the communicative strategies employed by health enthusiasts and public health institutions in relating prevalent health -related risks, data, symptoms, prevention tactics, possible cure and susceptibility information to specific groups where such issues are domiciled (Varghese *et al* 2021).

The goal of risk communication intervention is curtailment and most importantly, behavioural modification regarding the disease. Scholarly evidence also show that risk communication efforts are aimed at enhancing wholesome preventive practices, reinforcing health awareness and establishing health risk perception levels amongst individuals in diseases prevalent regions (Akarika, Udo & Ikon, 2020; Kim, & Kreps, 2020; Kalu, Abumchukwu & Nwachukwu, 2020). Hence, risk communication is crucial in enhancing acquaintance with and observance of preventive measures, in normal situations and health emergencies alike (Varghese *et al* 2021).

### **Drug Hawking in the Age of Social Media**

Over the past ten years, social media sites have produced an online phenomenon that has grown in popularity (Edegoh & Asemah, 2014). The social interaction in the twenty-first century has been significantly impacted by social media. Logging into social media has evolved

into a current societal requirement. Around the world, virtual communities are becoming more and more popular. No matter how much effort is put into intervening and changing some health practices, communication must be maintained. People can get information, express comments or grievances, and even campaign and cast votes online all through social media (Imnassenla, 2012; Asemah, 2014).

Social media have empowered MDVs tremendously. The popularity and accessibility for which the platform brings, has broaden their reach and attract a wider consumer base. Authorities, public health professionals and community members are all concerned about the development of mobile drug vendors on social media. Because of the ease of access and anonymity provided by social media platforms, it is difficult to adequately regulate and monitor drug-related information. These businesses offer their items in a variety of ways, from visually appealing advertisements to unobtrusive messages and safe payment mechanisms. They develop an online presence that connects them directly with potential buyers by exploiting the features and functionalities of social media platforms, bypassing traditional brick-and-mortar medication distribution methods. According to Abubakar *et al* (2015), these individuals that patronise online drug sellers or mobile drug vendors on social media are said to be on a suicide mission and the claim that real Pharmacies and medical practitioners sell the same medications is false. However, there is need for individuals to obtain authentic pharmaceuticals from authorised pharmaceutical establishments or approved chemists, as the case may be (Jimoh, 2013). The Federal Government of Nigeria, through National body for Food and Drug Administration Control (NAFDAC), declared that drug hawking is an unlawful enterprise, and violators are usually prosecuted. Drug hawking is an anomaly that should be avoided by all. As captured by NAFDAC (2008 p):

The problems of fake drug proliferation in Nigeria have affected the credibility of the Healthcare system and can exert very harmful effects on the consumer resulting to illness; disability and even death and anyone can be a victim. Some of the incidences have resulted in death even among children because most times the consumers do not know the quality of what they are buying or taking. This makes it imperative that there is need to intensify effort in fake drug eradication

Nigeria has three levels of government and a decentralised structure. The federal government is in charge of university teaching hospitals, the state is in charge of general hospitals and local governments are mostly in charge of dispensaries. The provision of health care services is the responsibility of all three levels of government. Despite the country's enormous potential for growth and development, the health system continues to lack basic amenities due to challenges with insufficient budget, a lack of political commitment, and poor execution plans. Despite NAFDAC effort to regulate and manage the production, advertisement, distribution, sale and use of medications in order to ensure that safe and high-quality drugs, the advent of social media has watered down all efforts made (Azila-Gbettor, Atatsi & Adigbo, 2014).

### **Studies on Drug Hawking**

Several studies have been conducted in respect to “drug hawking.” One of such studies was conducted by Azila-Gbettor, Atatsi & Adigbo (2014). The study titled “Hawking of Medicinal Drugs: The Perspective of the Ghanaian Consumer” sought to lay bare, whether there was a high patronage for vended drugs and why, assess their quality and associated risks. Using an exploratory analysis, the finally revealed high patronage of vended drugs, most especially herbal medicine. For most respondents (consumers), the quality of herbal medicine was rated higher compared to over the counter (OTC) and prescription drugs. The findings

further indicated a strong link between the factors evaluated and patronisation of vended drugs. It recommended immediate attendance of the state to the ongoing proliferation of mobile drug vendors.

Another study on the Nigerian intercity bus passengers' perceptions of in-vehicle medication drug hawking by Adum, Ekwenchi, Odogwu & Umeh (2019) determined the level of patronage for vended drugs and why. In the course of the study, an explanatory analysis of consumer views was conducted on 300 respondents. Using volunteer sampling of two parks in Onitsha commercial city, southeast Nigeria on the quality of hawked drugs and associated risks, the study revealed high patronage of hawked drugs, especially herbal medicines. Most respondents (consumers) rated the quality of herbal medicine higher than Over-the-Counter (OTC) and prescription drugs. The findings established a strong link between patronage of hawked medication drugs and inhibiting factors to the use of professionally prescribed medication drugs. Overall, the researchers recommended that the government should play an active role in resourcing the mandated institutions in the dispensation of medication drugs, to eliminate the proliferation of the activities of medication drug hawkers.

### **Theoretical Framework**

This study was anchored on Hochbaum, Rosenstock and Kegels Health Belief Model (HBM). Created in the 1950s this theory postulates that audience would most likely take a health action based on their believability and attitude towards the health issue. This is why Hochbaum, Rosenstock & Kegels in propounding this model, says that individual response to take health actions are based on this four parts: Perceived susceptibility, perceived severity, perceived benefits and perceived barriers. They indicated that following through this processes would indicate people's readiness to act. In light of the high patronage of mobile drug vendors among individuals, this model is relevant to this study because frequent patronising of illegal drugs from unapproved public domain such as social media, as well as their perception and reactions of those drugs on them, is a product of their health beliefs. Thus, the underlying assumptions of this model are: readiness to prevent health behaviour, which includes health promotion, health risk communication and social behavioural practice.

### **Method**

This study is an exploratory one aimed at investigating the effect of social media on the proliferation of mobile drug vendors and its impact on health literacy. The researchers chose this design as the field of study is fairly unexploited, especially in the Nigeria context. Although several researches have been carried out on the influence of drug hawking and in-vehicle drug vendors, this study, however, examined online mobile drug vendors and their effect on the online community. Hence, the exploratory research comes in handy, as it assists in the selection of an infinite unknown audience.

Considering the fact that the researchers sought to assess the influence of social media in promoting the proliferation of mobile drug vendors and the risk involved in health communication, the researchers made use of the google online survey form to circulate an already structured questionnaire that aligns with the given objectives. This approach is to help the researchers select the most accessible subjects and it is least costly in terms of time and effort (Oisín, 2007). The population of this study was purely limited to Facebook audience. For the purpose of this study, the researchers limited the population to members of two major market groups on Facebook. The first group was the SPANGLER-Market Group and the second was the SPANGLER-World Community group. The reason for the selection of these groups was that these groups contained the highest number of online vendors from across the Nation. With a combined participant of 7811 members as at the time of this study, each of these group had a minimum of 300 post daily from marketers with over 70(seventy) active reactions

and over 1000 daily engagement. Aside this factor, the SPANGLER group also owned six WhatsApp online communities which consisted of a minimum of 800 members.

Thus, the population of this study is 7811. Using a survey monkey sample size calculator, a sample size of 367 was drawn from the population. This number served as the selected sample for this study. A closed ended questionnaire was designed to establish demographic profile (age, gender, employment type and educational level) of respondents, assessment of the type of vended drug purchased, awareness and type of risk associated with patronising vended drugs. The questionnaire was distributed using the WhatsApp social media platform. A total of 351 three hundred and fifty-one audience (351) was gotten from the study after three weeks of consistent sharing of the online survey form. However, out of this number, only three hundred and three (303) was duly completed and ready for use. The SPSS statistical package was used for data input and results were analysed using descriptive statistics and are expressed as numbers and percentages.

### Data Presentation and Interpretation

**Table 1: Demographic Profile of Respondents**

Table 1	Option	Frequency	Percentage (%)
Gender	Male	122	40
	Female	181	60
	Total	303	100
Educational Qualification	Non-Formal Education	34	11
	WAEC/OND	77	25
	HND/BSC	132	44
	Masters and Above	60	20
	Total	303	100
Age	18-25	21	7
	26-35	83	27
	36-45	104	34
	46-55	69	23
	56 and Above	26	9
	Total	303	100

Table 1 above is an indication of the respondent distribution. From the table above, it can be observed that 60% of the participants who purchase online mobile drug vendors are the adult female.

**Table 2: Awareness of MDV on Social Media**

Statement	SA	A	UD	SD	D	Total	Mean	Decision
I always search MDVs on social media	14 5%	87 28%	56 19%	49 16%	97 32%	303 100%	2.6	Accepted
I regularly search for MDVs health post on social media	14 5%	87 28%	56 19%	49 16%	97 32%	303 100%	2.6	Accepted
	109	112	34	11	37	303		

I often see MDVs health post on my Facebook	36%	37%	11%	4%	12%	100%	3.8	Accepted
I regularly see more MDVs updates on my Twitter	19%	5%	41%	89%	149%	303%	1.9	Rejected
I consistently see MDVs health post on my WhatsApp status	98%	87%	17%	68%	33%	303%	3.5	Accepted
I frequently see MDVs health post on my Instagram	83%	45%	72%	44%	59%	303%	3.2	Accepted
I regularly see MDVs health post on my TikTok	54%	13%	72%	83%	81%	303%	2.6	Accepted
I always read health update from MDVs on social media	66%	47%	12%	76%	102%	303%	2.7	Accepted
I always watch & listen to health posts and update from MDVs	44%	92%	89%	25%	53%	303%	3.2	Accepted
I often share MDVs posts on social media	12%	23%	41%	61%	166%	303%	1.9	Rejected
I often like MDVs health posts on social media	73%	64%	38%	51%	77%	303%	3.0	Accepted
I often comment on MDVs posts on social media	7%	81%	64%	118%	33%	303%	2.7	Accepted
I regularly follow MDVs health updates on social media	47%	57%	44%	93%	62%	303%	2.8	Accepted
I regularly patronise MDVs on social media	47%	57%	59%	88%	52%	303%	2.9	Accepted

The above given table focuses on examining audience awareness of the existence of MDVs on social media. It further investigates the regularity of operation by MDVs on this platform.

**TABLE 3: Assessment of Exposure to Accurate Health Information from MDVs**

Statement	SA	A	UD	SD	D	Total	Mean	Decision
I often get more information about my health from MDVs posts on social media	49%	27%	15%	64%	148%	303%	2.2	Rejected
I observe more healthy habits because of MDVs posts on social media	14%	45%	29%	141%	74%	303%	2.3	Rejected
	33%	53%	48%	63%	106%	303%		

MDVs information about health products are always correct	11%	17%	16%	21%	35%	100%	2.4	Rejected
I regularly practice all health recommendations made by MDVs on social media	22%	41%	62%	162%	16%	303%	2.6	Accepted
I trust and believe all health post made by MDVs on social media	22%	46%	12%	106%	117%	303%	2.2	Rejected
All drugs purchased from MDVs does it claims	42%	46%	5%	113%	97%	303%	2.4	Rejected

The above table set out to assess audience exposure to accurate information shared by MDVs. Also, in this section, respondent believability on information shared by MDVs is also tested. It was observed that despite observing some of the suggestions made by the MDVS, respondents did not have complete or total trust in the information being given.

**TABLE 4: Assessment of Knowledge on Health Risk Associated With MDVs**

Statement	SA	A	UD	SD	D	Total	Mean	Decision
Drugs purchased from MDVs are of better quality than approved medicines	57%	49%	61%	93%	43%	303%	2.9	Accepted
Drugs purchased from MDVs have more health benefits	63%	32%	13%	85%	110%	303%	2.5	Accepted
Drugs from MDVs can lead to system failure	94%	17%	22%	83%	87%	303%	2.3	Rejected
Drugs from MDVs can lead to death	33%	24%	124%	31%	91%	303%	2.6	Accepted
Drugs from MDVs can lead to health complications	94%	17%	22%	83%	87%	303%	2.3	Rejected

## Discussion

### RO1: Determine Audience Awareness and Exposure to MDVs on Social Media

Table 2 shows different social media platforms through which the respondents frequently operate from. From the data obtained, the respondents indicated that they had at one point or the order seen social media post from MDVs. In table 2, an average of 81% of the respondents had seen MDVs post on their different social media platforms. What this connotes is that the use of social media as one of the modern tools of communication is gradually taking a new shape in all areas of communication, health inclusive. This finding is in-tune with Nkanunye & Obiechina's (2017) findings that health communication is the utilisation of different communication techniques to advise and advocate for better health choices, using all available tools, social media inclusive. This is further substantiated by Kierian, Okpongkong, Ukpong & Bassey's (2021) claims that increase in the usage of social media were spurted after the pandemic. Thus, the importance of an intentional strategic public awareness in the health sector cannot be overemphasised as social media have gone beyond being a platform for



networking and social interactions, to a market place for buying and selling all manner of things and a lack of accurate public awareness can lead to confusion, misinformation, fear and misconceptions that may lead to adoption of practices and protocols that may expose the citizenry to various health risks and worse case scenarios (Asaolu, Ifijeh, Iwu-James & Odaro, 2016).

Aside having a social media presence, the findings showed that more MDVs operated from Facebook and WhatsApp when compared to their counterpart with an average percent score of 85. It was observed that more of the respondents were exposed to and received the messages as advertisements from the social media. Where the reasons for this might be due to the novelty of some of these platforms or the algorithm technicalities that involve the usage of some of these platforms. The results, however, prove the saying of Radu (2022) that the flexibility for which some social media platform can be operated from enhances more usage by their audience. This is in agreement with Zhoua, Zhangca, Yangb & Wang (2019) who say that social media offer a novel perspective to healthcare because they provide unique communication channels to patients, healthcare professionals and general public.

The findings further showed that the respondents sometimes search, read, like, share or comments on health updates from MDVs. Some also attested to the fact that they regularly patronise these vendors. Although the number of patronage was less than 41%, data gathered revealed that of this 41%, the representation of the female gender was relatively high when compared to the male counterpart. This further proves that adoption of online platforms by MDVs as the new drug hawking space is spurred up by constant social contents engagement on these platforms.

## **RO2: Examine the Frequency of exposure to accurate Health Information from MDVs on Social Media**

It was found that not only do these MDVs exist, but that most of them majorly operated on Facebook and WhatsApp. With an average mean score of 3.5, this finding supports Edegoh & Asemah's (2014) study which opined that social interaction (health inclusive) in the twenty-first century has been significantly impacted by social media.

Invariably, as social interaction continues to rise, so does the vulnerability of individuals to the exposure to different vendors on the internet market place. Where this finding is relatively new, previous studies from scholars such as Adum *et al* (2019) hints that it is typical to see drugs sold openly as if they are common merchandise like clothes and cosmetics in most Nigerian physical markets; hence, having them sold on social media was not so much. Thus, to move this attitude to the internet suggests that more work needs to be done by the NAFDAC and other drug control bodies/ affiliations. Reason for this is that studies have asserted that individuals who patronise unauthorised drug vendors are on a journey towards ending their life. Therefore, drug hawking is an aberration that should be discouraged.

It was observed that respondents clearly did not get complete and accurate health information from MDVs with a mean score of 2.2, the statement was rejected. Just like what Hochbaum, Rosenstock & Kegels' Health Belief Model (HBM) suggests, people are more likely to take action based on their perceived interest, believability and attitude towards the health issue. It was observed that even though the audience did not get accurate information from some of these vendors, the purchase rate was high. Further investigation showed that most of the respondents took an extra step towards obtaining accurate health information, either through an internet search or enquiry from families and friends. This can be said to be part of the reasons for the increase in the patronage of these vendors.

However, this result indicates a high need for health practitioners to engage in an online risk communication to educate their audience of the need to patronise recognised approved health personnel for their health needs. According to Nkanunye & Obiechina (2017), effective

risk communication ensures that individuals receive accurate information about potential side effects, contraindications, proper usage and instructions for medication use. It plays a crucial role in enabling individuals to make informed decisions and mitigating potential health risks associated with improper medication use. Through creating an intentional social media education and engagement, many would know that patronising these uncategoryed vendors is solely at their own risk and that taking these drugs can result in the loss of their lives or damage of major health system in the body. Hence, drugs can heal and kill.

Although scholars like Wakefield, Loken & Hornik (2010) have implied that media exposure to health campaigns can aide audience understanding and willingness to adapt new healthy behaviours, findings in this study suggests otherwise. From the data gathered, the respondents were more in tune to scholars like Luo (2021) who feels social media are a means for spreading of false, exaggerated information.

### **RO3: Investigate the awareness level of Health Risks associated with obtaining Health Information/Products from MDVs**

It was discovered that while more than 72% of the respondents rarely believe the health information of MDVs, more than average of these respondents still feel there is no health risks associated with patronage of MDVs. Also, this result further shows that despite the audience awareness to the possible health threats of patronising unauthorised medical personnel, the audiences were still willing to patronise these vendors due to various reasons. There are two basic factors that necessitate any health-related behavior; first, the desire of people involved to avoid illness or conversely get well if already ill. The second factor is the belief of people that adhering to a specific health action will prevent or cure an illness. Ultimately, an individual's course of action often depends on the person's perceptions of the benefits and barriers related to health behaviour (University of Twente, 2019; LaMorte, 2019). This, therefore, indicates that the people still had the freedom to decide on their health lifestyle no matter the post made by MDVs. However, constant influx of messages from the MDVs on their social timeline has a way to influence their lifestyle choices. In addition, the respondents were of the opinion that even when patronage of MDVs and their diagnosis has a death possibility, they, however, feel other health challenges was not possible.

### **Conclusion and Recommendations**

The problem of fake drug proliferation in Nigeria has harmed the trust of the healthcare system, resulting in illness, incapacity and even death for consumers and anyone can be a victim. Some of the incidents have resulted in death, even among youngsters, because most users are unaware of the quality of what they are purchasing or taking. Notwithstanding all the plethora of laws, drug hawking remains pervasive in Nigeria. Based on the findings and conclusion, the following recommendations are hereby put forward:

1. More health information should be pushed out by medical personnel to improve audience knowledgeability. Enhancing health literacy levels and improving risk communication practices in this context are crucial for ensuring safe medication use and promoting public health. Typical example of this is done by @aprokodoctor on Instagram.
2. Regulatory measures, including licensing and monitoring of mobile drug vendors, are essential to ensure the provision of accurate information and adherence to appropriate medication practices.
3. Targeted interventions such as health education campaigns and the integration of mobile drug vendors into formal healthcare systems can play a vital role in improving health literacy and risk communication. These efforts will help empower individuals to make informed decisions regarding their health and mitigate potential risks associated with mobile drug vendors.

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