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Prospective role of social media in Pharmacovigilance: A review of stance from limited resources

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ABSTRACT: In todays world, social media plays an efficientrole in everybody's life. Thought of living without social media is now a threat.Pharmacovigilance also use social media to inform the general public about a product's description, qualities, usage, benefits, and known negative effects. It could also use it to communicate with customers, comprehend their input, listen to their complaints, make the necessary decisions, and take the necessary remedial action. Social media are interactive computer-mediated communication technologies that are alive and well.

Keywords:social media, Pharmacovigilance, computer mediated communication, social networking websites

I. INTRODUCTION

Digital media comprises web sites, web pages, blogs, vlogs, social networking sites, internet forums, chat rooms, and health portals, and refers to audio, video, and images that exist in a computer-readable format.

The 'internet of things,' which is the interconnection of uniquely identifiable embedded computing devices within existing inter- net infrastructure (e.g. GPS devices, cars, cameras, 'coach' watches, sphygmomanometers, glucose measuring devices, insulin pumps, bathroom balances), should also be added to this list.

With the number of social media users skyrocketing in recent years, these platforms now contain an unprecedented amount of information. In 2012, for instance, the number of registered Google Plus active users grew from 500 million to 1 billion in less than a year.

An average active social media user spends 13 to 16 minutes per hour on social media websites, where they can participate in collaborative projects (e.g., Wikipedia), share information on social networking websites (e.g.Facebook), play virtual games and social worlds (e.g. World of Warcraft, Second Life), or create and share videos (e.g. on YouTube, Vimeo).[1]

Prior to the advent of social media,the revelation of thalidomide's teratogenic consequences sixty years ago was a watershed moment in pharmaceutical safety.

At least 20,000 people were injured, and 80,000 newborns died as a result of the disaster (Evans 2014). Despite its apparent global influence in the late 1950s, the story may have resonated only with an expert audience, or at the very least with the 46 countries actually affected.

In the late 1950s, information communication technology was still in its infancy, and customized computing and the internet were not widely available; print and radio remained the dominant modes of communication and information transmission. As a result, information did not always spread far, and regular consumers in low- and middle-income nations were the least aware of the consequences of disasters like thalidomide.

Today's social media,

The information communication technology landscape has evolved to become more efficient over the previous two decades, with the internet serving as the primary driving factor. With an estimated 4.1 billion users as of December 2018, internet usage is still growing at a rapid pace (Statista 2019)

Furthermore, the widespread availability of low-cost mobile phones has kept businesses and services more connected than ever before (Friedrich et al. 2010). Patient information seeking behaviour has shifted as well, with polls in the United States indicating that 59 percent of adults seek health information online. (Lengsavath and colleagues, 2017).

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Indeed, on the internet, social media has become the channel via which knowledge is accessible and spread without regard for geographical boundaries. Globally, more than 3 billion people use social media, with Facebook® (77%) and YouTube® (13%) being the most popular platforms (Chaffey 2017). Although the quality of evidence makes it difficult, research has demonstrated that reporting adverse drug reactions/events (ADR/E) online through social media monitoring can be beneficial (Lengsavath et al. 2017).[2]

The most potent, accessible, and affordable platform for disseminating information or debating any topic is social media. It used to be limited to a few people a few years ago, but it has now spread to practically every part of India and the rest of the world. It provides a fantastic opportunity for pharmaceutical and related industries to capitalize on the growing popularity of social media. It is a given that in the previous two years, social media has insured that practically everyone (including the illiterate and under-educated) recognized and understood terminology like lockdown, quarantine, isolation, infection, and distance; it is information that many people were unaware of prior to that.The 'online' outreach reaches people from different walks of life, religions, and languages. It would only be fair to use such resources to share knowledge about PV.

PV could also use social media to inform the general public about a product's description, qualities, usage, benefits, and known negative effects. It could also use it to communicate with customers, comprehend their input, listen to their complaints, make the necessary decisions, and take the necessary remedial action. A proper connection with the reporter (whether it's a patient or a patient's known) is required to grasp their medical condition, medical history, response to the concerned drug, if they were on other medications as well, co-morbidities if any, and other pertinent considerations.Once discovered, the anomaly must be communicated to all affected parties, including healthcare providers. Again, social media is far more useful than other channels for such communications.

The following are the most important aspects of social media-driven pharmacovigilance:

- Analyze Consumers (medical bodies/professionals and patients) are being studied. Recognize appropriate social media keywords and trends that will aid in getting the message to the proper people.
- Pay attention, listen, and connect Keep a close eye on all interactions and product mentions. In real-time, keep an eye on the content. Divide the content into categories based on favourable and negative responses (or benefits and side-effects of the product, respectively). Make eye contact with the audience and respond to their concerns. Identify the users whose input would be useful in furthering the product's inquiry. Make an effort to make a decision as soon as possible. The importance of communication cannot be overstated: every milestone and conclusion should be shared.
- Documentation It's critical to keep track of, document, and report on each observation and piece of information.

As a result, social media may become a key enabler in achieving greater PV results.[3]

Companies' social media initiatives for PV can be divided into three categories:

- listening (safety data reporting),
- engaging (follow-up),
- broadcasting (risk communication)

-each has its own level of complexity, challenges, and requirements.[4]

Twitter and Facebook now have around 300 million and 1.4 billion active users, respectively, indicating that social media has grown dramatically in recent years. Social media has previously been used in a variety of fields, demonstrating its potential for use in pharmacovigilance. For example, Twitter data was used to predict earthquake epicentres in Japan, and after the disastrous 2010 earthquake in Haiti, Twitter was used to track cholera outbreak trends weeks ahead of standard reporting methods. If used effectively, the volume and near-instantaneous nature of social media offers prospective prospects for real-time monitoring of ADRs, increased capture of ADR reports, and faster signal recognition.

Various social media sources utilised for detecting ADRs, including general purpose social networking sites like Twitter and health and support networks like PatientsLikeMe, DailyStrength, and MedHelp, have sparked interest in the function of social media in pharmacovigilance. Previous evaluations in this area have concentrated on the methods used to evaluate social media and the study of a variety of pharmacovigilance text sources, such as biomedical literature, clinical narratives, and social media.[5]

Social media are interactive computer-mediated communication technologies that are alive and well. Social networking's presence has

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evolved into a symbol of effervescent and translucent communications, and it has quickly evolved into the ideal system of communication and information sharing. In today's digitalized environment, social media and networking may play an important role in knowledge distribution. Consumers sharing their experiences with Adverse Drug Reactions (ADRs) and drug knowledge on social media could be interesting for information usage. A clear flow of information regarding the benefits and risks of drugs is also essential for guaranteeing safety. A little extra information (warnings or admonitions) can sometimes help the correspondence (warnings or admonitions) to improve drug use.Social media is currently being assessed as a possible equivalent base of knowledge for medication safety surveillance.

Social networking websites are useful for information and evidence connected to pharmacovigilance since they represent a potentially significant ocean of information. Their true worth, on the other hand, is still unknown.

Social media has evolved into a critical source of data for pharmacovigilance studies, with an increasing number of people reporting previously unreported adverse reactions to medical drugs. The use of social media for pharmacovigilance has become possible due to increased reach and processing capacity. Social media is the emerging idea for pharmaceutical companies to transition away from out-of-date pharmacovigilance systems and safety reporting methodologies and toward more patient-centered models for reviewing, monitoring, and reporting safety data and evidence. These social media platforms can serve as a platform for easy and open communication between patients/consumers and healthcare practitioners about the use of medical items, resulting in open trust.For example, all parties can be added to a private or public group to share messages. However, a prudent healthcare expert must monitor these platforms in order to verify the facts.[6]

Many businesses use their own social media platforms (such as Twitter and LinkedIn) to spread information about their products. In today's environment, social media can be used as a possible tool for post-market medication safety monitoring, and the pharmaceutical industry is slowly but steadily accepting this approach. Some corporations, for example, utilise social networking sites to monitor health forums and communicate information about specific drugs or health issues between patients and healthcare professionals.[7]

The sharing of information by technology means, such as the World Wide Web, text and instant messaging, and social networking, is referred to as electronic communication. It is gaining in popularity, as indicated by its widespread and quick adoption. As indicated by its extensive and quickly growing use, electronic communication is becoming increasingly popular around the world.

However, in medicine, it is still a fresh way of reaching out to patients. They do, however, offer the potential to improve present health care. The use of an electronic platform could facilitate communication between doctors and patients. All of these strategies are important parts of modern health care and will aid us in the future as health care becomes increasingly digital.[8]

The amount of data collected through digital media is growing at an exponential rate, particularly thanks to data given by social media. Furthermore, the majority of the data responsible for exponential knowledge growth is unstructured, and includes tweets, comments on social networking sites like Facebook, and films posted on sites like YouTube. While the public's interest in discussing healthcare concerns is increasing, our technology for assessing and dealing with this type of data is falling behind. Although pharmaceutical companies' marketing departments have begun to use social media to better understand patient impressions of their products, other departments, such as safety and pharmacovigilance, remain skeptical of the veracity of the information gleaned from social media.[1]

The potential of digital media in pharmacovigilance

Patients are constantly promoting and adopting social media and online health networking sites as a means of discussing health-related subjects. Many of these patients actively use these sites to share their experiences with medicinal products as well as any potential side effects. This opens up the possibility of using such information in ADR signal detection and public safety monitoring.

The use of social media in the monitoring of public safety has been thoroughly established. Previous research has shown how social media data can be used to find locations that have been most affected following natural disasters. Social media data analysis has also been found to give reporting trends during viral outbreaks.

To present, the majority of research on the use of social media in pharmacovigilance has been

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on the data mining techniques needed to screen these sites for safety information on a broad scale. The findings of these research put the potential of filtering unpleasant event-related material from social networking sites as a method of detecting ADR signals into context. While there are still a number of drawbacks to this method, the ease with which social media sites may be accessed means that ADRs could be detected in real time.

Furthermore, recent advancements in mobile technology and data analytics have aided in the development of new initiatives such as the use of a social network application for ADR reporting. This type of advancement might be utilised to create a safety-profile database that allows for the reporting, monitoring, and exchange of safety data.[10]

Defining the Role of Social Media Data in Pharmacovigilance

Social media is a potential source of PV data due to the extensive usage of social media by users and prescribers of medicines who post their experiences with those drugs online. n. Anderson et al. found that data from social media was more informative than spontaneous ADR reports, published literature, and data from the Drug Abuse Warning Network when it came to nonmedical use of non-controlled medications like antidepressants, where data was harder to come by. The value of such data, on the other hand, must be determined on a case-by-case basis, with each data source being evaluated in terms of product and safety topic 'richness.'

Powell et al. have documented the wide range of data available for a variety of pharmaceuticals on Facebook and Twitter. The proportional utility of social media in identifying new safety issues or new elements of recognised safety issues will eventually decide the role of social media in PV. When analysing the role of any information source in PV, including social media, it's useful to divide usage into five categories, as illustrated in Table.

Area	Value proposition	Examples
Reporting and communication	Direct interaction between interested parties Increased awareness on part of the MAH, HA patient	Provides tools to report ADRs—company product websites, Medwatch, Yellow Card Sharing experiences and practices: communities of HCPs; communities of patients Two-way communication: risk communication; information sharing
Signal detection	Find rare events not often reported through spontaneous reporting to HAs and pharma companies Find medical side effects earlier than in other systems across a broad spectrum Alleviate underreporting known to occur in spontaneous systems	Primary signal detection tool alongside traditional (spontaneous) sources, across all products and events
Niche PV in pre-specified areas	Find new information in specific niche areas under-represented in current monitoring systems May be used as a primary tool for safety signal detection in certain pre-defined narrow areas (in contrast to broad-based safety monitoring across all products/events where social media are not value-added)	Exposure during pregnancy Abuse Misuse Low exposure, e.g., orphan drugs
Signal evaluation	Use for strengthening of hypotheses emerging from other systems Provide additional insight into safety issues identified through other means	Ad-hoc inspection of social media posts after a safety signal has been found in other sources
Quality of life	Find areas of patient and HCP concern that are not necessarily medically serious, but that have a significant impact on quality of life	Insomnia Stress Depressed mood

Proposed classification of social media data by potential value to pharmacovigilance

The goal of the given research is to examine the potential applications of social media in each of these five categories.[11]

SOCIAL MEDIA AS A TOOL TO CAPTURE ADVERSE DRUG REACTIONS

In the United States, adverse medication reactions are the fourth to sixth largest cause of death. According to a comprehensive evaluation of 25 observational studies involving 106,586 hospitalised patients, adverse drug reactions (ADRs) account for 5.3 percent of all hospital admissions worldwide, with higher rates (a median of 10.7%) recorded for senior patients. 13 Similar findings were found in a previous assessment of 39

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research, which estimated that serious ADRs account for 6.7 percent of all hospital admissions in the United States, with fatal ADRs accounting for 0.32 percent. 14 As a result, the study projected that there were 106,000 fatal ADRs in the United States in 1994.It is impossible to analyse all of the ADRs linked with the use of a given drug before it is issued because to the constraints of pre-approval clinical trials, therefore spontaneous reporting of suspected ADRs by the public and health professionals is vital for activating drug safety signals.

A pharmacology review revealed that reports of adverse events can be found on social media, and that the findings are generally compatible with what is known about the medications from other sources (such as drug labels or published trials). According to several research, social media has a higher prevalence of adverse events, especially "symptom-related" and "mild" adverse events.

It's unclear whether the differences between adverse events reported on social media and those reported in traditional sources indicate novel adverse effects/reactions or more accurate adverse effect/reaction rates. What is evident is that social media can help researchers comprehend patient views by providing more complete information on adverse effects/reactions that are significant to patients.[12]

SOCIAL MEDIA AS A TOOL TO ENGAGE AND INTERACT WITH PATIENT AND HEALTHCARE COMMUNITIES

There are various examples of how social media may be used as interactive platforms to proactively engage and interact with patient and healthcare communities, and there have been numerous successes. Finding people with certain diseases or symptoms can aid in the identification of possible clinical trial participants. Companies developing or testing new drugs can track patient symptoms and identify healthcare experts who could help with the trial by listening to online conversations. Companies can use this method to create strategies for identifying and engaging prospects with other digital initiatives, such as online clinical trial tools.

SOCIAL MEDIA AS AN ADDITIONAL DATA SOURCE IN PHARMACOVIGILANCE

The use of social media in pharmacovigilance is gaining traction, with a variety of sources being investigated for detecting possible adverse drug reactions. PatientsLikeMe®, DailyStrength, and MedHelp® are examples of health and support networks [31]. Social media is seen as a rich and real-time data source that may aid in the identification of new safety issues and critical insights in areas like as the use of medications during pregnancy, label use, misuse, medication errors, or lack of efficacy in relation to medical products. Furthermore, the need of incorporating patients' needs and concerns into care delivery is becoming increasingly recognised, resulting in more patient-centered care.Social media has the potential to fill this gap by giving healthcare providers immediate access to a broad pool of patients' concerns. User posts on social media could contain information on treatment outcomes and give regulators and the pharmaceutical business early access to reported adverse events, which could be beneficial to both. Other than social media, there is no easy way to get the type and volume of ADR information that social media provides. ADRs experienced by patients with unique conditions such as uncommon diseases, pregnant/nursing women, the elderly, or patients with comorbidities who are often excluded from clinical trials are included in this category.

SOCIAL MEDIA FOR THE PURPOSE OF SIGNAL DETECTION OR VALIDATION

Early signals associated to rare adverse responses or other aspects such as misuse, abuse, overdose, medication errors, occupational exposure, and the influence of medicines on quality of life can be identified using social media data as one of several sources. This matches the description of signal detection, which is defined as "the process of seeking for and/or detecting signals using data from any source." Furthermore, social media can be a useful tool for validating signals, such as confirming signals that have been detected by other reporting systems.[13]

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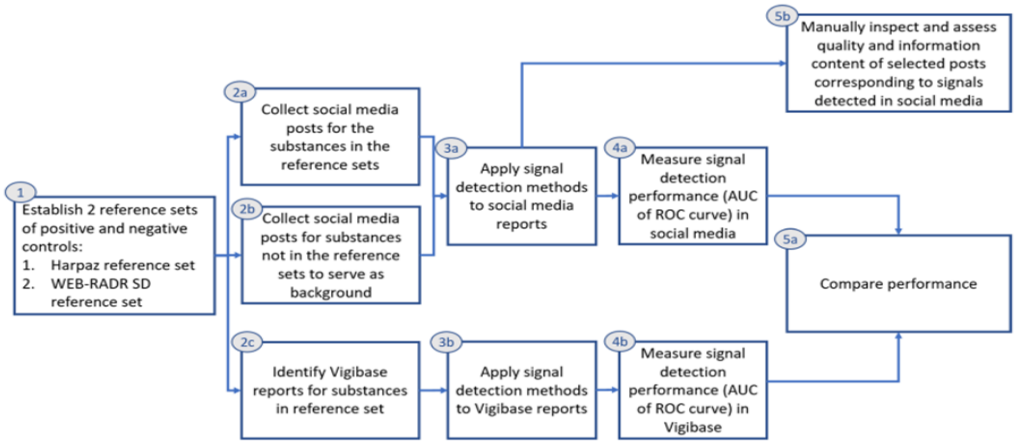
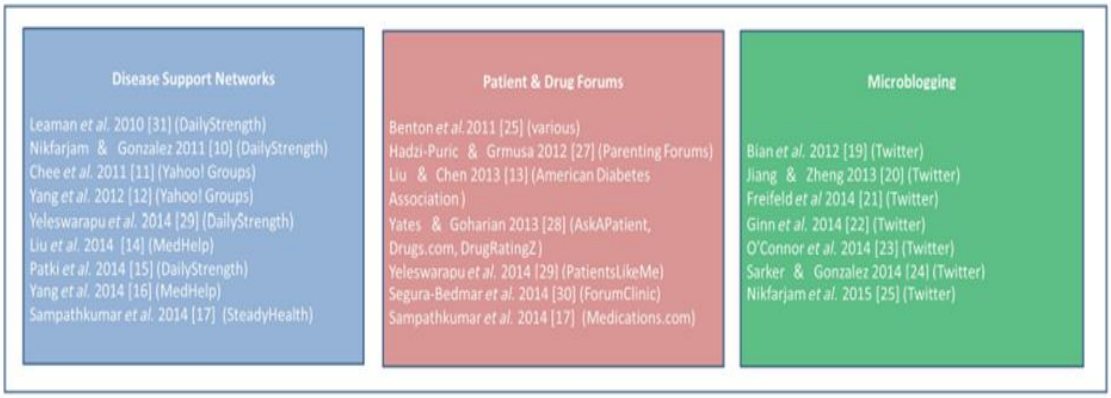


Conceptual overview of the investigation of the utility of social media in safety signal detection. (AUC area under the curve, ROC receiver operating characteristics, SD signal detection) [11]

Text mining of social media for pharmacovigilance

Text mining has been used to analyse pharmacovigilance data from a variety of sources, including biomedical literature, clinical narratives, and web search records. To the best of our knowledge, Leaman et al. in 2010 were the first to use machine learning to social media, studying postings from the social support networking site DailyStrength. Sarker et al. covered the subsequent mining of many social media sources in depth.



Social media sources utilized in text-mining studies[14]

INFORMATION EXTRACTION FROM SOCIAL MEDIA

Large amounts of raw data are generated by social media, making analysis difficult. Big data has its own set of limitations, such as search difficulties, a large volume of irrelevant data, issues with validation, user bias, and so on. They are distinguished by large amounts of diverse data and a rapid rate of new data production (Data Velocity). Pierce and colleagues emphasised the inherent heterogeneity in data sources, which can change dramatically over time. Norn pointed out that different Internet-based data sources differ in terms of reach and coverage, as well as the depth of information offered. This could include restrictions imposed by website characteristics (for example, character limits).

Because SNS differ in terms of their core functional building blocks (identity, conversations, sharing, presence, relationships, reputation, and groups), developing strategies for monitoring, understanding, and responding to various social media activities necessitates a thorough understanding of their characteristics. In terms of pharmacovigilance, this means that the degree of uncertainty and bias of each SNS must be considered. To fully realise their benefits and provide meaningful signals, a careful mix of each of these data sources is essential. Social media sources must be addressed independently in this process, and approaches must be adjusted to each

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channel separately, as each has its own set of obstacles.Duplicate reports are also a possibility (due to parallel publishing on various platforms, for example).[15]

THE AUTHENTICITY OF SOCIAL MEDIA

Individuals' perspectives have shifted as a result of web-based social networking sites, and the world has altered on both a local and macro level as a result of enabling long-term and uninterrupted connection. Social media has established itself as a significant extension of any country's physical space. Simultaneously, issues of authenticity (such as author credibility, quality of knowledge given, and media content discontinuity) are developing as one of the difficulties that can be accounted for as a source of concern when sharing data on social media.

When trust is questioned, the implications may include the deactivation of accounts and the creation of additional profiles, which may result in a flood of "ghost" issues. Validity emerged as one of the important challenges of reliance on social media in the pharmacovigilance framework in an overview of issues and difficulties among Malaysian web-based social networking clients. Other concerns raised were the report's trustworthiness, content, and source. The problem of the quality of the knowledge gained or information collected through social networking networks has also come up.[16]

CONSIDERATIONS FOR USING SOCIAL MEDIA IN PV

People can communicate, share information, interact, and network on social media websites and applications, which allow for the sharing of user-generated content. In the recent decade, social media has grown in importance as a source of news, viral marketing, online collaboration, networking, and entertainment.

Can the use of social media assist create meaningful and valuable changes in PV? That is the key question that needs to be answered. The short answer is "Yes" — at the very least.

Social media offers enterprises new channels and techniques for reporting, evaluating, and monitoring safety data, allowing them to move away from traditional PV systems and reporting methods and toward more patient-centric models. These channels have the potential to facilitate quick and open contact between corporations and consumers/patients, as well as healthcare practitioners, who use medicinal products, hence promoting transparency and public trust.

In the future, social media monitoring will almost certainly become common practise in PV. However, before doing so, a thorough examination and assessment of the use of social media as a PV tool, both in terms of usefulness and influence on outcomes, is required. Furthermore, an assessment of the regulations and legislation required for effective usage, the practicality of using big data gathered through social media channels, the cost of use, and an overall cost-benefit analysis must be completed.

CURRENT STATUS OF SOCIAL MEDIA IN PV

Companies' social media initiatives for PV fall into three categories: listening (safety data reporting), interacting (follow-up), and broadcasting (risk communication), each with its own set of concerns and requirements.

Most regulatory advice and, as a result, PV operations involving social media and the internet nowadays are mostly focused on screening social media sites and following up on reported safety data, as discussed further in this section. Their influence and application in other areas of PV, such as retrieval, integration, and analysis of safety data, and as prospective risk communication and management tools, is either minimal or non-existent.

Companies use a variety of reporting methods, including email correspondences, company websites, and physician hotline services, to report adverse events (AEs). Following the EMA and FDA's regulatory advice, several corporations in the EU and the US are now taking responsibility for their own internet material. Based on data from multiple examined firms, social media is one of the AE-reporting methods in these companies (32 percent).

The internet is a great way to gather medication and device adverse events, especially from healthcare practitioners. Adverse events can be reported directly to the FDA's MedWatch programme in the United States, Health Canada's MedEffectprogramme in Canada, and the "Yellow Card Scheme" in the United Kingdom and Australia. The communities of medical practitioners (www.sermo.com), patients (www.patientslikeme.com), medical education, and medical care facilities have all been affected by social media (Mayo Clinic). These websites have demonstrated that relevant messages shared on social media platforms and channels may have a significant and immediate impact.On computers and cellphones, there are currently a variety of sites and applications for patient and consumer reporting. One such tool is MedWatcher, a free app

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that lets patients and doctors to report adverse events to the FDA using their smartphone or tablet (MedWatcher.org). The major goal of such tools is to provide information about medications, devices, interactions, and other pharmaceutical information to patients and healthcare professionals (HCPs), with some also allowing for AE reporting. These technologies are expected to grow more popular as they become smarter (user-interactive) and sophisticated, allowing both sponsors and regulators to hear directly from patients and customers.Today, an increasing number of medical and consumer health organisationsrecognise the significance of establishing proper and sufficient controls over social networking platforms in order to minimise any gaps/risks in the reporting, identification, and monitoring of adverse event data.Companies are now actively engaged in identifying and understanding the value drivers for adopting a comprehensive PV social media strategy, which includes proactively creating social media platforms to solicit/capture AE data to enable an organization's social media monitoring and reporting activities as they relate to AE compliance (rather than monitoring and reporting what comes in passively on existing company sites), as well as investigating the successes and challenges of t Companies are now offering social media guidelines and best practises to their staff in order to encourage successful safety reporting via social media.Employees are urged to be scouts for reporting safety issues/AEs that they come across on social media platforms, when side effects are disclosed in a genuine and recognisable fashion after taking one of the client's products.

FUTURE IMPACT AND POTENTIAL AREAS TO LEVERAGE SOCIAL MEDIA IN PV

Online community members frequently discuss a wide range of personal medical experiences. Patients frequently discuss their health experiences with one another rather than in a clinical research study or with their physician for a variety of reasons. 13 Knezevic et al. described how a Facebook group was developed as an AE channel and its effectiveness was tracked in a 2011 research. Over the course of seven months, the organisation was able to interact with 1,000 Facebook members and received 21 negative replies. Traditional AE reporting data or data derived from health and reimbursement records have several advantages over social data.Social reports are rapid, closer to real-time data (occurring in close proximity to the event) and potentially richer sources than reports filtered through HCPs (coming directly from the patients).

Patients account for little over a quarter of all adverse event reports (26%) received by companies, with the remainder coming from physicians (57%), pharmacists (14%), and other sources (14 percent). Social media platforms have the potential to be a valuable source of adverse events (AEs), as well as data on off-label usage and therapeutic impact on quality of life.

Companies that know how to use social media effectively may turn these networks into crucial PV tools. Establishing social media as an AE reporting channel by increasing its current use and unleashing its potential as a value-add for firms' PV strategy is therefore one of the important areas of impact.

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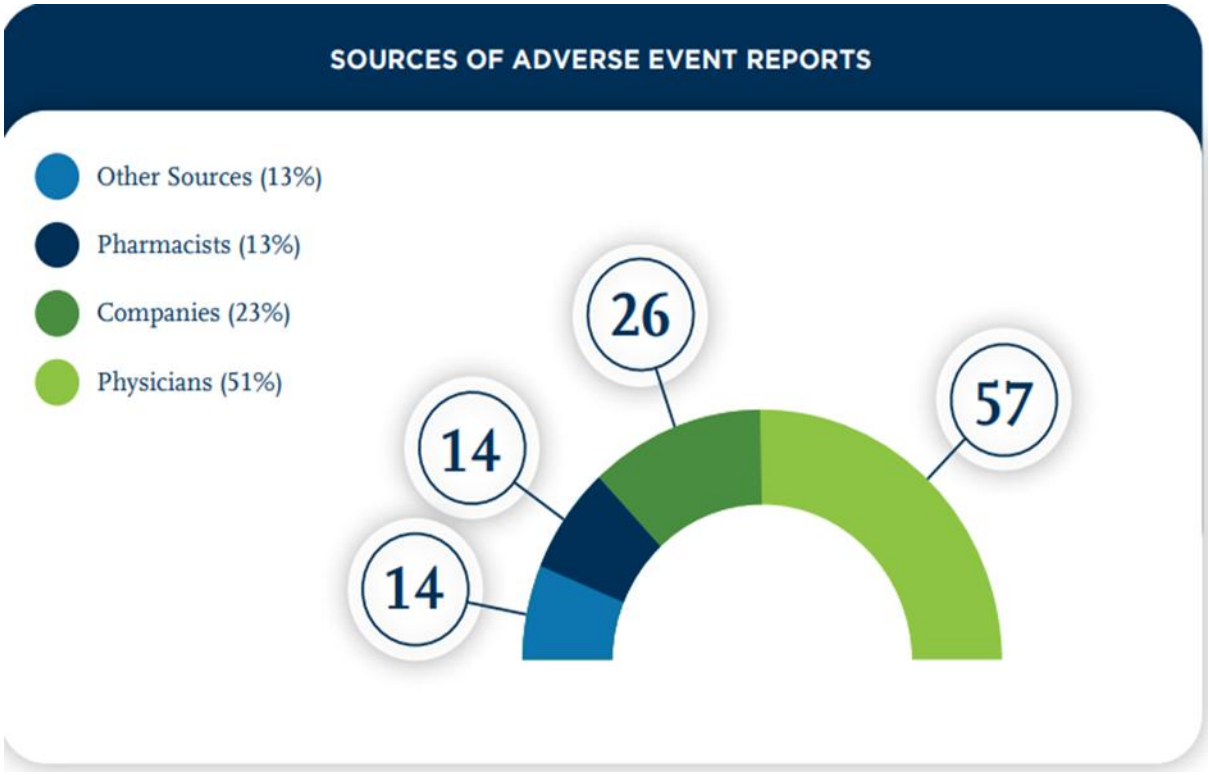

RISK MANAGEMENT AND COMMUNICATION TO PATIENTS AND HEALTHCARE PROVIDERS IA SOCIAL MEDIA

While staying within the draught FDA social media recommendations, there are several methods for industry to constructively engage consumers and providers. The first step is to shift from a risk communication approach to one that listens, educates, builds trust, raises safety awareness, and improves health outcomes.

Figure 1 shows several useful methods PV teams may utilise social media to engage and enhance awareness about a product's safety while also providing additional value to patients and healthcare professionals.[4]

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VALUE/UTILITYOFSOCIAL MEDIA AS KNOWLEDGE SOURCE FOR PHARMACOVIGILANCE

The sharing and use of public health data is also influenced by motivational, economic, political, legal, and ethical restrictions, thus the challenges are not purely technological. A legitimate AE must typically fulfil the following four requirements to be reportable to a regulatory agency: identified reporter, identifiable patient, suspicious drug, and adverse event. Furthermore, clinical, pathological, and epidemiological data on adverse responses are required to fully comprehend the nature of an adverse reaction.

The majority of social media sites do not give all of the information needed to examine a case. The trustworthiness of data differs among social media platforms. The quality, reliability, and integrity of information gathered through social networks, as well as the volatility and general ambiguity of social data, are all sources of concern. Patient-centric data is generated on social media, which is often unedited and unregulated, and might include inaccurate terminology or diagnoses based on Internet research rather than proven diagnoses from healthcare experts (risk of misinformation). The gender and cultural background of the disclosers influence their social media disclosures, resulting in language disparities.[17]

II. RESULT

Social media usage is widespread; in fact, even in poor nations like Nepal, the number of social media users is on the rise.

In pharmacovigilance, social media may help with awareness, reporting, and signal detection, among other things. Social media can play a critical role in communicating drug safety and associated information in resource-constrained contexts.

Incorporating social media into pharmacovigilance comes with its own set of issues, namely the issue of the legitimacy and validity of information available on social media platforms.[9].

In terms of medical treatment, social media may primarily raise knowledge about what the specific organisation has to offer patients.

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It can enlighten the public about the facility's sophisticated technology or therapies.
Social media is also one of the most cost-effective ways to disseminate health-related information.

III. DISCUSSION

We showed in this review paper that social media might be a potentially helpful source of Pharmacovigilance knowledge.
A variety of technological, legislative, and ethical issues must be overcome in order to reap the benefits of social media.
The amount and velocity of data collected from social media sources may present intriguing opportunities for pharmacovigilance advancements.
What value does social media contribute to present Pharmacovigilance processes? This is an important topic that has to be answered.
The technological method to capitalising social media will be used to qualify and quantify the benefits that social media brings to Pharmacovigilance.

IV. CONCLUSION

Because the basics of social media (listening, broadcasting, and interacting) are so well matched with the principles of PV practise, social media may be a revolutionary AE reporting channel as well as a long-term strategy instrument for improving PV results.

In recent years, the usage and monitoring of social media sites and channels for safety reporting has grown. Simultaneously, legislation ensuring proper pharmacovigilance and regulating the safe use of pharmaceuticals continues to tighten. Unlike many other aspects of healthcare, however, the internet and social media have yet to play a significant role in medication safety and PV.

The GVP and CIOMS guidelines, as well as the recently issued FDA guidelines, provide guidance to the pharmaceutical and medical device industries on how to screen internet or digital media under their management or responsibility for potential reports of suspected adverse reactions, post information on social media networks, and correct misinformation posted by others. Companies must also disclose both the benefits and the primary dangers associated with a product, maybe with a hyperlink leading to a more extensive list of concerns, according to FDA instructions. These recommendations are a vital first step in offering organisations with direction on how to build and implement social media strategy for PV.

PV teams' appropriate involvement of consumers and healthcare providers via social media holds the prospect of improved outcomes. In the not-too-distant future, proper use of the internet and social media might prove to be a crucial driver in the development of PV practise. However, there

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is no silver bullet or panacea for the PV industry's current problems. New regulatory paradigms are required, as are answers to several problems, such as:

• Where does the industry's obligation end when it comes to collecting and assessing social media data?

• What new tools and methodologies may be utilised to collect spontaneous reports from social media or mobile applications and apply real-time data mining to offer emergent safety signals?

• How can PV teams develop protections against erroneous AE reporting by confirming the "identifiability" of the reporter and patient in safety data received via social media?

• In the context of data privacy, what will be appropriate procedures for following up on possible signals?

• What are the procedures for integrating large data, analysing and interpreting it, and providing follow-up results?

Before the industry can be comfortable with the use of social data for drug safety surveillance, these and other issues must be answered.

Traditional PV techniques will undoubtedly win out, but social media has the potential to become a new age tool for monitoring data in real time, serving as an early warning system for any safety hazards that should be investigated further.

Furthermore, by utilising the extra social media information, corporations would be able to develop more comprehensive product safety profiles.

In general, the benefits of social media participation for PV appear to exceed the hazards.The moment has come to elevate social media's strategic position within the PV organisation and use it to generate improved PV results through proper and effective usage of social media within the shifting regulatory environment.[4]

REFERENCE

[1]. https://www.trilogywriting.com/publications/using-social-media-as-the-patients-voice-in-the-benefit-risk-assessment-of-drugs-are-we-ready/
[2]. https://globalpharmacovigilance.tghn.org/articles/social-media-pharmacovigilance-tool-africa/
[3]. https://venusremedies.com/pharmacovigilance
[4]. https://www.covance.com/content/dam/covance/assetLibrary/whitepapers/Impact-Use-Social-Media-in-PV-WPCMA015.pdf
[5]. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4594734/pdf/bcp0080-0910.pdf
[6]. https://www.jcdr.net/articles/PDF/12693/39979_CE[Ra1]_F(AC)_PF1(AJ_SHU)_PFA(AJ_SHU)_PN(SL).pdf
[7]. https://www.researchgate.net/publication/346982759_Legal_framework_for_use_of_social_media_in_pharmacovigilance
[8]. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6951453/
[9]. https://www.jcdr.net/articles/PDF/12693/39979_CE[Ra1]_F(AC)_PF1(AJ_SHU)_PFA(AJ_SHU)_PN(SL).pdf
[10]. https://www.researchgate.net/publication/312034749_The_Use_of_Social_Media_in_ADR_Monitoring_and_Reporting
[11]. https://link.springer.com/article/10.1007/s40264-019-00858-7
[12]. https://pubmed.ncbi.nlm.nih.gov/31392837/
[13]. https://link.springer.com/article/10.1007/s40264-019-00811-8
[14]. https://pubmed.ncbi.nlm.nih.gov/26147850/
[15]. https://www.thieme-connect.com/products/ejournals/abstract/10.4338/ACI-2016-11-RA-0188
[16]. https://www.jcdr.net/articles/PDF/12693/39979_CE[Ra1]_F(AC)_PF1(AJ_SHU)_PFA(AJ_SHU)_PN(SL).pdf
[17]. https://link.springer.com/article/10.1007/s41060-019-00175-3
[18]. https://journals.sagepub.com/doi/10.1177/2042098618778191
[19]. https://publichealth.jmir.org/2018/2/e51/
[20]. https://www.researchgate.net/publication/331043217_Harnessing_social_media_data_for_pharmacovigilance_a_review_of_current_state_of_the_art_challenges_and_future_directions