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Digital Ways Changing The Pharmaceutical And Healthcare Industry- A Review Paper

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ABSTRACT

Internet marketing also referred to as digital-marketing, web- marketing, online-marketing or electronic marketing, is that the promoting of merchandise or services over the net. e-marketing includes promoting done via e-mail and wireless media. e-marketing includes promoting done via e-marketing refers conjointly to management of digital client information and electronic client relationship management (e-CRM) systems are usually sorted along underneath web promoting. Pharmaceutical marketing is activities centered on creating practitioners additionally because the general public responsive to new and existing pharmaceutical brands, pharmaceutical marketing will embody give away samplings, elaborate product documentation, illness governance schemes, and support material for patients. Digital marketing is substitution ancient promoting methods within the pharma industry. Pharmaceutical online marketing, however, offers enormous possibilities for society to assist its brand and goods to the target audience, from practitioners to individuals and can use several channels and facilities to build a competing and statutory pharmaceutical marketing strategy. There are few digital ways to change the pharmaceutical industry such as patient better communication, providing services, improving diagnostics, adherence, better sales practice, research and development, supply chain efficiency and real-world data and drug development. This review paper describes the different ways of digital changing the medical care and pharmaceutical sectors.

Keywords: Internet Marketing, Pharmaceuticals, Real-world data, Communication, Strategy.

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INTRODUCTION

Digital technology is increasingly coming into contact with the pharmaceutical and healthcare industry. In fact, pharmaceutical e-Marketing is not a single idea and could be split into three categories: End user (including physicians and hospitals): This is essentially based on supplying experts with studies, scientific data, etc. to start promoting a new drug. New media bulk drugs are a type of e-Marketing strategy used today: This technology sector is not visible to end users and involves mostly established drugs such as antibiotics, antipyretic, etc. The competition gets tougher but remains largely outside the e-Marketing scope. Type of the electronic marketing used – anything from a web-based catalogue to chemical portals. API (Active Pharmaceutical Ingredients): New and perhaps the most exciting area of pharma e-Marketing. APIs are pure business to business because they are only distributed to pharma companies. There are very limited expert personnel in this area, but the industrial sector is about gain serious momentum due to considerable achievements in this area in countries such as India and China. New tech firms enter the market and existing users have had to update their game through branding, distribution, sales and operations. This is mainly due to ease of end-user interaction, less time-consuming involvement, and high cost-effectiveness [1]. In fact, digital marketing has caused to practitioners to become more involved in using social networks and various online tools [1-3]. Due to the enormous use of social media, people can communicate socially and share information with absolute ease [2]. This also affects the interaction between individuals, practitioners and medical care institutions [4].

BETTER PATIENT COMMUNICATION

A fairly obvious area for improvement, and one we can pretty much all relate to as consumers. The typical patient journey is ripe for digital disruption, as the diagram below from DRG (DECISION RESOURCE GROUP) Digital shows.

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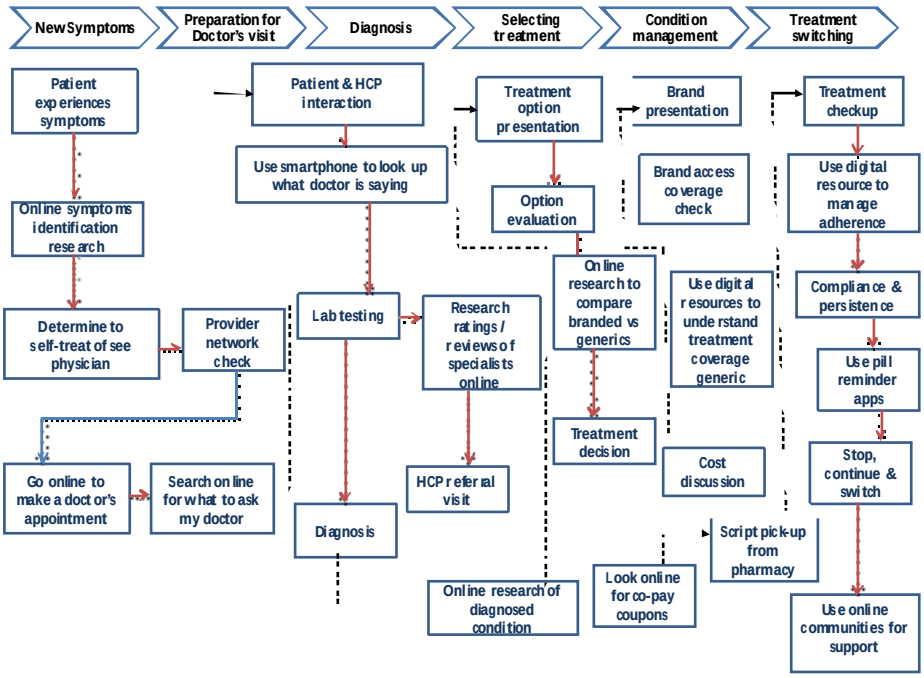

Figure 1. DIGITALLY- POWERED PATIENT JOURNEY

From the healthcare provider's perspective, the visit, diagnose, selection of therapy and condition handling stages are all points where the individuals could be enhanced participation / better upgrade. Patient portals, apps and online networks are progressively in common place. The 2nd and 3rd generations of this technology should help improve customer experience.

PROVIDING SERVICES, NOT JUST DRUGS

It's quite clear that while medications are important to treat many illnesses, much more remains to be understood by the individuals and practitioner. That could be anything from education or lifestyle advice, to emotional support. Pharmaceutical companies have always engaged with the end consumer but digital technology ultimately promises much greater scale. The ultimate aim, of course, is for pharma companies to look more to outcome-based solutions which involve greater engagement with patients and third parties. In order to achieve this they must not only assist with holistic patient care in this way, but must also advocate a combination of therapeutics, whether or not they themselves manufacture them. Providing this type of

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customer experience may be quite a step change, but pharma has for a decade been coming to terms with the internet's impact on patient knowledge and behaviour. Consumers are become increasingly motivated by finding the best treatment and the lowest cost, and pharmaceutical needs to provide the best result based approach to break through. In reality, in a effort to promote an impartial market presence are collaborating with third-party tech companies.

IMPROVING DIAGNOSTICS

Science fiction long foresees the idea of the autonomous individual being granted personalized treatment and enhanced diagnostics. The notion of continuous assessment has resembled less visionary after wearable's entered the market. Indeed, the smartphone's ubiquity now provides the promise of secure access to real world patient individuals data.

Point-of-care (POC) testing – such as glucometers to test blood sugar levels – is nothing new to the healthcare industry. Physicians, nurses and patients alike have a broad choices of devices that provides added convenience and increased efficiency when making clinical decisions. But the focus of smartphone-based POC testing is to hasten diagnosing where the individuals is seen – even in the patient's home.

One well-publicised example of digital medicine is the ingestible sensor in development by Proteus Digital Health. In 2012 the company received FDA for a drug-sensor-app device that is used to monitor adherence. This dissolves in the stomach when the patient takes their pill and induces a slight voltage (as a small amount of magnesium and copper come together). A sensor on the body (stuck to the arm) then picks up this voltage, which relays the data (intake time) to a smartphone app and then to the practitioner. According to Kalorama data, medical assistance professionals spent $18.4 billion on medical point-of-care testing services in 2016, range from pregnancy testing to blood and hormonal examination, Information. Watson Health Cloud analyzes personal device data, embedded medical equipments, implants and other tools, and can help patient decisions and minimize incorrect diagnosis. Consumers may be encouraged to use products such as Apple Health Kit while they seek quality and the best medical care. This is an

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area where pharmaceutical companies will need to take steps, especially in demonstrating the effectiveness of their medicines.

IMPROVING ADHERENCE

Patient adherence is a vital component of public health. Digital connected technologies are increasingly being used to improve patient adherence, one of the biggest challenges facing the healthcare system today. When patients don't take their drugs properly, they don't work, leading to poor outcomes and, in the worst cases, hospitalisation. This is hugely damaging to not only individual health, but also to the healthcare system as a whole, which spends around $500bn globally in avoidable healthcare costs due to poor medical adherence. As noted by the (WHO): "Improving adherence would have a major influence on health than any potential discovery in medicine."Fortunately, technology – specifically smart packaging combined with state-of-the-art communications networks – can help, as Swedish start-up Mevia and Internet of Things service provider Aeris are beginning to prove. Not only can Mevia's system, supported by Aeris' global cellular coverage, help individual patients take the right medication dose at the appropriate moment no matter where they are, it could also have a major impact on clinical trial outcomes, which can be significantly affected by poor adherence too.

BETTER SALES PRACTICES

Back to some good old-fashioned marketing now. Too often, private healthcare professionals or providers must meet with multiple representatives from the same pharma company. This is understandable given the expertise needed within each specialism, but from a customer point of view, busy healthcare professionals (HCPs) may be left wanting a more flexible solution. Increasingly, pharmaceutical companies are gradually leveraging digitalised to provide this (both customer facing and back-of-house). CRM applications can provide a single customer experience and can facilitate accessible to products and services (for HCPs and patients) across digital communication networks. The goal is to send personalized messages to consumers at the appropriate moment using the right channel, just like that of CRM in many

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other industries, to enchance profit and cost reduction. 'Digital sales aids and marketing are now firmly on the representative agenda.

CUSTOMER RELATIONSHIP MARKETING

CRM is not merely about increasing sales by means of customer-facing software or analytics. There's also a lot to consider in the development of medicines. In Pharmaceutical industry CRM plays an important role by helping to get the most revenue from shelf life by reaching more new prescribers (doctors) and patients (Consumers). CRM also assists in keeping a customer loyal by enhance their health. CRM programs can provide a single customer perspective, and digital communication networks can improve accessibility to specimens and requirements, customized medicine, diagnosis, personalized treatment, or more effective therapy based on patients health data. Meanwhile, in combination with ML predictive analytics, it may also been employed for remote surveillance and real-time data access for enhance security.

RESEARCH AND DEVELOPMENT

R&D can be improved by bringing real-time technology to bear on clinical trials, and the supply chain could benefit from better sales and operations planning. This would bring better productivity, inventory levels, and service levels.

Clinical Trials

- Applying sophisticated predictive analytics to machine learning can be used to identify applicants for clinical trials that could rely on a much broader data set. It could include visits to social media and practitioner, as well as genetic information when searching for specific populations, resulting in smaller, faster, and less expensive trials overall.

Drug Development

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- Pharmaceutical design scientists will have access to much more detailed analysis on real-world data through Al and machine learning, which will help them further understand the effects of drugs.
- Scientists may generate novel drug candidates by leveraging a convolutional neural network trained on a large amount of data.

Drug Discovery

- It may take up to 15 years for a drug discovery concept to be converted into a market-ready product from the very beginning. Choosing the protein target, continuing to develop assays to evaluate target activity, and screening a significant number of molecules to get the correct molecule for the effect you want between two to five years can take anywhere.
- Machine learning can be leveraged for a variety of uses cases, including initial evaluation of medications based on biological factors, next-generation sequencing, precision medicine, etc.
- It is possible to draw useful insights from commercial, scientific, and regulatory literature in real time. This allows research teams to distinguish efficient white space for clinical trial design, eliminate blind spots in research, and discover phenotype- like illness similarities.

SUPPLY CHAIN MANAGEMENT

- End-to-end supply chain integration- Organizations can leverage AI, ML and cloud computing to develop globally integrated supply chain networks, making connecting all players much easier through a single integrated network. Analytics and insights in real time

- Real-time analytics and insights- AI and ML can be used throughout the value chain to provide real-time insights, enabling sales and operations leaders to take strategic decisions in reaction to changing conditions by leveraging data transmitted by sensors

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throughout the entire supply chain. This leads to shorter lead times, improved accuracy of scheduling and reducing outages of stocks.

- Better patient communication- Digitalization will helps to improve customer experience by making more user-friendly patient portals, apps, and online communities.

- Connected healthcare- Pharma companies use digital technologies to provide secure access to real world patient data through by leveraging AI. Science fiction has long foreseen the idea of the linked human being granted tailored treatment and enhanced diagnostics. The notion of continuous calculation has seemed less fanciful after wearables entered the market, the idea of ongoing measurement has seemed less fanciful. Indeed, the smartphone's ubiquity now provides the promise of secure access to real world patient data.

- Radiology and radiotherapy- Help develop computer learning algorithms to help improve radiation treatment to identify variations between stable and cancerous tissues.

- Smart electronic health records- Document classification (sorting patient queries by electronic mail, for example) using vector supporting machines and optical character recognition (transforming cursive or other sketched handwriting into digitized characters) are both essential ML-based technologies to help advance electronic health information and digitization. Two examples of developments in this field are MATLAB's (ML) handwriting recognition and Google's Cloud Vision API for optical character recognition.

REAL-WORLD DATA AND DRUG DEVELOPMENT

Real-world data in drug discovery can accelerate the entire cycle of drug development, biopharmaceutical companies need to embrace real-world evidence and patient-centric models in digital health in order to provide a balance between costs, drug effectiveness, and perceived value. The proliferation of health analytics solutions has implications for drug development, too. Manufacturers will have access to much more real-world data and this will undoubtedly assist in understanding the effects of a drug.

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CONCLUSION

Using digital marketing, pharma can improve the effectiveness of its field force. While medical representatives are essential to maintain a one-on-one relationship, blogs, social media updates, drug-related videos and KOL interactions create alternative touch-points that can be used to support their activities. Digital initiatives also lend crucial insights into consumer behavior which can be used to improve targeted marketing efforts. Online networking communities for doctors are great for initiating discussions, connecting with peers, seeking advice on complex cases, and engaging in continuous medical education. It will be concluded that the following digital ways are known to improve the health care and pharmaceutical industries.

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