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Driving Patient Engagement with Serialisation Data and mHealth

Global serialisation regulations have digitised information-sharing models throughout the pharmaceutical industry. As the US Drug Supply Chain Security Act (DSCSA) and Falsified Medicines Directive (FMD) compliance deadlines pass, the industry is presented with the opportunity to move from compliance-driven needs to improving the efficiency of healthcare systems globally.

Businesses throughout the pharmaceutical supply chain can now develop collaborative solutions that will fundamentally change the way the industry shares information. Moreover, digitised information-sharing will revolutionise the way the collective life science industry, healthcare providers (HCPs) and patients engage with each other.

The potential to provide product information directly to patients has opened a door of opportunity for new approaches to engagement and adherence. Here, Rick Seibert, senior vice president of innovation and technology services at Sharp, Jean-Marie Aulnette, vice president of Europe, the Middle East and Africa (EMEA) sales at TraceLink, and Nagore Fernandez, Head of Clinical Services for Europe at Ashfield discuss how mobile health (mHealth) and serialisation data can be used to revolutionise patient engagement and adherence.

From Compliance to Leveraging Outcomes

With a foundation of compliance, we are able to unequivocally identify a product as it moves through the supply chain. The opportunity for improving care arises when we connect this information to the patient – for example, linking medicines to individual patients can prevent prescription errors in hospitals. The NHS is currently trialling such a system – 'Scan4Safety' – six sites are implementing GS1 standards and using barcodes (either on wristbands, name tags or products) to identify every person, product and place. This gives administrators the ability to digitally verify who administered what to whom, where and when. Moreover, the approach involves scanning the barcodes of each patient and products used on a patient at the point of care, giving healthcare providers product information such as expiry data and batch/lot number.

This enables hospitals and healthcare systems to digitise healthcare and hence become more efficient – the Scan4Safety trial sites have already saved millions of pounds.

In the longer term, the entire eco-system of stakeholders involved in providing care will – potentially – be in a position to analyse outcomes based on patient treatment patterns and deduce the best course of therapy for a patient of a given profile.

Serialisation and mHealth

In conjunction with the adoption of serialisation and the digitisation of the supply chain, patients have been moving away from traditional face-to-face interactions towards mobile or mHealth management.

Mobile technology and health apps are increasingly used by patients to engage with and manage their own wellbeing. Patients can take their own blood pressure, body temperature, blood oxygen levels and glucose levels and record this data. There are even smartphone-controlled patches that provide electrical neuromuscular stimulation to manage pain.

The appetite for more tailored and patient-led health management is clear. A recent survey of adult social media users with health conditions conducted by PatientsLikeMe[1] shows that 94% would be willing to share health data to help doctors improve care and 84% would be willing to share information with drug companies to help them make safer products.

The challenge now, for all stakeholders, is to collaborate and create an environment where information is freely exchanged between patients, caregivers and pharma companies to improve everything from care to research and supply development.

The tools and applications currently being developed are leveraging the technical infrastructure and connectivity established in response to serialisation regulations. With all medicines in the marketplace now serialised, they can be leveraged to offer connectivity between pharmacists, doctors, and other HCPs and ultimately, to the patients.

Better Patient Outcomes – Improving Adherence

Applications that leverage serialised data will enable patients to securely opt in to receiving real-time information from participating pharmaceutical manufacturers, hospitals, pharmacies and regulatory bodies.

More direct access to information from manufacturers leads to a greater feeling of involvement among patients and ensuring that they are properly educated about medicine use cases leads to better informed regimens and improved adherence rates. Even simple engagement tools can lead to better adherence. A study conducted by the National Community Pharmacists Association (NCPA) and the Arkansas Pharmacists Association (APA) shows that the use of appointment-based medication synchronisation (ABMS) made patients 2.57 times more likely to stay adherent to their medications.[2] ABMS involves scheduling an encounter between a pharmacist and a patient (or caregiver) where a review is performed in addition to coordinating medications to be refilled. During the review, medications are assessed for safety and effectiveness and any patient queries or concerns can be resolved.

The potential then of an application-based approach to improve adherence

when comprehensive information on a medication is available immediately is incredible.

At the point of medicine consumption, patients can learn about product quality, including any pending recalls or expiry notices, or report adverse reactions. The increased level of support and reassurance this provides will likely increase patient adherence in a wide range of scenarios. If we imagine the anxiety around administering an injectable medication to an infant in a home environment – a caregiver could scan the drug's data matrix and be assured that it is safe to administer. Information on whether the vial has had any cold-chain excursions or even needs to be recalled could be offered instantly.

Manufacturers can also securely share more sophisticated educational materials with patients. Product descriptions, administration instructions, photos, videos and medicine disposition details (information on absorption, distribution, metabolism, and excretion – {ADME}) could easily be made available.

Conclusion

The pharma industry's investment in serialisation compliance has laid a foundation of connectivity and information-sharing. Stakeholders are now looking for opportunities to capture additional business value through digital tools and solutions.

At the same time, patients are wanting to better engage with their care and the entire eco-system of stakeholders involved in providing that care. They increasingly want to do so digitally and are more receptive than ever to sharing and receiving information that will not only improve their own care, but that of others as well. Without serialisation data, mHealth may have reached an unsatisfactory zenith, but by creating digital information-sharing networks and enabling patients to access some of this and contribute their own data – every stakeholder, from manufacturer to patient, will benefit greatly.

Ultimately, it should be the shared mission of the entire healthcare space to empower patients to use products more effectively and enjoy optimal health outcomes.

REFERENCES

1. https://news.patientslikeme.com/press-release/patientslikeme-survey-shows-vast-majority-people-health-conditions-are-willing-share-t
2. http://ncpa.co/uploads/Arkansas-Report-Final.pdf

Rick Seibert

Rick has over 20 years' experience and is Sharp's senior vice president of project management and technology services. He joined Sharp in 2004 after holding senior roles at B. Braun Medical. Rick has a Bachelor of Arts in Applied Sciences, a Bachelor of Science in Industrial Engineering, a Master of Science in Manufacturing System Engineering, a Master of Business Administration in Management, a post-Master of Business Administration Graduate Certificate in Pharmaceutical Marketing and a Graduate Certificate in Pharmaceutical Manufacturing Practices.

Jean-Marie Aulnette

With over 20 years' experience in international sales, Jean-Marie is responsible for building and leading the company's EMEA business. He also has extensive experience in enterprise SaaS applications. His main focus at TraceLink is to deliver track and trace solutions across EMEA pharmaceutical markets to ensure visibility, traceability, and compliance throughout the supply chain. Jean Marie joined TraceLink in 2014 and has previous experience of developing enterprise solutions to help improve business processes.

Nagore Fernandez

With over 15 years' experience in the pharmaceutical and health industry, Nagore Fernandez is responsible for building and executing the strategy for the Patient Solutions division in Ashfield for Europe and Canada. Nagore completed her Masters degree in Pharmacy at the University of the Basque Country and her clinical post-graduate diploma in De Montfort University in the United Kingdom. She holds a Ma degree in Clinical Research by Cardiff University.