CHRISSA MCFARLANE
Founder and CEO of Patientory, Inc.
President, Patientory Association

Named as **2018 Globe Award Winner in International Trade by the U.S. State of Georgia"**, a **"Finalist for the MedTech Insight Award for Entrepreneur of the Year 2018"** and "**winner of the MedTech 2018 Entrepreneur of the Year**", McFarlane's leadership has taken Patientory Inc. to new heights receiving accolades including: "**Top 5 digital health solution in the world for empowering patients**", and was named as "**one of the top women leaving their mark on the MedTech field in Health IT,"** by Becker's Hospital Review'.

McFarlane leads Patientory, Inc. in its product development, and is the President for the Patientory Association, a global not-for-profit organisation dedicated to advancing new technologies in healthcare. McFarlane serves as a member of the **HIMSS18 Blockchain Taskforce** and was a former Co-chair for the work group, serving on **HIMSS Interoperability & Health Information Exchange Committee.** She speaks at industry conferences globally to educate about new technologies and to inspire other business women and entrepreneurs.

McFarlane founded Patientory in December 2015 after seeing the emergent need in the market for more personalised and secure consumer-driven health information management solutions. With more than ten years experience in healthcare conducting research and managing teams, McFarlane has published international healthcare research, and helped to create breakthrough digital health companies that have provided services to companies such as Tumblr, Blue Apron, Casper, and Meetup.

Her passion for healthcare began in high school, where she conducted microbiology research at the Albert Einstein College of Medicine and won top Honours. Later at Cornell University, she worked with organizations such as the US Department of Agriculture. She earned her Masters from Wake Forest University School of Business.

Patientory, Inc. was incorporated in late 2015 and initiated as part of the inaugural class of the Boomtown Health-Tech Accelerator in Boulder, Colorado in 2016. This led to a collaborative exchange with the Denver-based Colorado Permanente Medical Group, part of the Kaiser Permanente consortium, based in Oakland, California. Patientory is also part of the Start-up Health portfolio, a global organization leading the movement to transform health.

FEATURED ARTICLE

CONVERSATION WITH

CHRISSA MCFARLANE

patientory
association

INNOVATION TO TRANSFORMATION: CONSUMER-DIRECTED HEALTHCARE ON THE BLOCKCHAIN

Chrissa McFarlane talks about the Future of Blockchain enabled Healthcare

Why do we need a Healthcare system built on the Blockchain?

Despite incredible advancements over the last decade in converting paper healthcare records into digital, a vast majority of consumers lack timely access to their electronic medical records. Many people cannot manage and utilise their healthcare records any better than they could a decade ago or even three decades ago. While it can be easy for some to point the finger at the bureaucracy and red tape of healthcare institutions, the truth is that many of these institutions would like to share data with their patients but don't have a secure and easy way to do this. This has been a challenging dilemma because many medical providers use different electronic health record (EHR) systems that do not talk to each other.. This becomes a significant problem as patients are often caught in the middle of the healthcare industry's interoperability and without solutions that can provide secure, universal access to their healthcare data.

What is Patientory Association and its Ecosystem?

Patientory Association is a global, non-for-profit, healthcare member organization consortium that governs the PTOYNetTM blockchain and is the framework for advancing the adoption of emerging technologies in the healthcare industry.

The PTOYNetTM securely stores and manages healthcare information in real time, and such storage and management is facilitated by a blockchain based token (called "PTOY"). The PTOY token regulates the PTOYNetTM for the healthcare ecosystem through 'smart contracts.' The goal is to provide a secure, private permissioned blockchain network for healthcare organisations to collaborate and innovate in a completely decentralised fashion. Currently, the foundation connects healthcare industry adopters of the PTOYNetTM, which members of the Association can join as 'nodes' on the network . The Patientory Association facilitates the development of standards that are essential to the implementation and adoption of the PTOYNetTM - such standards are necessary for interoperability, auditability and for transparency purposes.

These frameworks will help ensure the safety, reliability and usability of the PTOYNetTM platform by its members and the general public; a prerequisite to the wide acceptance of the PTOYNetTM platform as a viable means of transacting business by the industry and the general public.
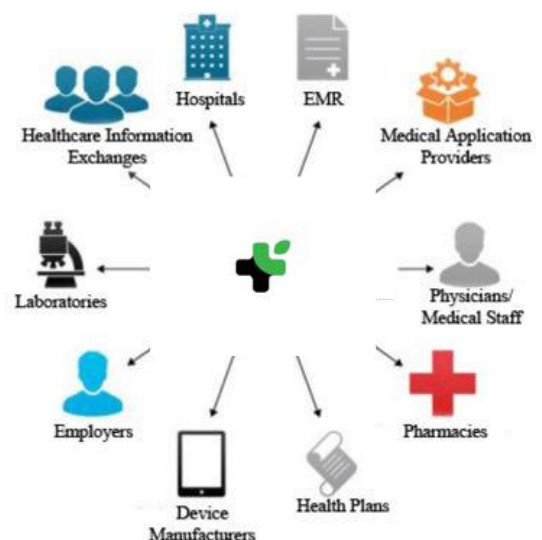
What is Patientory Inc. ?

Patientory Inc. is a digital health company that has developed a distributed application solution which provides individual consumers with quick, easy and secure access to their healthcare data. As the industry leader for blockchain solutions, Patientory has recently developed the first version of its DApp (Distributed Application) for consumers. It offers unique solutions that interconnect with most EHR systems, thereby enabling doctors, administrators and consumers to communicate via a single easy-to-use platform. The solution will work with almost any healthcare EMR, thereby bringing together many previously inaccessible data silos. These range from EHRs to patient monitors, wearable devices, and various other ambulatory applications. Connecting this data together enables a more complete view of a person's health information. The Patientory, Inc., Dashboard is currently testing

for large healthcare organizations, with current EPIC, Cerner, Meditech, or Allscripts installation. This dashboard is a population health management software solution that regulates and safeguards patient data in the blockchain, while providing convenient secure access to actionable health information, clinical administrative decision support, enabling physician-coordinated care, enhanced by peer-to-peer patient support.

We offer professional services for healthcare organizations that leverage Patientory's technology. Typical customers are healthcare organizations that require interoperability or custom use case development. Patientory Professional Services provide customization of the blockchain application, integration, faster deployment, as well as ready access to blockchain technical and expert resources.

Tell us more about Patientory's Decentralised Application (DApp)

Patientory's DApp leverages blockchain technology that captures patient healthcare transaction records real-time, on an encoded, distributed ledger (Blockchain). This has incredible security benefits as the records are spread across a replicated database in which all data is synchronised across the entire network. The users can only access the 'blocks' (pockets of information relevant to themselves) to which they have permission to, and all transactions are date and time stamped. The data is not stored or controlled by a single entity or in a single location. This means that any single healthcare provider does not have the sole control over an individual's Electronic Health Records (EHR). This allows for more efficient and secure sharing of healthcare data among different providers and EHR platforms.

This new DApp was created to address some of the key challenges encountered by healthcare consumers and how these challenges have evolved over time. The goal of Patientory's DApp is to create a 'One-Stop-Shop' for healthcare consumers, where they can access their health information, engage in health-related transactions, and become empowered to improve their health by having the necessary data and tools to do so.

What are the benefits of using Patientory's DApp ?

Sustainable risk mitigation

Patientory takes healthcare data security to the next level by using 'end-to-end encryption' on the blockchain and adhering to regulatory guidelines and compliance regulations.

- Data risk reduction – Patientory is HIPAA compliant which reduces the risk of PHI data breaches and related penalties
- Patient risk reduction – by enabling greater

consumer engagement, control, and responsibility with their PHI, there is reduction in overall patient risk
- Financial risk reduction – reducing the rates of readmissions allows cost savings and broader reimbursement options

Operational performance improvement and efficiency

- More efficient access to health data for physicians, thereby saving time
- Better controlled access to current PHI, from a wider range of existing data sources
- More proficient access to sources of payment and rules of payment for claim resolution

Financial performance improvement
- Enables efficiency for diverse payment methods including cryptocurrencies (and soon electronic claim reimbursement)
- Cost savings by reducing the need for duplicative tests/radiological scans and related measures

What were the outcomes of DApp's Beta testing and what is your future Road Map?

To evaluate the product-market fit and overall effectiveness as a solution, we conducted a market research project with specific goals as outlined below:

1. To verify the efficacy of the DApp
2. To seek insight into the interface acceptance and general quality
3. To examine product functionality in real world user environments and test support infrastructure
4. To collect customer suggestions and testimonials, test the profile establishment protocols, and the goal-setting, activity tracking, and wallet functionalities, alongside the data storage protocols for securing personal health information (PHI) within the PTOYNET™ private-permissioned blockchain
5. To identify opportunities for future development regarding desirable features and functionality
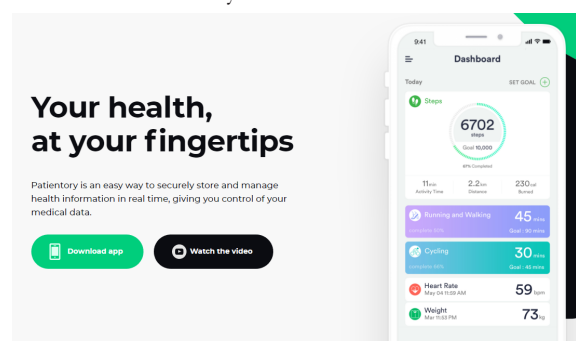
To increase the validity and reliability of the data, 80 beta users were selected to use the Patientory DApp for three months in all functionality areas, ranging from: setting goals, tracking fitness activities, traveling internationally and utilizing the wallet feature with Dash and PTOY cryptocurrencies. The demographics and personas of the beta users were primarily affluent, health-conscious iPhone owners, with a majority owning one or more cryptocurrencies. These individuals were primarily based in the US, with a majority in the urban settings of New York City, Atlanta, San Francisco, Los Angeles, as well as the United Kingdom, Australia, New Zealand, Switzerland, India and other parts of Asia. At the end of the three months study period, the beta users were then given a detailed survey requesting their feedback on their experience with the DApp solution. The outcomes were very encouraging, following which in September 2018, Patientory Inc. launched its mobile decentralised application (DApp). The main goal of the DApp is to help users track their health history and combat related rising health issues. The DApp will provide a complete view of a person's health by leveraging information from wearable devices and other apps, enabling instant access to personal health data. In time it will connect to the hospitals and GPs that adopt the PTOYNetwork blockchain (currently host over 30 PTOYNet™ nodes around the world.) to create a seamless system for tracking and monitoring patient health records and clinical outcomes.

What is Patientory's USP: Unique Selling Proposition?

Patientory solutions empower patients, clinicians and healthcare organizations to readily harness meaningful data to make more effective and efficient treatment, and financial decisions, enabling real improvement opportunities as well as the safe access, store and transfer of information, thus improving care coordination while ensuring data security within a secure HIPAA-compliant PTOYNet™ blockchain. The company offers unique solutions that interconnect with most EHR systems, thereby enabling doctors, care providers and consumers to communicate on a single easy-to-use platform.

Also, its solutions will work with almost any healthcare blockchain; bringing together in actionable form previously inaccessible data from sources ranging from EHRs, to patient monitors, wearables, and Apps, connecting this data into a more complete view of a person's health status and personal health information (PHI).