NCGICAL

White Paper V2.0

Redefining patient Journey by harnessing the power of Blockchain, AI and Smart Contracts

ABSTRACT

In the modern age, technology plays a vital role in shaping our personal lives. In the healthcare industry, the dependence on medical technology cannot be overstated. Consequently, as a result of technological innovations, healthcare practitioners have always continued to find ways to improve their practice – from better diagnosis, surgical procedures, and improved patient care. Areas like medical health care, pharmaceuticals, insurance, have all made significant contributions to improving the health of people all around the world. From a traditional paper-based health recording system to modern-age Electronic Health record systems, from innovations like adhesive bandages and ankle braces to larger, more sophisticated technologies like robotic surgeries and ergotherapy, technology has undoubtedly made an incredible impact on healthcare.

Despite all the positive and opportunities for the health care industry to grow over the next few years, there are a few negatives that are becoming a hindrance in the way of the growth of this industry. In developed countries, primary health care units have shifted to Electronic Health Record (EHR). These systems are prone to security breaches, hacking as they offer a single point of failure. Moreover, patients do not get access to and ownership of their data. The demand for multiple access from users and health providers have also raised the issues of security, interoperability, and privacy of the data. In the developing countries, still, health institutions are using traditional methods for recording patient data in files, which is a hectic process in itself, and often a simple loss of a paper leads to potential delay or misdiagnosis in the treatment of a patient.

Medical Veda offers a platform that resolves all such issues by harnessing the power provided by blockchain, Bigdata, AI, Machine Learning, Cryptography, and Smart Contracts technologies. It decentralises the access and ownership of medical records back to the patient while offering a scalable, highly compatible, and interoperable platform.

This white paper gives a detailed description of our research and planning. It also aims to demonstrate the current status and future plans of the Medical Veda project, its associated products and solutions, and NCGICAL Token—the utility token acting as the payment gateway within the Medical Veda ecosystem. The document further aims to inform our readers how we are using our teams' expertise to provide decentralised data ownership and accessibility at lower costs, minimal fee with higher speed, efficiency, and more top results.

GLOSSARY

API: a set of programming libraries and functions that allow outsiders to interact with a given system infrastructure.

EHR: Electronic Health Record

EMR: Electronic submission of medical reports through Electronic Medical Device Reports

ERC-20 token: a token that is created on the Ethereum platform via Ethereum token smart contract which easily allows point-to-point token exchange.

KYC: Know Your Customer, a set of procedures to determine with a high degree of certainty the identity of a participant.

Smart Contract: an automatically enforced agreement among two or more parties in the ecosystem mapping a set of activities to ledger operations to be executed

Trustless: User's don't have to send their coins to us. Private keys would be reserved with the respective users.

Cryptocurrency: a digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank.

Blockchain: A blockchain is a continuously growing list of records, called blocks, which are linked and secured using cryptography.

Wallet: A cryptocurrency wallet is a software program that stores private and public keys and interacts with various blockchain to enable users to send and receive digital currency and monitor their balance.

Permissionless: A permissionless blockchain means no permission is required to become part of this blockchain network and contribute to its upkeep. In theory, anyone and anything can become part of a permissionless blockchain. Permissionless is, in many ways, just a fancy way of saying "public."

Permissoned: Permissioned blockchains require permission to join. As a result, the owner of a permissioned blockchain has the ability to dictate who can and cannot become part of its network. This control also means the blockchain owner can: dictate the network's structure, issue software updates, and generally control everything that takes place on their blockchain.

Interoperability: Interoperability is the ability of different information systems, devices and applications ('systems') to access, exchange, integrate and cooperatively use data in a coordinated manner, within and across organizational, regional and national boundaries, to provide timely and seamless portability of information and optimize the health of individuals and populations globally.

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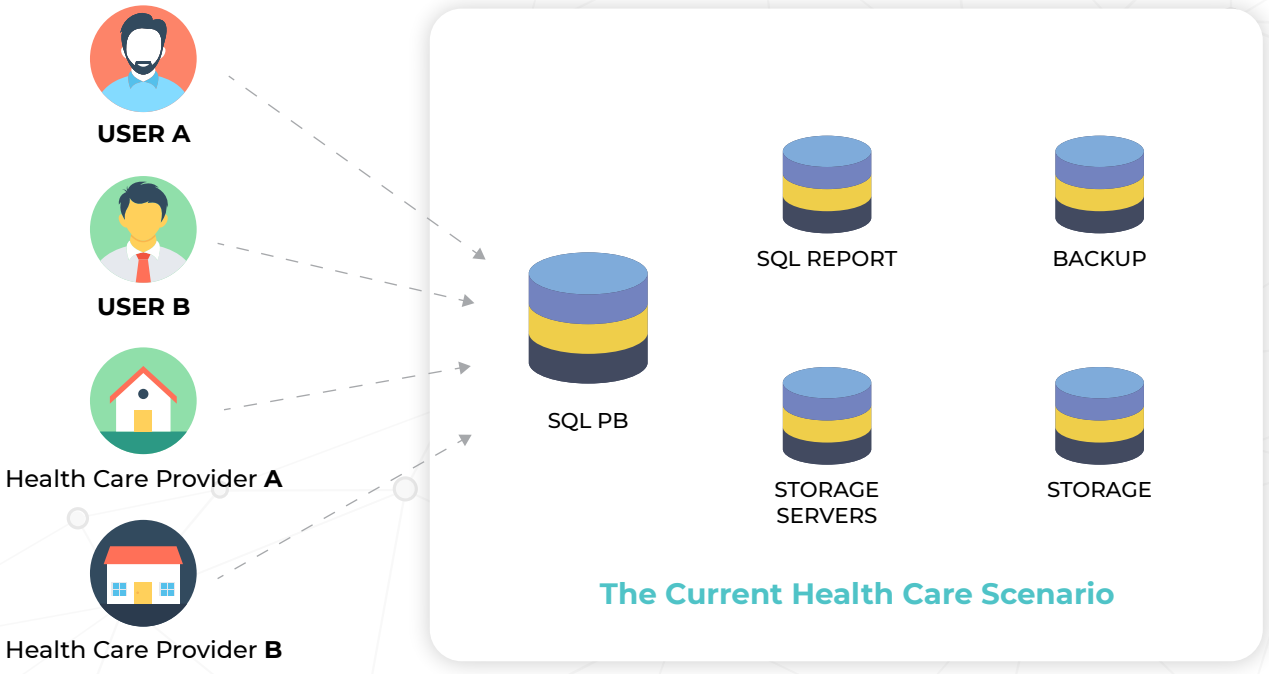
BACKGROUND

In today's world, technology plays an essential role in every industry as well as in our personal lives. Out of all of the industries that technology plays a crucial role in, healthcare is definitely one of the most important. This merger is responsible for improving and saving countless lives all around the world. Medical technology is a broad field where innovation plays a crucial role in sustaining health. Areas like biotechnology, pharmaceuticals, information technology, the development of medical devices and equipment, and more have all made significant contributions to improving the health of people all around the world. From "small" innovations like adhesive bandages and ankle braces to larger, more sophisticated technologies like MRI machines, artificial organs, and robotic prosthetic limbs, technology has undoubtedly made an incredible impact on medicine.

In the healthcare industry, the dependence on medical technology cannot be overstated, and as a result of the development of these brilliant innovations, healthcare practitioners can continue to find ways to improve their practice – from better diagnosis, surgical procedures, and improved patient care. Biotechnology has been one such field of medical and health care industry that has made significant contributions to our world, namely in the pharmaceutical industry.

In the existing health care system, health professionals across the globe operate various healthcare services at different locations. Usually, a user visits more than one health professional, e.g., general practitioner, specialists, clinics, pharmacies, etc., for different needs.



The above illustration indicates the current scenario adopted by systems related to healthcare, where patient data is stored away in a health care system provider's local data system. The maintenance, along with the management of data is the responsibility of the provider. Moreover, the system provider is also responsible for tasks such as Database backup, System recovery and SQL reporting etc. Furthermore, physical data storage based solutions are also implemented, whereby the respective system provider gets access to this data and has the authority to edit the data and records.

Given that the providers have access rights to the data, they can query their records from various providers. Moreover, when required, the providers can request records from everyday users, for example, asking for consultation documents used in the diagnosis process. It can, therefore, be assumed that the management of systems related to health care is still a significant challenge as the system lacks standardized integration.

The demand from the users as well as the health providers for multiple access has created issues related to security, data privacy along with interoperability.

Consequently, innovation is becoming more of a need in the healthcare industry. Research suggests that it is becoming impossible for the industry not to adopt this trend of innovation. It was shown by the survey conducted by GFK that 33%[1] of the population around the world was monitoring as well as tracking the health condition online. This clearly indicates the number of people having an interest in monitoring healthcare. However, accessing information related to healthcare has been a complicated process, as healthcare providers like pharmacies, hospitals as well as laboratories have made ineffective systems that do not help the people in accessing their information. It is crucial for individuals to access this information so that they can get a clear idea as well as understanding regarding their health on a population level assessment while also knowing about the significant determinates of health in the population.

INTRODUCTION

Medical Veda is striving towards decentralization of finance in the medical and health sector while it also aims to offer products such as distributed Electronic Health Record (EHR), decentralized data-management and data accessibility in the health care sector. With NCGICAL Token, NCGICAL is the pioneer in tokenization of cli ni cal data and bringing decentralized finance (Defi) to the healthcare industry. By applying Defi based peer t o p eer lending, it not only enables patients who need capital for carrying out their medical procedures but also enables other medical practitioners to gain capital for their ventures. Moreover, the NCGICAL token also serves as a medium for the exchange of value, while also enabling its holders to access NCGICAL products and services. For clinical data, the Medical Veda platform offers permissioned accessibility from all over the world, not only for medical practitioners belonging to any country or medical institutes but to the respective patient as well.

Medical Veda will work as an innovative platform with the potential to revolutionize the modern-age health care industry by allowing patients to become the owner of their health records. It will serve as a decentralized platform that enables users to have full custody of their personal medical records, allowing them to have a transparent exchange of the documents with relevant health care providers such as a Clinics, Hospitals, medical practitioners, Insurance companies, universities, pharmaceutical companies, medical research companies, and health departments. Its vision is unique has the first-mover advantage of utilizing blockchain technology to build the very first health digital ecosystem in Canada and Australia. In simpler terms, Medical Veda functions as a marketplace that enables users to negotiate commercial terms with third parties for alternative uses or applications of their health data. It provides a Personal Health Record(PHR) platform, which not only enables an individual to store their related health records but also helps them share it with their care provider with their consent and discretion.

The Key Proposition: Why do we need Medical Veda?

Patients and medical practitioners often need either for medical treatment or to manage their expenses. NCGICAL pioneers in deploying Defi based p2p lending for the industry, ensuring all players within the healthcare sector have easy access to required capital. Furthermore, getting access to patient data, i.e., clinical health care information, holds significant importance, especially in critical conditions. The Medical Veda platform will provide a global, decentralized, and easy to access blockchain network so that anyone, with the permission, can seek a patient's health information at the click of a button. With this, we are hoping not only to make access to health care data enabled for everyone but also strive to save lives by providing vital information where required.

OUR VISION

We envision to create an ecosystem for the health care industry where all industry players i.e. patients and other medical practitioners have easy access to required finance while ensuring they end-users are the true owners of their clinical data.

OUR MISSION

Medical Veda aims to be the world's leading Defi based medical platform that ensures easy capital access while creating open-source health ecosystem for enabling decentralized ownership of patient data, ensuring all industry players to get permissioned access to this data in a seamless, secure and instant manner.

KEY PRODUCTS

VEDA Health **PORTAL**

Veda will create a dedicated portal with a highly intuitive user-friendly interface that will be accessed by Veda users i.e., individual patients, doctors, clinics, pharma companies, and insurance companies. Users are the true and only owners of their data, and they can even incentivize themselves by exchanging this data.

To get an idea of the Veda Health Portal, assume a single patient record portal that is accessible for all: medical specialists, patients, pharma companies, insurance companies, and even third-parties, all the time. All manual process of submitting paperwork before a doctor's appointment, a pharma company or an insurance corporation is gone.

Unlike traditional EHR, which is expensive, insecure and in-efficient, the Veda Health Portal strives to use a blockchain-based model for maintaining its data distribution and ownership access and granting robust access to a patient's medical record. Veda will utilize a consortium blockchain technology called Hyperledger, which helps it link directly to the EHR. Patients will be able to choose to grant different levels of access to physicians regardless of the physician's EHR. Moreover, a physician will add data in the blockchain, which is then mirrored in the EHR in real-time, allowing the original record to remain up-to-date.

Furthermore, the Veda Health Portal will also enable other dApp developers and existing EHR vendors to connect to its blockchain network. This will eliminate the need for providers to duplicate entries in their original EHRs and the blockchain by linking all records through one data entry point. Additionally, the blockchain technology will give patients a key to access their own data.

Data Storage in Veda Health Portal:

In the modern day, Artifical Intelligence has a significant effect in improving the overall healthcare by allowing faster and more accurate analysis for medical practetioners and allowing on-demand access to medical data. The pace of innovation in digital healthcare began gaining momentum with artificial intelligence (AI) and the Medical Veda team believes that with the blockchain it is set to accelerate this further. The Veda Health Portal strives to create a virtual health ecosystem whereby it will break down the data silos and enable all parties (actors) i.e. Patients, Health care providers, Hospitals, Clinics, Research companies, pharmaceutical, Universities, Insurance and Governments to get instant access to their required data.

The Medical Veda Platform will utilize blockchain technology to leverage and remodel the collaborative exchange of vital research and useful healthcare data, thereby, enabling key stakeholders such as clinical researchers, doctors, pharmacists, and other healthcare providers to gain secure, faster, simplified and reliable access to electronic medical information.

NCGICAL **Defi pioneers of leveraging blockchain and Defi in the heal thcare industry**

Health is vital for anyone irrespective of their origin, race, ethnicity, nationality or financial status. While for some it is affordable, not everyone has the budget to easily afford medical care, especially in emergencies or length medical procedures. When a person lacks the money, and the medical procedure is vital for existence, almost everyone thinks about spending the capital they possess in the form of assets such as gold, bonds or property. Similarly, It is well known that the cash flow of healthcare practices, whether it be medical, dental or veterinarian, is unpredictable and can be inconsistent. Submission of payment, in majority cases by insurance companies, may take weeks or even months, which is beyond the control of the medical practitioner or respective organization, which ultimately may result in adversely affecting their efficiency.

In such circumstances, while a person may have been able to liquidate their savings for the required medical procedure or a practitioner needs it for their required obligations, the process of liquidation is often slow for emergency. Besides, a person also misses out on the opportunity of getting growth while also losing the periodic returns from the underlying asset.

Medfi Veda, Veda P2P Platform resolves such pain points in health-care by introducing a crypto-based P2P lending platform. It ensures that for emergency situations, individual patients can simply apply for loans in a peer to peer way, simply by keeping their cryptocurrency holdings as collateral and use the liquid capital in turn for the required medical procedure. Similarly, for instances for medical practitioners, where receivables are far off into the future, a practice can acquire credit from lenders at simple interest rates and can pay back at agreed terms and conditions.

Background

Traditionally, financial institutions like banks serve as an intermediary to disburse and avail loans. While this process is secured, there is the issue of third-party limitation and have increased costs due to third party commission and fee. Peer-to-peer lending, on the other, is the practice of directly borrowing and lending loans. The issue with such transactions is that there is no enforcer or mediating party, in case of borrowers getting defaulted.

MedFi Veda P2P Lending: How it works?

The MedFi Veda P2P lending platform presents decentralized peer to peer lending platform powered by blockchain and smart contracts. It offers an easy to use interface whereby anyone (a borrower) can apply for a loan. A lender approves a certain limit (against the crypto as collateral) and allows the borrower to withdraw as and when the requirement comes up. It is here to be noted that the collateral is secured within a smart contract, with the terms and conditions of payback and interest rates, and is released upon maturity of the contract (given that conditions of the contract are fulfilled). An important aspect of a smart contract is its decentralized nature, and self-execution, as no one can manipulate the terms and conditions once it has been set. This way, the patients can carry out their medical procedures while medical practitioners can not only stay afloat but also ensure that the amount lost on interest is minimal.

How does MedFi Veda P2P Lending Standout from the rest?

MedFi Veda P2P secures collateral by keeping it in a smart contract, which are immutable and self-enforceable contracts deployed on the blockchain. MedFi Veda uses smart contracts that are deployed on blockchain and are responsible for handling defaulters or applying penalties (such as late fees, and higher interest rate) and notifying verification providers about it. The Smart Contracts would also have the feature to automatically send a notice to the borrower when the payment time is near and process funds from their wallet through the platform. If payment is late, interest charges increase and get automatically applied to subsequent payments.

Medfi Veda based decentralized P2P lending ensures that interest rates and repayment terms are flexible while ensuring there is minimal transactional costs and no intermediary costs. This way, through disintermediation, lending via Veda platform has lower interest rates than what banks and financial institutions charge. Moreover, it also works on a global level, not like traditional lending platforms which are restricted to a specific geographical area. In addition, it executes fast credit checks and KYC/AML (Know Your Customer and Anti Money Laundering) protocols, with a more holistic view by looking into required collateral in cryptocurrency. Another standout feature of Veda platform is that it provides easy accessibility i.e. lending capital at anywhere, any time.

Features

- Peer to peer
- Universal Operations
- Lower Interest rates for borrowers
- Supported on multi-devices
- Secured by smart contracts
- Supports crypto as collateral
- Multiple offerings: Both for individuals and organizations
- Instant withdrawals enabled to tackle liquidity

NCGICAL TOKEN

Medical Veda offers a dedicated utility token that allows its holders to get direct utility within the Medical Veda financial ecosystem. Thus, if you are a holder of the NCGICAL token, you would be able to purchase all sorts of products directly from the ecosystem. Technically, this token works as an ERC-20 standard token that is deployed the Ethereum blockchain network. It allows peer to peer mode of payment, store and exchange of value and is specifically designed for large volumes of transactions within the Medical Veda ecosystem, offering a quick, secure and efficient transfer of value with confirmation speed of around 15 transactions per second.

MEDICAL VEDA DATA MARKET PLACE

Accurate and flawless medical data is always required by medical researchers so that they can support their findings. To get access to the right patients and the health issue they are looking for, research companies often seek assistance of third party companies such as marketing companies.

Moreover, even with the presence of the Personal Information Protection and Electronic Documents Act (PIPEDA), which restricts these companies not to share sensitive and personal information of the patients, the healthcare providers still share this private information with other interested parties to gain profits. Much of the data is collected because of the negligence of the customers as they sign certain documents that can be included in drug trial tests, which give the providers the right to own that data and share it with other interested parties. And, all is done without the knowledge of the customer.[19]

Medical Veda offers a dedicated marketplace that enables patients to exchange their data with other pharma companies, clinical research institutes or marketing companies, and in doing so, get rewarded with the Veda token. It allows users or patients to get rid of the middlemen while also enabling them to find companies that want to buy the data owned by them. Thus, with Medical Veda, both the consumer as well as the pharma companies are able to monetize their data.

TRUSTLESS, AUTOMATED SMART CONTRACTS

There exists a variety of contracts in the healthcare industry. Take for example the transactions and contractual obligations between patients and hospitals, healthcare providers and patients, between health organizations and vendors etc. Unfortunately, the traditional contracts process is slow, expensive and involve a significant number of intermediaries which adds to the overall costs.

Medical Veda introduces innovative blockchain-based Smart Contracts that are trustless and self-enforceable, ruling out the possibility of any intermediary or third party dependency. Integrated with blockchain, we implement two types of Smart Contracts, which are:

B2B Smart Contracts

Sending payments along with receiving claims, especially for Defi products e.g. loans and transaction processing will be made easier with B2B smart contracts. These Smart Contracts will further be integrated with blockchain, ensuring the codes can't be manipulated and remain transparent. Consequently, all payment processing, insurance claim and any sort of clearing i.e. the paperwork or diligence necessary to accurately complete a payment transaction and settlement i.e. settlement is the actual movement of the funds, would be performed in a seamless, secure and automated way.

Patient-Hospital Contracts

Third-party intermediaries have always remained a part of the healthcare ecosystem, mainly because there is a lack of trust between the healthcare providers and the patients. Take for example payments based transactions, where both parties have their own concerns. Traditionally, healthcare transactions are automated by hospitals through the usage of various custom as well as commercial systems which create an intricate network for transaction processing. Unfortunately, these systems have their own flaws gaps and often requires human intervention, which not only results in the wastage of time but also requires extra efforts and costs.

Medical Veda provides Smart Hospital and Patient contracts which enable it to present a more trustless, more efficient, cost-effective, and more straightforward solution in which self-executing contract rules that insurer and other parties must build on top of the blockchain. These Patient-Hospital Contracts are designed to allow health records and information of a patient to be stored in a digital ledger.

From the digital ledger, which is distributed in various nodes, patients can move from one hospital to another without having to fill numerous forms since they can allow preferred physicians to view their health records on the blockchain network. Tracking of patients treatment activities for purposes of insurance payments will also be increasingly streamlined using smart contracts.

Ones the network is notified of consultation or operation, it immediately releases payments to the appropriate entities. Additionally, smart contracts will help in facilitating standards and regulatory compliance. Moroever, changes to the standards and procedures adopted for a patient while in treatment can be instantly updated on the blockchain network without much hassle so that is readily available for all concered parties as and when required.

DIRECT INTERACTION BETWEEN **RESEARCHERS AND PATIENTS**

With NCGICAL platform, researches get immediate access to patients which not only save them the time and efforts but also help them reach their desired data in a cost-effective manner. Similarly, patients get access to researchers which help them not only in monetization of their data but also enable them to contribute towards the betterment of the community by participating in research activities which will make future diagnosis and treatment improved.

In order to communicate, there is a dedicated requirement section where researchers looking for a particular type of data which will list down their requirements and based on the category; a respective patient will quote for the information. Once the deal has been executed, it would be recorded on the blockchain while the payments would be processed by the Smart Contracts ensuring trustless, secure payment without any risk.

PROBLEMS WE AIM TO SOLVE

Health records and Interoperability issues:

- A major challenge within the healthcare industry is the issue of interoperability between different databases and systems. Typically, healthcare organizations are at different maturity levels when it comes to their data quality, governance mechanisms and use of standards. Various organizations use different standards for data exchange e.g. some prefer FHIR (Fast Healthcare Interoperability Resources), while others use the CDA standard. Still, others share data using the HL7 2.x standard. These varying data standards directly reduce interoperability.

- In traditional EHRs and EMRs, databases are restrictive and accessible to the respective hospital staff only. Consequently, a patient has to rely on whether the individual hospital's database is interoperable with another. If not, the entire information can become useless.

- Medical data is fragmented in different systems and interoperability i.e. the ability of that data to become a major concern.

- Records compatibility and different format make the system interoperability difficult for the health sector to gather one person information in one location to get access.

- Patients are not only deprived of access into their data from a place other than the hospital, but they also are not able to control this data

Ownership:

- Traditionally, within the health sector, patient data is recorded on an organisation's server from where it becomes the owner of the respective healthcare institution. Consequently, the patient is deprived of property of his medical record, meaning that he is not able to own, control and manage that data.

Financial Issues

- Patients can't access the capital required for the clinical procedure, as a result of which they have to sell their assets. In other words, loan acquisition is still an expensive, slow and hectic procedure that is not available for everyone. The healthcare financing industry has been flooded with high-interest credit cards that may help you pay for the treatment you need, but often end up causing more harm than good. Similarly, other healthcare industry players find it hard to manage their expenses, mainly because insurance funds clearance is often slow, as a result of which they often miss out on performing the required expansion plans they aim to.

Security Issues:

- Traditionally, health care databases are based on centralized database which are prone to hacks and security issues. They offer a single point of failures, and in case a hacker manages to get access to any server, chances are he can steal confidential information of the entire database

- No mechanism for checking the authenticity of counterfeit products: Research suggests that at least 1% of all drugs on the safest markets of the world are counterfeit, while on average, this amount is about 30%. All of this leads to an annual loss of more than 200 billion dollars.

- Prescription frauds: Each medical institution has its electronic prescription, which significantly complicates synchronization of medical records of all pharmacies and different facilities. Consequently, it may lead to unwanted delays and serves as a basis for fraudulent schemes.

Health Issues:

- Patients can't access second-opinion because of restrictive information exchange:
  Patients are empowered, hard to seek the second opinion and cannot expect to contribute to a decision made about their treatment choices. The absence of full patient records could lead to incorrect decision making, delays in treatment and unnecessary costs of treatment due to lack of available, in hand, which could lead to fatalities.

- Counterfeit drugs can result in significant harmful effects on patient's health

Medical and Health Care Service Issues:

- **Non-transparency admission procedure:**

  There is a lack of transparency in the health sector for patient admission; also high potential of miscommunication and misunderstanding to occur, which usually multiple people need to check the agreements against various records. The result is inefficient, which will leave stakeholders and patient confused and sceptical.

- **Outdated system for payments:**

  Payment processing is still outdated as it mainly involves traditional banks which involves a significant number of intermediaries, especially for foreign transactions. These financial institutions also charge a hefty fee which further adds to the overall costs.

- **Deal breaching and trust deficit:**

  The traditional trust or notary system is outdated, and deal breaching by hospital or pharma company may leave a patient helpless as he needs to hire expensive notaries, waste his time and energies in suing them.

- **Time-consuming initial diagnosis:**

  Every time a patient goes to a new hospital in a new region or state, he has to perform a new diagnosis, only because his medical record is not shared with the respective institution.

Miscommunication between healthcare professionals can be expensive and result in loss of lives:

- Miscommunication between medical professionals costs the healthcare industry a staggering $11 billion a year[3]. The time-consuming process of obtaining access to a patient's medical records exhausts staff resources and delays patient care. Blockchain-based medical records offer a cure for these ills.

OUR SOLUTIONS

Health records and Interoperability:

Electronic Health Records (EHRs) or Electronic Medical Records (EMR)as discussed previously are a failing model considering their design that doesn't allow to manage the complexities of multi-institutional, lifetime medical records. We at Medical Veda, aim to resolve this by providing a system that prioritizes patient agency, giving a transparent and accessible view of medical history through a decentralized distributed access and validation system using the blockchain to replace centralized intermediaries.

- The Medical Veda platform provides a blockchain-based distributed system ensuring all patient record is accessible for all authorized actors/players within the health care sector.
- Medical Veda platform harness the power of blockchain technology while ensuring that it is compatible with the existing EHR systems and remains interoperable with other blockchain networks.
- All patient data is stored on traditional databases in an encrypted form. However, its metadata and ownership are stored within the blockchain-based Smart Contracts ensuring only the authorized person can access it through a single-window interface.

Defi in Medical and Healthcare

Medical Veda innovates by deploying decentralized finance-based model in the healthcare industry. It simplifies the lending process for both patients and healthcare practitioners by offering a peer to peer platform whereby anyone can apply for a loan at simplified terms and lower interest which lender will have the surety that their amount is secured by smart contracts.

Decentralized Ownership:

Patients are the true and only owners of their data; they can authorize any third party, including but not limited to the healthcare practitioners, pharma companies, insurance organisations or even research institutions to interact or access this data or even sell it to them. In order to enable this, the Medical Veda platform offers a dedicated data exchange marketplace where patients can monetize their data by selling it to research institutions or other interested parties.

OUR SOLUTIONS

Security Provided:

- Decentralized blockchain-based database with its patented consensus mechanism, ensuring no single entity or hacker can get access to the non-authroized patient information
- Deployment of the platform on blockchain enables traceability and provenance of all pharma products
- All data, e.g. drugs prescription is immutable on blockchain ensuring free from fraud medication

Health Issues:

- Access to data and medical record enabled not only for health care systems but also for the patient
- The Medical Veda platform offers a dedicated explorer tool for data verification and product authentication. This tool enables patients, healthcare units or any relevant party to check for medical record or even check for authenticity of a medical product by pasting a unique public key of a respective patient record or medicinal product.

OUR SOLUTIONS

Medical and Health Care Service Issues:

- **Transparent and secure information:** The Medical Veda Platform uses transactions as well as multilateral relations which were made more transparent, secure along with more reliable through smart contracts. This can be understood by the example that the transaction of the patient is automatically transferred to the doctor with the help of the smart contract that is concluded by the patient with the doctor before the consultation is received.

- **Unified data access:** Medical Veda provide one unified platform where a collection of all medical records history will assist medical provider to easily get access to records for their procedure and further treatment. This will ease the access of data and ensure that documents are always available as and when required.

- **P2P, secured instant payments:** Medical Veda utilizes it native utility token called Mveda token for enabling peer to peer payments that are seamless, secure, decentralized and low-cost.

- **Trustless Deals:** All contracts between the transacting parties are secured by self-enforceable programmable Smart Contracts. This way the role of expensive third-party mediators such as notaries is negated.

- **Online AI-based Consultation:** The Medical Veda platform also offers its users to have Initial online diagnostic enabled by AI-based bots. The AI-powered bot works just like a chat messenger whereby it asks a user to describe his symptoms, the medications he has taken and other relative information that can help in diagnosis. Based on the data provided, the AI-powered bot uses big data to make the righting diagnosis and help out the patient in getting the right consultation directly from his home. It is imperative to note that for critical conditions or conditions where clinical trials are required, the patient is advised to undergo the respective tests.

Blockchain-based medical records will streamline care and prevent costly mistakes:

- The hybrid decentralized nature of the medical Veda Portal creates an ecosystem that provides considerable amount of help to the patient, as the patient data is transferred to all industry players i.e. doctors, pharmacists, insurance providers in a more efficient and effective manner, ensuring that the diagnosis and health care service delivery is done more efficiently and effectively.

STANDOUT FEATURES

EASY INTEGRATION

The Medical Veda platform enables easy integration APIs to allow third-party decentralized application developers to integrate their applications with the Veda platform and thus contribute towards making the health sector better. Integration for other developers in the marketplace will let this ecosystem to grow in further scale, users will get the benefit of many more features in the future and would be able to spend their tokens to purchase additional services.

CLINICAL TRIAL BOOKKEEPING

Keeping accurate medical trials is a robust and time-consuming business. It involves collaboration between multiple entities and stakeholders, who are scattered in different geographic locations. Staying on top of accounting and costs during clinical studies/trials, especially those that last for long periods, is a well-known challenge to pharmaceutical companies. Book-keeping tools currently available are far too complicated and don't capture the holistic cost picture of the clinical trials.

With Medical Veda, we use blockchain technology to keep track of clinical trials financials as well as make bookkeeping efficient, accurate, and accessible. By using blockchain, we strive to streamline the accounting and financial reporting activities while resolving the issues of the inherent complexity of clinical trials financials. Medical Veda uses blockchain technology to create an immutable, transparent digital ledger which helps it document the single point of origin of a compound or a substance and various compositional changes it goes through due to testing and approvals. All information remains immutable—permanent— and resides within the decentralized framework i.e. shared among the participants, and there is no need of central server or agent to trust.

Moreover, for global studies, data is collected from several labs across multiple countries. These data points need to be shared in an anonymized way, provided the information is traceable in case of adverse event reporting. Managing the final version and completeness of this data as well as tracking the status and return of clinical kits, blockchain technology can come as a great help.

STANDOUT FEATURES

THE INTEGRITY OF MEDICAL RECORDS

We use a hybrid combination of blockchain and traditional data storage options to ensure the integrity of all the medical records. In order to do so, all of the medical data is first recorded locally in a traditional database. However, unlike a conventional system where this data is easily retrievable, in the case of Medical Veda the metadata of all such patient record is encrypted into cryptographic hashes and stored within the blockchain. Consequently, this metadata represents the ownership of the data and a person wanting to access his medical record at any time will need to present his respective private key to access it.

Moreover, it is important to note that as the metadata is stored on a blockchain, this will allow the Medical Veda system to scale easily as no direct data storage is done within the blockchain where data storage on a large scale is very expensive. Furthermore, recording the data this way, will not only maintain the data integrity but also provide its absolute proof, as the record in blockchain can't be changed. This will be a huge plus point as the integrity of a medical record is critical for both medical as well as decentralised legal point of view.

SETTLEMENT OF CLAIMS

Time consumed for claim settlements is one of the things that pains the healthcare industry[2]. At Medical Veda, we use Smart Contracts in blockchain, which defines the terms and conditions of the contract between the payer and the provider. It comes into effect when a claim is submitted. It is followed by the processing of the application in real-time, and at last, the payment is transmitted to the provider.

STANDOUT FEATURES

DATA OWNERSHIP

There's no process established yet that let's you know who owns the healthcare data and who grants the permission for sharing. With Medical Veda, all metadata of the ownership and access is issued and reserved with the respective patient, ensuring that user is able to access it anywhere and can also exchange it for incentive to any research institution.

ONLINE MEDICATION, DIAGNOSIS AND TELEMEDICINE

The Medical Veda platform will provide Artificial Intelligence-based Chat Bots that use Big Data and machine learning to make certain information about patient health, for mild diseases, and then present them with AI based online consultation anywhere, anytime and also allow the patient to have a second opinion on their symptoms.

Telemedicine is the practice of caring for patients remotely when the provider and patient are not physically present with each other.[20] In its pursuit of providing users with the latest medical care solutions, Medical Veda aims to enable Artificial Intelligence based Chat Bots that use Big Data and machine learning to make certain information about patient health, for mild diseases. Based on the information collected, the Bot will then then present these patients with online consultation anywhere, anytime while also allowing them to have a second opinion on their symptoms.

Artificial intelligence capability to feed users with more health information as per their health condition. This will use AI, and Machine learning algorithms and present a user with health guides and news that can be helpful for user in maintaining his health and physical well being.

STANDOUT FEATURES

SECURING PATIENT DATA

Keeping our critical medical data safe and secure is the most popular blockchain healthcare application at the moment, which isn't surprising. Security is a significant issue in the healthcare industry. Between 2009 and 2017, more than 176 million patient records[4] were exposed in data breaches. The perpetrators stole credit card and banking information, as well as health and genomic testing records.[4]

Blockchain's ability to keep an incorruptible, decentralized and transparent log of all patient data makes it a technology rife for security applications. Additionally, while blockchain is transparent it is also private, concealing the identity of any individual with sophisticated and secure codes that can protect the sensitivity of medical data. The decentralized nature of the technology also allows patients, doctors and healthcare providers to share the same information quickly and safely.

PAYMENT PROCESSING AND INTEROPERABILITY

Digital payment systems offer a high level of interoperability, faster payment processing, and safer electronic data interchange (EDI) processing. However, implementation of these digital payment systems on traditional health care portals and its interoperability has always been an issue faced by developers. Medical Veda uses a blockchain system to boost payment processing and interoperability. Consequently, all payments are tokenized while also having the adaptability to accept traditional fiat payments as well.

HEALTH ID

Unique health identifiers for an individual to get identified as quickly as possible by health providers with all required information to provide further services. Stored on blockchain and secured by cryptography, this ID will enable patients to track their health record, anywhere, anytime at the click of a button. Moreover, this unique ID will be useable across all other industry players as well e.g. it will be useable for insurance claims.

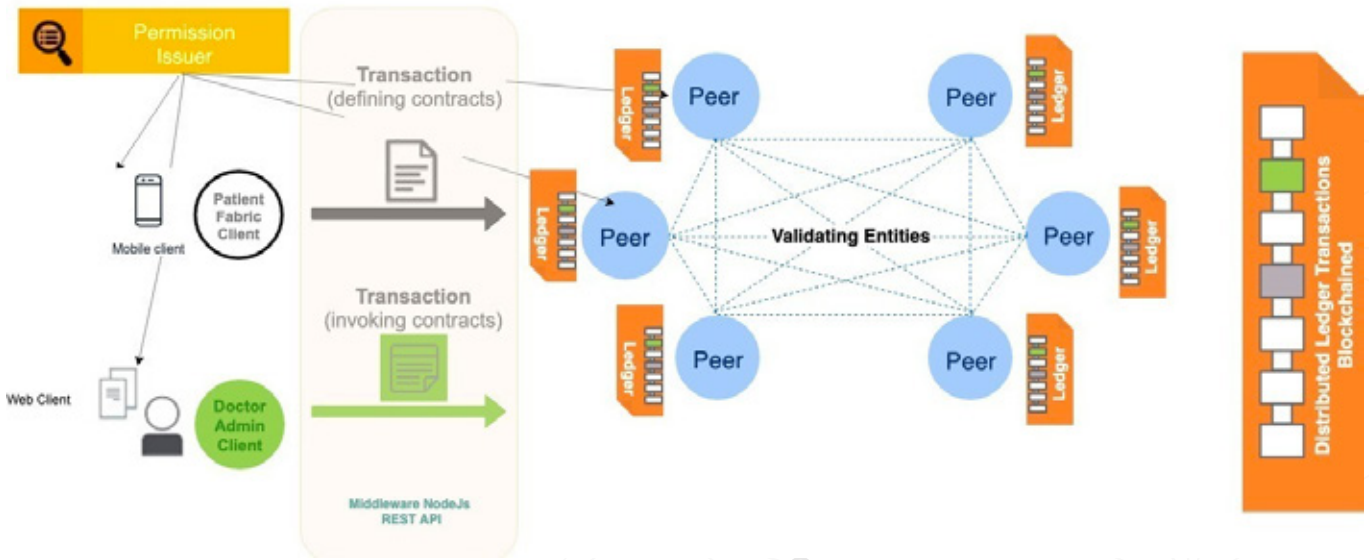
STANDOUT FEATURES

MICRO PAYMENTS

Micropayment is sometimes required for patient activities, such as incentivization of the patients by giving them rewards to stay healthy. With Medical Veda, we enable micropayments, with our highly divisible token, which help us create micropayments scheme that allows on-network members and patients to get discounts when they sign up for using fitness tracking devices, weight management & nutrition, as well as getting vision & hearing, and doing registration for mind & body wellness programs.

Veda Health Portal

HyperLedger Private Permissioned Blockchain



TECHNICAL ARCHITECTURE

Medical Veda will utilize a hyper fabric consortium blockchain network to enhance its services to consumers i.e. patients. This allows a level of trust that was previously unrealized while incentivizing users to adopt and use the platform by exchanging their data.

Initial Infrastructure

Medical Veda will generate a token smart contract for the creation of its ERC20 type Veda tokens. These tokens will be allocated to buyers or token sale participants through a devised, predetermined structure. There will be two planned stages to purchase, a presale and a crowd sale. The limited presale will be used to generate initial funds for crowd sale preparation and development. The crowd sale will allow for maximum user adoption and token distribution.

The Veda token will be used in phase one of the Medical Veda explorer ecosystem and will be used for storing transaction signatures and metadata as signatures for encrypted storage on the blockchain, and Amazon EC2 or other storage platforms, which will be done as a proof of concept.

Data layers and Technical Architecture

As shown in the figure below, the Medical Veda Platform will adopt a technical architecture whereby all patient data, e.g. a document file or an excel sheet will be uploaded into an IPFS— which is a protocol and peer-to-peer network for storing and sharing data in a distributed file system — as no blockchain can store the complete file data into blockchain.

1. Medical Veda Platform will be connected to both blockchain and the IPFS.
2. The data for download links and ownership information will be provided from the blockchain.
3. The actual document will be uploaded into IPFS.

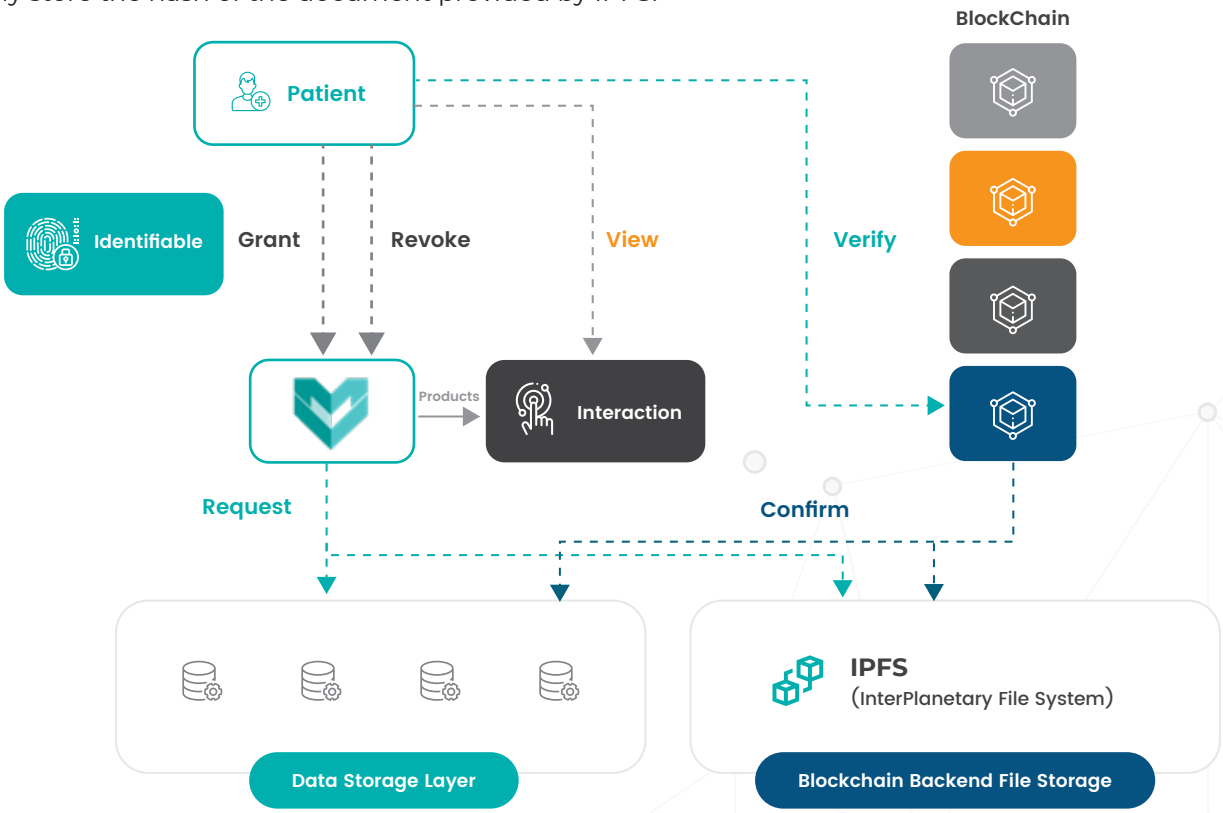
For the web application, there will be 2 parts. They are Frontend and Backend as described below:-

1. **Frontend:** Assuming that the front end of the website is built using reactJS or any similar Javascript framework/library, we will need to provide data to the platform from a backend service.

2. **Backend:** Let's assume that the backend is built using nodeJS. We will create REST APIs on it. These REST APIs will be used by the front-end to send and receive data. The backend will interact with the blockchain Smart Contract to send and receive data, and this communication would be performed using the REST API.

Uploading documents: Files uploaded from the website/platform/interface will come to the backend for processing. These files will be uploaded on IPFS. When a file gets uploaded on IPFS, a hash of the uploaded file is provided to us. This hash will be used to access the uploaded files and send to the front end via REST API for downloading purposes.

Blockchain: The blockchain network created by us will include a smart contract. This smart contract will contain logic for storing the uploaded document data. Future members, sales portal, and object information will be stored using maps or IPFS in this transition phase. Data storage of pictures and extended data are simply too expensive in terms of Gas on the Ethereum platform at this present time. We will be exploring ways to include all data on the blockchain through off-chain or scaling solutions. Since blockchain is not the ideal place for storing large quantities of data, hence we may use IPFS to store the document. The smart contract will only store the hash of the document provided by IPFS.



IPFS: The IPFS is a protocol and peer-to-peer (p2p) network for storing and sharing data in a distributed file system. IPFS uses content-addressing to uniquely identify each file in a global namespace connecting all computing devices. This means that for every file uploaded; there is a unique hash associated with it. In the blockchain smart contract, we will only store this unique hash value.

Storage layer

For data storage, we would be using hybrid mechanism where data would be stored in the following manner:

Relational Database This database will hold any non-health related information. e.g. user profile, role, etc. Basically, a relational database is any kind of data that is not intended to be sold or shared with other users and any data which could be updated by user from time to time.

Oracle based blockchain This platform will be responsible for containing all health-related data entered by the user from the web portal. Data such as heart rate, blood pressure, BMI, blood glucose, health status that are intended to be shared with other users will be stored in the blockchain. Storing such data in blockchain will help us maintain track of all the historical data of each user and will make sharing with other authorized user.

IPFS Filestore IPFS is a file storage service that is backed by blockchain.

In simple terms, IPFS helps us store files on the blockchain. This is an add-on which will help us have users medical files (prescriptions, reports, etc.) on blockchain level.

MARKETPLACE **NODE**

One of the most important aspects of the Medical Veda ecosystem is to enable patients to find a place where they can exchange and monetize their data. That is where the Marketplace Node comes in to play. It creates a marketplace where each member of the medical industry or each industry player i.e. patient, doctor, pharmacist, or insurance provider can interact with other industry players. Moreover, based on their data, patients can exchange it with other parties which being sure that transactions are secured payments and trustless.

NCGICAL **TOKEN**

NCGICAL Token is an Ethereum deployed ERC-20 token that allows p2p payments and decentralized exchange of value. It serves as a medium of exchange for all transactional activities happening within the Medical Veda portal and its associated financial ecosystem. NCGICAL token utilizes the existing ethereum network to facilitate industry players such as patients, medical practitioners, pharma companies and insurance providers etc. Deployment of the token on a distributed public ledger, whereby transactions are traceable and transparent, allows a level of transparency that was previously unrealized.

NCGICAL token will use Ethereum blockchain to facilitate patients, clinics, physicians, pharma companies, and insurance agents. Moreover, as blockchain serves as an immutable and distributed ledger, deployment of the NCGICAL token on a blockchain allows transparency and audit ability of transactions that were previously unrealized in traditional payment processors or financial organizations.

SMART CONTRACTS

Research published in the Journal of Patient Safety states that every year more than 400,000 Americans die[21], in part, mainly because of avoidable medical errors. In 2008, medical errors cost the states $19.5 billion[22], most of which was spent on extra care and medication, according to another report. The most unfortunate scenario in such cases, as written by CBC is that "When a doctor makes a mistake, data obtained by CBC shows seeking compensation can be an uphill battle."

This research from CBC[23] further shows that 55.2% cases registered against doctors were discontinued or abandoned while 36% cases were settled. An astonishing fact is that only 1.6% of the cases were reuled in the favour of patients who are the main affectee of such cases. Among other reasons, one of the major reason is "the CMPA's vast financial resources allow them¬—doctors— to mount an aggressive defence that few patients have the means to compete with, he said, and that many lawyers are hesitant to take on small cases because they know how costly it can be to go up against a doctor in court. Most ... medical malpractice lawyers would not really look at a case that's worth less than $250,000." as mentioned on the CBC website.

Another main issue surrounding health care is the lack of finance, both for patients for performing their upcoming medical procedure and for healthcare practitioners who are aiming to cope up with their bills and expenses. A report published in The Lancet finds that when it comes to health, quality — not quantity — seems to be more important. The study estimates that 5 million people die every year because of poor-quality health care in low- and middle-income countries. That's significantly more than the 3.6 million people in those countries who die from not having access to care. It's also five times more than annual deaths from HIV/AIDS (1 million) and three times more than diabetes (1.4 million) in the same countries — although, of course, poor health care for these conditions can also be fatal. In a scenario where governments don't have the will or the resources and capital to make the quality of healthcare better, the only option left with the patients is to seek medical assistance either from abroad or from a private medical institute which requires a significant amount on behalf of the patient.

Medical Veda introduces decentralized finance (defi) in the medical finance whereby it introduces a peer to peer decentralized lending platform that ensures that whether patients or healthcare practitioners have easy access to required capital in a secured and cost-effective way. All such transactions are secured by Veda Smart Contracts, which works like traditional contracts, however, they are programmed to define rules and penalties around an agreement, Furthermore, these Smart Contracts will automatically enforce these rules and penalties. Moreover, iin order to resolve such issues and reduce the manipulation done both by doctors and lawyers, Medical Veda aims to introduce Smart Contracts which are self-enforceable and programmable codes that execute a certain set of instructions once the encoded conditions are met. Deployment of Smart Contracts within the Medical Veda Platform facilitates secure payments and fair decisions. With Veda Smart Contracts enabled, rather than go to the process of hiring a lawyer to draw a contract to cover payment for the services rendered in a hospital, all contractual activities will be configured to release the funds to particular providers when they have completed a specific task.

INDUSTRY ANALYSIS AND MARKET OPPORTUNITY

HEALTH AND MEDICAL TECHNOLOGY INDUSTRY

The healthcare market is growing at a significant pace, offering potential for exploring new opportunities and innovations. It is categorized into various sectors that include but not limited to biotechnology, life sciences, EMR and EHRs, pharmaceuticals as well as health care equipment. To provide excellent healthcare to the patients and to achieve better and more effective results, industry players work together in a collaborative environment.

Research by Bureau of Labor Statistics suggests that more than 14.3 million people all over the globe are currently employed in the medical field, and it is expected that around 3.2 million new job opportunities will be created in the coming years[5]. Moreover, aside from being a fastly growing industry, it is also considered amongst the 20 most growing professions within the United States of America.[6]

In the year 2017, over 200 billion dollars of revenues were generated by the health care industry in the region of United States alone[7]. More investments are also pouring in the industry. As the revenues of the global health industry increases, so does the rate of growth of the infrastructure of the industry where new and improved facilities, including improved hospitals, better residential areas for physicians, improved offices and ambulatory service are being built.

In recent years, technology has become an integral part of the healthcare industry, whereby it has a major impact in improving the devices used for surgical operations, diagnosis and analysis of the medical records. An estimation by statistica.com shows that the global medical technology industry is around 430 billion dollars and growing[24]. Established medical institutes and organizations are located in the US, Canada as well as in Western Europe, whereas in Asia and Oceania, the medical industry offers significant potential and opportunities for growth in the near future.

AUSTRALIAN MARKET

Who pays for health services?

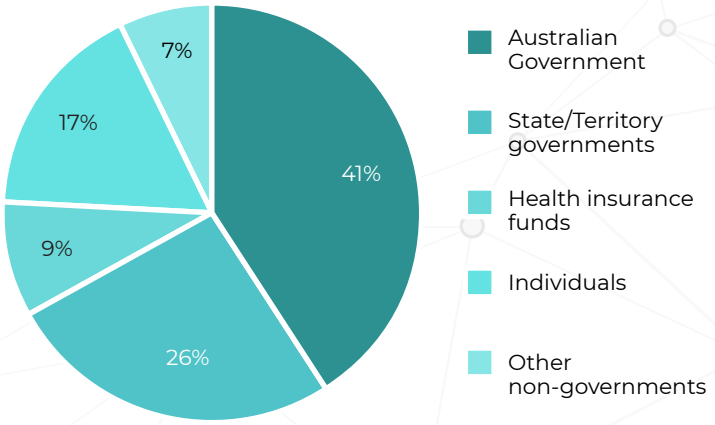
Within last few decades, Australian's health care and medical industry have recorded significant growth. Around 50 percent has been increased in terms of spending in the health sector in the previous years, the statistics show that from 113 billion dollars to 170-billion-dollar increase which is 5,500 dollars per person to 7,100 dollars per person between the year 2015 to 2016.[8] The population is contributing more than 50 percent of the funding that is non-government.

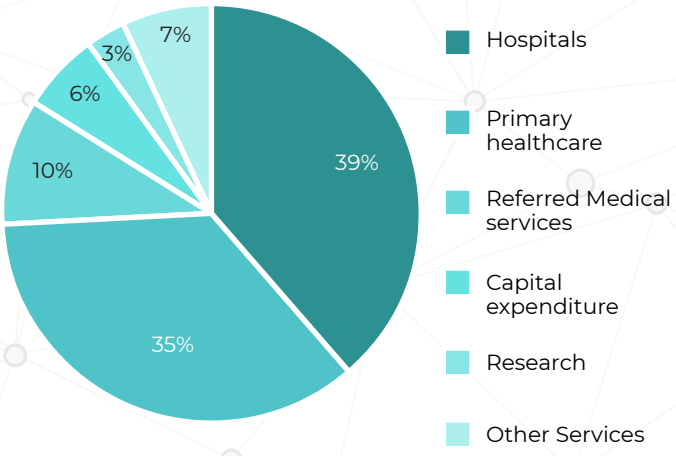
During 2019, the government aimed at providing above $30 billion in additional public hospital funding under a five-year National Health Agreement, which is expected to further boost the development of this market sector in every state and territory. On the technology front, Australia recorded various advancements in robotics, AI, AR, and wearable devices providing new care opportunities, especially for aging and rural populations. However, despite these exciting developments, the industry is still facing some major challenges. Take for example the designing, development and operating of new health facilities, which is both a complicated, time consuming and expensive operations. Similarly, privacy of patient information and interoperability of health portals is also some of the main issues faced by the industry.

Average Spending and Government Funding for Health:

In Australia, $7,100 per person was spent on health in 2015–16.[25] The Australian government fund two-thirds (67%, or $115 billion) of all health spending while non-government sources fund the rest (33%, or $56 billion). Individuals contribute more than half (17%, or $29 billion) of the non-government funding.[8] Moreover, altogether, hospitals (39%) and primary health care (35%) account for three-quarters of all health spending.

Who funds health services, and where does the money go?





AUSTRALIAN MARKET

Digital Tracking Health

Digital technology for monitoring health is used by Australian masses who want maintain good health by keeping a a constant check on their physical activities. Wearable fitness devices are being used by the individuals, which help them monitor the activities related to their health. All collected data from the respective fitness device is transferred to a smartphone, (either via Bluetooth or wifi direct or even NFC) which then gives a proper analysis of the health condition. Digital technology is being used by healthcare providers to improve healthcare facilities further.

- Around 86% of the households in Australia have access to the internet.[26]
- Around 88% of the population ranging from the age of 18 to 75 years have access to smartphones. [26]
- In order to find and research about healthcare information 78% of the adults' use the internet. [26]
- Computers are being used by 96% of the GP for clinical purposes.
- A report by Australian Institute shows that by 2018, My Health Record was used by around 23% of the Australian people. [26]

One of the major priorities of the Government of Australia in digital healthcare is My Health Records, which is a government based PHR portal available for the public. This serves as an online platform that stores data and information related to the health of individuals. Other information is also available upon the platform, which includes the details regarding the hospital visits, diagnostic reports, and aspects regarding the small issues of the individuals. This data can be accessed by the individual himself or herself as well as the health care providers.

People worried about My Health Record, cancelling their subscriptions:

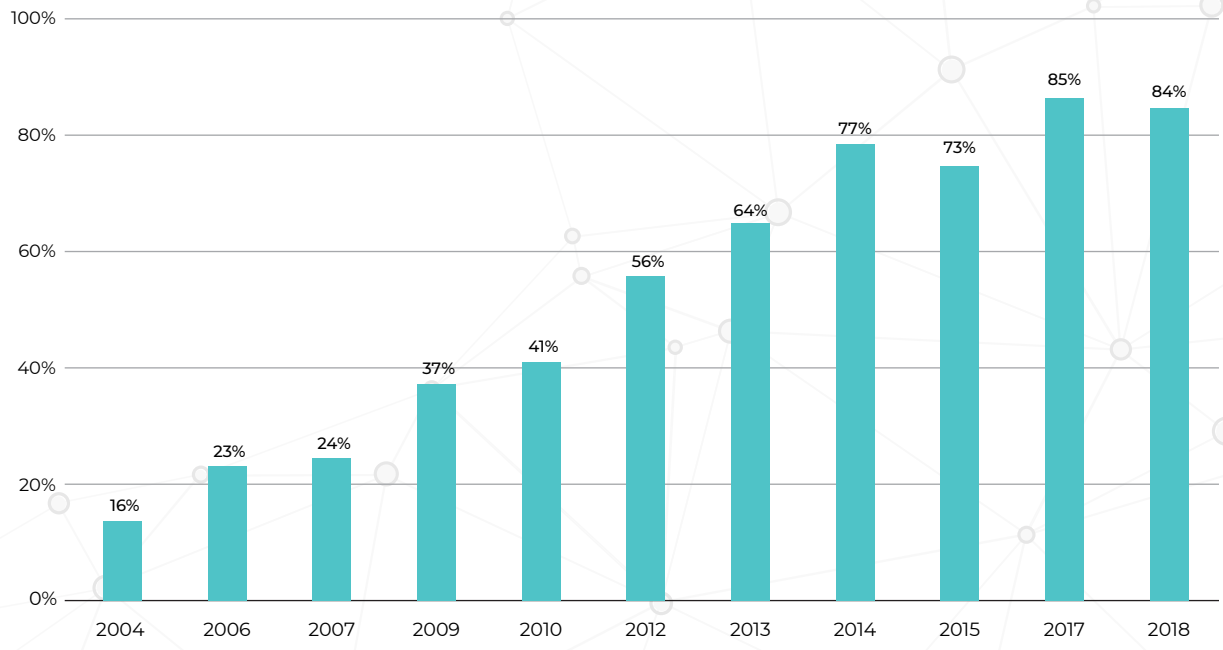
However, as of late, because of the centralized nature of the My Health record framework, more than 2.5 million Australians[9] have quit and unsubscribed My Health Record. The figures, uncovered in the Australian Senate[10], show very nearly one out of ten Australians qualified for Medicare have discontinued this ambiguous and controversial system. Moreover, it is essential to note that the My Health Record's quit period terminated in late January 2019, augmentation of a quarter of a year from the administration's past arranged date of 31 October. About 1.4 million individuals quit in those three months.[11] The Australian Senate body estimate that around 300,000 individuals have quitted the usage of this system mainly because of the fear and uncertainty revolving around the platform. The primary reasons for such a sudden decline in consumer confidence is mainly because of the privacy and security fears raised about the system. [12]

ELECTRONIC HEALTH RECORDS
MARKET OVERVIEW

Research suggests that the Electronic Health Records (EHR) market on a global scale was valued at $23,592 million during early 2016 and was growing at a significant CAGR of 5.0%, with the expected growth of reaching $33,294 million by 2023[13]. The main reason for adoption is the surge in the usage of cloud-based EHRs and EMRs, a rapid increase in the aging population, and an increasing number of chronic diseases that drive the electronic health records market growth. However, the market growth is limited by the high cost of EHR and the rise in concerns regarding patient data safety & security due to an increase in cyber-crime. Conversely, the vast market potential in the developing regions is expected to offer further opportunities for market growth during the forecast period.

HEALTH CARE INDUSTRY
CANADA: AN OVERVIEW

The healthcare industry in Canada is experiencing an increased demand to which the main contributing factor is the rise of the aging population and chronic diseases. last year, i.e., in 2018, total healthcare expenditures were valued at approximately CDN$255 billion, with a growth rate of approximately 4.2 percent.[14] Government spending on healthcare exceeded eleven percent of Canada's GDP. Most of this spending will be toward the three leading causes of death: cardiovascular, cancer, and respiratory diseases.



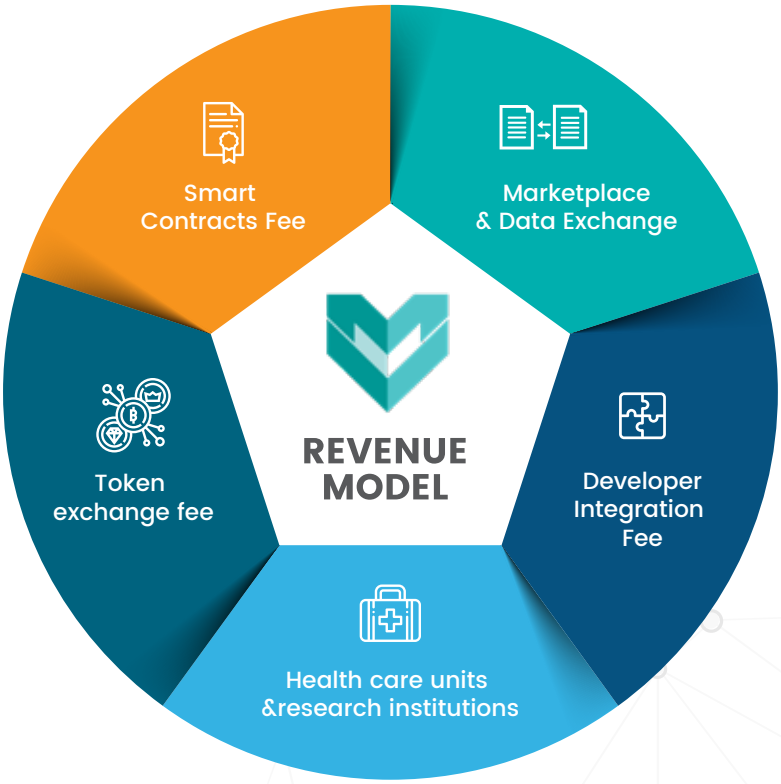
This statistic shows the usage share of electronic medical records (EMR) by primary care physicians (FP/GPs) in Canada from 2004 to 2018. In 2004, the share of primary care physicians using EMR was 16 percent which rose to 85 percent until 2017.

FORECAST FOR BLOCKCHAIN WITHIN THE HEALTHCARE INDUSTRY

The blockchain is a technology that's already getting massive attention in healthcare. Research suggests that more than 4%[16] of health execs see blockchain as the top five priorities. Furthermore, the global healthcare market spends on the blockchain is expected to hit $5.61 billion by 2025, according to a report by BIS Research. The adoption of the blockchain technology could save the healthcare industry up to $100-$150 billion per year by 2025 in data breach-related costs, IT costs, operations costs, support function costs and personnel costs, and through a reduction in frauds and counterfeit products. With the distinct advantage of being nearly impervious to hacking – the healthcare industry is projected to spend $65 billion[17] on protecting sensitive healthcare information by 2020, according to CyberSecurity Ventures – blockchain solutions have gained traction. By distributing information over several servers, blockchain makes pieces of data unreadable unless hackers have access to the entire chain.

REVENUE MODEL

The Medical Veda Platform offers multiple streams of revenue, ensuring its business model is self-sustainable, and high-quality products and services are delivered to its user base in a cost-effective way. Some of the revenue streams include but are not limited to:



Marketplace & Data Exchange

For every data exchange activity happening within the marketplace, a fee is charged. The transactional activity is recorded on the blockchain and is available for community to review and trace. Provided that users have allowed incentivized access to their data, the Medical Veda platform will sell that data in an encrypted form (without the patient's personal information) and create revenue out of it.

Smart Contracts

The Medical Veda Smart Contracts would act as intelligent notary system. For all concerned parties or third party organisations who want to utilize this technology, it would cost them a fee.

P2P Lending:

A small fee is deducted both from the borrower and the lender, for the transactional activity happening within the Medical Veda Defi P2P Lending platform.

Developer Integration

All decentralized application (dApp) developers are allowed to integrate their existing healthcare products with the Medical Veda ecosystem. Take for example a dApp that wants to use the shared database available in the Medical Veda platform, it will have to pay a fee every time a transaction activity happens within the systems.

Token Exchange

For every transaction made with the NCGICAL token, a certain fee would be charged. For example, if a person want to make payment to any of his service providers within the Veda ecosystem or want to perform a peer to peer exchange of value, a fee would be charged by the respective wallet provider or payment gateway.

Annual Subscription Model

Allow all stakeholders (except the patients) to pay a subscription fee to use NCGICAL

SWOT ANALYSIS

STRENGTH

The strength of the Medical Veda platform is that it is targeting a market industry that offers a significant opportunity for its business model. It is compatible with patients and medical service providers, which makes the utility of the platform and its native token quite remarkable. Furthermore, the project has a solid background in terms of its team and advisory board who has vast experience of working in healthcare, insurance, venture capital, finance, information technology, and the blockchain industry.

WEAKNESSES

The Medical Veda platform is a potential project backed by an experienced team with a solid financial background. However, the market it aims to enter is tight as there exist already traditional solutions, which are harder to be replaced for the healthcare providers and institutions. However, the project has the potential to resolve the significant issues faced by all industry players, which makes it stand out among the rest and give it the leverage to penetrate the regional market: Australian and Canadian at the initial stages.

OPPORTUNITIES

The healthcare industry is growing at a substantial pace. Despite traditional solution providers being already in the market, the idea of the Medical Veda platform is unique. This gives Medical Veda a considerable opportunity to penetrate both regional and global markets, as once it manages to gain the interest of the health care providers, patients, and research institutions would automatically get attracted to use this platform as they are the main benefiters.

THREATS

The Medical Veda platform is aiming to bring some major innovations into the health care industry by adding trust while removing intermediaries and decentralizing the access to data, meaning that many of the factors it strives to offer are in untested waters.

While establishing new factors and gaining a userbase can be challenging, once the management and leadership team manages to gain the trust of health care providers across the region, the platform can record significant growth in no time. Just like any innovation, the Medical Veda project may face initial difficulties as they are paving the path. But the benefits of being the first to bring such innovation will give its early adopters and investors a rewarding venture.

MARKET STRATEGY

We believe that marketing plays a significant role in the success of a public project. Planning a strategy to market our platform and its fundraising process is essential, and we are taking a multi-faceted approach that maximizes limited resources and utilizes different conventional and non-conventional marketing channels. Some of the strategies we would be following are:

- Employing the appropriate marketing strategies that will enhance the efficiencies within Medical practices
- Our target will reflect the gradual growth of customers to our platform.
- The first year will be invested in developing and beta testing the platform.
- Our marketing strategies will be effective, coupled with our competitive advantage to attract doctors and medical practices to Medical Veda.
- The business has multiple revenue streams. The emphasis will be on upselling the customer to more value-added services.

The message associated with our product and services is value-added applications. Medical Veda Inc has identified a brief promotional plan that is diverse and will include a range of marketing communications, including the few listed below:

- **Digital Marketing**:

  such as social media campaigns whereby we would create accounts across all leading social media platforms including but not limited to Facebook, Twitter, Telegram, Linkedin, Bitcointalk, Instagram and Reddit. Dedicated social media managers would be hired to moderate these channels. Daily content and updates would be posted on these channels to keep our community updated about the latest developments happening within the project.

- **Airdrops and bounties:**

  We aim to launch airdrop campaigns whereby participants would be required to perform a few social tasks e.g. follow us on Twitter, Facebook and Joining our Telegram groups. Similarly, in bounty, they would be required to perform actions such as promoting our project among their circles, blogs, social channels etc. In return, these participants would be rewarded with a predetermined amount of Veda Token.

- **Press releases:**

  We aim to publish press releases about the latest developments happening within the Veda ecosystem. This will help us send our message to a wider network of crypto enthusiasts and general readers.

- **Online advertising and CPM:**

  We would also use online advertising such as Google Ads and Facebook based ads etc.

- **Email Marketing:**

  With email marketing, our objective is to keep our community engaged and informed about the project. Moreover, with this campaign, we also aim to increase the conversion rate of other marketing channels. We plan to collect email addresses of potential players using display advertising or affiliate marketing and build email communication with users.

- **Blockchain conferences and seminars:**

  We also plan to participate in blockchain conferences, tech weeks and seminars. This will help us deal directly with industry enthusiasts while also having the opportunity to develop partnerships with other industry experts and get attention of investors.

TOKENOMICS (GENERIC)

FUNDS DISTRIBUTION
PLAN

The fund distribution chart gives an analytical overview of how will the collected (raised funds) be distributed. Of the raised funds, 40% of the amount is allocated towards the development of the platform and growth, while 20% would be utilized in hiring specialists and team building. As a project of this nature that deals directly with masses, we need massive marketing funds, which is why 30% of the funds are reserved for marketing activities. Another 10% of the amount is kept for administrative and legal expenses.

- Platform Development **40%**
- Recruitment And Compensation **20%**
- Marketing And Media **30%**
- Legal Cost **10%**

MEET OUR LEADERSHIP TEAM

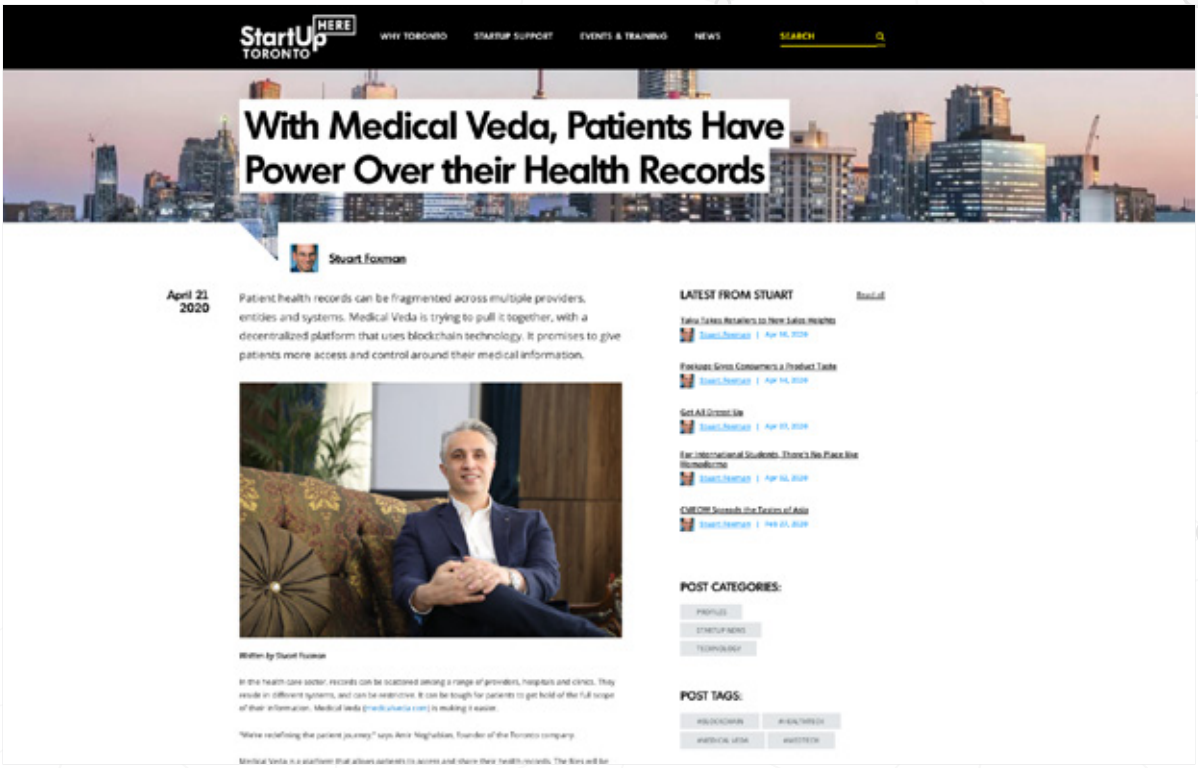
Our team combines the best of both worlds, industry veterans from the tech industry and experts from business development and entrepreneurship

Amir H Neghabian

CEO and Founder

Amir H Neghabian is the founder and CEO at Medical Veda. He holds executive positions in several businesses including his company in IT & Telecommunication where he is the director & founder. He has a proven track record of driving top and bottom-line growth through the introduction of new product and marketing strategies within the telecommunications and IT domain.

Amir has over 25 years of experience in the IT & Telecommunications industry as project management executive and marketing product manager. Offers a rare combination of innovative and insightful commercial awareness coupled with a solid technical foundation. Dynamic IT leader with demonstrated experience in mentoring and managing cross-functional teams by focusing on speed, quality and budget constraints. Customer-oriented with excellent interpersonal skills with substantial experience in partnerships and relationships management, including vendors, mobile operators and diverse clientele. Amir is also a proud winner of the Fastest growing business of the year three years in a row in Australia for the year 2007 & 2008 and 2009. (BRW FAST 100 company of the year In Australia



MEET OUR LEADERSHIP TEAM

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OUR ASSOCIATES

DISCLAIMER

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