NHCT

HEALTH TODAY.
HAPPINESS TOMORROW.

Blockchain Powered Ecosystem for Total Health

Mental Health

Physical Health

Diet

Total Fitness

CONTENTS

1. Executive Summary **1**

2. Forward Looking Statement **2**

3. Challenges in Healthcare **3**

3.1 Systemic Challenges 3

3.2 Technology Challenges 4

3.2.1 Fragmentation 4

3.2.2 Data Sharing 5

3.2.3 Data Security and Privacy 5

3.2.4 Integration of Health and Wellness Data 6

3.2.5 Transactional Costs 7

3.2.6 Complex Billing and Claims 7

4. NanoHealth **8**

4.1 Background 8

4.2 Coordinated, Continuous Care 8

4.3 Personalized Recommendations 10

4.4 Our Track Record 11

4.4.1 Pilot with the Telangana Govt 11

4.4.2 Corporate Health Tracker 11

4.5 Current Landscape 11

5. NHCT - Healthcare Reimagined **12**

5.1 Decentralized Storage 14

5.2 Distributed Ledgers 14

5.3 Smart Contracts 14

5.4 Tokenization 14

6. Introducing Proof of Total Health 15
6.1 Three-Tier Model 17
6.1.1 Wawa 17
6.1.2 Warma 18
6.1.3 NHCT 18
6.2 Why Three-Tier? 19
6.3 Intra and Inter Conversion of Tokens 20
6.4 Health Coaches 20
6.5 Token Flow 20
6.5.1 Rewarding Tokens 21
6.5.2 Spending Tokens 21

7. Technical Architecture 22
7.1 User Ecosystem 23
7.2 Middleware 24
7.3 Backend 25

8. NHCT - Ecosystem Utility 26
8.1 Insurance 26
8.2 Research and Clinical Trials 26
8.3 Services Marketplace 27
8.4 Third Party Applications 28
8.5 Medical Tourism 28

9. Go-to-Market Strategy 29
9.1 Glocal Adoption 29
9.2 Partnerships and Adoption 29

10. Roadmap 30

11. Tokenomics **31**

12. Token Sale Timelines **32**

13. Team and Advisors **33**

Team and Advisors 34

14.Our Energetic team based in india **35**

15. Important Information **36**

Team and Advisors 37

16.References **38**

EXECUTIVE SUMMARY

1

The rise of medical specializations and technological advancement have expedited the problems of data fragmentation within the healthcare environment. Fragmentation, which is bred by the focus and research on a single disease, rather than a medical evaluation of an individual as whole, has caused "enormous healthcare problems of unsustainable cost increases, poor quality, and inequalities." Improving total health, can only be achieved by a methodology "that considers the behavior of multiple interacting factors, which advance the total health of people within communities.[1]

NanoHealthCare Token (NHCT) is addressing the existing healthcare data challenges in Implementing Total Health using a blockchain based application that:

Personalizes Healthcare by:	**Makes health systems (Provider and Payer) effective and efficient by**
1. Incentivizing users to be fit and healthy	1. Leveraging Health Coaches to drive continuous care
2. Focusing on their Total Health i.e., Mental Health, Physical Health, Diet and Fitness	2. Enabling safe and secure health data storage
3. Giving AI based recommendations for preventive care	3. Creating verified data for personalized plans and research

NanoHealth began its journey in the year 2014, when it won the prestigious HULT Prize and the Clinton Global Initiative recognition for the best solution to tackle Non-Communicable Diseases (NCDs). Over a period of four years, we have been successful in improving and controlling NCDs like Diabetes, Hypertension and Obesity for over 75,000 individuals.

We now aim to scale our platform on blockchain to offer it globally in a decentralized manner across the entire healthcare industry. This whitepaper elaborates our vision of an un-fragmented, patient-centric healthcare system, backed by a technology that facilitates interoperability and security with a token-based incentive mechanism

FORWARD LOOKING STATEMENT

2

This whitepaper ("Whitepaper") is meant to describe the currently anticipated plans of [NanoCare Health Services Cayman Pvt. Ltd.] and its affiliates (together, the "Company") for developing a new digital blockchain token, NanoHealthCare Token ("NHCT" or the "Token") that will be used within the NanoHealthCare Ecosystem sponsored by the Company ("NHCT Ecosystem"). Nothing in this document should be treated or read as a guarantee or promise of how the Company's business, the NHCT Ecosystem or the Tokens will develop or of the utility or value of the NHCT Ecosystem or the Tokens. The Company reserves the right to revise this Whitepaper from time to time in its sole discretion.

This Whitepaper does not constitute an offer or sale of the Tokens or any other advice or mechanism for purchasing the Tokens. Any offer or sale of the Tokens ("Token Sale") will occur only based on definitive Token Sale documents for the Tokens. This Whitepaper should be read together, with the Token Sale Memorandum (to be released) (the "Memorandum"), including without limitation, the important information included in the Memorandum under the headings "Risk Factors" and "Notice to Purchasers." CAUTION CONCERNING FORWARD LOOKING STATEMENTS:

The Company's public communications, including this Whitepaper, may contain "forward-looking statements" – that is, statements related to future, not past, events. In this context, forward-looking statements often address the Company's expected future business and financial performance, and often contain words such as "expect," "anticipate," "intend," "plan," "believe," "seek," "see," "will," "would," "estimate," or "forecast.

THESE FORWARD-LOOKING STATEMENTS MAY INCLUDE PROJECTIONS AND ESTIMATES CONCERNING THE TIMING AND SUCCESS OF STRATEGIES, PLANS OR INTENTIONS. WE HAVE BASED THESE FORWARDLOOKING STATEMENTS ON THE COMPANY'S CURRENT EXPECTATIONS AND ASSUMPTIONS ABOUT FUTURE EVENTS. WHILE WE CONSIDER THESE EXPECTATIONS AND ASSUMPTIONS TO BE REASONABLE, THEY ARE INHERENTLY SUBJECT TO SIGNIFICANT BUSINESS, ECONOMIC, COMPETITIVE, REGULATORY AND OTHER RISKS, CONTINGENCIES AND UNCERTAINTIES, MOST OF WHICH ARE DIFFICULT TO PREDICT AND MANY OF WHICH ARE BEYOND OUR CONTROL AND COULD CAUSE ACTUAL RESULTS TO DIFFER MATERIALLY FROM ANY FUTURE RESULTS, PERFORMANCE OR ACHIEVEMENTS EXPRESSED OR IMPLIED BY THESE FORWARD-LOOKING STATEMENTS.

The recipients should not place undue reliance on our forward-looking statements. The Company undertakes no obligation to update any forward-looking statements to conform to actual results or changes in our expectations, unless required by applicable law.

Please read the IMPORTANT INFORMATION section at the end of this Whitepaper for additional information.

3

With a growth rate of approx. $300 billion annually, the global expenditure on healthcare is projected to reach $8,700 billion by 2020. Amidst this exponential growth, the industry is facing the following fundamental challenges. These challenges can be broadly classified into two buckets, viz., systemic and technological. Addressing one without addressing the other would be futile.

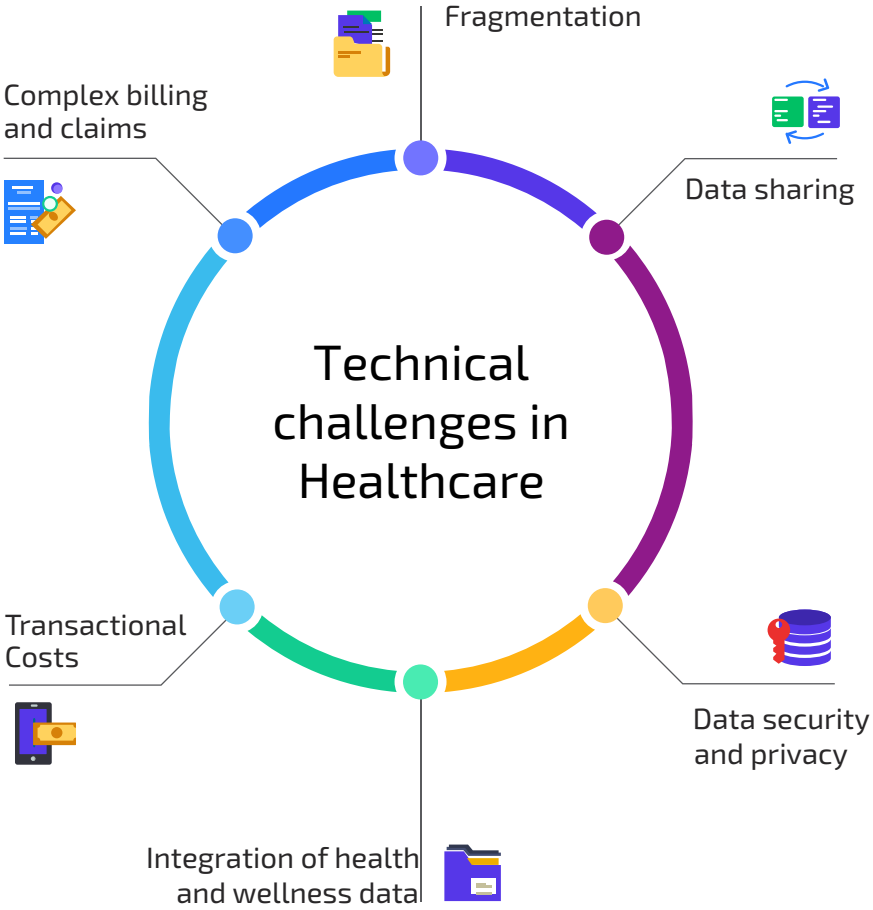
3.1 Systemic Challenges

Instead of providing lasting health solutions, current health systems are reactive; cure is based on symptoms rather than providing preventive care. They are ill-equipped to offer people long-term care. Predominantly, these healthcare solutions are focused on acute care. Providers are not incentivized enough to provide continuous, consistent and coordinated care to patients. This problem is further aggravated when we look at changing patterns in life expectancy and disease trends. Studying future life expectancy of the world population, Konti, et. al., sampled 35 countries and found that life expectancy is expected to continue to increase, with the probability of above 65% and 85% for women and men, respectively. Despite increased life expectancy, there is a relative increase in premature deaths, as many people die from communicable, and non-communicable, maternal, neonatal, and nutritional diseases and injuries. However, in the last 10 years we can observe that more and more people have succumbed to non-communicable and lifestyle related diseases rather than communicable diseases.

"Healthcare industry today is not ready for managing long term, lifestyle related conditions."

Therefore, there is a desperate need to offer long-lasting care to patients. This can only be achieved through building a proactive and continuous care management solution, which NanoHealth has excelled in creating and implementing

3.2 Technical Challenges



3.2.1 Fragmentation

Currently, medical data is dispersed and not easily accessible. Records are stored on various devices, electronic health records (EHR), prescriptions, paper notes, smart devices and specialized databases.

Obtaining critical information about an individual's complete health record is a challenge. With an everincreasing data spread, getting the requisite information on-time becomes more challenging.

Imagine managing an insurance policy for a family of five. You have to keep track of each of your dependents in various health facilities; the hospital has to keep records of several such clients and the insurance company has even a bigger task of ensuring proper data storage for bigger pool. Therein lies the challenge. That is the kind of fragmentation that NanoHealth aims to address.

A recent study estimated savings of approximately $78B annually if data exchange standards were utilized across the healthcare sector [6]

3.2.2 Data Sharing

A recent study estimated savings of approximately $78B annually if data exchange standards were utilized across the healthcare sector. Unfortunately, the sharing of healthcare data has been constrained by workflow issues, differences in technologies and vendor fees. Lack of interoperability negatively affects quality of patient care because it may lead to false diagnosis, inappropriate prescriptions and incorrect treatment of a disease. In the US alone, improvements in technology could prevent the deaths of 200,000 patients each year.

Mexico recently set an example on how data exchange can significantly improve health care provision. Unified Health Record implemented in the network of 30 hospitals in the capital, Mexico City, is serving a population of 4 million. The system has been hailed for the efficiency it has achieved in just two years, enabling patients to access services seamlessly from any point of care.

By leveraging blockchain technology, NanoHealth aims to achieve such milestones on a global scale.

3.2.3 Data Security and Privacy

Fragments of healthcare data are currently stored on custom databases at hospitals, insurance companies and other providers. These databases are susceptible to hacking and data-thefts. In Q1 of 2018 alone, 1.1 million patient records were compromised in 110 healthcare breaches. According to Reuters, health related data is valued 10 times more than credit card data on the black market. The healthcare industry experiences more breaches than any other sector. As health data is prone to theft, privacy and security become a common concern for both the individuals and agencies.

In Q1 of 2018 alone, 1.1 million patient records were compromised in 110 healthcare breaches.

3.2.4 Integration of Health and Wellness Data

Most healthcare care systems are reactive they focus on individual disease, rather than the individual's health as a whole. User generated data or patient generated health data (PGHD) through day-to-day activity is often neglected in the analysis of health. The intermittent monitoring during visits to a clinic provides a snapshot of patient's health. With PGHD this could be extended to continuous, longitudinal monitoring enabling a more holistic view of the patients' health

There are several reasons why PGHD is not part of patient's electronic medical record including:

a) Lack of interoperability of devices/sensors and standardization of data.

b) Security and privacy issues.

c) Lack of the necessary EHR functionalities and software innovations to harness PGHD to make these data useful to stakeholders.

d) Lack of data validation or process of confirming the PGHD.

As a result, healthcare providers have little insight into patient's lifestyle, since connected devices are not in the healthcare ecosystem. However, lifestyle significantly contributes to an individual's well-being or lack thereof..

Furthermore, healthcare systems are not engaging the user; the user is not incentivized to produce authenticated data pertaining to his / her health and wellness. Lack of authenticated user generated data is a challenge that researchers, universities and pharma companies face in healthcare environment. Authentic and accurate PGHD could make a huge impact in research and development of healthcare products.

3.2.5 Transactional Costs

Patients and providers are burdened with overheads by using intermediaries, which increase the overall transactional cost of services. According to an Instamed report, almost a third of estimated 5 trillion a year spent on healthcare is wasted through inefficient payment processing.

3.2.6 Complex Billing and Claims

Patients are often not informed about their financial responsibility before rendering health services. Bills arrive sixty to ninety days after service. When the bill arrives patients have to decrypt a complex coding system, hoping that the codes correctly reflect the services rendered. In most cases, there is no possibility of reconciliation and the patient has to pay up regardless of their limited understanding of the bill.

4

The HULT Prize is the world's largest prize for budding entrepreneurs. Winning it gave us a deeperbelief in our ideas and approach to healthcare solutions.

4.1 Background

After winning $1 Million in 2014 in the HULT Prize, NanoHealth focused its efforts towards building a solution on preventive, primary and continuous care for non-communicable disease (NCD) like diabetes, hypertension, cholesterol, obesity and thyroid. Our team chose to start with NCDs because they are the leading cause of premature deaths. Combating NCDs requires coordinated continuous care, which our solution offers. The HULT Prize is the world's largest prize for budding entrepreneurs and being the winners only six years after its inception gave us a deeper belief in our ideas and approach to healthcare solutions.

The HULT Prize is the world's largest prize for budding entrepreneurs. Winning it gave us a deeper belief in our ideas and approach to healthcare solutions.

Over a period of three and half years NanoHealth developed unique intelligent algorithms that curate personalized care for patients based on their medical history, existing conditions and lifestyle. Our system recommends diet, exercise and fitness regimes, and alerts for regular check-ups. Via alert mechanisms, NanoHealth even reminds users to take their prescribed medication and tracks medication compliance. NanoHealth application has been able to provide personalized care and wellness recommendations for NCD patients with an impeccable success rate on a large pool of patients. Our solution is implemented on a platform (web and mobile), which enables different stakeholders interact with each other seamlessly. Our application has proven that it is possible to harness PGHD to provide useful information to stakeholders.

4.2 Delivering Coordinated, Continuous Care

Our unique approach leverages technology with human touch to offer personalized care management, medication-sensitive support, and care coordination with health providers. This is made possible with our health coaches. NanoHealth's Health Coach will assess (screening) an individual's health using point of care diagnostics. Health Coaches, pioneered by NanoHealth, are registered medical and wellness practitioners. They are the first level of data validators within the ecosystem. The result of their health assessment is a color coded health report that will allow users to seek appropriate care and develop a continuous plan.

Coordinated Care - NanoHealth provides one-stop access to a wide array of care providers. The service offers access to doctors, specialists, pharmacies, diagnostics and nutritionists to seamlessly manage users' health. The Health Coach will help users connect to a multidisciplinary team, alleviating the hassle of seeking individual providers.

NanoHealth service offers access to doctors, specialists, pharmacies, diagnostics and nutritionists to seamlessly manage users' health.

Continuous Care Management - Health Coaches provide periodic follow-ups to ensure that users actively manage their healthy lifestyle. This is an important care for patients who suffer from chronic conditions like diabetes, hypertension, thyroid, and cholesterol since a large part of their health and wellness is determined by how they manage the condition.

4.3 Personalized Recommendations

Our NanoHealth app has an in-built recommendation engine which analyses different outcomes and proactively suggests specific activities based on risk factors. We have proven AI powered algorithms for conditions including hypertension, diabetes and cholesterol. The recommendations offered by the app connect health and wellness providers contextually to users. Based on patient parameters (vitals) and target parameters, the system recommends the next best actions across diet, exercise, medicine and check-ups.

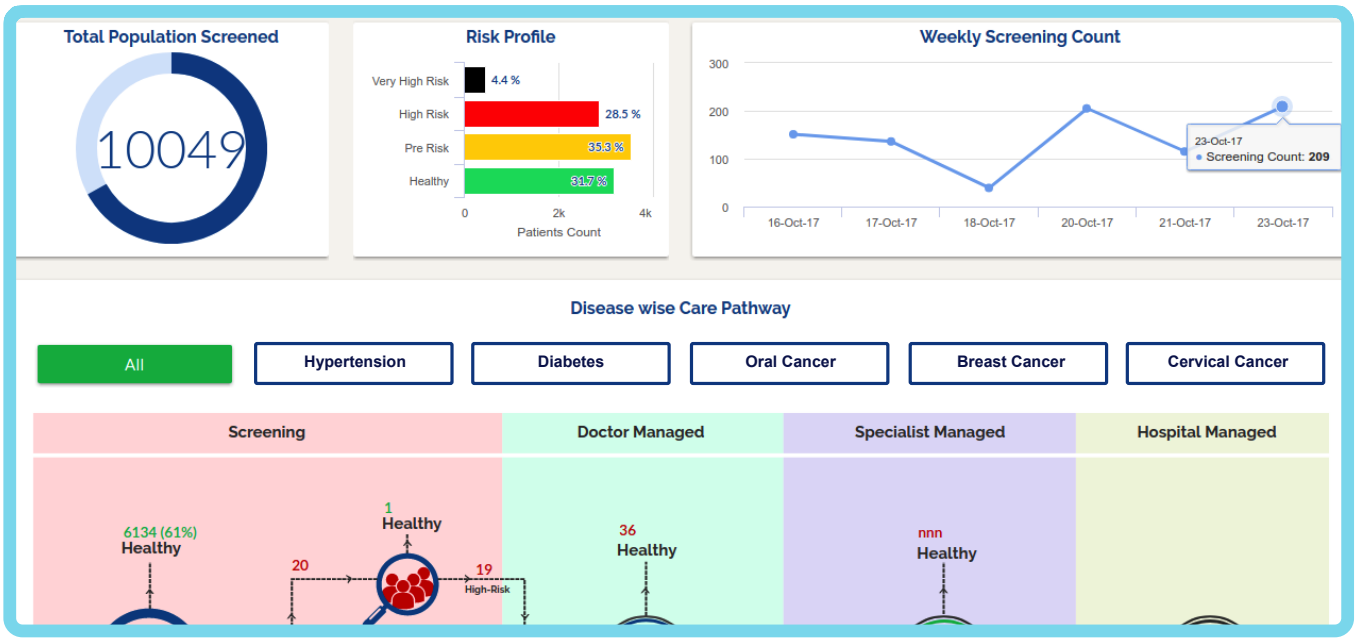
4.4 Our Track Record

We have executed projects with governments and corporate environments to reduce NCDs and monitor the health and wellness of their population objectively. These projects have helped us to test, learn and develop a comprehensive system that is user-friendly and responsive. The projects have met all the set objectives and have been running successfully for the past three years.

We have executed projects with governments and corporate environments to identify NCD burden and help them manage the health and wellness of their population objectively.

4.4.1 Govt. of Telangana Case Study

Case in Point: Govt. of Telangana (Population 35 million) - We have partnered with the Govt. of Telangana, India, to track and measure health of people in the rural areas of the state. The following is a screenshot of health tracking of a sample set of population. We were able to divide them across risk profiles, specific to each NCD and propose a treatment plan.

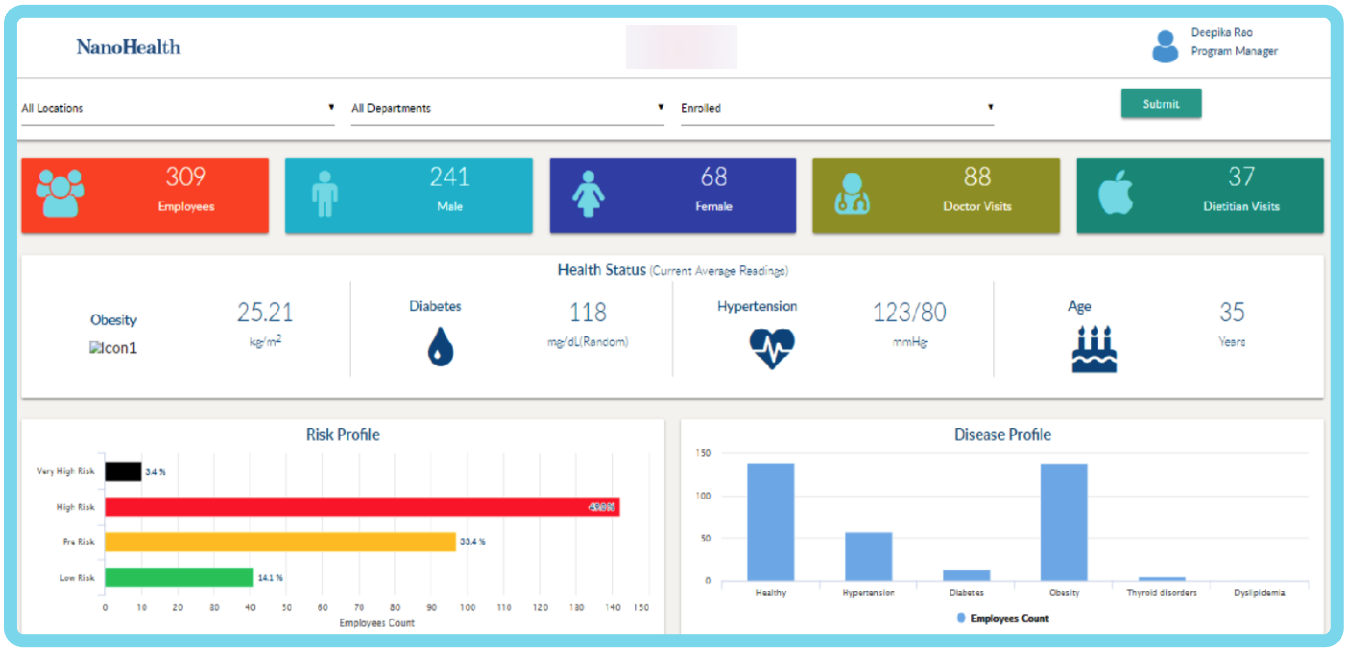


Govt of Telangana

Population 35 million

4.4.2 Corporate Health Tracker

Healthy, productive employees are the biggest asset of any organization. For this market, we have dedicated solutions to provide Health and Wellness related services such as health assessment, personalized Health and Wellness services and continuous health monitoring.



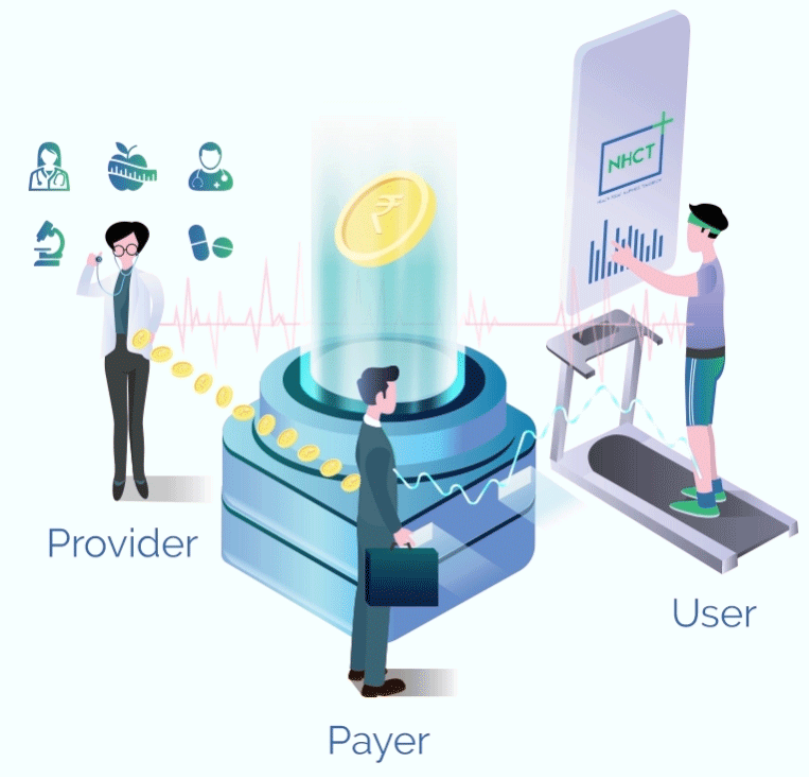
Corporate Health Dashboard

4.5 Current Landscape

With the emergence of blockchain technology, healthcare is one of the industries where developers and investors have shown a lot of interest. It is a leading challenge for governments, individuals and organizations. Ultimately, it is very well suited for blockchain adoption. With numerous healthcare related Apps and DApps in the market, healthcare industry is brimming with solutions from handling data, interoperability, patient involvement and incentivization. However, most of these solutions are very high on rhetoric and promise but low on delivery / execution; we are still quite far from finding the silver bullet.

With numerous healthcare related Apps and DApps in the market, healthcare industry is brimming with solutions from handling data, interoperability, patient involvement and incentivization.

5



The NanoHealthCare Token (NHCT) ecosystem aims to involve the users, health systems and payers to form a 360-degree healthcare solution. It integrates its current technology solution and ecosystem of medical and wellness service providers with blockchain to achieve a globally scalable model of Total Health.

NanoHealth has built and tested its app based technology solution with over 75,000 users in the past 3 years. It has a proven AI based recommendation engine which can recommend the next best actions for preventive cure based on the risk profile a user. Its network of Health Coaches who are its feet on ground and enable NanoHealth to deliver continuous care to its users and capture medically authentic data of the patients at their doorstep.The technology combined with the Health Coaches helps in creating health dashboards which can be used to map the health of an organization or an individual. NanoHealth has also created a network of Health and Wellness service providers and payers to provide a complete set of services in physical health and fitness to its users. It is aiming to launch diet and mental health in the near future to offer a complete Total Health solution.

NanoHealth is leveraging four inherent qualities of blockchain technology to build the NHCT ecosystem which along with the above expertise will focus on Personalizing Healthcare and making Health Systems more efficient and effective.

1) Enhanced data protection and security through decentralized data storage

2) Standardized, frictionless data exchange via distributed ledgers

3) Integration of applications and tools using smart contracts

4) Incentive based engagement using tokens to generate high quality medical and wellness data points

5.1 Decentralized Storage

Blockchain is inherently decentralized. This architecture fosters data security as medical data is highly confidential and needs protection from unauthorized users. Furthermore, it enhances the speed and efficiency of data access and availability when it is needed. Decentralized storage can be easily scaled and helps in extending the reach of the healthcare markets globally.

5.2 Distributed Ledgers

Our ecosystem uses the Ethereum blockchain and smart contract functionality, which offer a high level of security and privacy. Data within ledgers can only be unlocked using a combination of public and private key, which is held by the patient only. Using this authentication mechanism, blockchain helps in enabling applications to comply with high security and privacy standards. By using hybrid data models, we are able to support regulatory requirements such as HIPAA and GDPR.

By using hybrid data models, we are able to support all the regulatory requirements of these standards.

5.3 Smart Contracts

The Ethereum blockchain supports creation of smart contracts. They allow us to share money, services, anything of value without the need of middlemen. They define rules and penalties around an agreement and then enforce it automatically. In the NHCT ecosystem Smart contracts help in executing, engagement based rewards and incentives, services from partners and medical and wellness data exchange with researchers.

5.4 Tokenization

Tokenization enables us to build an incentive based engagement model for users and a common medium of exchange for all the participants in the ecosystem. As explained later in this document, NHCT establishes 3 levels of tokens, representing different levels of validated user generated data. Tokens thereby not only encourage activity and exchange within a healthcare ecosystem, but also serve as a mechanism to classify the accuracy and value of patient generated health data. Tokenization brings forth the following benefits to the ecosystem participants.

1. Users: Are motivated to adhere to schedule and focus on their health and well-being. For every positive action, they are rewarded with tokens.

2. Medical Services and Goods Marketplace: Allows medical providers to engage a global audience or target their locality using a single token structure.

3. Wellness Services and Goods Marketplace: Can scale their operations based on their reach.

Tokens thereby not only encourage activity and exchange within a healthcare ecosystem, but also serve as a mechanism to classify the accuracy and value of patient generated health data.

4. Researchers and Pharma companies: Obtain high quality user generated data through tokenized subsidies. Research and Pharma companies can access anonymized user data by spending NHCT.

5. Insurance companies: Will be able to reward users to live a healthy lifestyle and benefit from reduced insurance claims. They can further provide, customized plan to users based on the longitudinal data available in NHCT ecosystem.

6. Corporates: Enable monitoring the health and well-being of their employees and reward them for maintaining good lifestyle. This reduces their group insurance claims and helps them maintain a healthy workforce.

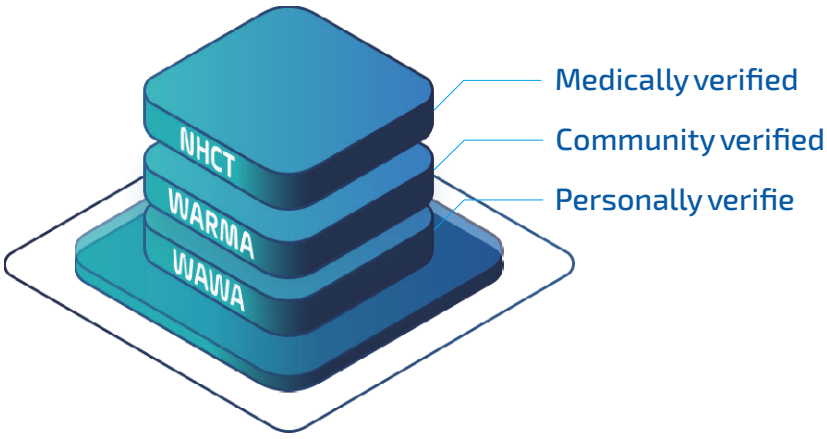
7. Governments: Can measure and drive the health and wellness of a large community as seen in our partnership with the Government of Telangana, India with a population of 35 million.

6

6.1 Three-Tier Model

Most marketplaces employ the use of tokens to reward users. NanoHealth has incorporated this strategy to encourage users to earn tokens and spend them. The more a participant engages in the strategy, the more rewards he / she can earn and then spend. This makes for an ecosystem that can selfsustain and more importantly, grow. The NHCT ecosystem is built on a unique three tier token structure. The three tokens are NHCT, Warma and Wawa. Each token represents a specific level of verified activity.

3-Tier Token Architectur



The only Health and Wellness ICO
with 100% verifiable data

The three tokens are NHCT, Warmas and Wawa. Each token represents a specific level of verified activity.

The names were conjured during a visit to Peru amidst a challenging trek to Macchu Pichu. When babies were born in the times of the Incas, they were not given names but were just referred to as Wawas. When they attained the age of two or three, they were called Warmas and it was not until they reached the age of six or seven that they were given the classification of girls or boys. High infant mortality is attributed as one of the causes of this system where the unfortunate loss of a little one could be easier to deal with under this structure.

6.1.1 Wawa

Wawa is the base token in the NHCT Ecosystem. A Wawa is earned by a person's calorie burn (proof of care). The payout rate of Wawa will be customized for every individual based on their health condition. Wawa's are earned by recording calorie burns on a NHCT partnered fitness device. Example: John, weighing 150 pound, would end up burning 228 calories in a 5K run. Since running is a quantifiable activity, if John's recorder (Google fit, fitbit, etc.) is part of the NHCT ecosystem, then John will be able to earn Wawas. Assuming a payout rate of 100 cal = 1 Wawa, John would have earned 228/100 Wawas or 2.28 Wawas.

6.1.2 Warma

Earning Warmas is the same as earning Wawas except that it needs a higher level of creditability. Warma requires social proof of activity and is the second level token in the NanoHealth's token structure. It is similar to Wawa, that is, people earn Warmas by doing an activity but unlike Wawa, for you to earn Warma, the activity must be verified by a third party within the NanoHealth ecosystem.

Example: The 5K run in the previous example was organized by an association which is a part of the NHCT's ecosystem. By taking part in the race and completing it John would earn Warmas as they are verified by a third party. Assuming a payout rate of 50 cal = 1 Warma, John would have earned 228/50 Warmas or 4.56 Warmas.

Example: Sara and her friends have gone to play a game of football. If they pre-register the game in NHCT, and Sara's calories can be verified by her friends then Sara earns Warmas. Pre-registering is not a necessity and Warma can be earned post-facto too. For ex, users participating in Boston marathon, can upload their fitbit data and a certification link that the organizers send to the users.

6.1.3 NHCT

The third token on the ecosystem is NHCT. NHCT is the premium token and the prime currency within the ecosystem. It can be used to pay for services from medical and wellness providers. NHCT will be the token that will be primarily listed on exchanges. Users can only convert Wawa and Warma to NHCT if they improve their health or maintain good health (verified by a medical service provider). If a user continuously improves their health, they can convert their fitness rewards to NHCT, which can be used in the ecosystem in exchange for health goods and services. NHCT can further be earned by participating in the services market in the ecosystem or by uploading medical data that is authenticated by certified medical practitioners.

6.2 Need for Three-Tier

The three-tier token structure allows us to produce verified health and wellness data, thereby eliminating one of the current hindrances to incorporating PGHD into medical health records. The qualification system of earning Wawa, Warma and NHCT through checks and balances ensures reliability in the value of tokens. Each token in the NHCT ecosystem thereby acts as a repository of trust. In other words, users gradually move up the ladder by earning each token at a time through verifiable actions. The end result is a repository that is trusted and information that is more reliable. The above model enables us to maintain longitudinal health data of an individual, while individual users can see how their fitness and wellness activities are improving their health outcomes.

Self Verified
Fitness Data

Least Authentic

Incentivised using
Wawa Token

Community Verified
Wellness Data

Authentic but does not
capture complete health

Incentivised using
Warma Token

Medical Tests/Checkups
Medically Verified Data

Highest Degree of
Authenticity

Incentivised using
NHCT Token

The qualification system of earning Wawa and Warma through checks and balances ensures reliability in the value of tokens.

6.3 Intra and Inter Conversion of Tokens

The first metric used to earn tokens in the NHCT ecosystem is a calorie. The exchange is as follows:

100 cal = 1 Wawa
100 cal = 1 Warma
10 Wawas = 1 NHCTand
5 Warmas = 1 NHCT

The above is an example to best illustrate calorie and token conversions.

The supply of NHCTs will be restricted. The number of Wawas and Warmas earned in the ecosystem in a fifteen day period will then determine the conversion ratio of Wawa and Warmas to NHCTs. As adoption of the program increases, it will become more challenging to convert Wawas and Warmas to NHCTs. With greater number of users, the conversion rate will go up.

The ecosystem defines the initial role of Wawas and Warmas as raw materials for the purpose of converting them to NHCTs. The conversion of Wawas and Warmas will be enabled as part of the initial platform. However these wont be traded on exchange like NHCT.

6.4 Health Coaches

Health Coach, a unique concept within the ecosystem has been successfully implemented in NanoHealth application since inception. Health coaches play a key role in the NHCT ecosystem. They are our feet on ground. They capture authentic medical data using the right equipment at user's doorstep. They also help us onboard partners in the NHCT ecosystem. Anyone with a medical/nursing background can sign up and become Health Coach in NHCT ecosystem. As part of the NHCT deployment, this unique engagement model is being scaled up, where we allow registered medical and wellness providers to become validators within the ecosystem. When users improve their health, verified by registered medical providers, they can earn NHCT.

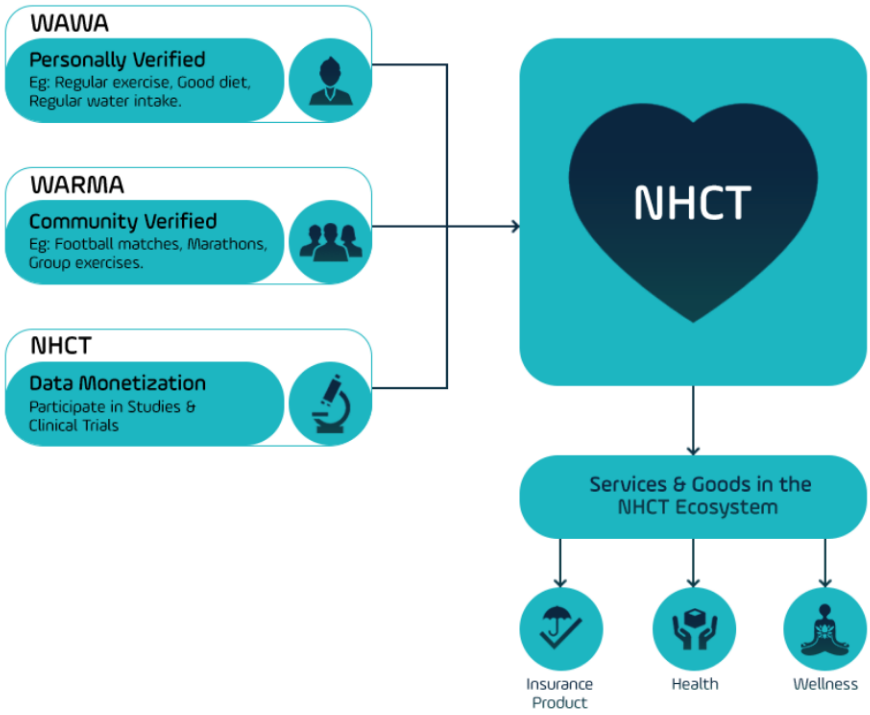
There are two important elements here: One is the effective integration of the above offline touchpoints which makes adherence to schedule and routine easy for users. Second is the sequential engagement of all the participants in the ecosystem to work towards better health and wellness. In the end, all partners have a role to play to make the ecosystem functional and effective. Health Coaches are vital cogs in the NHCT wheels and the ecosystem is helping new breed of users to gain employment by providing validation services. Qualification needs for Health Coach status will be determined based on the regulations within a geographical location.

Image showing a Health coach measuring the BP of a user

Health Coaches are vital cogs in the NHCT wheels and the ecosystem is helping new breed of users to make additional income by providing validation services.

6.5 Token Flow

The token flow has been designed to ensure complete involvement of the user and all the ecosystem participants in his/her health and wellness.



You can only convert Wawa & Warma into NHCT by providing updated medical records, improvement in health and maintaining good health

6.5.1 Rewarding Tokens

User earns rewards and is incentivized by:

1. Wawa - integrating fitness application services and burning calories.

2. Warma - burning calories with other users within the ecosystem or with a Health Coach.

3. NHCT - trading their Wawa and Warma into NHCT. Conversion of Wawa and Warma into NHCT can occur, if there is improvement in health and the user is consistently maintaining good health. This has to be proved by uploading medical data from any of verified medical service providers/diagnostics. User can further earn NHCT by participating the health information exchange ex: clinical trials, research programs.

6.5.2 Spending Tokens

Users can spend their NHCT tokens at any partner Health and Wellness Providers within the ecosystem. Some business examples include user paying for

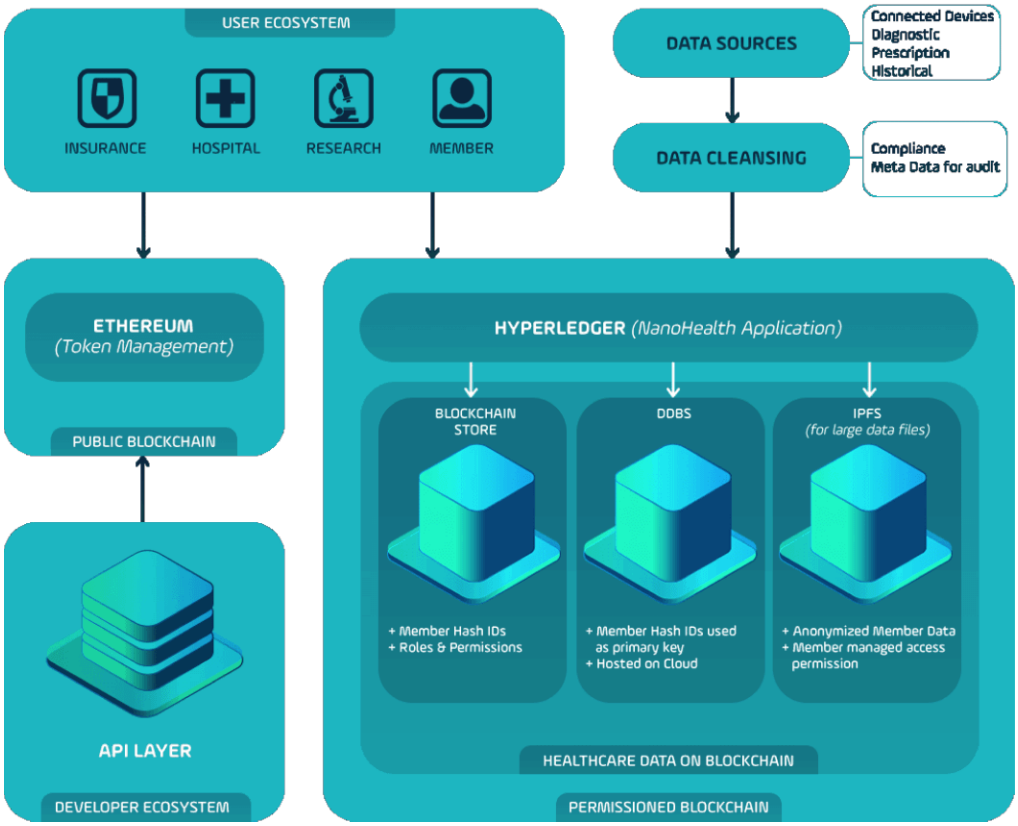
1. Hospital/Clinical Consultation
2. Medicine and Refills
3. Gyms and Fitness Spas
4. Medical Diagnostics and Examination
5. Continuous Care and Home Services
6. Wellness Stores
7. Insurance Partners

For the consumer data intensive community, such as, insurance firms, research teams and for clinical trials, the NHCT tokens can be used to access anonymized data. As we expand the ecosystem, spending opportunities will increase.

7

7.1 User Ecosystem

The ecosystem application has a mobile and web interface. The users comprise of patients, medical and wellness service providers, pharmaceuticals, insurance companies, corporations with employees and governments which need authentic healthcare data from time to time. The system will allow for peer to peer messaging between users, direct and instant communication between patients and providers on a one-to-one basis, access to support groups and clinicians, and allows patients to have access to their own health data without the fear of dissemination to unknown third-parties. Further, users earn tokens for engaging in any number of activities that promote and support the users' health.



7.2 Middleware

As we are dealing with confidential healthcare data, our proposal envisages two layers of blockchain platforms.

One, a permissioned blockchain, viz., Hyperledger, which manages all healthcare data, users and roles, proprietary algorithms for healthcare management and prediction. Data files are made compliant to standards such as HIPAA, cleansed to remove PII and to add meta data for audit purposes. Users and role information is stored in Hyperledger fabric storage.

Two, the public Ethereum blockchain, for managing NHCT utility tokens for NHCT execution. Tokens are required for storing new data by the users while external agents requiring anonymized healthcare data need to spend tokens. The ERC20 NHCT token will be managed by this public blockchain. The public blockchain will also maintain trails of events between participants. For ex: Patient A Consulting Doctor B. The event will be anonymized and stored on public blockchain. The immutability of such anonymized event is important for companies such as insurance providers who would want to know if Patient A consulted with a doctor B.

Our hybrid data architecture leverages the best out of the existing storage technologies.

Our hybrid data architecture leverages the best out of the existing storage technologies. Most of the healthcare data is anonymized and large files are stored in decentralized stores like, IPFS, Swarm, or Filecoin, for availability and to work in conjunction with blockchain platforms. Health records of members are configured to be stored in distributed database systems (DDBS) to enable ease of access and use of standard querying language for various reports and filters. Decentralized stores, like IPFS, typically breaks the file into multiple pieces, signs it cryptographically, and stores it on different computer nodes across the globe. It returns a hash with which we can uniquely identify that file for that member. This hash is stored in our blockchain network Hyperledger for application use cases. The basic member data is stored in blockchain store and user identity is established by generating a hash key. This hash is used throughout the rest of the stores, viz., DDBS and in decentralized stores, in an anonymous fashion so that the PII confidentiality is not compromised.

The hybrid model combines the best of breed in storage mechanisms, enabling us to leverage the decentralization while providing the excellent search and retrieval features of traditional databases. The rationale for using multiple data stores is to keep the economics of the project in check and at the same time enabling that the healthcare data is compliant with HIPAA, HITECH and GDPR requirements.

Fundamentally, for GDPR compliance, the user has the following rights as part of the personal privacy: As Healthcare data is confidential, our system ensures that only authorized users have access to members' health data. The following CURD table defines the permissions and authorization of the data. The key in our ecosystem is that the member is the sole owner of his healthcare data and based on his explicit consent only his data can be accessed by others on need basis.

1. The right to be informed
2. The right to rectification
3. The right to erasure
4. The right to restrict processing
5. The right to data portability
6. The right to object
7. The right to access

Our design helps in protecting all of the above rights by implementing a hybrid data model. The DDBS enables us to implement "right to erasure" while the blockchain store helps in the rest of personal privacy rights. As Healthcare data is confidential, our system ensures that only authorized users have access to members' health data. The following CURD table defines the permissions and authorization of the data. The key in our ecosystem is that the member is the sole owner of his healthcare data and based on his explicit consent only his data can be accessed by others on need basis.

Data Property	MEMBERS	PROVIDERS	INSURANCE	RESEARCHER
Create	✓	✓ [4]	✗	✗
Update	✗ [3]	✗ [3]	✗ [3]	✗ [3]
Read	✓	✓ [1]	✓ [1]	✓ [1]
Delete	✓ [2]	✗	✗	✗

Notes:

1. Only on explicit consent and authorization permission given by the Member with specific audit tracker mentioning “Access requested by <Provider/Insurance/Researcher> and provided by Member.”

2. Our hybrid data model enables the Member to opt out of the application wherein the individual’s Personal Identifiable Information and confidential healthcare data will be “forgotten”, a mandatory requirement for GDPR.

3. NHCT is being built on blockchain, one of the core feature being “immutability”, makes updating data impossible.

4. Only on explicit consent by the Member and recorded as “Provider created data.”

8

Based on our 3-year experience and operations using NanoHealth application, we have identified the following areas of token utility.

8.1 Insurance

- Claim Processing - Claim Processing - Insurance companies can access user data to process insurance claims quickly. Insurance claims processing is a $59 billion industry in the US. We can reduce the time taken to process these claims. Insurance companies pay in NHCT whenever they access user data for claim processing.

- Reduction in Claims - Insurance companies can run special reward programs for users in the NHCT ecosystem to encourage good health and fitness. These reward programs will help to reduce the number of claims.

- Personalized Plans - By accessing user-generated data, insurance companies can predict the future needs of clients and can develop insurance products that are personalized to individuals.

8.2 Research and Clinical Trials

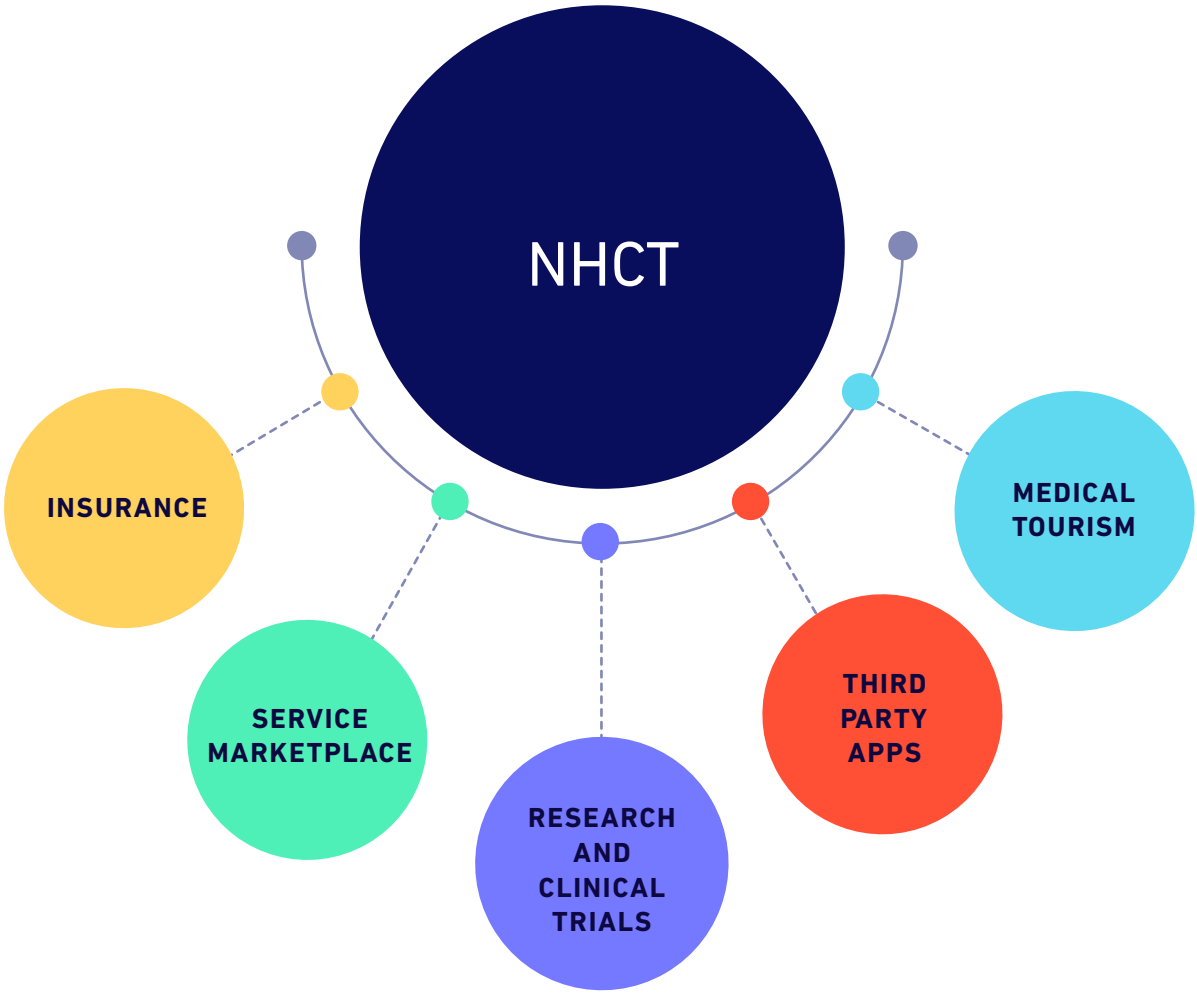
- Health Information Exchange - Researchers, Universities, Pharma companies can buy the anonymized health data from the users for a fee. The data can only be bought with NHCT tokens. We will be facilitating this form of data exchange through our platform. The importance of verified health data for research work cannot be underestimated, it forms the crux of research for health solutions.

NHCT is the only ecosystem that provides verified longitudinal data.

- Royalty from Patents - Given our proven track record of obtaining PGHD, researchers are committing to pay a 'NHCT royalty fee' into the ecosystem as they develop commercially viable patents using the verified data. NHCT is the only ecosystem that provides verified longitudinal data.

8.3 Services Marketplace

- Health and Wellness Services Marketplace - We are building a global ecosystem of health and wellness, goods and service providers. We will be connecting these providers to our user network using a single token NHCT. They will, in return, have a ready market for their goods and services.



8.4 Third Party Applications

- In the subsequent phases of development we will be providing an open access APIs for medical and application partnerships. Select functionality of NHCT will then be publically available through these API and for partners to enhance and/or integrate their existing applications. This will promote a third party development ecosystem for NHCT.

- An insurer would be an example of an external entity in this ecosystem. Insurers have to pay funds into the ecosystem to be able to distribute their products. The NHCT ecosystem will let the insurers target customers at no cost, if they can offer benefits or savings to users. Users can thereby get customized insurance without the need to pay distribution costs, thus reducing their insurance cost.

- Application developers, on other hand, can integrate their existing applications and get a ready working environment for their apps. The ecosystem gives them a captive market for their new applications or integrated applications.

8.5 Medical Tourism

Since NHCT will be a global ecosystem of medical and wellness service providers and users, it automatically eliminates the middlemen who exist in the medical tourism industry. Users will be able to connect with relevant doctors directly and plan their travel better in accordance with their treatment. This will help them save up to 30% in treatment costs.

9

NHCT is immediately scalable to 75,000 (and growing) users that are already within NanoHealth ecosystem.

9.1 Glocal Adoption

Globally, anyone can sign up and get verified by the NHCT team and become a service provider in our ecosystem. The ecosystems help them connect to the NHCT users in their location and providers can start earning in NHCT immediately for their services or by verifying health and wellness of these users. NHCT is immediately scalable to 75,000 (and growing) users that are already within NanoHealth ecosystem.

NHCT is immediately scalable to 75,000 (and growing) users that are already within NanoHealth ecosystem.

9.2 Partnerships

Our greatest focus in the next 3 years will be building the NHCT Ecosystem via - partnerships across corporate organizations, medical, health and wellness service providers, insurance providers, primary care clinics and governments.

We will also be working with developers of Health and Wellness apps to give users access to the NHCT ecosystem via simple API integrations. Example - Fitness tracker apps, diet tracker apps, medicine tracker apps can plug the NHCT incentivization

in their app for their users. This gives us immediate access to a large user base and the users get real world incentives for being healthy.

We will also be working with developers of Health and Wellness apps to give users access to the NHCT ecosystem via simple API integrations.

Our Current Partners give us reach of over 0.5 million touchpoints

1. Empower Labs - augmented gaming ecosystem in over 60 countries.
2. Idea Clinics - clinic network with 10 branches and over 40,000 patients.
3. Hyderabad Cricket Club - sports club with over 1,000 active members Many more partnerships are in the pipeline and our aim is to be global mirror and a reference point forall health care touchpoints.

ROADMAP

10

2014-2017

2014
NanoHealth - Wins Hult Prize

2016
First 10,000 registered members

2017
Partnership with Govt. of Telangana (Population-35M)

2018

2018
NHCT ICO Launch + Fitness Services

Registered users crosses 75,000

2019

2019
Total Health on Blockchain

Launch Diet Services

2020

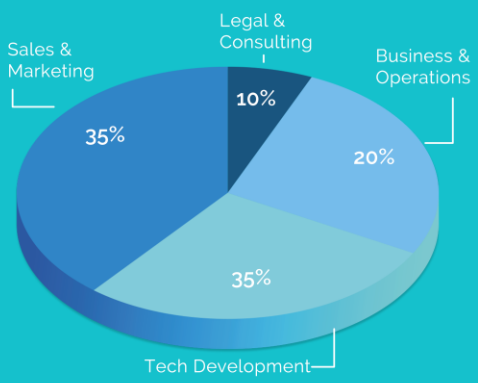
2020
EHR on Blockchain

Target 1M users

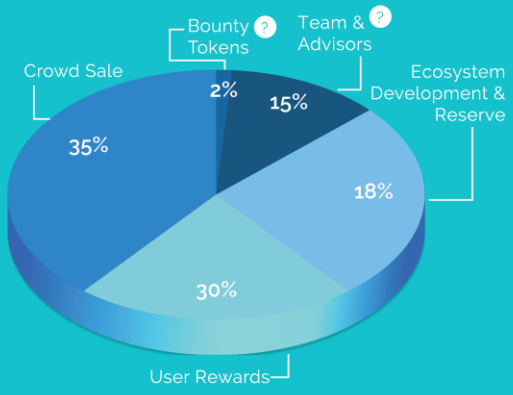
11

Token name	:	NHCT
Token Structure	:	ERC 20
Lifetime supply	:	1,000,000,000
Base Price	:	$0.032
Soft Cap	:	$1 Million
Hard Cap	:	$9 Million

Use of Proceeds



Token Distribution



*Team & Advisors have a 1 Year lockup for their Tokens.
*Bounty Tokens will be distributed after 30 Days of Listing.
*All the unsold Tokens will be burned.

TOKEN SALE TIMELINES

12

Sale Details

Private Sale will start from 3 Aug'18. We have launched a Strategic Investor Program for all the investors who will come in the Private sale. Please get in touch with us at **Ico@NanoHealth.in** or our telegram group **https://t.me/Nanohealth** for more details.

Whitelisting opens on	-	1 Sept, 2018
KYC	-	Yes, required
Public sale	-	15 Nov, 2018
Token Unit	-	NanoHealthCare Token
Token Type	-	ERC20
Symbol	-	NHCT
Fundraising Goal	-	$1,000,000 (Soft cap) / $9,000,000 (Hard cap)
Total Tokens	-	1,000,000,000 (1 billion)
Base Price	-	$0.032
Available for Token Sale	-	35% of total tokens

13

Manish Ranjan

https://www.linkedin.com/in/manishranjan2/

Manish is the CEO of NanoHealth and aspires to make Clinical advancements available, afordable and accessible to people from all walks of life, especially in the developing countries.

Nagarjuna Vangala

https://www.linkedin.com/in/nagav/

Naga, is an experienced technology evangelist and blockchain advisor for healthcare, fintech among others

Praveen Dwarkanath

https://www.linkedin.com/in/praveendwarakanath-0bb7505/

Praveen is a serial entrepreneur, with vast amount of experience in the Indian Startup space.

TEAM AND ADVISORS

Siddalingesh

https://www.linkedin.com/in/sidduzalaki/

Certified Bitcoin professional and an ICO advisor, comes in with over 10 years of experience in building products for the BFSI sector.

George Han

https://www.linkedin.com/in/george-han-sgn888/

George is a financial professional and has worked with hundreds of startup founders in the areas of strategy planning, development and fundraising strategy.

Adam

https://www.linkedin.com/in/adamcpowell/

Dr. Powell is a healthcare economist and President of Payer+Provider Syndicate. His healthcare insights have been featured in over 200 articles.

Stephen Sammut

www.linkedin.com/in/stephen-sammut-96864653

Stephen has founded, managed or financed over 40 companies in life sciences and IT globally

Jason Hung

www.linkedin.com/in/jasonhung-earth

Jason is a serial entrepreneur and inventor in mobile business, blockchain ecosystem, digital marketing, AI and ERP related business

Sydney Ifergan

www.linkedin.com/in/sydneyifergan

Sydney has 20+ years commercial experience and has spent the last 10 yearsworking in the online marketing arena and was the CMO for a large brokerage

Rika Khurdayan

https://www.linkedin.com/in/rikakhurdayan/

Rika Khurdayan provides legal advice and guidance to NanoHealthCare team in connection with the sale of NanoHealthCare Token tokens in the US under Regulation D and Regulation S of the Securities and Exchange Act.

OUR ENERGETIC TEAM BASED IN INDIA

14

15

IMPORTANT INFORMATION FOR RECIPIENTS OF THE WHITEPAPER AND POTENTIAL CONTRIBUTORS TO THE TOKEN SALE.

THE NHCT ECOSYSTEM PROJECT AS ENVISAGED IN THE WHITEPAPER IS UNDER DEVELOPMENT AND IS BEING CONSTANTLY UPDATED, INCLUDING BUT NOT LIMITED TO KEY GOVERNANCE AND TECHNICAL FEATURES. ACCORDINGLY, IF AND WHEN THE PROJECT IS COMPLETED, IT MAY DIFFER SIGNIFICANTLY FROM THE PROJECT SET OUT IN THIS WHITEPAPER.

THE TOKENS HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER LAW OR REGULATION GOVERNING THE OFFERING, SALE OR EXCHANGE OF SECURITIES IN THE UNITED STATES OR ANY OTHER JURISDICTION. THE COMPANY PRESENTLY EXPECTS THAT THE SALE OF THE TOKENS WILL BE MADE (1) INSIDE THE UNITED STATES TO "ACCREDITED INVESTORS" (AS DEFINED IN SECTION 501 OF THE SECURITIES ACT) IN RELIANCE O REGULATION D UNDER THE SECURITIES ACT TO U.S. PERSONS (AS DEFINED IN SECTION 902 OF REGULATION S UNDER THE SECURITIES ACT) AND (2) OUTSIDE THE UNITED STATES TO NON-U.S. PERSONS IN RELIANCE ON REGULATION S.

U.S. PERSONS WILL BE REQUIRED TO SUBMIT DOCUMENTATION TO PROVE HIS OR HER STATUS AS AN ACCREDITED INVESTOR.

THE PURCHASER'S TOKENS WILL BE SUBJECT TO TRANSFER RESTRICTIONS, INCLUDING PERIODS DURING WHICH THE PURCHASERS WILL NOT BE ABLE TO SELL OR OTHERWISE TRANSFER THE TOKENS. FOR MORE INFORMATION ON THE LIMITATIONS ON THE TOKENS' TRANSFERABILITY SEE SECTION OF THE MEMORANDUM

UNDER THE HEADING "TRANSFER RESTRICTIONS." PURCHASING THE TOKENS IS SUBJECT TO MANY POTENTIAL RISKS AND MAY INVOLVE SPECIAL RISKS THAT COULD LEAD TO A LOSS OF ALL OR A SUBSTANTIAL PORTION OF THE TOKEN PURCHASER'S FUNDS USED TO PARTICIPATE IN THE TOKEN SALE. SOME OF THESE RISKS WILL BE DESCRIBED IN THE TOKEN SALE DOCUMENTS, INCLUDING THE MEMORANDUM.

EACH RECIPIENT OF THIS WHITEPAPER SHOULD RELY SOLELY ON HIS OR HER OWN KNOWLEDGE, INVESTIGATION, JUDGMENT, AND ASSESSMENT OF THE MATTERS DISCUSSED HEREIN AND ON ANY INFORMATION THAT IS MADE AVAILABLE IN CONNECTION WITH ANY FURTHER INQUIRIES ON THE PART OF SUCH RECIPIENT AND MUST SATISFY HIMSELF OR HERSELF AS TO THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION. THE RECIPIENT SHOULD UNDERSTAND THE ESSENCE, USE, DETAILS,INTRICACIES, AND RISKS OF CRYPTOCURRENCIES, CRYPTOGRAPHIC TOKENS, AND BLOCKCHAIN-BASED SOFTWARE SYSTEMS BEFORE MAKING ANY TOKEN PURCHASE.

NO PROMISES OF FUTURE PERFORMANCE OR VALUE ARE OR WILL BE MADE WITH RESPECT TO THE TOKENS, INCLUDING NO PROMISE OF INHERENT VALUE, NO PROMISE OF CONTINUING PAYMENTS, AND NO GUARANTEE THAT THE TOKENS WILL HOLD ANY PARTICULAR VALUE. UNLESS PROSPECTIVE PURCHASERS FULLY UNDERSTAND AND ACCEPT THE NATURE OF THE TOKENS AND THE POTENTIAL RISKS INHERENT IN THE TOKENS, THEY SHOULD NOT PURCHASER ANY OF THE TOKENS.

OWNERSHIP OF THE TOKENS WILL CARRY NO RIGHTS, WHETHER EXPRESS OR IMPLIED, OTHER THAN A LIMITED POTENTIAL FUTURE RIGHT OR EXPECTATION TO USE THE TOKENS AS SET FORTH IN THIS WHITEPAPER AND TOKEN SALE DOCUMENTS.

THE RECIPIENT ACKNOWLEDGES, UNDERSTANDS, AND AGREES THAT TO THE EXTENT THE TOKENS ARE DEEMED TO BE SECURITIES UNDER THE LAWS OF ANY JURISDICTION IN WHICH THE TOKENS ARE TO BE TRADED OR SUBJECT TO TRANSFER, SUCH TRADES OR TRANSFERS OF THE TOKENS MAY BE RESTRICTED BY SUCH LAWS.

THE TOKENS COULD BE IMPACTED BY REGULATORY ACTION, INCLUDING POTENTIAL RESTRICTIONS ON THE OWNERSHIP, USE, OR POSSESSION OF THE TOKENS. REGULATORS OR OTHER CIRCUMSTANCES MAY DEMAND THAT THE MECHANICS OF THE TOKENS BE ALTERED, ALL OR IN PART. THE COMPANY MAY REVISE MECHANICS TO COMPLY WITH REGULATORY REQUIREMENTS OR OTHER GOVERNMENTAL OR BUSINESS OBLIGATIONS.

THE COMPANY INTENDS TO OPERATE IN FULL COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND OBTAIN THE NECESSARY LICENCES AND APPROVALS AS MAY BE REQUIRED IN ITS OPINION IN KEY MARKETS. THIS MEANS THAT THE DEVELOPMENT AND ROLL-OUT OF ALL THE FEATURES OF THE NHCT ECOSYSTEM AS DESCRIBED IN THIS WHITEPAPER ARE NOT GUARANTEED. REGULATORY LICENCES OR APPROVALS MAY BE REQUIRED IN A NUMBER OF RELEVANT JURISDICTIONS IN WHICH RELEVANT ACTIVITIES MAY TAKE PLACE. IT IS NOT POSSIBLE TO GUARANTEE, AND NO PERSON MAKES ANY ASSURANCES, THAT ANY SUCH LICENCES OR APPROVALS WILL BE OBTAINED WITHIN A PARTICULAR TIMEFRAME OR AT ALL.

THIS MEANS THAT THE TOKENS AND OTHER FEATURES OF THE NHCT ECOSYSTEM MAY NOT BE AVAILABLE IN CERTAIN MARKETS, OR AT ALL. THIS COULD REQUIRE RESTRUCTURING OF THE NHCT ECOSYSTEM OR RESULT IN ITS UNAVAILABILITY IN ALL OR CERTAIN RESPECTS.

REFERENCES

16

1) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653966/

2) http://www.isb.edu/mihm/research/reports

3) https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc- 2017-health-care-outlook-infographic.pdf

4) Kontis, V., Bennett, J. E., Mathers, C. D., Li, G., Foreman, K., & Ezzati, M. (2017). Future life expectancy in 35 industrialized countries: projections with a Bayesian model ensemble. The Lancet, 389(10076), 1323–1335. DOI: https://doi.org/10.1016/S0140-6736(16)32381-9

5) http://www.healthdata.org/india

6) http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.136.8758&rep=rep1&type=pdf

7) http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.136.8758&rep=rep1&type=pdf

8) http://www.healthcareitnews.com/news/desalvo-interoperability-crucial-patient-safety

9) https://healthitsecurity.com/news/1.13m-records-exposed-by-110-healthcare-data-breachesin-q1-2018

10) https://www.reuters.com/article/us-cybersecurity-hospitals/your-medical-record-is-worthmore-tohackers-than-your-credit-card-idUSKCN0HJ21I20140924

11) http://ascopubs.org/doi/full/10.1200/JOP.2015.003715

12) https://www.healthitoutcomes.com/doc/billions-wasted-inefficient-billing-0001

13) http://apps.who.int/iris/bitstream/handle/10665/258940/9789241513029eng.pdf;jsessionid=58ED8BD938D1 B6260B72850968596820?sequence=1