HOSP Protocol

Launch unstoppable medical apps

Executive Summary

Problem: Limited access to affordable healthcare

- Limited supply of doctors drives up costs
- US doctors cost 5-20x more than international colleagues
- Strict guidelines for storage/transfer of health records precludes acentrally controlled global health market

Solution: A decentralized global market for healthcare

- HOSP Protocol is a "bulletin board" connecting patients with doctors worldwide for medical care
- Patients have direct control over encounters and storage of health information—eliminating costly compliance burdens and freeing innovation

US Healthcare in 2018

❖ Increasing expenses
  - Health costs $3.3 Trillion annually (~50% global health market)

❖ Intermediary fees exceed >$500B annually
  - Health insurance companies
  - Pharmacy Benefit Managers (PBMs)
  - Public healthcare administration

❖ Doctor shortage in the USA
  - Projected shortage of 149,000 doctors by 2020
  - 28% of population without access to specialists
  - Average wait to see a family practice doctor is > 30 days

Current Solutions

✧ Medical Tourism

- 1.7 million Americans travelled outside of the USA for medical care in 2017
- Savings can reach 90%
- Market size ~$75 billion today

✧ Telemedicine

- Estimated to reach $200 billion market by 2025
- Nearly 75% of in-office visits could be addressed via telemedicine

What if there were a way to combine the benefits of medical tourism and telemedicine?

HOSP Protocol

Healthcare Regulation in 2018

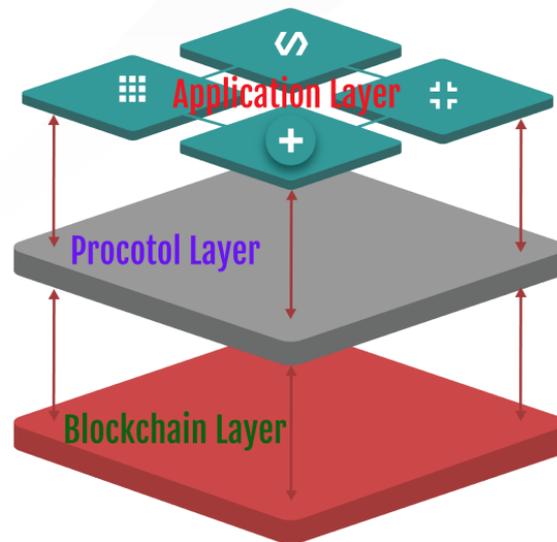✧ Patient health information (PHI) is regulated

- Strict guidelines for storage and transfer of health records (e.g. HIPAA, GPDR)
- Unclear guidelines on international transfer of health information
- Centralized companies that control PHI face costly and lengthy compliance burdens

A "Bulletin Board" for Global Healthcare

✧ HOSP is a decentralized protocol for directly connecting patients with doctors worldwide for medical care

✧ Patients legally free to share health records with anyone
- DApps on HOSP Protocol do NOT control the storage or transfer of patient records
- HOSP uses Cryptonote and IPFS to give patients direct control over records and encounter
- Eliminates complex compliance burdens of storing records
- Reduces barrier-to-entry for innovative health applications

HOSP technology stack

❖ Application Layer
  - Launch third party healthcare applications in the HOSP Health System.

❖ Protocol Layer
  - A global registry of doctors curated by economically incentivized HOSP holders.

❖ Blockchain Layer
  - The HOSP Protocol employs smart contracts and is secured on the HOSP blockchain for maximal decentralization.

Application Layer

Procotol Layer

Blockchain Layer

What is a HOSP Curated Registry

✧ HOSP curated registries (HCRs) are decentrally maintained lists with economic incentives for coin holders to judiciously curate the list's contents.

✧ All decentralized medical apps must access a decentralized doctor registry

✧ HOSP will be the first decentralized registry of doctors and is pioneering the way in the development of HCRs

Tokenomics of Doctor Registry

✧ Doctors
- Every doctor stakes HOSP in a smart contract
- As the network grows with more dApps and patients, more doctors join the HOSP Registry
- The increasing demand/decreasing supply of HOSP drives value

✧ Verifying nodes
- All doctor application fees and forfeited HOSP deposits are paid to verifiers
- Verifiers must stake HOSP in order to receive rewards
- The more HOSP staked, the greater the percentage of rewards

How does the HOSP Registry Work?

✧ Doctor application steps (all within app)
- Doctor logs in with Civic
- Chooses a specialty & submits credentials (medical license #,provider identifier #, medical school & specialty)
- Submits application fee & deposit in HOSP

✧ Verifying nodes

- Review and verify doctor's credentials

- Must stake HOSP to earn rewards

- Rewards paid in HOSP proportionate to amount staked

App Layer

HospCare will be the first dApp launchedon the HOSP Protocol

✦ Connect patients to doctors and specialists worldwide
- Dermatology, ophthalmology, psychiatry, radiology, etc.

✦ Reduces costs
- No compliance burdens
- No intermediaries (Hosp smart contracts)
- No EHR system fees (files encrypted & stored in IPFS)
- Cross borders remotely to access a global pool of doctors

HospCare

✧ Front end
- Create an account (seed phrase & password)
- Snap a photo and enter details about your problem
- Submit your case and payment in HOSP (pegged to USD price)
- Receive a medical diagnosis and recommendation in hours

✧ Back end
- Client side data encryption
- Decentralized medical record storage on IPFS
- HOSP blockchain query layer
- Patient-controlled private key exchange with doctor
- Payment price fixed in USD using MakerDAO price feed