# VALIDATED USE CASES

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#### **BLOCKCHAIN HEALTH APPLICATIONS**



## SUPPLY CHAIN, PHARMACY & CUSTODY

Chain of Custody

Protocol Adherence

Prescription Misuse / Fraud

Asset Tracking



## OPERATIONS & ADMINISTRATIVE

Interoperability and Transperancy

Claims Auto-Adjudication

Revenue Optimization & Recovery

Authorizations

Work Flow Optimization

Clinical Decision Collaboration



#### **GOVT & REGULATORY**

**Regulatory Compliance** 

Fraud Prevention

Cross-Agency Data Sharing

Mandatory Reporting

Social Services



#### RESEARCH

Intellectual Property Ownership Clinical Trial Recruitment Research Collaborations Investigator-CRO-Sponsor Data Sharing



#### **IDENTITY & CONSENT**

Identity Verification Master Patient Index (MPI) Provider Directory Licensure & Credentials Data Access Tracking Informal to Informed Consent

#### DATA IS THE FOUNDATIONAL USE CASE

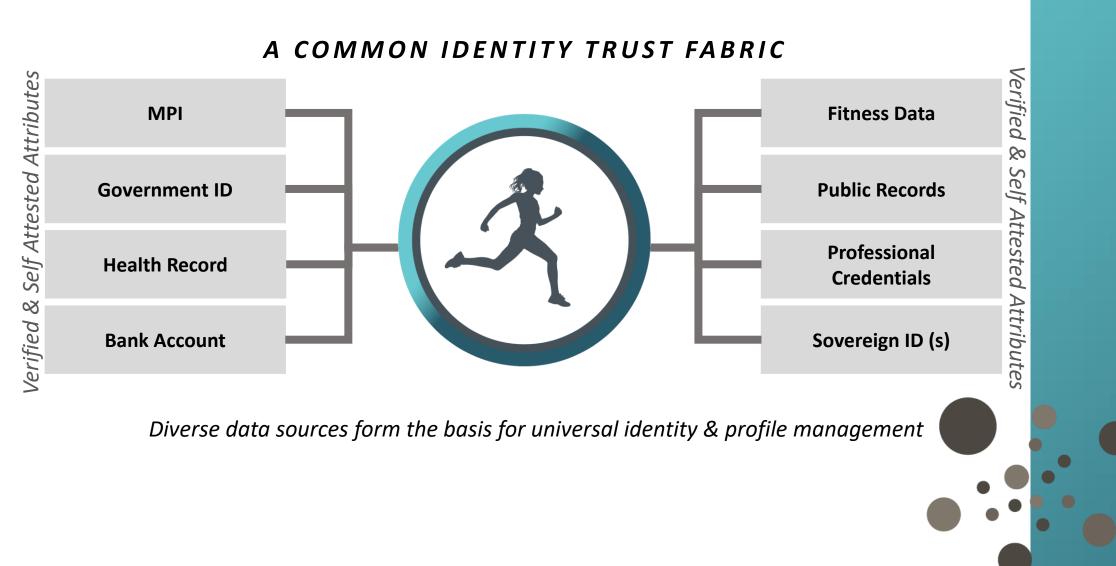


#### FOR CARE, FOR HEALTH, FOR LIFE



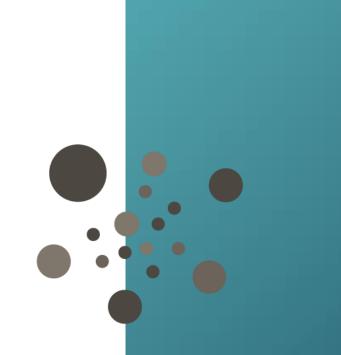
## ldentity, Health Profiles, and Consent

#### A GLOBAL SOVEREIGN HEALTH PROFILE For People, Places, and Things



#### THREE PARTS TO IDENTITY

- Claims
  - Identity claim made by the person our business
- Proofs
  - Evidence such as a document that provides evidence for the claim
  - Can come in all forms: Drivers license, passport, birth certificate, utility bill
  - Two key items to open a non resident bank account in Bermuda: Government ID and copies of utility bill to demonstrate residency.
- Attestation
  - Third party validation of the claim/proof



#### YOU CONTROL YOUR ON-LINE PERSONA



Anonymous

**Partial or Alias** 

Everything

#### GRANULAR INFORMED CONSENT



An Ecosystem of Managed Interactions, Data Sharing, and Monetization





# Blockchain & Machine Learning for Provider Data

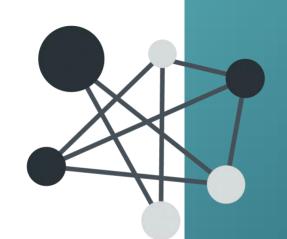


- Contact Information
  - Multiple Addresses + Phone #s
- Professional Information
  - Training, Specialties and Credentials
- Network Status
- Panel Status



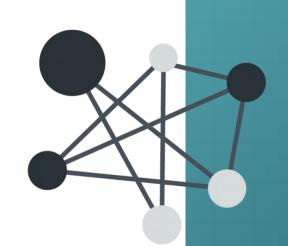


- \$2B+ spent annually by health plans (CAQH)
- Provider directories are <50% accurate (CMS)
- 1 in 7 patients receive a surprise bill due to inaccurate network information (HCCI)





- Regulatory Actions
  - Federal fines (\$25,000 per beneficiary)
  - Mandated reimbursements
  - Blocks on new enrollments



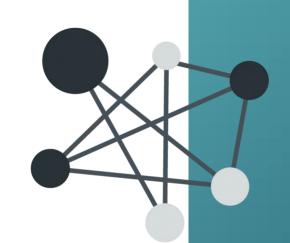


- 1B+ data points from public and proprietary sources
- Machine learning engine
- Results:
  - ≥90% accuracy
  - ≥75% cost-savings





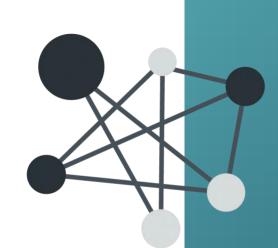
- How do we securely store this data?
- How do we manage sharing this data?
- How do we create an audit trail for regulators?





# \* Orderly











# Blockchain-Enabled Data Aggregation in Clinical Health Data Organizations



Colorado clinical health data organizations:

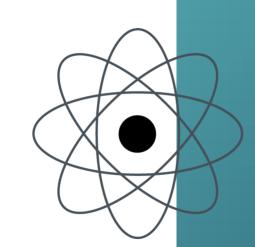
- Colorado Regional Health Information Organization (CORHIO)
- Quality Health Network (QHN)
- Colorado Community Managed Care Network (CCMN)

Required to provide quality metrics for ( state-run federally-qualified health programs



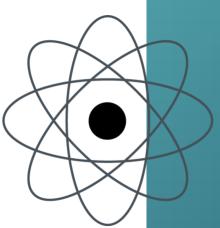
- Share data for aggregated CQM reporting
- Protect data confidentiality
- Reduce administrative costs and burdens





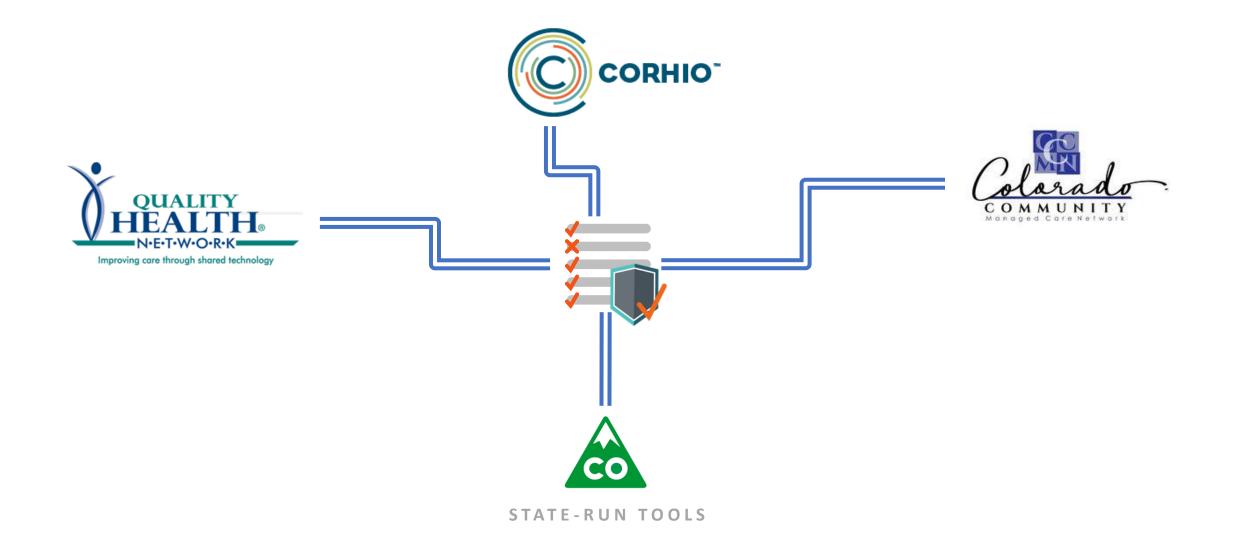


- Data organizations partnered with BurstIQ in August 2018
- Placed clinical quality measures (CQM) on HIPAA-compliant blockchain
- Funded by Colorado State Innovation Model program
- First-of-its-kind project and partnership in Colorado



#### INTEROPERABILITY

True Data Liquidity Between Endpoints, Stakeholders & Systems





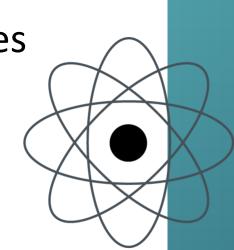
The blockchain-based platform allows:

- Interoperability across organizations
- Data consolidation and contextualization
- Data sharing without revealing individual data points to each other
- Data standardization without having to change internal organization standards
- Accessibility to complex set of stakeholders<sup>(</sup>



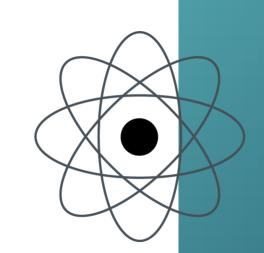
Complex ownership and granular consent allows each organization to:

- Control own data
- Specify how data move between different stakeholders
- Automate permissible access and data uses



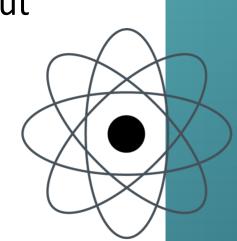


- Reducing administrative burdens of aggregating CQMs
- Simpler process for extracting and reporting organization-level and consolidated results
- More privacy and control over data





- Questions about jurisdiction
- Need for:
  - Governance structures with layers of decisionmaking
  - Data management policies
  - Stakeholder and community education about blockchain





- Building out data ecosystems across other state agencies or health service providers
- More consumer-directed data sharing options (e.g., research, marketplace services)
- Research and public health surveillance:
  - Massive data sets for analysis without access to individual data points
  - Longitudinal analyses for trends

# burst iQ

# BRING YOUR HEALTH TO LIFE