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CAN BLOCKCHAIN ENABLE IDENTITY MANAGEMENT?

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What we are hearing about Identity

1. A poor user experience

Resulting from the need for multiple credentials and enrollments when a member:

- Makes an appointment (Payer/Provider)
- Sees a physician (Provider)
- Files claims (Payer)
- Picks up a prescription (Pharma, other ecosystem partners)

2. Duplicative IAM efforts and infrastructure costs

NH-ISAC working group and other partners in the health ecosystem each maintain their own identity infrastructure (and bear the associated costs).

3. Dependence on for-profit entities for identity-proofing services

Identity-proofing services in the market today are provided by a few commercial entities who can charge a premium price due to the lack of competition. This results in implied trust and **"unchecked power"** which may stifle innovation and increase health care costs for the member.

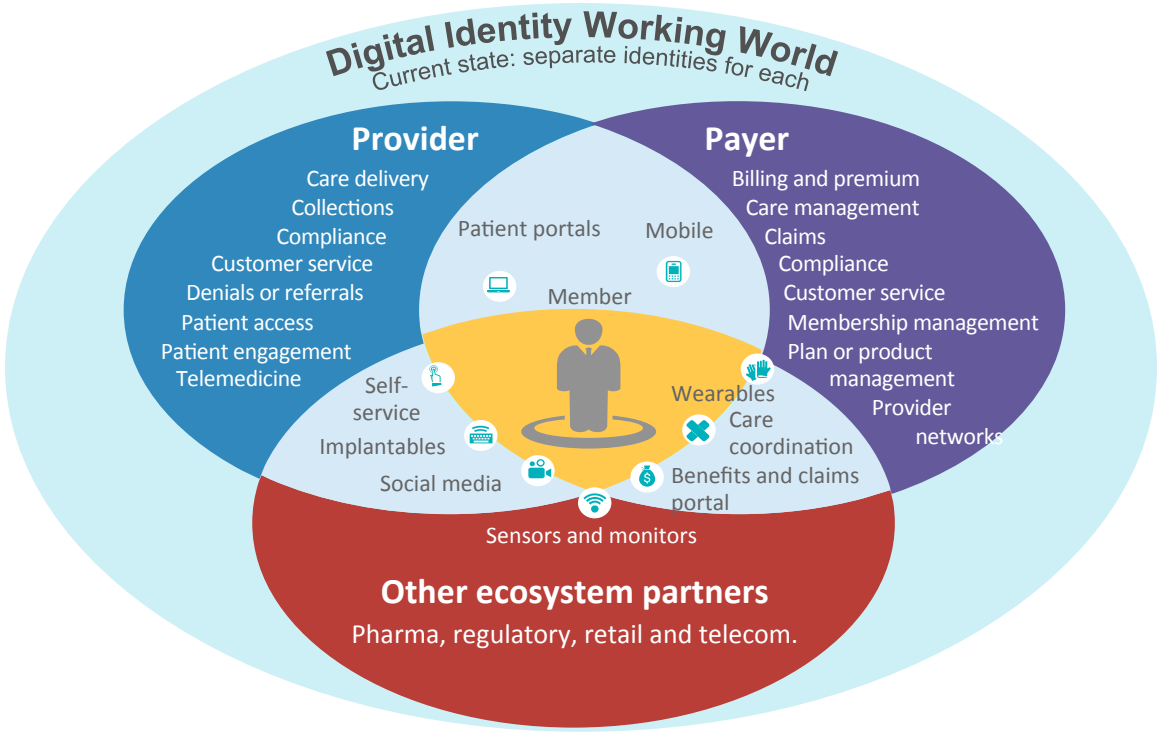
4. Provider credentialing is repetitive and time-consuming

The credentialing process (e.g., requests for medical transcripts, state licenses, background check) is repeated each time a provider:

- Joins a new facility as part of a float pool
- Moves to a different health system

Leading to: Increased costs

Example: A member has to manage separate identities and NH-ISAC consortium partners have to manage separate IAM infrastructure



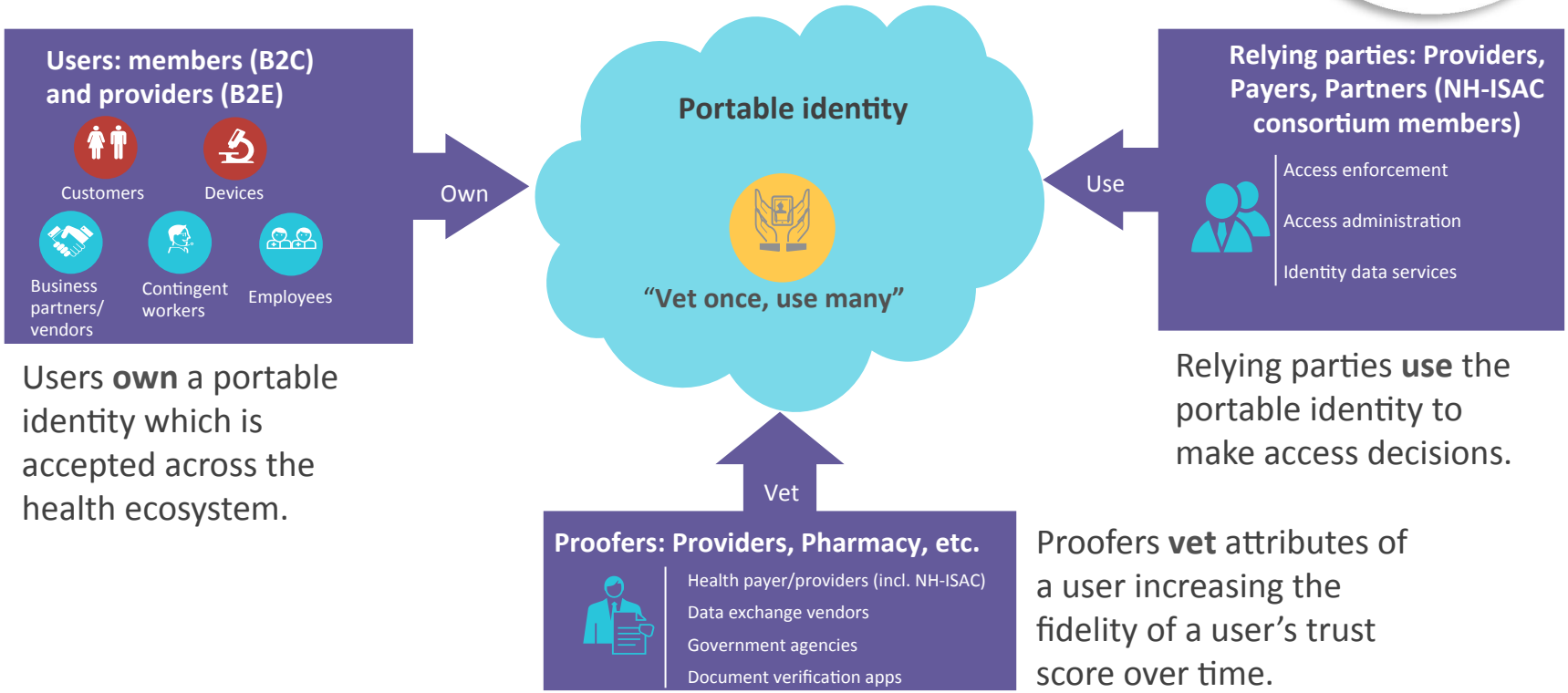
1. A member uses different credentials across the digital health life cycle.

2. A member provides personal information multiple times

3. Payers, providers, other partners (collective NH-ISAC consortium partners) maintain separate IAM infrastructure

A DAY IN THE LIFE OF A MEMBER

Our vision: Shared identity



Users **own** a portable identity which is accepted across the health ecosystem.

Relying parties **use** the portable identity to make access decisions.

Proofers **vet** attributes of a user increasing the fidelity of a user's trust score over time.

The NH-ISAC Portable ID…

- Is an identity for members or providers
- Aims to improve the user experience and lower health care costs through efficiency gains
- Is built on open standards (e.g., NIST 800-63)
- Has a **non-profit motive** where the working group:
  - Establishes governance, leading practices and guidelines
  - Collaborates with other standard bodies (e.g., SAFE Biopharma), privacy working groups
  - Shares the cost of infrastructure
- Is in proof-of-concept stage
- Is a supplement to existing IAM infrastructure

What it is NOT

- Meant to store Personal Health Information (PHI).
- A replacement for electronic medical records (EMR).
- A replacement for industry frameworks (e.g., SAFE Bio-pharma Trust Framework, NIST).
- A replacement for existing individual NH-ISAC consortium IDs (e.g., Aetna ID, CVS ID etc.).
- A replacement for all existing IAM infrastructure.
- Set in stone. This is a proof-of-concept and we are continually incorporating feedback from the field.
- Meant to exist in a silo. Integration with other standards bodies, identity working groups is key.

An example of how the POC would work
On day 1 and ongoing basis

1. Member performs initial identity capture and form fill (with web form if needed)

Scan driver's license and (take selfie for facial recognition)

Complete web form (import IDs from NHISAC partners as appropriate)

Acquired user attributes

2. Providers verify a user (on day 1 and during regular touch points with members)

Verify last name

Verify DOB

Verify additional attributes

Attestations of attributes

Blockchain-based ledger

Portable identity (blockchain)

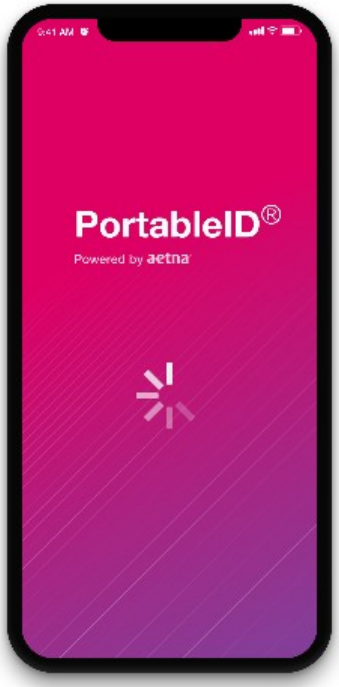
FirstName
LastName
DLN (High trust level if selfie verified)
DOB
Address
Trust Level

Verified identity

Identity requestor and existing IAM infrastructure (NH-ISAC relying parties)

TECHNICAL DEMO

Introduction – How will the member get the app?



- Mobile friendly
- Something that will always be carried with the member
- Discoverable through app stores
- Member to be made aware of the app during the insurance enrollment process

Day 1 - Member Enrollment

On Day 1 - Enrollment

- Seamless enrollment on Day 1 by:
  - Importing existing IDs with NH-ISAC partners
  - Form fill thru driver's license scan
- Trust Level 1 verification with self asserted attributes
- Trust Level 2 with remote driver's license verification

Going to the provider

When going to the provider

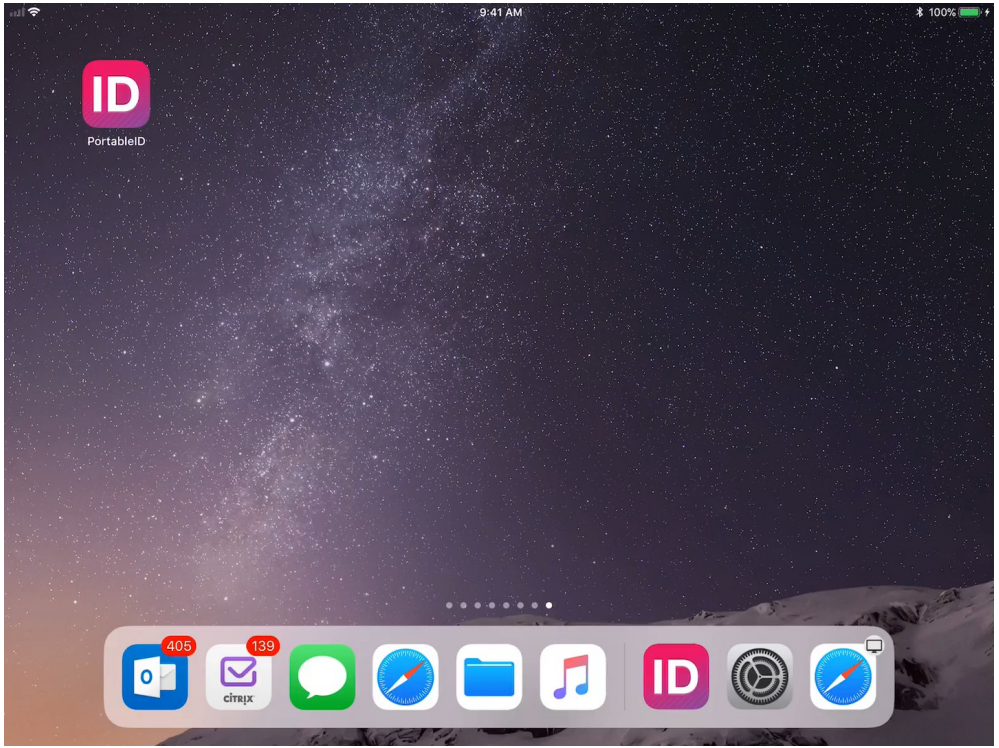
- “Passwordless” login through biometrics (e.g., FaceID)
- Easy check-in at provider’s office by QR code scan
- Similar to a mobile boarding pass

Wearable check-in – for those with their hands full…

- Added convenience without having to reach for your phone

Checking the member in

Provider's perspective – what the receptionist at the provider does…



- Provider has a companion app in the office
- On an iPad
- Provider verifies the ID concurrently with check-in
- Trust Level 3 – in-person verification with provider
- Usage / assertion history can be used by insurance provider for proofing (optional)

Can Blockchain enable Identity? – Sniff Test

- Are the answers to any of these “Yes”?
- Portability
  - Are there multiple parties that could benefit from sharing identity data?
  - Can we enhance the user experience by enabling a single identity at different places?
- Cost Savings
  - Is there a duplication of identity infrastructure across the ecosystem?
  - Is there a reliance on commercial entities for proofing services?
- Persistence
  - Is the use case "write once - read many"?

Lessons Learned

- Driving adoption from stakeholders is key, non-profit motives help
- Maturity of blockchain tools are still evolving
- Front-end, UI/UX design is key:
  - The end-user should not know that Blockchain was used
  - Don’t try to change consumer behavior
- PHI should not be put on the blockchain (tough sell)
- Co-existence with IAM tools is necessary

Apply What You Have Learned Today

Identity + Blockchain = Portability

Identity Management platforms (e.g., AuthN, authZ, directory)

Decentralized, sovereign, immutable fabric

Enable digital trust across untrusted parties.

Apply What You Have Learned Today

- Next week you should:
  - Identify identity issues related to portability, duplication and costly proofing
- In the first three months following this presentation you should:
  - Summarize your identity pain points, interested business partners
  - Explore a proof-of-concept
  - Socialize the vision with key sponsors, customers and gauge interest
- Within six months you should:
  - Expand the proof-of-concept to other business partners
  - Conduct a roadshow at industry consortiums to drive awareness and adoption