

# **meshEHR**

**Enabling the next generation of Healthcare Information Systems**

# The Problem

Health records are fragmented, insecure, and inefficient.



Patient has no control

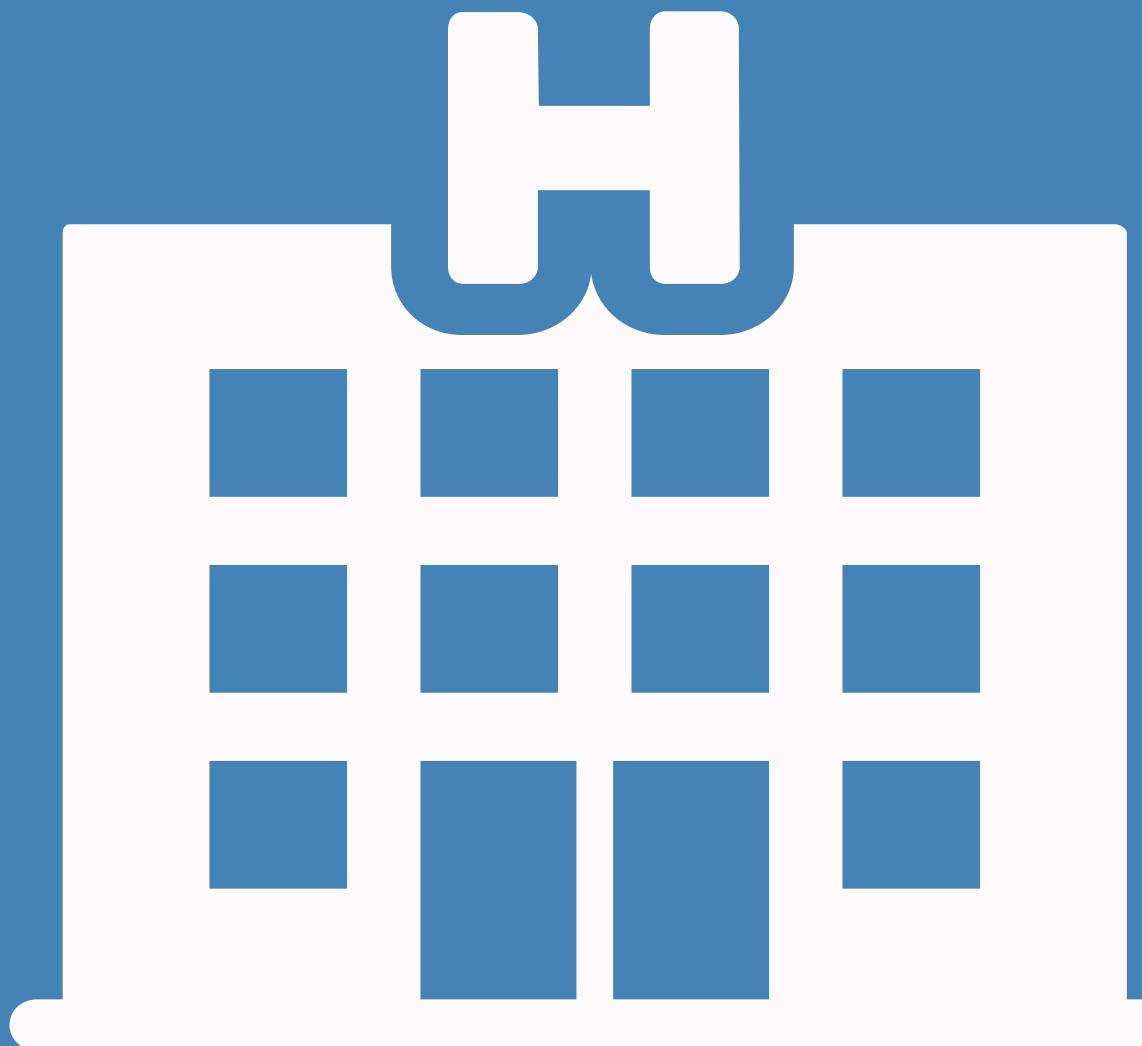
Expensive regulatory compliance

Lack of Interoperability

Fragmented and unavailable records

# The Mesh Ecosystem

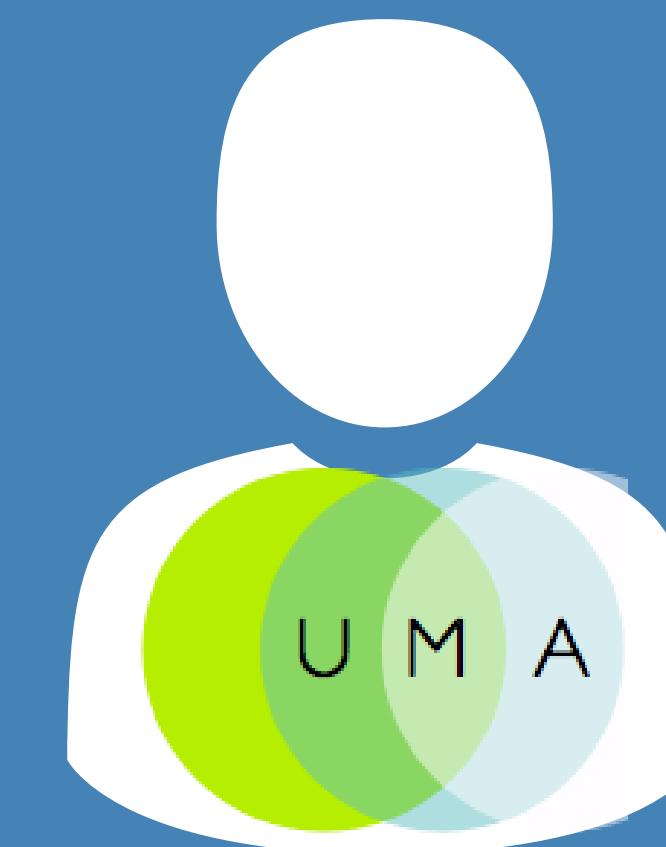
**Large Providers directly interface with Mesh API  
and provide authentication via HEART Spec.**



**MeshEHR**

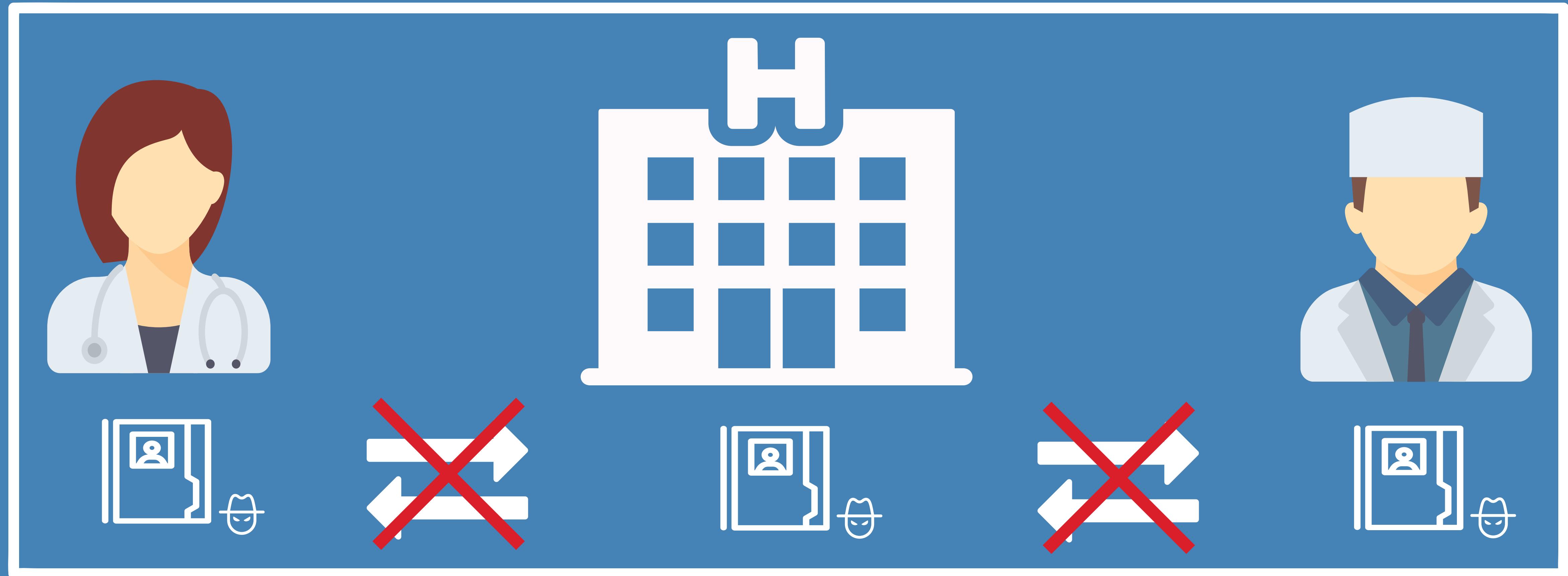


**General Practitioners Interact through workstation and  
authenticate via HEART Spec.**



**Patient may access via Mobile, Web-App, or Terminal.  
UMA provides secure access token for record data.**

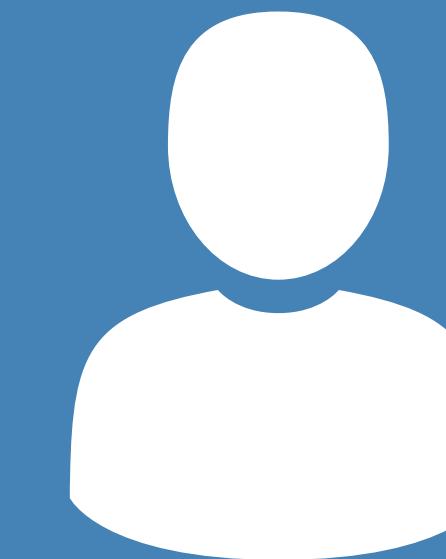
# The Health Information Ecosystem is fragmented



In present implementations, The Patient:

**Records Security: LOW**

**Records Availability: LOW**

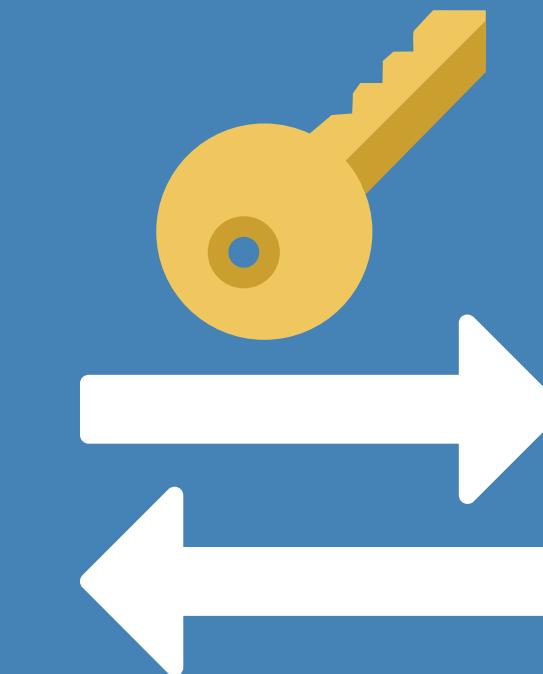
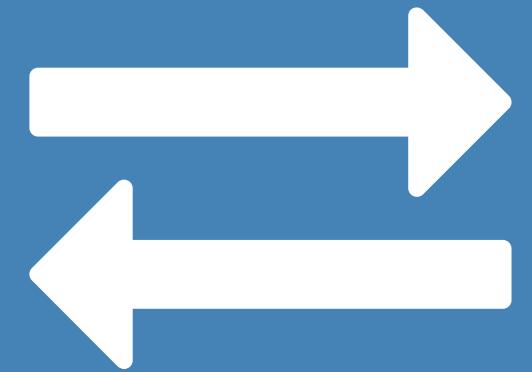


- must rely on third parties to store their data
- has no control of their records
- owns records in multiple, isolated locations

# The Solution

## A User-Centric Model.

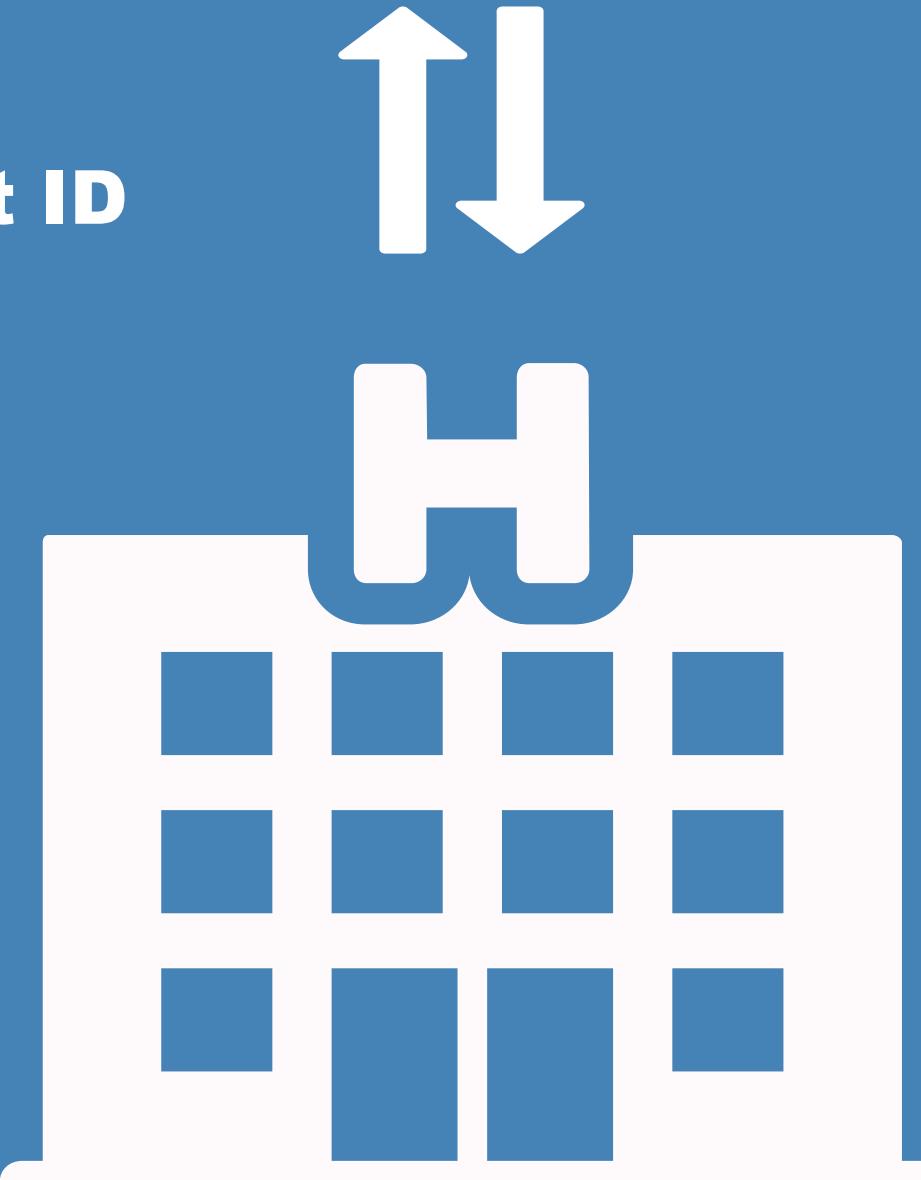
**Patients Provision whom may access their records.**



**Practitioners attribute encrypted data to patient ID via MeshEHR Interface.**

**Records Security: HIGH**

**Records Availability: HIGH**



**Cryptographically secured record sharing**

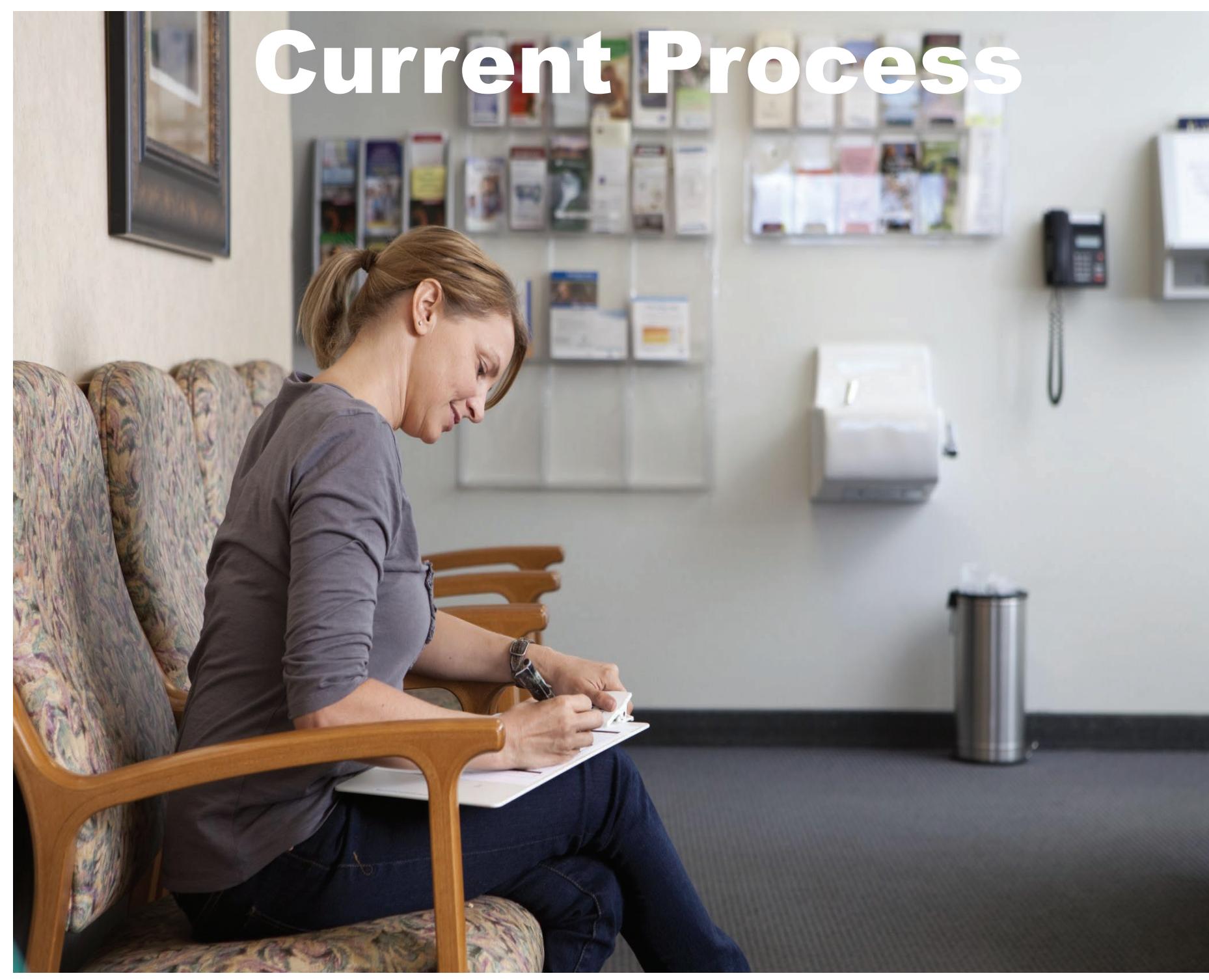
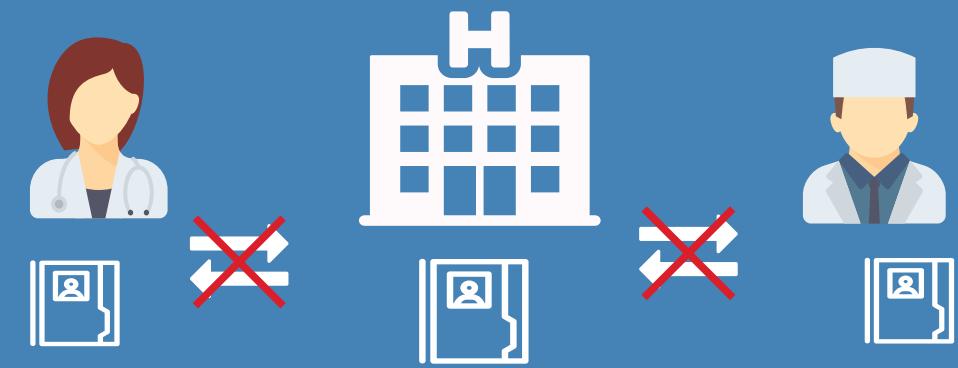
**Patients control access to their information**

**Data is stored on a distributed network to ensure availability and security**

**Participants share a unified ledger of provisioned records.**

# User Experience

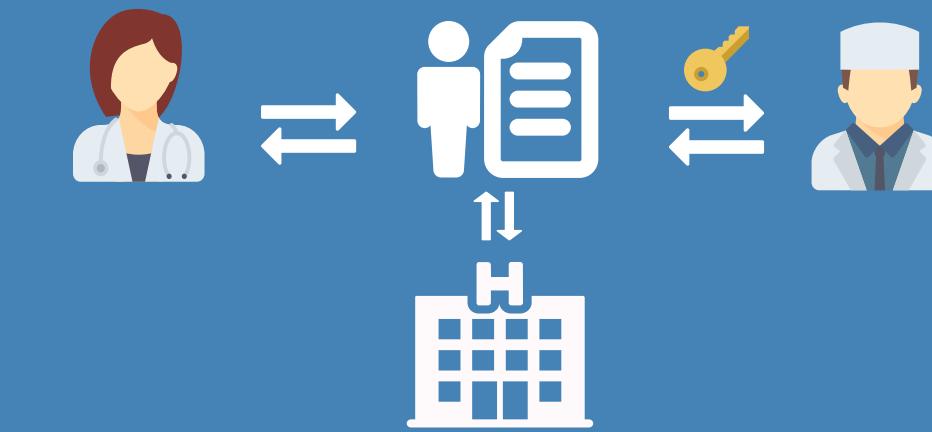
# Streamlining and Securing Healthcare Information



## Current Process

Easier than ever.

- 1: Patient arrives
- 2: Sign in via HEART UMA
- 3: Shares info with Doctor
- 4: Receives service
- 5: Doctor updates Profile



## After Mesh Integration

Time Consuming

Insecure

Produces fragmented, inefficient records

Efficient

Secure

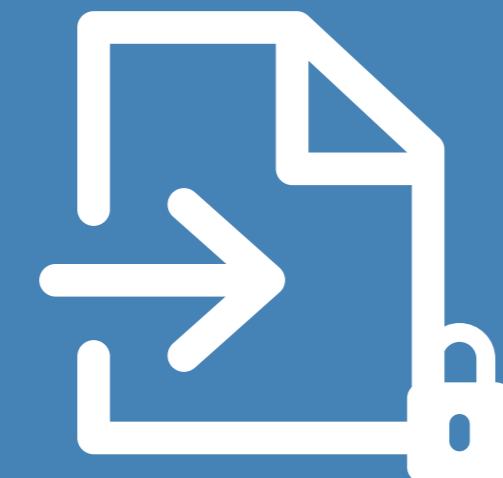
Enables Unified Record System

**Within the Mesh Network, regulatory agencies may be provisioned**

- oversight of Information exchange, and ensure that entities are compliant through a transparent and automated system.**
  - Records are interoperable and available on a unified platform, enabling secure, transparent information exchange between parties.**
- NIST and The Office of The National Coordinator for Healthcare Information Technology are interested inthe distributed network, or blockchain technology, for Healthcare IT solutions.**

# The Mesh Platform Process

**1: The Doctor securely issues patient record through MESH interface**



**3: Patient securely shares their record**



**2: The Patient may view their record**

# Technology Validation

**The following Government Agencies are working to employ blockchain technology for secure information sharing and authentication. Mesh Provides a modular framework for implementation.**



The Office of The National Coordinator for  
Healthcare Information Technology

<https://www.sbir.gov/sbirsearch/detail/867797>

<https://www.sbir.gov/sbirsearch/detail/1144411>

