

Reimagining User Authentication for Digital Health Services: A User-Centered Approach

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Bo Kim



Memorial Sloan Kettering
Cancer Center

DigITS

 **Raise your hand if you have an experience using a patient portal or have helped someone use a patient portal?**

Consumer Health is Getting Digital



95% of all hospitals use some form of electronic health record (EHR) system.



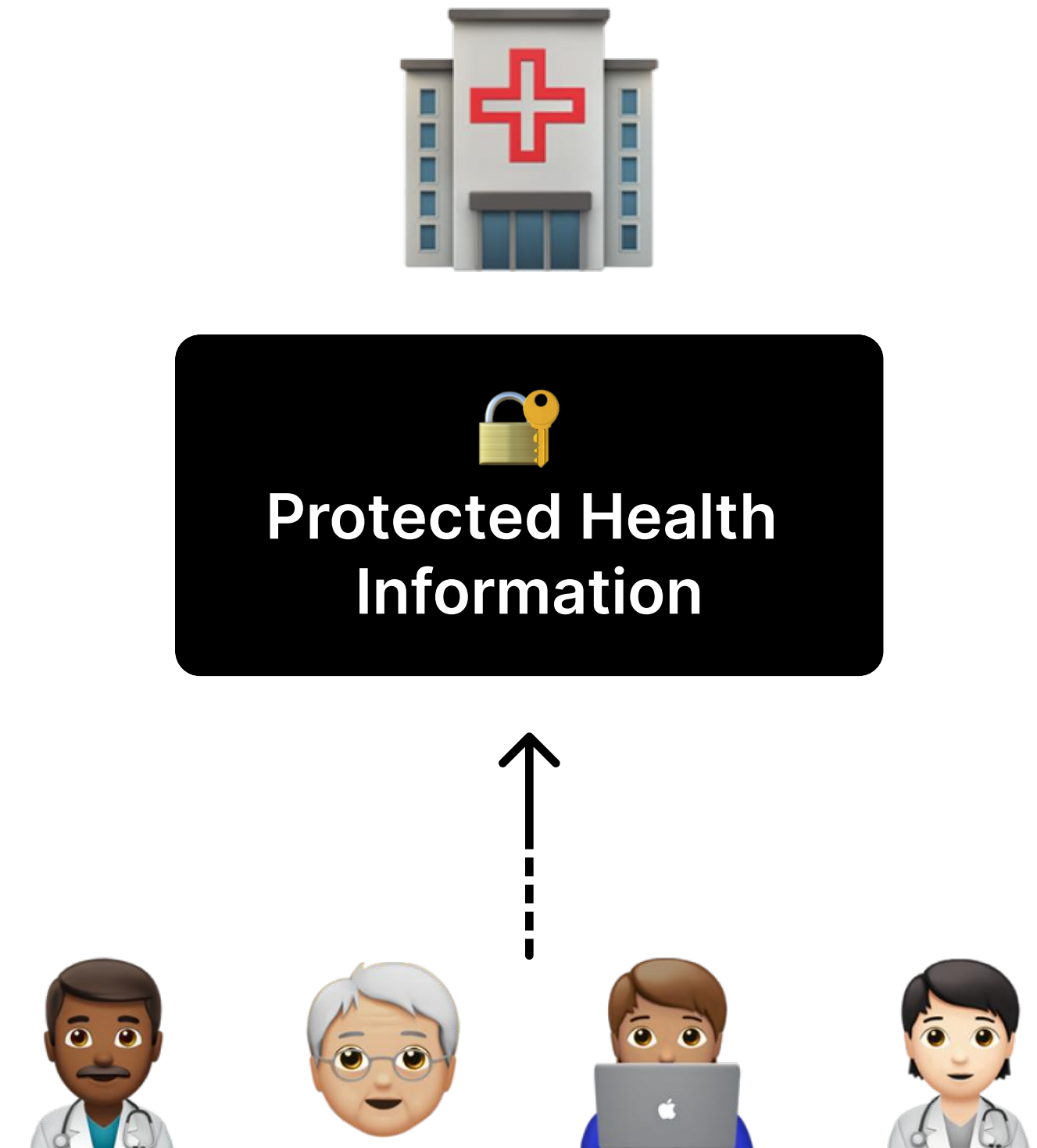
The dependencies on digital healthcare solutions will only continue to expand.

So how can we successfully make this transition?

1996

Health Insurance Portability and Accountability Act (HIPAA)

To safeguard protected health information (PHI) from being used without the patient's consent or knowledge.



2016

21st Century Cures Act

To support the access, exchange, and use of electronic health information.

Users must have access to their health information **“without special effort”** and at **“no cost.”**

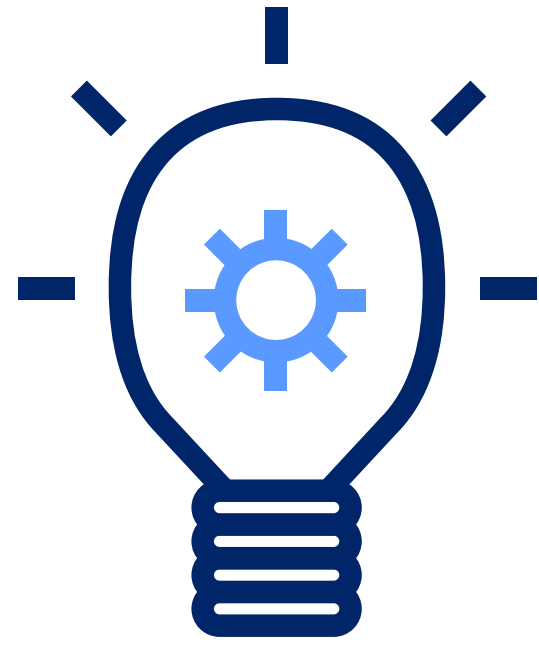


Electronic Health Record



**EHR has the potential to ease access
to health information.**

So, where are we today?



**Responses from user
feedback survey**



Help desk tickets



**Field study and
semi-structured
interviews**

Consumers point to **difficult authentication as one of the biggest pain points in accessing EHR, citing complex and outdated privacy solution.**

User Friction

The majority of healthcare organizations use a traditional textual password solution, which frustrates users and poses security risks.

A. Constantinides. 2023. Security and Usability of a Personalized User Authentication Paradigm: Insights from a Longitudinal Study with Three Healthcare Organizations.

Sign In

Username

Password

Sign in

 I have too many passwords in my life

This is the last thing I want to care about 

User Frailty

Frailty affects the user's cognitive abilities, motor skills, and lifestyle, thereby influencing their authentication preferences.

Illustration by Eduardo Crespo



Digital Readiness

If the authentication scheme requires a certain level of digital readiness, users who are not equipped will face barriers to access.

National Urban League. 2021. [The Lewis Latimer Plan For Digital Equity and Inclusion](#)



I share my computer with someone else



I don't use my email

I'm not good with technology



Disjointed Digital Identities

Due to a **lack of interoperable digital identity** and an unstandardized patient identity management system, users must manage multiple credentials to access their health information.



Medical Record Number (MRN)

Social Security Number (SSN)

Username



Medical Record Number (MRN)

Username



Email

Enrollment ID



We want to be compliant
and provide quality care

HIPAA

Electronic Health Record

Cures Act

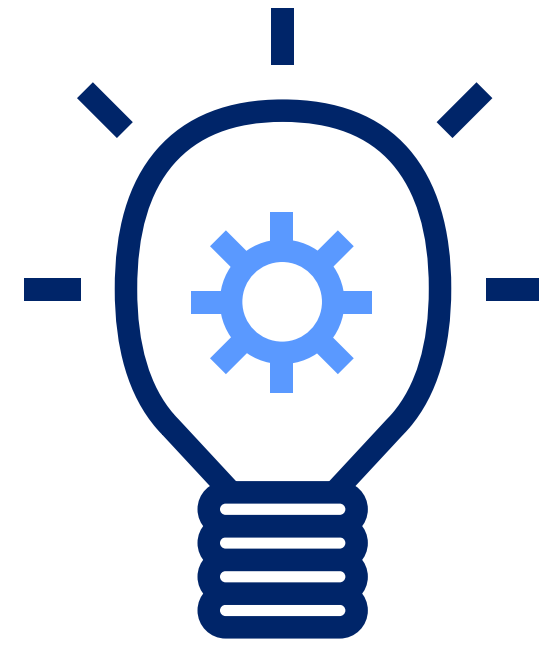


I want seamless access to
my health information



Evangelize a Business case for a User-friendly Authentication

Barriers to use do not equate to greater privacy and security. Convince stakeholders to deprecate outdated standards and invest in privacy-enhancing technologies.



Apply a Universal Precaution Approach

Assume that all patients may have difficulty comprehending health information and accessing health services.

Diversify the authentication options to accommodate varying needs.

User's preference and task performance varies depending on the user (e.g. age, abilities) and the context of use (e.g. interaction device, screen size), suggesting that any specific solution will not please everyone.

S. Mare, M. Baker, and J. Gummesson. 2016. [A Study of Authentication in Daily Life.](#)



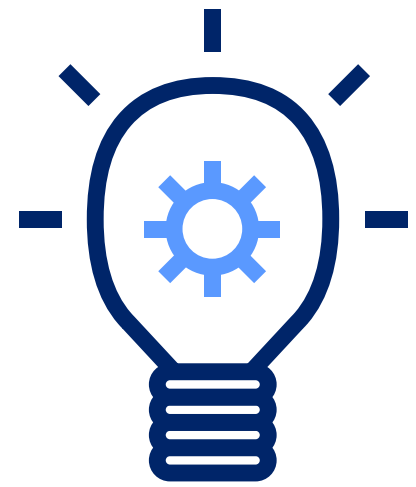
Policies Should Provide Guidance on the Usability, Privacy, and Security of EHR Systems

To effectively prevent "information blocking," provisions should be made for measuring the usability health of EHRs and ensuring adequate support for onboarding new users.

Towards a User-Centered Approach



Evangelize a Business case for a User-friendly Authentication



Apply a Universal Precaution Approach



Policies Should Provide Guidance on the Usability, Privacy, and Security of EHR Systems

Thank you!

Bo Kim

→ kimb2@mskcc.org

→ [/bobebibu](#)