## Summary

Alice makes an appointment with a new doctor. When she arrives at the doctor’s office, she links her record system with her doctor’s record system. She receives an examination, and a record of that examination is recorded in both systems.

## The following terminology is used to describe people in this use case:

**Alice** - Alice is an example patient who consumes healthcare services

**Primary Care Provider (PCP)** - a health care practitioner who will see Alice on a regular basis for common medical concerns

## The following terminology is used to describe systems in this use case:

**Protected Resource (PR)** - information for which Alice maintains access control policies

**Authorization Server (AS)** - system which implements Alice’s access control policies over her protected resources

**Client** - system which is used to request access to a protected resource from an authorization server

**Personal Health Record (PHR)** - a private cloud-based information system which tracks Alice’s medical information for her. A PHR may serve as a PR, AS, client, or all three.

**Electronic Health Record (EHR)** - an enterprise cloud-based information system which tracks many patients’ medical information. Also known as Certified EHR Technology or CEHRT. An EHR may serve as a PR, AS, client, or all three.

## Use Case

1. Alice has an existing relationship with a PHR. She has provided the PHR with several protected resources including basic demographics, insurance information, active medications and a list of chronic problems. Identity proofing at the PHR consisted of a credit card transaction and email verification. The PHR has optional two-factor authentication using SMS.
2. Alice calls a PCP’s office over the phone to enroll and book her first appointment.
   1. The PCP’s office creates a patient record for Alice in their EHR system and schedules an appointment for her. This patient record is a protected resource.
3. Alice arrives for her scheduled appointment and registers at the front desk
   1. She is identity proofed using her driver’s license and insurance card, which are scanned. The images are stored in the office’s EHR system.
   2. As a result of this identity proofing, Alice’s record is now marked as “known to the practice.”
   3. She tells the registration desk which PHR she uses and the email address she uses to identify herself in that system.
   4. The doctor’s office sends a verification email to Alice through her PHR.
   5. Alice completes the email verification using her phone, and can now log in to view her protected resources in the PCP’s EHR at any time using her PHR to authenticate.
   6. Alice sets an authorization policy on her PHR, (which acts as an authorization server) to update her PCP’s EHR (which acts as a client) one time with some of her protected resources such as basic demographics, insurance information, active medications and list of chronic problems.
   7. Alice electronically consents to her PCP office’s privacy statement. She sets an authorization policy on the PCP’s EHR (which acts as an authorization server) to allow the record of that consent (which is a protected resource) to be recorded in her PHR (which is acting as a client).
4. While she is in the waiting room, Alice authorizes her PHR (which acts as an authorization server) to update her PCP’s EHR (which acts as a client) every time the PHR has new medical information (this information is a protected resource) about Alice. Alice then authorizes her PCP’s EHR (which now acts as an authorization server) to update her PHR (which now acts as a client) every time the PCP’s EHR has new medical information (this information is a protected resource) about Alice. Since both systems use the FHIR API, this synchronous bidirectional information transfer is simple and seamless.
5. Alice is taken to the examination room
   1. Alice’s PCP accepts the updates that Alice pushed from her PHR.
   2. Alice’s PCP conducts a physical examination and records the results in the EHR system.
   3. Alice’s PCP orders lab tests for a CMP, CBC, Lipid Panel and liver Panel through the EHR system.
   4. Alice’s PCP tells her that patient education materials and pre-lab fasting instructions available on the EHR system.
6. Alice goes home and receives notification that her information has been updated in her PHR and her PCP’s EHR system.