

Health Information Exchange Scenarios

1. Patient Care Scenario A

The emergent transfer of health information between two healthcare providers when the status of the patient is unsure.

Patient X presents to emergency room of General Hospital in State A. She has been in a serious car accident. The patient is an 89 year old widow who appears very confused. Her adult daughter informed the ER staff that her mother has recently undergone treatment at a hospital in a neighboring state and has a prescription for an antipsychotic drug. The emergency room physician determines there is a need to obtain information about Patient X's prior diagnosis and treatment during the inpatient stay.

2. Patient Care Scenario B

The non-emergent transfer of records from a specialty substance treatment provider to a primary care facility for a referral.

A specialty substance abuse treatment facility wants to refer client X to a primary care facility for a suspected medical problem. The client has a long history of using various drugs and alcohol relevant for medical diagnosis. The information is being sent to the primary care provider without the patient's authorization. The primary care provider refers the patient to a specialist and sends all of their information (without patient authorization) including the information received from the substance abuse treatment facility to the specialist.

3. Patient Care Security and Access - Scenario C

At 5:30pm Dr. X, a psychiatrist, arrives at the skilled nursing facility to evaluate his patient, recently discharged from the hospital psych unit to the nursing home. At the time of the patient's transfer, the discharge summary and other pertinent records were electronically transmitted to the nursing home.

Upon entering the facility Dr. X seeks assistance in locating his patient, gaining entrance to the locked psych unit and accessing her electronic health record to review her discharge summary, I&O, MAR and progress notes. Dr. X was able to enter the unit by showing a picture identification badge, but was not able to access the EHR. As it is Dr. X's first visit, he has no login or password to use their system.

Dr. X completes his visit and prepares to complete his documentation. Unable to access the long-term care facility EHR, Dr. X dictates his initial assessment via telephone to his outsourced, offshore transcription service. The assessment is transcribed and posted to a secure web portal.

The next morning, from his home computer, Dr. X checks his e-mail and receives notification that the assessment is available. Dr. X logs into the portal, reviews the assessment, and applies his electronic signature.

Later that day, Dr X's Office Manager downloads this assessment from the web portal, saves the document in the patient's record in his office and forwards the now encrypted document to the long-term care facility via e-mail.

The long-term care facility notifies Dr. X's office that they are unable to open the encrypted document because they do not have the encryption key.

4. Patient Care - Scenario D

The non-emergent transfer of health information

Patient X is HIV positive and is having a complete physical and an outpatient mammogram done in the Women's Imaging Center of General Hospital in State A. She had her last physical and mammogram in an outpatient clinic in a neighboring state. Her physician in State A is requesting a copy of her records and the radiologist at General Hospital would like to review the digital images of the mammogram performed at the outpatient clinic in State B for comparison purposes. She also is having a test for the BrCa gene because other family members have had breast cancer.

5. Payment Scenario

X Health Payer (third party, workers compensation, disability insurance, employee assistance programs) provides health insurance coverage to many subscribers in the region the healthcare provider serves. As part of the insurance coverage, it is necessary for the health plan case managers to approve/authorize all inpatient encounters. This requires access to the patient health information (e.g., emergency department records, clinic notes, etc.).

The health care provider has recently implemented an electronic health record (EHR) system. All patient information is now maintained in the EHR and is accessible to users who have been granted access through an approval process. Access to the EHR has been restricted to the healthcare provider's workforce members and medical staff members and their office staff.

X Health Payer is requesting access to the EHR by its case management staff to approve/authorize inpatient encounters.

6. RHIO Scenario

The RHIO in your region wants to access data from all participating organizations (and their patients) to monitor the incidence and management of diabetic patients. The RHIO also intends to monitor participating providers to rank them for the provision of preventive services to their diabetic patients.

7. Research Data Use Scenario

A research project on children younger than age 13 is being conducted in a double blind study for a new drug for ADD/ADHD. The research project is being reviewed by the IRB that presides over research protocols at the major medical center where the research investigators are located. The data being collected are all electronic and all responses from the subjects are completed electronically in the same data base file.

The principle investigator was asked by one of the investigators if they could use the raw data to track the patients over an additional six months or use the raw data collected for a white paper that is not part of the research protocols final document for his post doctoral fellow program.

8. Scenario for access by law enforcement

An injured nineteen (19) year old college student is brought to the ER following an automobile accident. It is standard to run blood alcohol and drug screens. The police officer arrives in the ER in addition to the patient's parents. The police officer requests a copy of the blood alcohol test results and the parents want to review the ER record and lab results to see if their child tested positive for drugs. These requests are made to the ER staff.

The patient is covered under their parent's health and auto insurance policy.

9. Scenario A Pharmacy Benefit

The Pharmacy Benefit Manager (PBM) has a mail order pharmacy and also has a closed formulary. The PBM receives a prescription from Patient X for the antipsychotic medication Geodon. The PBM's preferred alternatives for antipsychotics are Risperidone (Risperdal), Quetiapine (Seroquel), and Aripiprazole (Abilify). Since Geodon is not on the preferred alternatives list, the PBM sends a request to the prescribing physician to complete a prior authorization in order to fill and pay for the Geodon prescription. The PBM is in a different state than the provider's Outpatient Clinic.

10. Scenario B for Pharmacy Benefit

A Pharmacy Benefit Manager 1 (PBM1) has an agreement with Company A to review the companies' employees' prescription drug use and the associated costs of the drugs prescribed. The objective would be to see if the PBM1 could save the company money on their prescription drug benefit. Company A is self-insured and as part of their current benefits package, they have the prescription drug claims submitted through their current PBM (PBM2). PBM1 has requested that Company A send their electronic claims to them to complete the review.

11. Healthcare Operations and Marketing - Scenario A

ABC Health Care is an integrated health delivery system comprised of ten critical access hospitals and one large tertiary hospital, DEF Medical Center, which has served as the system's primary referral center. Recently, DEF Medical Center has expanded its rehab services and created a state-of-the-art, stand-alone rehab center. Six months into operation, ABC Health Care does not feel that the rehab center is being fully utilized and is questioning the lack of rehab referrals from the critical access hospitals.

ABC Health Care has requested that its critical access hospitals submit monthly reports to the system six-sigma team to analyze patient encounters and trends for the following rehab diagnoses/ procedures:

- Cerebrovascular Accident (CVA)
- Hip Fracture
- Total Joint Replacement

Additionally, ABC Health Care is requesting that this same information, along with individual patient demographic information, be provided to the system Marketing Department. The Marketing Department plans to distribute to these individuals a brochure highlighting the new rehab center and the enhanced services available.

12. Healthcare Operations and Marketing - Scenario B

ABC hospital has approximately 3,600 births/year. The hospital Marketing Department is requesting PHI on all deliveries including mother's demographic information and birth outcome (to ensure that contact is made only with those deliveries that resulted in healthy live births).

The Marketing Department has explained that they will use the PHI for the following purposes:

1. To provide information on the hospital's new pediatric wing/services.
2. To solicit registration for the hospital's parenting classes.

3. To request donations for construction of the proposed neonatal intensive care unit
4. They will sell the data to a local diaper company.

13. Bioterrorism event

A provider sees a person who has anthrax, as determined through lab tests. The lab submits a report on this case to the local public health department. The public health department in the adjacent county has been contacted and has confirmed that it is also seeing anthrax cases, and therefore it could be a possible bioterrorism event. Further investigation confirms that this is a bioterrorism event, and the State declares an emergency. This then shifts responsibility to a designated state authority to oversee and coordinate a response, and involves alerting law enforcement, hospitals, hazmat teams, and other partners, as well informing the regional media to alert public to symptoms and seek treatment if feel affected. The State also notifies the Feds of the event, and some federal agencies may have direct involvement in the event. All parties may need to be notified of specific identifiable demographic and medical details of each case as they arise to identify the source of the anthrax, locate and prosecute the parties responsible for distributing the anthrax, and protect the public from further infection.

14. Employment Information Scenario

An employee (of any company) presents in the local emergency department for treatment of a chronic condition that has exacerbated which is not work-related. The employee's condition necessitates a four-day leave from work for illness. The employer requires a "return to work" document for any illness requiring more than 2 days leave. The hospital ED has an EHR and their practice is to cut and paste patient information directly from the EHR and transmit the information electronically to the HR department.

15. Public Health - Scenario A--Active carrier, communicable disease notification

Active TB Patient has decided to move to a desert community that focuses on spiritual healing. The TB is classified MDR (multi-drug resistant). Patient purchases a bus ticket - the bus ride will take a total of nine hours with two rest stops. State A is made aware of Patient's intent two hours after the bus with Patient leaves. State now needs to contact the bus company and State B with the relevant information. State A may need to contact every state along the route.

16. Public Health - Scenario B--Newborn screening

A newborn's screening test comes up positive for a rare genetic disorder and the state lab test results are made available to the child's physicians and specialty care centers specializing in the disorder via an Interactive Voice Response system. The state lab also

enters the information in its registry, and tracks the child over time through the child's physicians. The state public health department provides services for this rare genetic disorder and notifies the physician that the child is eligible for those programs. One of the services that the mother uses from the state is regularly purchasing special food products for persons with PKU.

17. Public Health Scenario C--Homeless shelters

A homeless man arrives at a county shelter and is found to be a drug addict and in need of medical care. The person does have a primary provider, and is sent there for the medical care, and is referred to a hospital-affiliated drug treatment clinic for his addiction under a county program. The addiction center must report treatment information back to the county for program reimbursement, and back to the shelter to verify that the person is in treatment. Someone claiming to be a relation of the homeless man requests information from the homeless shelter on all the health services the man has received.

18. Health Oversight: Legal compliance/government accountability

The Governor's office has expressed concern about compliance with immunization and lead screening requirements among low income children who do not receive consistent health care. The state agencies responsible for public health, child welfare and protective services, Medicaid services, and education are asked to share identifiable patient level health care data on an ongoing basis to determine if the children are getting the healthcare they need. Because of the complexity of the task, the Governor has asked each agency to provide these data to faculty at the state university medical campus who will design a system for integrating and analyzing the data.