

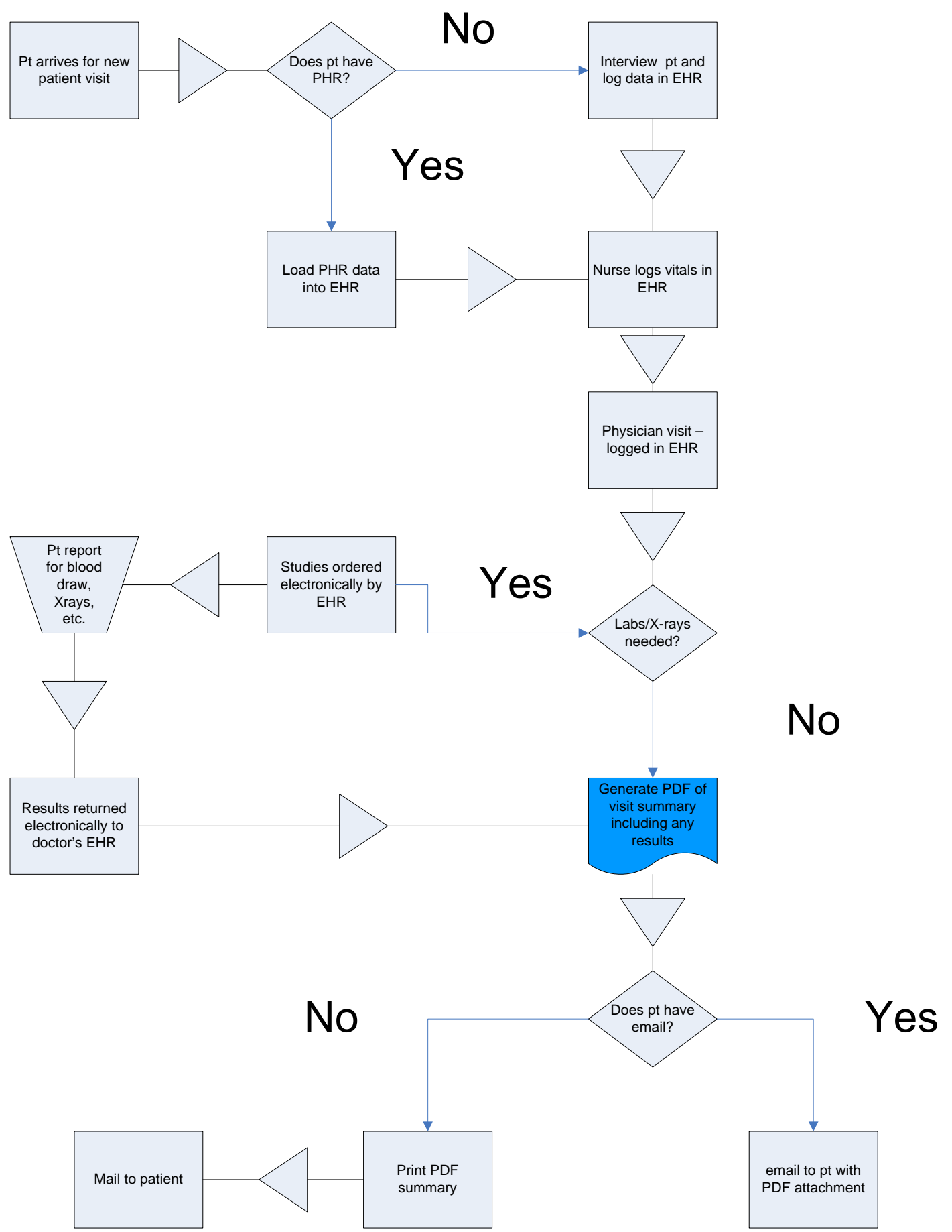
USE CASES AND WORKFLOWS – PDF/H

- 1) John Wilson is a 52 y.o. man who goes to his new family physician for a checkup. He is taken to a registration room where he is able to use a computer to provide his demographic information including email address and fill in a questionnaire regarding his past history, medications, allergies, etc. He also consents to treatment and receives HIPAA notification regarding his electronic information on line (with the option to print a copy if he desires to take it with him). Upon completion he is brought by the nurse to an exam room. The nurse logs on to the PC in the room and fills in his vital signs and reason for visit. She logs off and has the patient disrobe. Dr. Simpson enters the room and logs on, taking some further history from the patient and performing a physical exam. She orders labs on line and tells John that he will receive his summary information in the next day or two when his labs are back. The following day Dr. Simpson reviews John's lab work which has returned electronically and been saved as part of his record. She uses her EMR software to create an email using his saved email address advising him of the status of his labs and when she'd like to see him again. The summary of his record has been formatted utilizing the CCR standard and is transformed to a PDF which she attaches to the email. At his visit John was informed that he can utilize a USB device to store this information and keep it with him. He loads the PDF attachment onto his USB drive when he receives the email.
- 2) Brenda Erickson is 33 y.o. and is seeing her gynecologist for a routine visit. She mentions that she has had troubling new headaches accompanied by flashing lights in her eyes and numbness around the left side of her mouth over the past month. Dr. Watson is concerned and orders an MRI of the head. He has an electronic health record in his office and works with a radiology group that allows on-line access to radiologic studies. Fortunately, the MRI returns normal, but Dr. Watson would like Brenda seen by a neurologist. He generates a referral utilizing a PDF of the record summary generated by his EMR software. Additionally, the PDF includes a header describing the reason for referral and a URL allowing the consultant to view the MRI online. When Brenda arrives to see the neurologist, her records and scan have already been reviewed.
- 3) Oscar Schneider is an 85 y.o. "snowbird" from Minnesota wintering in Yuma, Arizona. He carries a USB device that allows him to display a PDF document summarizing his medical information including problem list, medications, most recent lab studies, and his primary physician's contact information. While in Arizona, Oscar begins to experience swelling of his ankles, weight gain, and shortness of breath on exertion. He presents to the local emergency room. He forgets to bring his pill bottles, but remembers that he has the USB device on his key chain. The ER doc plugs the device into her tablet and has Oscar place his index finger on the USB device to authenticate and allow the data to display. She discovers that Oscar has atherosclerotic cardiovascular disease with a history of anterior wall myocardial infarction and mild left ventricular dysfunction. Oscar's wife admits that he has been eating a lot of chips and salsa. Oscar's symptoms improve dramatically with a dose of IV furosemide. The ER doc bumps Oscar's furosemide dose from 20 to 40 mg per day, asks him to go to the lab in three days for a set of electrolytes, and tells him to lay off the chips! Although the ER does not have an EMR system capable of loading the data from Oscar's drive into their system, a summary of this visit is saved in PDF format and is emailed to Oscar's Minnesota physician.
- 4) Esther Perkins is a 90 y.o. woman admitted to a local hospital for a total hip replacement. Although she doesn't have a personal health record, the hospital has an enterprise EHR system. On admission a clerk interviews Esther about her demographics information, next of kin, and her desires in terms of advance directives. All of Esther's care is recorded electronically during her stay. The surgery goes well and Esther is transferred to a care facility for rehabilitation. An HL7 history & physical, discharge summary and transfer form as well as directive to physicians is created as PDF documents and is

electronically forwarded to the receiving facility on the morning of anticipated discharge. The head nurse is able to review Esther's information and select the most appropriate placement. When she arrives at the facility, the staff is already acquainted with her care needs and the physical therapist has been informed of the orders for her rehabilitation.

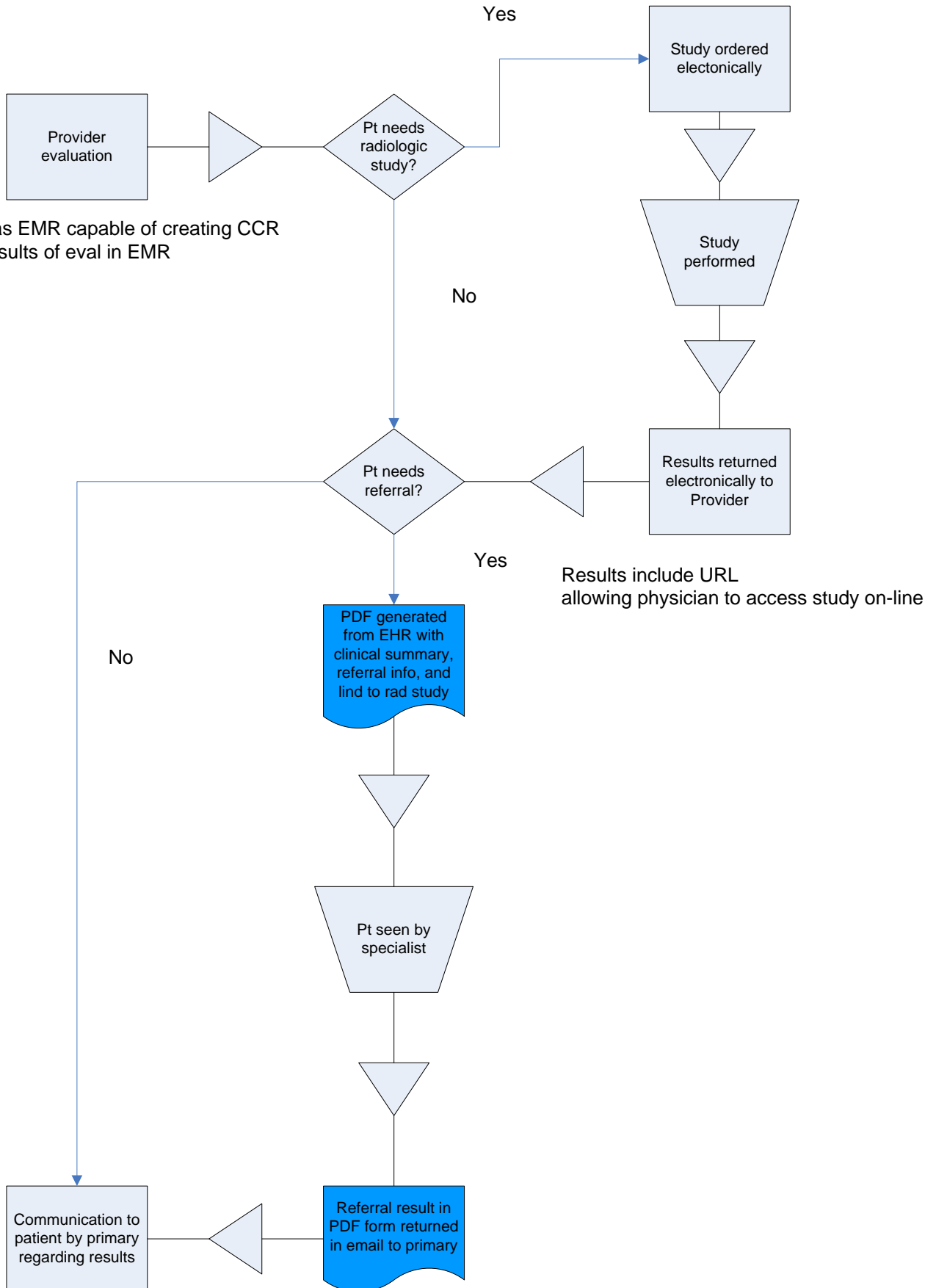
- 5) Janey Schwartz is a 26 y.o. mom of two. She is concerned that she is carrying about 20 extra pounds since the birth of her second child that she hasn't been able to lose, and she decides to join a weight loss program recommended by her doctor. She recently purchased an electronic scale that can send her weights to her personal computer. She has a personal health record stored on a database that she can access via the web with a username and a strong password. She discovers that she can upload the data from her scale as well as narrative data about her daily calorie intake into the PHR database. She is able to create a PDF with "partitioned" data from her PHR so that she can send her weight loss coach her identifying demographic data along with her weight (including a trend graph) and diet info that she has entered. This allows her to send the data in a secure format so that it can only be viewed by her coach who opens it with a password. With Janey's busy schedule, she is unable to attend all the meetings she would like, but utilizing her scale and her PHR, she can share pertinent information and receive on-line coaching customized to her needs.

Scenario 1 – New patient



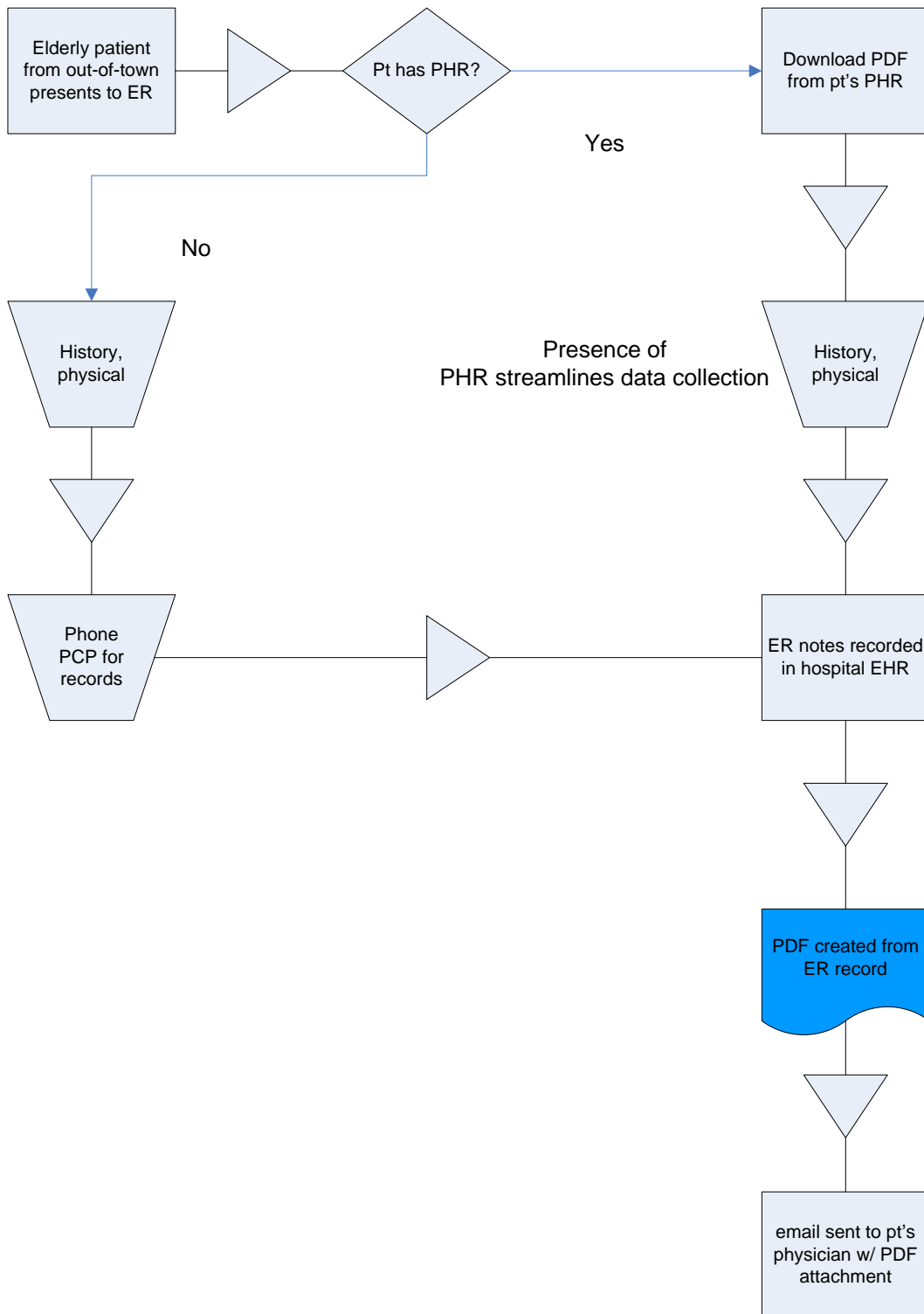
Scenario 2 - referral

- Provider has EMR capable of creating CCR
Records results of eval in EMR

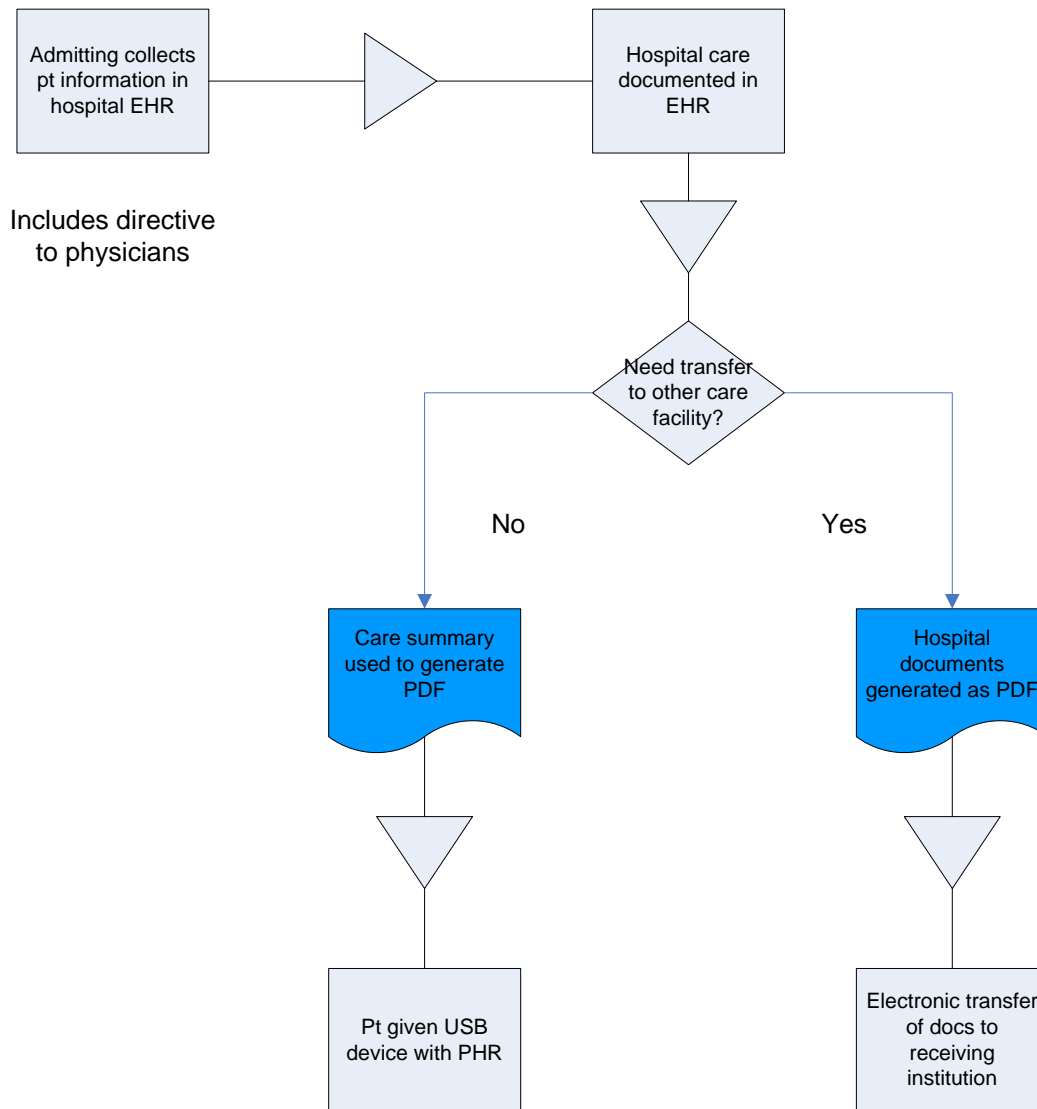


Another opportunity to generate results in PDF format for patient to include in her PHR

Scenario 3 – ER visit



Scenario 4 - transfer



Scenario 5 - consumer

