



Background

Suppose your health center is focused on the management of breast imaging results of patients. Preventive breast imaging like mammogram screenings can help detect early signs of breast cancer, [the second most common cancer among women in the United States](#) and [is about 30% \(or 1 in 3\) of all new female cancers each year](#).

Your health center has a radiology department across multiple clinics that perform routine breast imaging. After a screening is performed the results are automatically saved into the EHR by the imaging system.

Your health center is also partnered with an outside referral imaging center that helps with scheduled appointments. The referral imaging center performs the screenings with their own imaging system. When the screening is completed, the results *are not* automatically saved into your EHR. Instead, the referral imaging center sends the results as a file using SFTP on a weekly basis. The file is then loaded and saved into your health center database, but is not part of the EHR.

The file will contain patient information including the medical record number, name, and date of birth. It will also include free text notes left by the radiologist, containing the date of the imaging, type of imaging, result, and next follow-up date.

Objective

Create a report to track the most recent preventive breast imaging of a patient based off data from the outside referral imaging center and your health center EHR. Female patients who are currently 45-75 years old should be included and categorized into one of the four following statuses.

<u>Status</u>	<u>Description</u>
Overdue	When the patient's next imaging follow-up date has passed from the current date
Due Today	When the patient's next imaging follow-up date is the current date
Up To Date	When the patient's next imaging follow-up date is in the future from the current date
No Imaging	When the patient has not had an imaging performed



Note that the data provided by the referral imaging center will need to be extracted and manipulated to be integrated with the EHR data.

The final select statement should include the following data elements and columns.

Patient Data

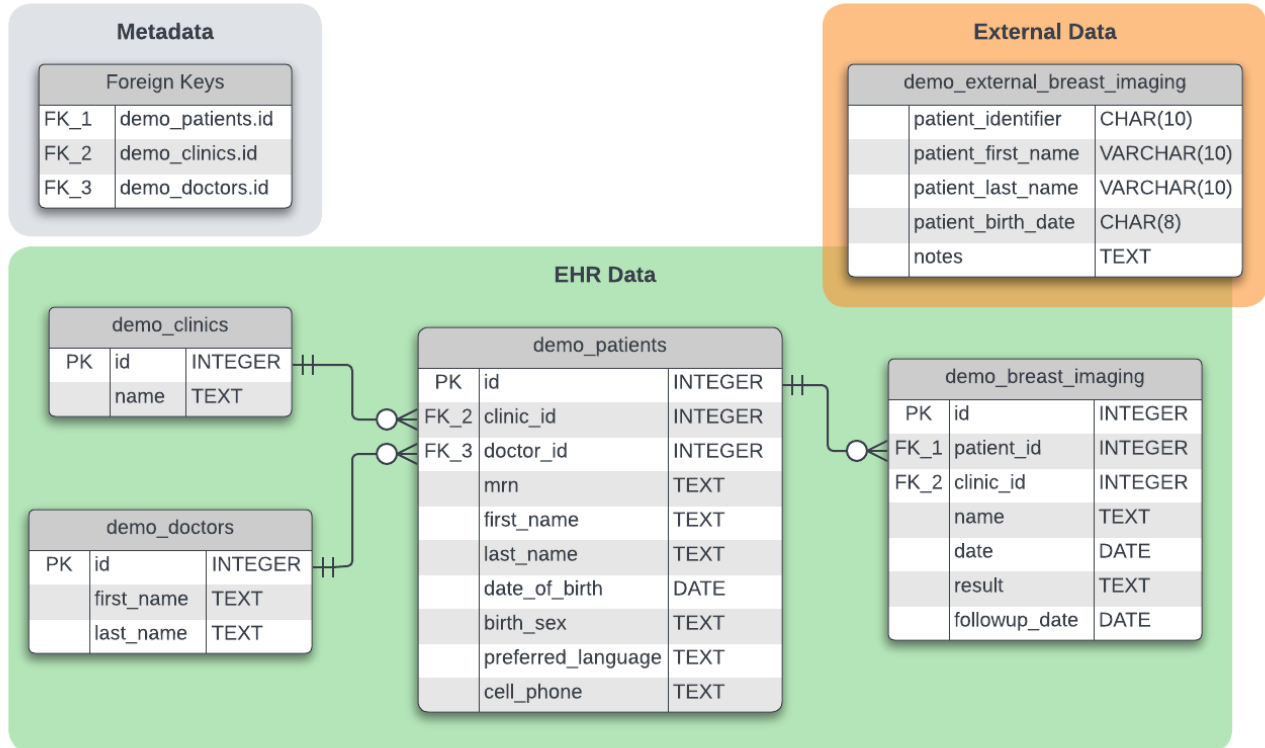
Column	Description	Example
Patients Assigned Clinic	The patient's assigned clinic	La Clinica Vista
Patients Assigned Doctor	The patient's assigned doctor	Maudlin, Yamilet
Patients MRN	The patient's medical record number	100023
Patient Name	The patient's first and last name	Carolina Knost
Patient DOB	The patient's date of birth	1956-06-07
Patient Age	The patient's current age	65
Patient Language	The patient's preferred language	English
Patient Cell Phone	The patient's cell phone	916-005-5811

Imaging Data

Column	Description	Example
Imaging Center	The imaging center name	La Clinica Vista
Imaging Date	The date the imaging was performed	2022-01-08
Imaging Name	The imaging name	Bilateral
Imaging Result	The result of the imaging	BI-RADS 2
Imaging Follow Up Date	The next imaging date scheduled	2022-12-11
Status	The status of the next imaging date	Up To Date



Preventive Breast Imaging ERD



Data Definitions

Below are the data definitions of the tables and columns in the Preventive Breast Imaging ERD.

demo_breast_imaging

All preventive breast imaging performed at a given clinic

Column	Description
id	Unique database ID of the imaging
patient_id	Database ID of the patient – the patient who had an imaging performed
clinic_id	Database ID of the clinic – the clinic where the imaging was performed
name	Name of the imaging
date	Date the imaging was performed
result	Result of the imaging
followup_date	Date of next scheduled imaging



demo_clinics

All clinics in the database

Column	Description
id	Unique database ID of the clinic
name	Name of the clinic

demo_doctors

All practicing doctors in the database

Column	Description
id	Unique database ID of the doctor
first_name	First name of doctor
last_name	Last name of doctor

demo_external_breast_imaging

All preventive imaging performed by the outside referral imaging center. Each row represents an imaging performed.

Column	Description
patient_identifier	Medical record number of the patient from the health center EHR in a 10-character sequence padded with leading 0's
patient_first_name	The first 10 characters of the patient's first name
patient_last_name	The first 10 characters of the patient's last name
patient_birth_date	Date of birth of the patient in YYYYMMDD format
notes	Free text notes the radiologist left that contains the date of the imaging, type of imaging, result, and the follow-up date for the next imaging.



demo_patients

All active patients in the database

Column	Description
id	Unique database ID of the patient
clinic_id	Database ID of the clinic – the clinic the patient is assigned to
doctor_id	Database ID of the doctor – the doctor the patient is assigned to
mrn	Medical record number of the patient
first_name	First name of the patient
last_name	Last name of the patient
date_of_birth	Date of birth of the patient
birth_sex	Birth sex of the patient
preferred_language	Language the patient prefers to be spoken in
cell_phone	Cell phone of the patient