

Coding Test Directions

Ohio Colleges of Medicine Government Resource Center

GRC staff are often asked to analyze data that may require some cleaning as part of the processing. For this coding exercise, use the synthetic quality improvement data file provided in the email (grc_qi_coding_exercise.csv). This file contains records from four sites over a series of visits by 250 unique adult (age 18+) patients. Information on patient demographics, blood pressure (BP), hemoglobin A1C value, depression screening, and follow-up visit scheduling are provided. You do not necessarily need to know anything about clinical care to complete the task, but you are welcome to search online for background information if desired.

The fields are:

- **PatID:** patient ID
- **SiteName:** clinic at which visit occurred
- **VisitDate:** date on which the visit occurred
- **DOB:** patient date of birth
- **AgeAtVisit:** age of patient on the date of the visit
- **Sex:** sex of patient (male or female)
- **A1C:** hemoglobin A1C value (expressed as percentage)
- **SysBP:** systolic BP (the “top number”)
- **DiasBP:** diastolic BP (the “bottom number”)
- **HypFollowUpSch:** whether a follow-up visit was scheduled during this visit for patients with hypertension (systolic BP > 140, diastolic BP > 90)
- **DepScreen:** whether a PHQ depression screen was administered
- **PHQ:** PHQ score
- **DepFollowUpSch:** whether a follow-up visit for depression was scheduled during this visit for patients with a PHQ score over 4

Answer the following questions below in your language of choice, and provide a clean copy of your final code along with the answers to the questions saved as comments in the code. The answers can be provided at any point you choose in the code file.

1. How many patients visited Clinic 1 on or before April 30, 2030?
2. What was the average patient age among all visits with an A1C value of greater than or equal to 9.0?
3. How many patients aged 50 or younger on the visit date had recorded blood pressures consistent with hypertension (systolic BP > 140 AND diastolic BP > 90) on at least two separate visits?
4. How many patients at Clinic 2 received a depression screening and had a PHQ score of 4 or lower?
5. Among male patients with hypertension who visited Clinic 1 or Clinic 3, what was the proportion of visits at each clinic during which a follow-up visit for hypertension was scheduled?