Is Chronic Obstructive Pulmonary Disease Reco(r)ded Similarly in CPRD GOLD and Aurum?

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DISCLOSURES

RTI Health Solutions receives institutional funding for projects from public and private entities.

BACKGROUND

- In England, many primary care practices migrated from VISION to EMIS software. In 2017, Clinical Practice Research Datalink (CPRD) launched Aurum, incorporating some of these migrating practices from GOLD and new practices using EMIS.
- Studies using Aurum data are ongoing.[1,2] Code lists and algorithms to define variables are being adapted from the previous experience in GOLD studies.

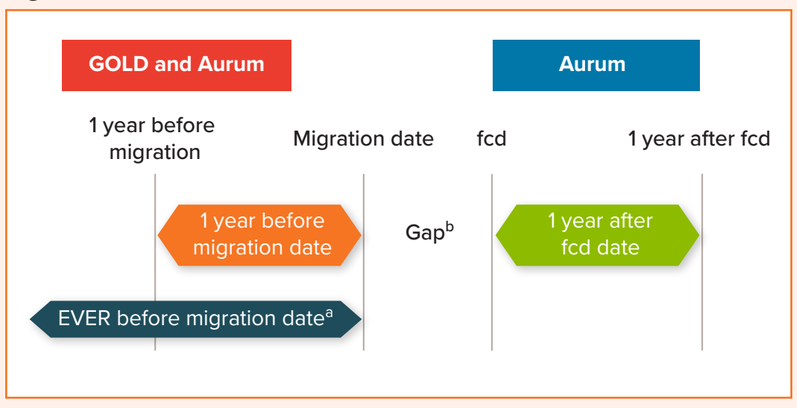
OBJECTIVES

1. To compare the recording of chronic obstructive pulmonary disease (COPD) diagnoses, COPD controller medications, and % predicted forced expiratory volume in 1 second (FEV_1) before migration in GOLD with Aurum by adapting existing GOLD algorithms to Aurum.
2. To compare the recording of COPD diagnoses and medications, and % predicted FEV_1 in Aurum 1 year before the migration date and 1 year after the first collection date (fcd).

METHODS

- Among practices migrating from GOLD to Aurum, 7 were randomly selected, and patients aged 40 years or older and registered in the practice at least 1 year before the last collection date or migration date for GOLD were included.
- Prevalence of COPD diagnoses ever before migration, % predicted FEV_1 values within 5 years before migration, and use of COPD controller medications and availability of information on duration of COPD controller medication prescriptions within 1 year **before migration** were evaluated for both GOLD and Aurum (Figure 1).
  - % predicted FEV_1 was derived among patients diagnosed with COPD ever before migration and categorized as < 30%, ≥ 30% and < 50%, ≥ 50% and < 80%, and ≥ 80%.
  - In GOLD, % predicted FEV_1 was defined from entity types and Read codes, as described in Rebordosa et al.[3] In Aurum, SNOMED codes were used to identify % predicted FEV_1 values, or FEV_1 values that will be used to calculate % predicted FEV_1 using the Global Lung Initiative (GLI) European Respiratory Society (ERS) Task Force (TF-2009-03).[4]

Figure 1. Evaluation Periods



[a] FEV_1 values were collected within 5 years before migration.

[b] Period of time in which historical data are only available in Aurum due to a large number of practices joining around the same time in Aurum and the data collection starting in stages.

fcd (minimum = 27 September 2017, maximum = 22 August 2018); migration date (minimum = 26 March 2014, maximum = 15 July 2018).

- For Aurum, prevalence of COPD diagnoses, use of COPD controller medications, and availability of information on duration of COPD controller medication prescriptions were evaluated **within 1 year before migration and 1 year after fcd**.

RESULTS

- A total of 26,666 patients aged 40 years or older in GOLD and 26,994 in Aurum were included in this study.
- The **prevalence of COPD** diagnosis recorded any time before the migration was 4.6% in included patients in GOLD and 4.4% in Aurum. In Aurum, 3.3% of patients had a diagnosis of COPD within 1 year before migration and 3.4% within 1 year after fcd (Figure 2).
- Among patients ever diagnosed with COPD before migration, **% predicted FEV_1** within 5 years before migration was available for 81.8% of included patients in GOLD and 85.6% in Aurum. Similar distribution of categories of % predicted FEV_1 were observed in both data sources (Figure 3).
- Distribution of **use of COPD controller medications** within 1 year before migration in GOLD and Aurum was similar. In Aurum, after migration, use of long-acting beta 2 agonist/long-acting muscarinic antagonists (LABA/LAMA) increased while use of other medications decreased (Figure 4).
- The **duration of COPD controller prescriptions** was available for 76.7% of the prescriptions in GOLD and 94.1% in Aurum within 1 year before migration and in 97.6% in Aurum within 1 year after fcd (Figure 5).

Figure 2. Prevalence of Diagnosis of COPD by Period in Each Data Source

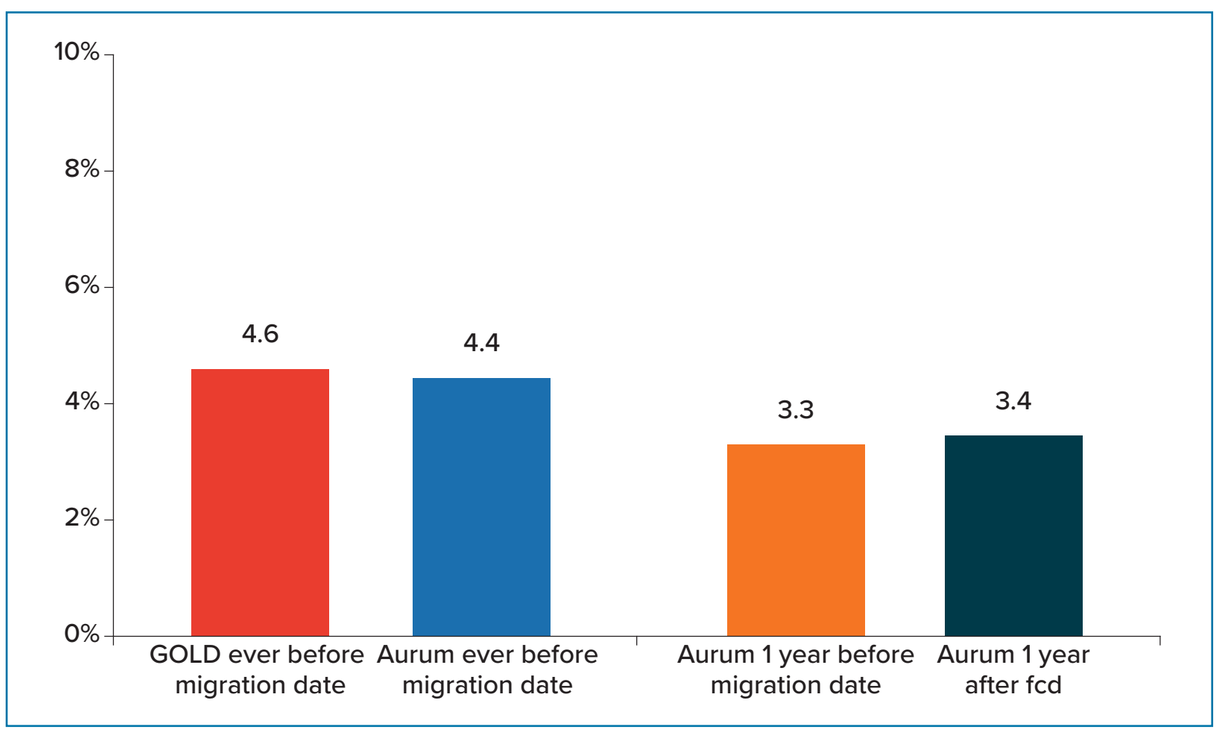


Figure 3. % Predicted FEV_1 Categories Among Patients Diagnosed With COPD Ever Before Migration Date

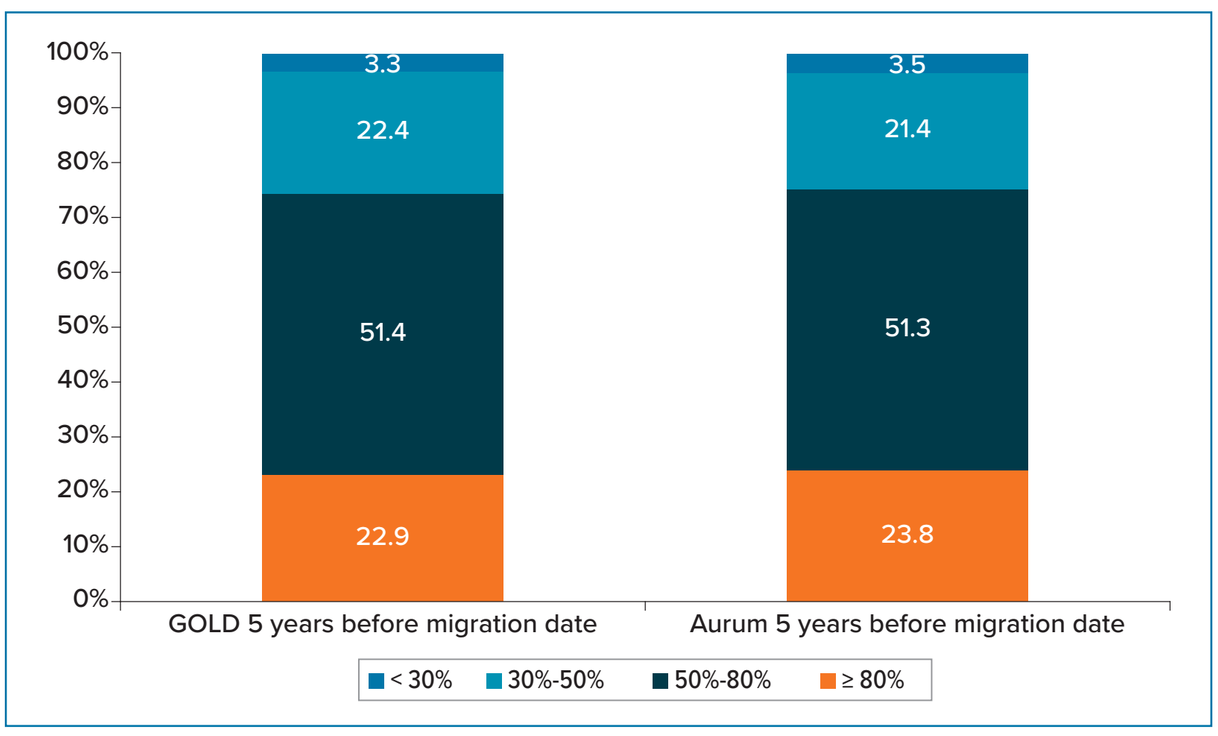


Figure 4. Use of COPD Controller Medications by Period, in Each Data Source

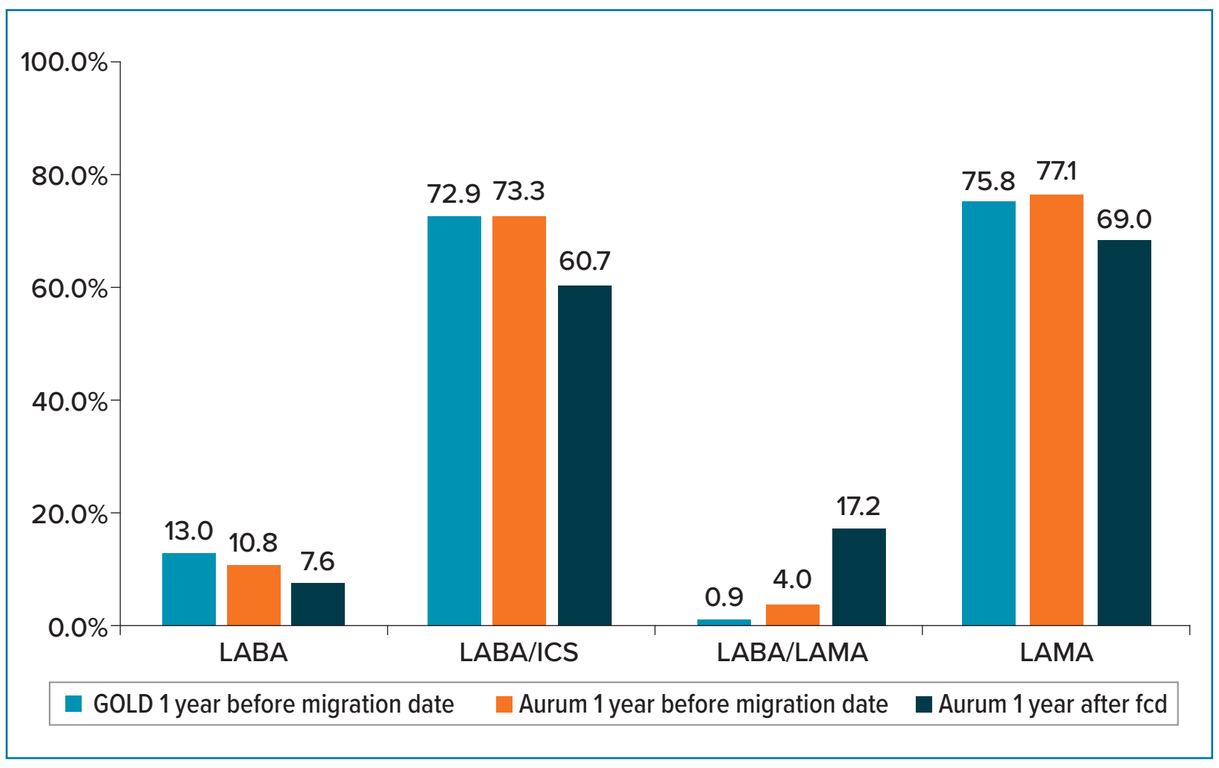
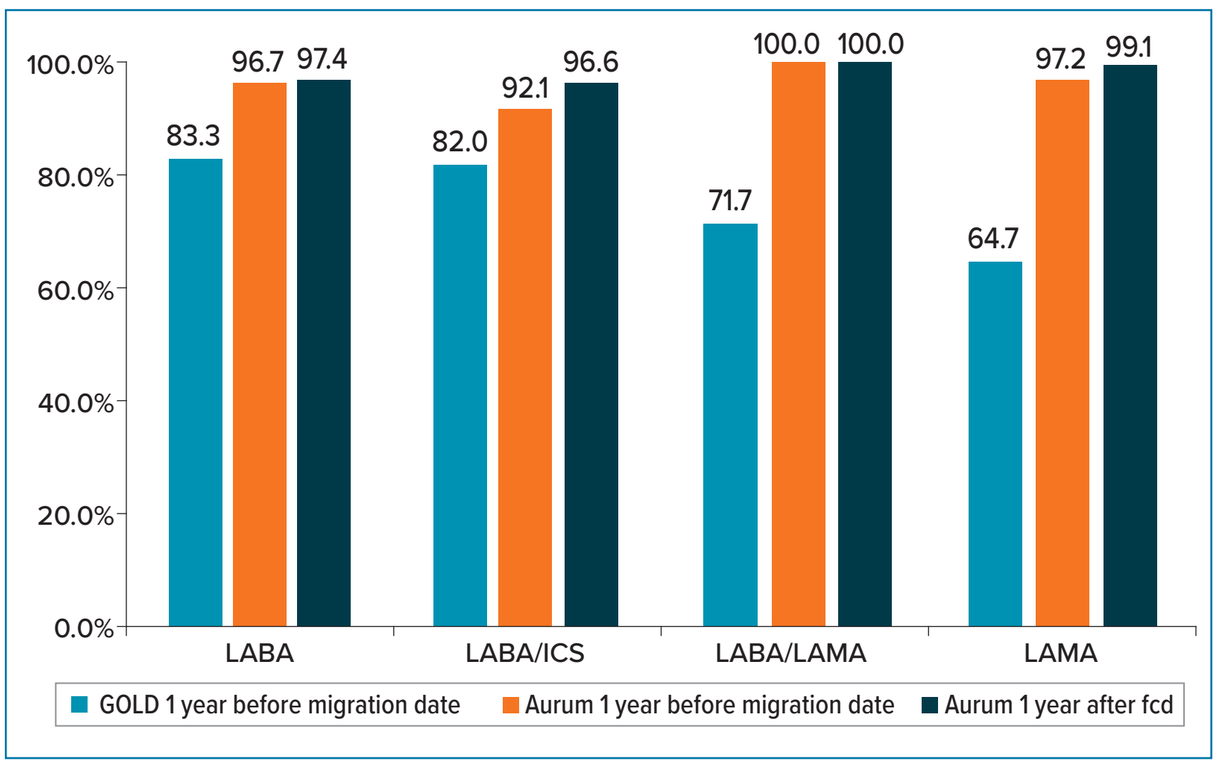


Figure 5. Availability of the Duration of Prescriptions of COPD Controller Medications by Period, in Each Data Source



CONCLUSIONS

- Adaptation of CPRD algorithms from GOLD to Aurum showed that the distribution of COPD-related variables in GOLD and Aurum were very similar and in line with population distribution in the United Kingdom.
- New recording of COPD diagnoses was in line with data prior to migration. In Aurum, use of COPD controller medications after fcd increased for LAMA/LABA and decreased for LABA and LABA/ICS.
- Availability of data on duration of COPD controller medications was more complete in Aurum than in GOLD.

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