Union 4 Cohort Definitions

Xilin Chen

6/28/2021

How to define the cohort based on ABS, fellowship council, medicare specialty code and practice patterns criteria

Background

This cohort was created by full join the inner joinned datasets. Details can be found on report "other_docs/lab_notebooks/Overlap_cohort_definitions.pdf".

How the cohort is defined

ABS and fellowship council data were first used to exclude fellowship trained surgeons, because these two datasets are the most reliable fellowship record data we have. Then, medicare GS definition dataset were used to identify GS surgeons. By using medicare GS definition, 40% of surgeons were excluded. Medicare GS definition is the most stringent qualification criteria. This qualification ensured that surgeons who were identified in Medicare GS definition were *true* general surgery surgeons. However, this step also misclassified a portion of general surgery surgeons to the non-GS group. In summary, Medicare GS code has high sensitivity, but low specificity.

To improve the true fellowship trained surgeons classification, the practice patterns filter was used among the excluded surgeons based on the medicare specialty code exclusion. The excluded surgeons who were qualified based on the practice patterns were added back to our finial analyses cohort. This helps add the falsely classified general surgery surgeons back to our analyses cohort.

Diagram

The diagram below shows the details of the inclusion and exclusion of our analyses cohort.

Definition summary
Step1: Using ABS and fellowship council data to exclude fellowship trained surgeons.
#
Step2: Using medicare general surgery code to flag GS surgeons who can't be defined in step1.
#
step3: using practice patterns to flag GS that can't be defined in step1 or 2.
We can use the median number of types cases performed by the defined GS surgeons
from step1 and 2 to define the threshold of number of types cases for GS surgeons.

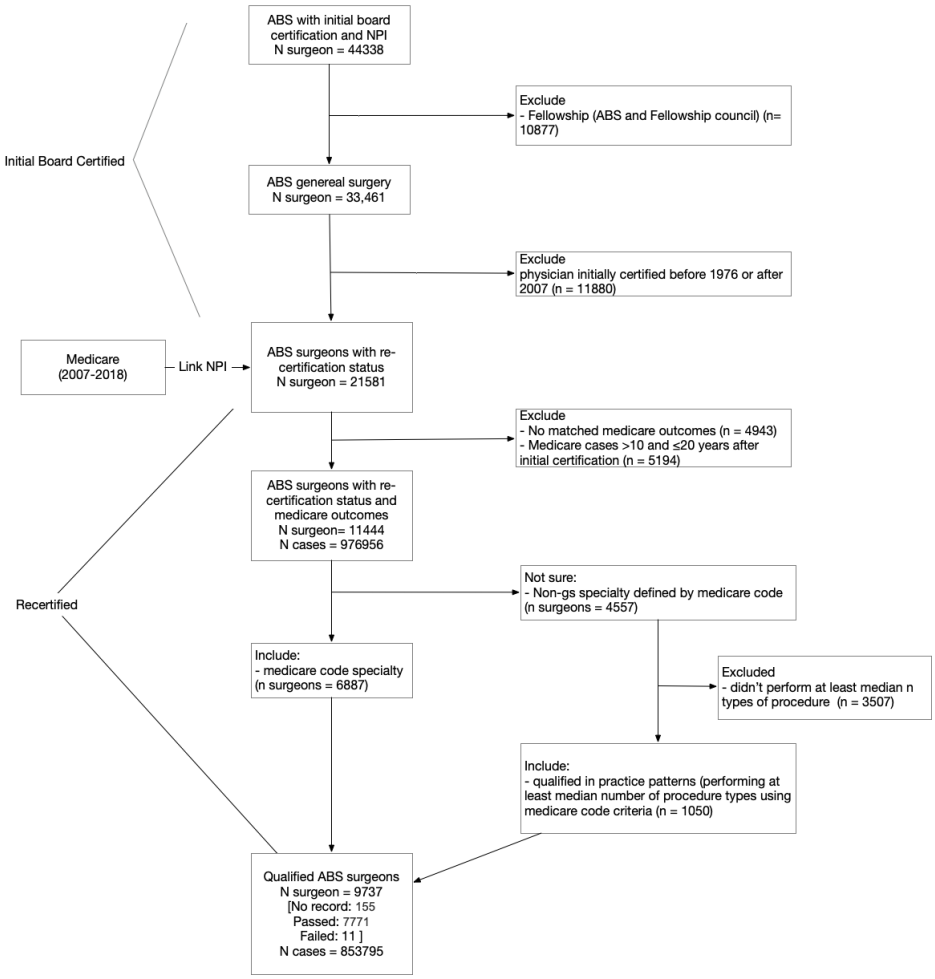

Figure 1: union cohort definition