**SUPPLEMENTARY FIGURES**

Supplementary Figure 1: Flow chart showing the data extraction and cleaning process for the selected operation types.

- **5,601,610** operations that are the first of their type for that patient within the period 1st Apr 2001 to 31st Dec 2019

- **236,345** excluded for not being the primary operation undergone within the inpatient spell
- **318,498** non-elective operations excluded

- **1,093,794** operations prior to 1st Apr 2006

- **14,506** records with unknown age, age < 1, unknown sex or missing primary diagnosis

- **13,472** “duplicate” records (patients having the same operation type recorded as happening more than once on the same day)

- **11,936** records with discharge date recorded as being before the operation date

- **3,203,331** occurring at an NHS hospital
- **468,259** occurring at Independent Sector Hospital Provider site
- **241,469** with unknown provider type

Supplemental material

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