

## Appendix 1. Assessment of all collected variables from the literature

| <b>Group</b>        | <b>Predictor(s)</b>              | <b>Patient-level variable</b> | <b>Available in Swiss claims data</b> | <b>Available at admission</b> |
|---------------------|----------------------------------|-------------------------------|---------------------------------------|-------------------------------|
| clinical assessment | health status                    | yes                           | no                                    | no                            |
| clinical assessment | laboratory findings              | yes                           | no                                    | no                            |
| clinical assessment | reason for admission             | yes                           | no                                    | no                            |
| comorbid conditions | acid disorder                    | yes                           | indirectly                            | yes                           |
| comorbid conditions | bone disease                     | yes                           | indirectly                            | yes                           |
| comorbid conditions | cancer                           | yes                           | indirectly                            | yes                           |
| comorbid conditions | cardiovascular disease           | yes                           | indirectly                            | yes                           |
| comorbid conditions | chronic kidney disease           | yes                           | no                                    | no                            |
| comorbid conditions | deficiency anemia                | yes                           | indirectly                            | yes                           |
| comorbid conditions | diabetes                         | yes                           | indirectly                            | yes                           |
| comorbid conditions | endocrine disease                | yes                           | no                                    | no                            |
| comorbid conditions | genito-urinary disease           | yes                           | no                                    | no                            |
| comorbid conditions | glaucoma                         | yes                           | indirectly                            | yes                           |
| comorbid conditions | gout                             | yes                           | indirectly                            | yes                           |
| comorbid conditions | hepatic disease                  | yes                           | no                                    | no                            |
| comorbid conditions | HIV                              | yes                           | indirectly                            | yes                           |
| comorbid conditions | hypercholesterolemia             | yes                           | indirectly                            | yes                           |
| comorbid conditions | hypothyroidism                   | yes                           | indirectly                            | yes                           |
| comorbid conditions | immunosuppression                | yes                           | directly                              | yes                           |
| comorbid conditions | intestinal inflammatory diseases | yes                           | indirectly                            | yes                           |
| comorbid conditions | lung disease                     | yes                           | indirectly                            | yes                           |
| comorbid conditions | mental illness                   | yes                           | indirectly                            | yes                           |
| comorbid conditions | migraine                         | yes                           | indirectly                            | yes                           |
| comorbid conditions | neurologic disorder              | yes                           | indirectly                            | yes                           |
| comorbid conditions | number of comorbid conditions    | yes                           | indirectly                            | yes                           |

|                               |                                     |     |            |     |
|-------------------------------|-------------------------------------|-----|------------|-----|
| comorbid conditions           | obesity/BMI                         | yes | no         | no  |
| comorbid conditions           | pain disorder                       | yes | indirectly | yes |
| comorbid conditions           | parkinsons disease                  | yes | indirectly | yes |
| comorbid conditions           | rheuma                              | yes | indirectly | yes |
| comorbid conditions           | stroke                              | yes | no         | no  |
| comorbid conditions           | substance usage                     | yes | indirectly | yes |
| comorbid conditions           | tuberculosis                        | yes | indirectly | yes |
| illness severity              | misc. illness severity markers      | yes | no         | no  |
| overall health and function   | cognitive impairment                | yes | no         | no  |
| overall health and function   | health and function markers         | yes | indirectly | yes |
| overall health and function   | quality of life                     | yes | no         | no  |
| overall health and function   | visual or hearing impairment        | yes | no         | no  |
| perioperative variables       | discharge location                  | yes | directly   | no  |
| perioperative variables       | length of stay                      | yes | directly   | no  |
| perioperative variables       | misc. care provider characteristics | no  | NA         | NA  |
| perioperative variables       | misc. perioperative complications   | yes | no         | no  |
| perioperative variables       | misc. perioperative procedures      | yes | no         | no  |
| perioperative variables       | misc. perioperative variables       | yes | no         | no  |
| perioperative variables       | misc. postoperative complications   | yes | no         | no  |
| perioperative variables       | postoperative medication            | yes | directly   | no  |
| perioperative variables       | surgery at index hospitalization    | yes | directly   | no  |
| prior use of medical services | grouped inpatient costs             | yes | directly   | yes |
| prior use of medical services | grouped outpatient costs            | yes | directly   | yes |
| prior use of medical services | number of outpatient visits         | yes | directly   | yes |
| prior use of medical services | number of previous admissions       | yes | directly   | yes |
| prior use of medical services | number of previous ED presentations | yes | directly   | yes |
| sociodemographic variables    | access to care                      | yes | no         | no  |
| sociodemographic variables    | age                                 | yes | directly   | yes |
| sociodemographic variables    | deductible                          | yes | directly   | yes |
| sociodemographic variables    | education                           | yes | no         | no  |
| sociodemographic variables    | family support                      | yes | no         | no  |
| sociodemographic variables    | health plan                         | yes | directly   | yes |
| sociodemographic variables    | identification                      | yes | no         | no  |

|                            |                                  |     |            |     |
|----------------------------|----------------------------------|-----|------------|-----|
| sociodemographic variables | language                         | yes | no         | no  |
| sociodemographic variables | language area                    | yes | directly   | yes |
| sociodemographic variables | level of urbanity                | yes | directly   | yes |
| sociodemographic variables | marital status                   | yes | no         | no  |
| sociodemographic variables | misc. sociodemographic variables | yes | no         | no  |
| sociodemographic variables | race/ethnicity                   | yes | no         | no  |
| sociodemographic variables | sex                              | yes | directly   | yes |
| sociodemographic variables | socio-economic status            | yes | indirectly | yes |
| sociodemographic variables | supplementary hospital insurance | yes | directly   | yes |