**Table S3**: Pharmacy and hospitalisation based indicators of adverse drug events/diseases states identified in Table S2

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| **Adverse drug event/disease state** | **Medicine based indicator** | **Diagnostic indicator** |
| Acute coronary syndrome | None | Hospitalisation related to acute ischemic heart disease (ICD-10: I20-24) |
| Antimicrobial resistance | None | None |
| Clostridium difficile infection | None | Hospitalisation with Clostridium difficile colitis (ICD-10: A04.7) |
| Death | Death recorded in PBS data | None |
| Dementia (or cognitive decline) | Dementia: Anti-dementia medication (ATC:NO6D)$ | Hospitalisation with dementia (ICD-10: F02) |
| Diabetes | Oral hypoglycaemic (ATC A10B) $\*, insulin (ATC A10A)\* | Hospitalisation with diabetes type 2 (ICD-10: E11)  |
| Drug dependence | None | Hospitalisation with mental disorder related to sedatives, hypnotics, anxiolytics (ICD-10: F13)  |
| Fall | None | Hospitalisation with fall (ICD-10: W00-W19) |
| Heart failure | loop diuretics (ATC: C03CA) $, ACE (ATC: C09A and B) $ and angiotensin II inhibitors (ATC: C09C and D) $ | Hospitalisation with congestive cardiac failure (ICD-10: I50) |
| Hip fracture | None | Hospitalisation with hip fracture (ICD-10: S720, S721) |
| Hospitalisation | None | Any hospitalisation |
| Hyperlipidaemia | Statin (ATC: C10AA, C10B) $\* | None |
| Hypertension | Thiazides, potassium-sparing agents, combination antihypertensives, other antihypertensives (e.g. clonidine, hydralazine) (ATC: C02A to L) $ | None |
| Overdose | None | Hospitalisation with overdose (ICD-10: T36-T50) |
| Parkinsonism | Levodopa (ATC: NO4BA) | Hospitalisation with parkinsonism (ICD-10: G20) |
| Pneumonia | None | Hospitalisation with pneumonia (ICD-10: J12, J13, J14, J15, J16, J17, J18) |
| Renal failure | End stage renal disease: alpha erythropoietin (ATC: B03XA01), calciferol (ATC: A11CC05), calcitriol (ATC: A11CC04), sevelamer (ATC: V03AE02) $ | Hospitalisation with renal failure\* (ICD-10: N17, N18, N19) |
| Stroke | None | Hospitalisation with stroke\* (ICD-10: I60-I64) |
| Sudden cardiac death | None | None |

\*Validated as adverse drug event marker in Australian data (44). $ Validated as disease state marker in Australian data (45).