## Supplementary Table 1: Medicines of interest and PBS restrictions

| PBS Item Number | Form & strength | Date first PBS listed | Date cost fell below general co-payment threshold | Current restriction |
|-----------------|-----------------|-----------------------|--------------------------------------------------|---------------------|
| **Clopidogrel (B01AC04)** | | | | |
| 2275R | Tablet 75 mg | 1 Jan 2013 | 1 Aug 2013 | • Cardiac stent insertion  
• Acute coronary syndrome (myocardial infarction or unstable angina) |
| 4179Y | Tablet 75 mg | 1 Aug 2002 | 1 Aug 2013 | • For use in patients pre- and post-angioplasty  
• Prevention of recurrence of ischaemic stroke or transient cerebral ischaemic events  
• Prevention of recurrence of myocardial infarction or unstable angina |
| 5436D | Tablet 75 mg | 1 Sep 2011 | 1 Aug 2013 | • Prevention of recurrence of ischaemic stroke or transient cerebral ischaemic events  
• Prevention of recurrence of myocardial infarction or unstable angina |
| 8358X | Tablet 75 mg | 1 Nov 1999 | 1 Aug 2013 | • Prevention of recurrence of ischaemic stroke or transient cerebral ischaemic events  
• Prevention of recurrence of myocardial infarction or unstable angina |
| 9317J | Tablet 75 mg | 1 Apr 2010 | 1 Aug 2013 | • Cardiac stent insertion  
• Acute coronary syndrome (myocardial infarction or unstable angina) |
| 9354H | Tablet 75 mg | 1 Jun 2010 | 1 Aug 2013 | • Prevention of recurrence of ischaemic stroke or transient cerebral ischaemic events  
• Prevention of recurrence of myocardial infarction or unstable angina |
| 10169F | Tablet 75 mg | 1 Dec 2014 | 1 Dec 2014 | • For use in patients pre- and post-angioplasty |
| **Clopidogrel with aspirin (B01AC30)** | | | | |
| 9296G | Tablet 75 mg -100 mg | 1 Dec 2009 | 1 Apr 2016 | • Cardiac stent insertion  
• Acute coronary syndrome (myocardial infarction or unstable angina)  
• Prevention of recurrence of myocardial infarction or unstable angina |
| 9495R | Tablet 5 mg | 1 Dec 2009 | N/A | • Acute coronary syndrome (myocardial infarction or unstable angina) |
| 9496T | Tablet 10 mg | 1 Dec 2009 | N/A | • Acute coronary syndrome (myocardial infarction or unstable angina) |
| **Prasugrel (B01AC22)** | | | | |
| 5435G | Tablet 5 mg | 1 Dec 2009 | N/A | • Acute coronary syndrome (myocardial infarction or unstable angina) |
| 5436F | Tablet 10 mg | 1 Dec 2009 | N/A | • Acute coronary syndrome (myocardial infarction or unstable angina) |
| **Ticagrelor (B01AC24)** | | | | |
| 1418P | Tablet 90 mg | 1 Aug 2012 | N/A | • Acute coronary syndrome (myocardial infarction or unstable angina) |
| Characteristic                        | Type of codes                | Codes                                                                 |
|--------------------------------------|------------------------------|----------------------------------------------------------------------|
| Acute myocardial infarction (AMI)    | ICD-10-AM diagnosis          | I21 Includes STEMI (I21.0 – I21.30), NSTEMI (I21.4), and unspecified (I21.9) |
| Percutaneous coronary intervention (PCI) | ICD-10-AM procedure          | 3850500, 3830900, 3831200, 3831500, 3831800, 3831801, 9021800, 9021801, 9021802, 9021803, 3830000, 3830300, 3830001, 3830301, 3830600, 3830601, 3830602, 3830603, 3830604, 3830605 |
|                                     | MBS item                     | 38300, 38303, 38306, 38309, 38312, 38315, 38318                         |
| Coronary artery bypass graft        | ICD-10-AM procedure          | 3849700, 3849701, 3849702, 3849703, 3849904, 3849705, 3849705, 3849706, 3849707, 3850000, 3850001, 3850301, 3850002, 3850302, 3850003, 3850303, 3850004, 3850304, 3850005, 3850305, 9020100, 9020101, 9020102, 9020103 |
|                                     | MBS item                     | 38497, 38498, 38500, 38501, 38503, 38504, 38637                       |
| Major bleeding                      | ICD-10-AM diagnosis          | Haemorrhage: I60, I61, I62 Major bleeding: D62, H11.3, H35.6, H43.1, J94.2, N02, N95.0, R04, R31, R58 |
|                                     |                             | Gastrointestinal bleeding: K22.6, K22.8, K25.0, K25.2, K25.4, K25.6, K26.0, K26.2, K26.4, K27.0, K27.2, K27.4, K27.6, K28.0, K28.2, K28.4, K28.6, K29.0, K29.21, K29.31, K29.41, K29.51, K29.61, K29.71, K29.81, K29.91, K31.82, K55.22, K57.01, K57.03, K57.11, K57.13, K57.21, K57.23, K57.31, K57.33, K57.41, K57.43, K57.51, K57.53, K57.55, K57.81, K57.83, K57.91, K57.93, K62.6, K66.1, K92.0, K92.1, K92.2 |
|                                     |                             | Traumatic intracranial haemorrhage: S06.23, S06.33, S06.34, S06.4, S06.5, S06.6, S06.8 |
| Atrial fibrillation                 | ICD-10-AM diagnosis          | I48                                                                   |
| Ischaemic stroke                    | ICD-10-AM diagnosis          | I63–I64                                                              |
| Heart failure                       | ICD-10-AM diagnosis          | I50                                                                   |
| Diabetes mellitus                   | ICD-10-AM diagnosis          | E10 – E14                                                            |
| Chronic kidney disease              | ICD-10-AM diagnosis          | Haemodialysis: Z49.1 Peritoneal dialysis: Z49.2 Diabetic nephropathy: E10.2, E11.2, E13.2, E14.2 Hypertensive kidney disease: I12, I13, I15.0, I15.1 Glomerular diseases: N00-N07, N08 Kidney tubule-interstitial diseases: N11, N12, N14, N15, N16 Chronic kidney failure: N18 Unspecified kidney failure: N19 Other disorders of kidney and ureter: N25-N28, N39.1, N39.2 Congenital malformations: Q60-Q63 Complications related to dialysis and kidney transplant: T82.4, T86.1 Preparatory care for dialysis: Z49.0 Kidney transplant and dialysis status: Z94.0, Z99.2 |
| ACE inhibitors                      | ATC                          | C09A, C09B                                                           |
| ARB                                  | ATC                          | C09C, C09D                                                           |
| Beta blocker                        | ATC                          | C07                                                                  |
| Statin                               | ATC                          | C10AA                                                                |
| Oral anticoagulants                 | ATC                          | B01AA, B01AE, B01AF                                                  |
Supplementary Table 3: Summary of hospital type categorisation, based on hospital peer groups (source: Australian Institute of Health and Welfare 2015. Australian hospital peer groups. Health services series no. 66. Cat no HSE 170. Canberra: AIHW)

This appendix contains summary information of Australian hospital peer groups presented in this report, as defined by the Australian Institute of Health and Welfare (AIHW). More detail on these peer groups, including assignment of individual hospitals, can be found in the AIHW report. Note that some peer groups contained a limited number of public hospitals discharging patients with acute myocardial infarction in the study period, such as women’s and children’s, drug and alcohol, psychiatric, day procedure, public acute specialised and unpeered facilities. These facilities have also been grouped into ‘other public’. Further information on these peer groups can be found in the AIHW report.

| Hospital type | AIHW peer group | Definition | Selection methodology |
|---------------|-----------------|------------|-----------------------|
| Principal referral | Principal referral | Principal referral hospitals are public acute hospitals that provide a very broad range of services, have a range of highly specialised service units, and have very large patient volumes. The term ‘referral’ recognises that these hospitals have specialist facilities not typically found in smaller hospitals. | The selection of Principal referral hospitals was guided by evidence of the following service units:  
- 24-hour emergency department  
- ICU  
- all or most of the following specialised units: cardiac surgery, neurosurgery, infectious diseases, bone marrow transplant, organ (kidney, liver, heart, lung or pancreas), transplant and burns units. |
| Large public acute | Public acute group A | Public acute group A hospitals are public acute hospitals that provide a wide range of services typically including a 24-hour emergency department, intensive care unit, coronary care unit and oncology unit, but do not provide the breadth of services provided by Principal referral hospitals. | Public acute group A hospitals include those public acute hospitals that do not qualify as Principal referral hospitals, and possess all or most of the following characteristics:  
- 24-hour emergency department  
- ICU  
- coronary care unit  
- oncology unit  
- more than 10% of acute weighted separations having a DRG with a cost weight greater than 4  
- more than 200 DRGs with at least 5 separations. |
| Other public | Public acute group B | Public acute group B hospitals are those public acute hospitals that do not have the service profile of the Principal referral hospitals and Group A hospitals, but do have a 24-hour emergency department; they typically provide elective surgery and have specialised service units such as obstetric, paediatric and psychiatric units. | Public acute group B hospitals do not have the high-end specialised service units that are in the Principal referral hospitals and the Public acute group A hospitals but have a 24-hour emergency department. |
| Hospital type          | AIHW peer group                | Definition                                                                                                                                                                                                 | Selection methodology                                                                                                                                                                                                 |
|-----------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public acute group C  | Public acute group C hospitals| include those public acute hospitals that provide a more limited range of services than Principal referral hospitals or Public acute group A and B hospitals, but do have an obstetric unit, provide surgical services and/or some form of emergency facility (emergency department, or accident and emergency service). | Public acute group C hospitals consist of public acute hospitals that do not meet the service characteristics of the Principal referral hospitals, Public acute group A hospitals and Public acute group B hospitals, but possess all or most of the following characteristics:  
• proportion of separations with surgery greater than 4%  
• obstetric unit  
• emergency department, or accident and emergency service. Hospitals with a high proportion of surgical separations with low cost weights are excluded from this group. |
| Public acute group D  | Public acute group D hospitals| are acute public hospitals that offer a smaller range of services relative to the other public acute hospital groups, and provide 200 or more separations per year. They are mostly situated in regional and remote areas. | Public acute group D hospitals consist of public acute hospitals that do not meet the service characteristics of the other public acute hospital groups, but have 200 or more separations per year. Hospitals with fewer than 200 separations were allocated to the Very small hospitals group. |
| Public rehabilitation hospitals | Public rehabilitation hospitals | are public hospitals that primarily provide rehabilitation and/or geriatric evaluation and management. | The focus of care provided by these hospitals is the improvement of patient functioning through rehabilitation care and/or GEM. Hospitals in this group were identified using:  
• proportion of rehabilitation and GEM separations greater than 80%, or  
• proportion of rehabilitation and GEM patient days greater than 80% and proportion of rehabilitation and GEM separations greater than 50%. Hospitals with a mix of rehabilitation/GEM activity and a high proportion of separations with surgery were excluded from this group. |
| Mixed sub- and non-acute | Mixed sub- and non-acute hospitals | primarily provide a mixture of subacute (rehabilitation, palliative care, geriatric evaluation and management, psychogeriatric care) and non-acute (maintenance) care. | Mixed sub- and non-acute hospitals were identified where a public or private hospital met the guidelines for the Sub- and non-acute hospitals group but did not meet the guidelines for Public rehabilitation hospitals or Private rehabilitation hospitals subgroups. Hospitals with a mix of sub- and non-acute care. |
| Hospital type       | AIHW peer group | Definition                                                                 | Selection methodology                                                                 |
|---------------------|-----------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Very small hospitals| Very small hospitals | Very small hospitals have few beds and provide care for few admitted patients. Most do not perform surgery. | Very small hospitals were identified where there are fewer than 200 separations per year. This excludes those hospitals that have no separations but are included in the Outpatient hospitals peer group. |
### Supplementary Table 4: Hazard ratios for break in P2Y\(_{12}\) inhibitor therapy, among patients discharged for AMI with a dispensing of a P2Y\(_{12}\) inhibitor within 30 days of discharge

| Variable                              | Reference                  | Comparison        | Hazard ratio |
|---------------------------------------|----------------------------|-------------------|--------------|
|                                       |                            |                   | HR (95% CIs) |
| Age                                   | <65 years                  | 65-74 years       | 0.79         |
|                                       |                            | 75-84 years       | 0.76         |
|                                       |                            | 85+ years         | 0.62         |
| Sex                                   | Female                     | Male              | 1.00         |
| Intervention on index                 | None                       | PCI               | 0.66         |
|                                       |                            | CABG              | 1.66         |
| Type of MI                            | STEMI                      | NSTEMI            | 1.04         |
|                                       |                            | Unspecified       | 0.83         |
| Patient morbidities *                 | No                         | Prior AMI         | 1.15         |
|                                       |                            | Prior PCI/CABG    | 0.93         |
|                                       |                            | Major bleeding    | 1.10         |
|                                       |                            | Atrial fibrillation | 1.25        |
|                                       |                            | Stroke            | 1.51         |
|                                       |                            | Heart failure     | 1.01         |
|                                       |                            | Diabetes          | 1.00         |
|                                       |                            | Chronic kidney disease | 1.00     |
| Medicine exposure at baseline †       | No                         | Prior P2Y\(_{12}\) inhibitor | 0.67 |
|                                       |                            | ACE-I / ARB       | 0.81         |
|                                       |                            | Beta blocker      | 0.87         |
|                                       |                            | Statin            | 0.92         |
|                                       |                            | OAC               | 1.49         |
| Time period                           | 2011                       | 2012              | 1.00         |
|                                       |                            | 2013              | -            |
| Hospital type                         | Principal referral         | Large acute       | 0.91         |
|                                       |                            | Other             | 0.72         |
| State                                 | NSW                        | Victoria          | 1.07         |
| First P2Y\(_{12}\) inhibitor dispensed | Clopidogrel                | Prasugrel         | 0.71         |
|                                       |                            | Ticagrelor        | -            |
| Between-hospital variation            | Random intercept (SE)      | 0.0469            | (0.0153)     |

* Any hospital diagnosis in year prior to admission and/or index admission. For prior AMI and prior PCI or CABG, any diagnosis or procedure in the year prior to index admission. Referent category is no prior diagnosis/procedure for each condition.

† Any dispensing between 180 days prior to admission and 30 days following discharge. For prior P2Y\(_{12}\) inhibitors, within 180 days prior to admission only. Referent category is no prior dispensing for each medicine.
Supplementary Figure 1: Time to first break in P2Y\textsubscript{12} inhibitor therapy, by further patient characteristics

- Type of MI
  - STEMI
  - NSTEMI
  - Unspecified

- Hospital type
  - Principal referral
  - Large acute
  - Other public

- Sex
  - Females
  - Males

- Time period of index admission
  - 2011 (Jul-Dec)
  - 2012 (Jan-Jun)

- First P2Y\textsubscript{12} inhibitor dispensed post-discharge
  - Clopidogrel
  - Prasugrel

- State
  - NSW
  - Victoria