



Appendix 2

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Harper RW, Nasis A, Sundararajan V. How changes to the Medicare Benefits Schedule could improve the practice of cardiology and save taxpayer money. *Med J Aust* 2015; 203: 256-258. doi: 10.5694/mja15.00333.

Appendix 2: How Much Money Could be Saved By Proposed Changes?

Changes to Invasive Coronary Angiography

Calculations are based on assumptions using data as to the rates of cardiac catheterization, percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG) in private and public hospitals in 2010-11 provided by the Australian Commission on Safety and Quality in Health Care (ACSQHC) and Medicare statistics for the same time period (1). According to the ASCQHC data in the financial year 2010-11 there were 56,805 admissions to private hospitals and 47,376 admissions to public hospitals for cardiac catheterization resulting in 16,581 PCIs and 5,023 CABGs in the private system and 20,853 PCIs and 7,125 CABGs in the public system (1). Assuming 90% of cardiac catheterizations involved invasive coronary angiography (ICA) and counting the ICA involved in the PCI this gives a ratio of ICA to revascularization of 3.1:1 in the private system and 2.3:1 in the public system. This latter ratio however is undoubtedly lower than the true value because it does not include non-insured patients who may have had their ICA as a non-admitted outpatient procedure. Such patients were not included in the ASCQHC data and some of those would have subsequently undergone PCI or CABG in the public system.

Examination of the Medicare statistics for the financial year 2010-11 reveals 76,087 patients underwent ICA of which 59,990 were ICAs not associated with a PCI. In the Australian health system a Medicare item number can only be charged for a private service. That is a Medicare item for ICA could be charged for a private patient in a private hospital, a private patient in a public hospital or a non-admitted patient. If one assumes that all private patients in a private hospital would have been charged the Medicare item numbers for an ICA this leaves 8,866 patients who were either billed as private in public or as a non-admitted patient. If one assumes that 10% of patients admitted for ICA in the public system were private in public this leaves 4,603 non-admitted patients. If this number is added to the ICAs in the public system this gives a ratio of ICA to revascularization of 2.4:1.

We have also used the Medicare statistics to calculate the ICA to revascularization ratio for patients treated privately either as a private patient in a private hospital or a private patient in a public hospital. In 2010-11, 71,484 ICAs (excluding the non-admitted patients), 18,660 PCIs and 5,322 CABGs were charged to Medicare. This gives a ratio of ICA to revascularization of 3.0:1 which is similar to the calculated ratio of 3.1:1 for patients treated in private hospitals.

The total costs and the costs to the taxpayer of ICA for each of the 4 groups (non-admitted patients, public patients, private in public patients and patients in a private hospital) are shown in Appendix 1. In calculating the costs to the taxpayer of performing ICA on private patients in a private hospital we have taken into account the fact that the federal government subsidizes private health insurance premiums to a variable degree (0-39%) depending on income with the majority of Australians being eligible for a rebate in the order of 19 to 39%. For the purposes of our calculations we have assumed an average subsidy of 25%. We have also assumed a 50 / 50 split of day admissions and overnight stay for private patients. In calculating costs we have taken into account the fact that the federal government pays 75% of the Medicare Benefits Schedule (MBS) fee for private inpatients and 85% for non-admitted patients.

Between 2010-11 and 2013-14 Medicare statistics show an increase in ICAs from 76,807 to 83,279 (8% increase). Assuming this increase was uniform across the 4 groups and assuming that the changes to the MBS system that we suggest would lead to a more appropriate ratio of ICA to revascularization of 1.5:1 in both the private and public system this would have amounted to savings to the taxpayer of \$233.50 million in 2013-14 (see Table 2 in print version). Even if the ratio was only reduced to 2.0:1 this would still lead to savings of \$118.04 million p.a. We also estimate that a reduction in the ratio of ICA to revascularization from 3.1:1 to 1.5:1 would have saved the private health insurance companies \$139.78 million in 2013-14.

Changes to Computed Tomography Coronary Angiography

The item number for Computed Tomography Coronary Angiography (CTCA) was introduced in 2010-11 after extensive review by the Medical Services Advisory Committee (MSAC). The expressed intention of MSAC was that CTCA would replace ICA as a diagnostic test for those with a low to intermediate probability of significant obstructive coronary artery disease (CAD) that would have otherwise been considered for ICA. Since its introduction, the number of CTCAs has increased from 24,619 in 2010-11 to 40,007 in 2013-14. Over the same time period ICAs have increased from 76,087 to 83,279 cases suggesting that CTCA has not achieved its stated aim of reducing diagnostic ICAs. We believe that our suggested restrictions to CTCA use will in the long term reduce over-servicing of this investigation and result in considerable future savings. In the short term some of the “diagnostic” ICAs may be replaced by CTCA but we believe this will be counter-balanced by eliminating CTCA for those with known CAD and limiting the investigation to once every 5 years in those without known CAD.

Reference

1. Australian Commission on Safety and Quality in Health care and Australian Institute of Health and Welfare. *Exploring Healthcare Variation in Australia: Analysis resulting from an OECD Study*. Sydney: ACSQHC, 2014. www.safetyandquality.gov.au (accessed March 2015).