Department of Health and Ageing

Analysis of proposed MBS items for Sexual Health Medicine

Consultant Report

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This report is a contracted technical report for use by the Medical Services Advisory Committee (MSAC) to inform its deliberations. MSAC is an independent committee which has been established to provide advice to the Minister for Health and Ageing on the strength of evidence available on new and existing medical technologies and procedures in terms of their safety, effectiveness and cost-effectiveness. This advice will help to inform government decisions about which medical services should attract funding under Medicare.

MSAC's advice does not necessarily reflect the views of all individuals who participated in the MSAC evaluation.

This report was prepared for MSAC by Aspex Consulting. The report was commissioned by the Department of Health and Ageing on behalf of MSAC.

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LIST OF ABBREVIATIONS

AIDs	Acquired Immunodeficiency Syndrome
AIHW	Australian Institute of Health and Welfare
AMC	Australian Medical Council
AChSHM	Australasian Chapter of Sexual Health Medicine
ASHM	Australasian Society for HIV Medicine
BEACH	Bettering Evaluation and Care of Health Study
BBV	Blood Borne Virus
CBT	Cognitive-Behavioural Therapy
CEA	Cost Effectiveness Analysis
CI	Confidence Interval
CRA	Community Reinforcement Approach
DALY	Disability-Adjusted Life Years
DAP	Decision Analytic Protocol
DoHA	Department of Health and Ageing
EMSN	Extended Medicare Safety Net
FAChSHM	Fellow of the Australasian Chapter of Sexual Health Medicine
GP	General Practitioner
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
HSV	Herpes Simplex Virus
MBS	Medical Benefits Schedule
MSAC	Medical Services Advisory Committee
MSM	Men who have sex with men
NHMRC	National Health & Medical Research Council
PBS	Pharmaceutical Benefits Scheme
PID	Pelvic Inflammatory Disease
RACP	Royal Australasian College of Physicians
STI	Sexually Transmissible Infection
TGA	Therapeutic Goods Administration

Disclaimer

1 Executive Summary

1.1 Abstract

A large number of Australians contract sexually transmissible infections each year, and/or present for medical treatment with a wide range of sexual health related problems. These symptoms are the primary focus of the field of sexual health medicine. The field of sexual health medicine has now been recognised to be sufficiently complex to require specialist training. Specialists are able to advise and support general practitioners, in addition to undertaking more comprehensive assessments and offering a range of combination therapies for complex and/or difficult to diagnose sexual health conditions.

The primary contribution of sexual health medicine specialists is their capacity to identify the complex range of needs for people experiencing sexual health related problems, and implement or otherwise coordinate an appropriate combination of evidence based interventions to successfully manage these problems (e.g. sexually transmissible infections, blood borne viruses or sexual dysfunction) and minimise their impact on the individual. The clinical safety and effectiveness of these interventions has already been determined. The beneficial claim of sexual health medicine specialists is their capacity to deliver the most appropriate combination of targeted, evidence-based interventions in an efficient and effective manner. This has been the focus of enquiry for the current application.

Without sexual health medicine specialists, services would be required from a range of different medical practitioners, placing patients at greater risk of under-diagnosis or complications due to delays in the time to access treatment, out-of-pocket costs, and potential fragmentation of service delivery due to the multitude of service providers required for safe and effective care. Services provided by different specialists may also result in greater costs of service delivery to the MBS. Sexual health medicine specialists are current remunerated by the MBS at levels that are equivalent to, or below, medical practitioners who have undergone no specialty training. The Sexual Health Medicine specialty workforce is in decline and is experiencing difficulty attracting new trainees. MBS reimbursement is sought to recognise the level of professional training and clinical contribution provided by Sexual Health Medicine specialists. Appropriate reimbursement through a recommended suite of MBS items will enable an equivalent standard of service delivery to that currently provided in the public sector, and provide incentives for future growth of the specialist workforce, enabling greater access to specialty services for consumers.

It is proposed that a structure for new MBS items reflects the service model for Sexual Health Medicine including two items for consultations (assessment and patient review) that are equivalent to consultant physician consultations, two items for complex care and management planning, eight items for case conferencing, two items for telemedicine, and one item for home and/or residential care consultation.

The expected annual outlays for sexual health medicine based on a continuation of the current item mix and 11.5% growth in activity, would increase the 2012 outlays from $5.144m to $6.057m, an increase of $0.913m.

The impact of the proposed new structure suggests annual outlays for sexual health medicine of $8.245m in 2015, an increase of $3.100m on the actual outlays in 2012.

The increase in outlays under the new MBS items remains the most cost effective option compared with the provision of services by the next most appropriate service provider – infectious disease physicians. Forecast MBS outlays using infectious disease physician consultation rates are $8.489m by 2015. This indicates a $0.244m (3.0%) cost advantage.

The estimated out-of-pocket costs to patients by 2015, suggests ~$2.020m for sexual health medicine, compared to out-of-pocket costs for infectious disease physicians of $1.934m. This is virtually identical out-of-pocket costs between sexual health medicine specialists and infectious disease physicians.

1.2 Purpose of application

In October 2010, an application was received from the Australasian Chapter of Sexual Health Medicine, requesting Medicare Benefits Schedule (MBS) listing of items for this group of specialists.

Sexual Health Medicine specialists propose to implement an established range of evidence based interventions for people who have (or are at risk of developing) sexually transmissible diseases and other disorders of sexual function.

This application represents an extension of use for current interventions provided to patients with sexual health problems. Historically, the needs of patients with sexual health problems were addressed by general practitioners in consultation with a variety of different medical specialties. Sexual health medicine was formally recognised by the Australian Government in 2009 as a new specialty with the capacity to address the comprehensive bio-psycho-social needs of patients with sexual health problems across the continuum of care. Thus, sexual health medicine specialists are now available to offer advice and support, specialist patient consultation, intensive treatment of acute conditions, and ongoing management of complex and ‘challenging’ patients with a variety of sexual problems.

General practitioners will continue to provide the majority of patient interventions. Specialists in other areas will continue to be required for patients with highly complex and/or specific needs.

The medical conditions being addressed by this new specialty area include (but are not necessarily limited to) patients with sexually transmissible diseases and specifically HIV, genital pain, sexual dysfunction, fertility regulation, and sexual assault.

1.3 Background

MSAC has had few applications to assess the introduction of MBS items for a new medical specialty.

The professional value and contribution of this specialty has been formally recognised by the Australian Medical Council (2007) and the Australian Government (2009). Accordingly, the evidence underlying the many interventions provided by these specialists has been acknowledged and was not considered to be the primary focus of the current application. This report has focused instead upon the evidence that specialists in sexual health medicine:

- **Are trained to meet a need** for specialist services;
- **Are trained at a more advanced level** that other practitioners;
- **Add value to the practice of other clinicians** treating patients;
- **Demonstrate equal or better outcomes** for management of complex patients;
- **Require MBS items to achieve** an equivalent standard of care in the private sector; and
- **Are more cost effective** than services provided by alternative medical specialists.

1.4 Prerequisites to implementation of any funding advice

When the Decision Analytic Protocol (DAP) was finalised in June 2012, MSAC noted that any new MBS items would require a referral in accordance with the MBS G6.1 *Referral of Patients to Specialist or Consultant Physician*. It was also noted that any new MBS items would apply only to medical practitioners who were eligible for registration as sexual health medicine specialists. Eligible registrants will have completed an approved course of training and been awarded a Fellowship of the Australasian Chapter of Sexual Health Medicine (FAChSHM).

1.5 Proposal for public funding

It is proposed that there would be five groups of MBS items included for sexual health medicine (see Chapter 6). These items have been developed in consultation with the applicant. The proposed items are ***equivalent to*** MBS items for:

- Consultant physician referred consultation (110) and subsequent attendance (116);
- Referred patient treatment and management planning (132) and review (133);

- Time-tiered multi-disciplinary case conference co-ordination and participation (similar to consultant physician case conference items 820 to 828);
- Time-based items for telehealth (equivalent to MBS items 112 and 114 for physicians (Option 1), or similar to MBS telehealth item 288 for psychiatrists (Option 2)); and
- Items for home and/or residential care consultations (similar in structure to MBS items for other medical practitioners).

1.6 Consumer Impact Statement

This contracted assessment concludes that patients will benefit from the new MBS items for sexual health medicine because:

- They will allow delivery of the same standard of care available in the public sector;
- They will meet the needs of patients who are unwilling to attend public clinics;
- They will promote workforce development and increase access to services for patients;
- They will support the capacity of general practitioners to deliver effective care; and
- There will be less out-of-pocket costs, and lower overall costs compared with alternative treatment involving a number of other specialists in the private sector.

1.7 Proposed intervention's place in clinical management

The majority of patients with sexually transmissible infections (STIs), blood borne viruses or other sexual health problems will present to general practice for assessment and treatment. Evidence from available literature indicates that these patients:

- Can be medically, psychologically, and behaviourally impaired as a result of recent or ongoing STIs, blood borne viruses or sexual dysfunction;
- May present with a range of medical and psychiatric comorbidities and complications of sexually transmissible disease or blood-borne viruses (e.g. liver failure in viral hepatitis, dementia resulting from HIV);
- May have a number of complex interpersonal and social issues due to the impact of sexually transmissible disease blood-borne viruses or sexual problems upon family, friends, and others, resulting in disrupted living arrangements, inability to achieve or sustain productive employment because of ill-health, and associated financial stress; and
- Face significant levels of social stigma resulting in a reticence to present for medical treatment, discuss sexual history, and/or engage in an ongoing treatment plan.

Sexual health medicine specialists play a role in 'stepped care' arrangements with general practice, providing practitioner advice, specialist assessment and consultation, intensive treatment of acute conditions, and/or ongoing management of complex patients. Specialists are trained to provide a number of services including (but not limited to):

- Complex bio-psycho-social assessment of patients experiencing STIs, blood borne viruses or sexual dysfunction, or at risk of contracting such infections;

- Inpatient or ambulatory management for a range of infections including HIV/AIDS, hepatitis B or C, syphilis or gonorrhoea;
- Motivational enhancement and psychological interventions such as cognitive behavioural and/or brief therapeutic interventions for sexual dysfunction where psychological factors are contributing to the problem;
- Management of a comprehensive range of medical and psychiatric co-morbidities associated with STIs, blood borne viruses or sexual dysfunction; and
- Multi-disciplinary leadership and co-ordination across a range of medical, psychological, social welfare and legal services.

Thus, sexual health medicine is now a recognised specialty area that is available to general practitioners in the same way that other specialties may be called upon for advice and or management of complex medical conditions. The clinical algorithm is therefore equivalent to other specialty areas whereby the majority of patients are managed in general practice, and acute or complex patients are referred for specialist consultation and/or ongoing management as appropriate. These issues are discussed further in Chapter 3.

1.8 Other options for MSAC consideration

For physician equivalent items relating to initial consultation (equivalent to MBS item 110) and subsequent attendance (equivalent to MBS item 116), two options have been proposed.

- The first option for physician equivalent consultation would involve:
  - An MBS item for ***'comprehensive assessment'***, rather than 'initial attendance', at the equivalent rate of MBS item 110. This would be claimed on one occasion (but at any time) during a single episode of patient care; and
  - An MBS item for ***'patient review'***, rather than 'subsequent attendance', at the equivalent rate of MBS item 116. This could be claimed on the first or any subsequent occasion of patient contact during a single episode of care.
- The second option for physician equivalent consultation would involve four 'time-tiered' items, allowing specialists to claim for actual time spent with a patient on any individual occasion of service. This would be similar to the range of current MBS item numbers available to general practitioners (MBS Group A1) and psychiatrists (MBS Group A8), but the price would be set so that it did not exceed the maximum available to other physicians (MBS Group A4), and include:
  - An MBS item for consultations of ≤ 15 minutes duration (priced at 75% of the value of MBS item 23 for general practitioner consultations up to 20 minutes duration);
  - An MBS item for consultations of > 15 but ≤ 30 minutes duration (equivalent to MBS item 116);
  - An MBS item for consultations of > 30 but ≤ 45 minutes duration (priced between MBS items 116 and 110); and
  - An MBS item for consultations of > 45 minutes duration (equivalent to MBS item 110).

A time-tiered option could also be used as the basis for multi-disciplinary case conferencing items. Case conferencing items would be structured so that the full time-tiered rate is available for specialists who co-ordinate and subsequently lead (i.e. organise and chair) a

case conference (claimable only for the duration of the case conference). A reduced rate of reimbursement (at 80%) would be made available where specialists participate in a case conference (claimable only for the duration of the case conference). These alternatives are discussed further in Chapter 6.

1.9 Comparator to the proposed intervention

In the absence of sexual health medicine specialists, patients would have access to the same or similar interventions provided across a range of different specialists.

Some general practitioners have undertaken specific training to prescribe and monitor treatment for patients with HIV. The number of these general practitioners is declining. Referrals to different specialists would therefore be dependent upon the knowledge of individual general practitioners and the availability of individual specialists and other services for referral.

The closest specialist group treating patients with sexual problems would be infectious disease physicians. However, it is also recognised that the majority of work undertaken by this specialty group occurs in the admitted patient setting. Notwithstanding, infectious disease physicians have been used as the most appropriate comparator for the proposed range of interventions provided by sexual health medicine specialists (as the only comparable alternative to the scope of practice of sexual health medicine specialists). Comparator specialty options are discussed in further detail in Chapter 4.

1.10 Comparative safety

There is strong evidence for the safety of pharmacotherapy and other interventions for sexual health conditions in the scientific literature.

There is a more limited body of evidence examining the safety of clinical interventions provided by different medical specialists. Qualitative reports from specialists and descriptive reports in the peer-reviewed literature consistently emphasise that the relative safety of interventions provided to patients with sexual health problems requires:

- Knowledge of the wide range of issues associated with sexual diseases, prescription medications and sexuality; in addition to
- Capacity to intervene in a manner that reduces the likelihood of identifiable risks developing or impacting upon patients and others in the community (e.g. through transmission of infectious diseases).

Thus from the available evidence, services provided by sexual health medicine specialists are possibly safer and more effective than the same services provided across a range of different specialists.

1.11 Comparative effectiveness

The literature demonstrates clear evidence for the effectiveness of a range of interventions for sexual health conditions. Evidence also indicates that an appropriate mix of interventions is required in order to maximise the likelihood of success for patients with sexual health

problems. A number of therapeutic combinations have been demonstrated to result in more successful treatment outcomes, for example:

- Pharmacotherapy for erectile dysfunction with psychological counselling; and
- Pharmacotherapy for genital or pelvic pain with behavioural intervention.

Outcomes of other interventions have been identified to be more successful when delivered in specialist (rather than primary care) settings, such as:

- Management of more complex drug regimens such as those required for HIV/AIDS or viral hepatitis;
- Cognitive behavioural therapy when combined with other therapies;
- Where more comprehensive laboratory investigations and other evaluations are required;
- Where there are other factors complicating the presentation of the patient's problem, e.g. erectile dysfunction in young patients with a history of pelvic or perineal trauma or congenital penile deformity; and
- When there is a request from the patient or a medico-legal requirement for further evaluation (Review – no NHMRC level of evidence, Wagner et al 2002).

Thus there is no evidence that the outcomes of interventions provided by sexual health medicine specialists will be any worse than the same interventions provided by other specialists. Rather, available evidence indicates that specialists in sexual health medicine are more likely to provide or otherwise co-ordinate the best mix of evidence based interventions, in the right environment, to:

- Identify the presence of sexual disease and dysfunction
- Treat acute conditions and monitor for rates of re-infection;
- Manage contact tracing of others to minimise the spread of infection;
- Identify and treat medical and psychiatric comorbidities and complications arising from HIV, other STIs, sexual assault, and other conditions that may lead to sexual dysfunction;
- Provide valuable input into public policies and programs to improve the detection of STIs and minimise the risk and spread of infection within the Australian community.

It is acknowledged, that in the absence of specific comparisons between sexual health medicine specialists and other specialists providing services to the same group of patients, there remains some uncertainty with this judgement.

1.12 Economic evaluation

The economic evaluation of the sexual health medicine MBS items has been based on a *relative cost effectiveness analysis (CEA).* However, the application of a conventional CEA is problematic as there was no available data on the clinical outcomes of consultations by sexual health medicine specialists *vis a vis* the comparator - being infectious disease physicians.

Qualitative evidence based on the AMC recognition of sexual health medicine as a specialty indicates that sexual health medicine specialists bring a more comprehensive set of skills to

address a wide range of sexual health problems and therefore provide superior, or at least equivalent, clinical outcomes for patients (Section 4.2). On this basis, a cost effectiveness analysis should only need to demonstrate costs at or below the alternative infectious disease physician costs to demonstrate overall superior cost effectiveness.

Modelled comparative analysis

The current (2012) MBS outlays for sexual health medicine are estimated to be ~$5.144m. With expected growth between 2012 and 2015, it is estimated that outlays would increase to $6.057m by 2015; an annual average increase of 5.9% over the three years.

However, forecast (2015) MBS outlays for sexual health medicine will be higher at ~$8.245m after taking into account rate increases to consultant physician levels, changes to complex care, case conferencing and a modest fall in claims due to expected workforce reductions. This suggests that there would be an *increase* in MBS outlays of ~$3.100m based on the difference between actual 2012 and forecast 2015, **or** ~$2.188m based on the forecast outlays in 2015 with no change to MBS structure and reduced workforce, and forecast outlays under a new item structure.

The forecast MBS outlays using infectious disease physician consultation rates is ~$8.489m. This indicates that there is a $0.245m cost advantage, or 3.0% for sexual health medicine. This suggests that even with an increase in payment rates for sexual health medicine specialists, a modest cost advantage is maintained.

The difference is due mainly to the lower payment rates for patient review/treatment consultation items between sexual health medicine physicians and infectious disease physicians.

Importantly, the estimated out-of-pocket costs to patients, using historical differences, for sexual health medicine were ~$2.020m in 2015, compared with out-of-pocket costs for infectious disease physicians of $1.934m. This is a minor difference of ~$0.086m - 4.4% higher for sexual health medicine specialists compared with infectious disease physicians.

The assumed mix of consultations between sexual health medicine and infectious disease physician are the same; namely:

- Assessment (21.4%);
- Patient review 71.5%); and
- Complex care planning & Case Conferencing (7.1%).

Sensitivity analysis of the assumed mix of items claimed indicates that:

- An increase of 10% in assessments and a commensurate decrease in patient reviews will impact on the outlays by $136k in 2015 or 1.7%; and
- An increase of 10% in complex care and case conferences and a commensurate decrease in patient reviews will impact on the outlays by $29k in 2015 or 0.4%.

1.13 Financial/budgetary impacts

It is estimated that 76,857 occasions of MBS billed service are currently provided per annum (2012) for sexual health medicine. Data on the frequency of use per patient per annum were unavailable from the MBS information, however the overall average of assessments to patient treatments is one assessment to 3.5 treatments. However, this crude ratio masks a variety of models of care ranging from regular (monthly) pharmacotherapy treatments to single event assessment on a general practitioner (GP) referral.

Current MBS fees ***charged*** by sexual health medicine specialists approximate $6.389m per annum (2012). At a consultant physician equivalent rate, MBS fees would approximate $7.927m in 2013, and at an infectious disease physician equivalent rate, MBS fees would approximate $7.975m per annum.

Significant differences in out-of-pocket expenses were observed across the three scenarios. Patients receiving current services have out-of-pocket expenses of $1.245m (2012). Patients receiving services under an infectious disease physician equivalent level of reimbursement have out-of-pocket costs of $1.780m in 2013, compared with those receiving services under a consultant physician equivalent level of MBS reimbursement of $1.643m.

It was assumed that the availability of a consistent MBS fee across all sexual health medicine specialists would provide an incentive for additional work to take place in the private sector. Based upon feedback from specialists, this was estimated to be up to an additional 2 sessions (1 day) per week. When modelled together with the projected decline in workforce over a three-year period (2013-2015), it was estimated that the number of episodes of care would be virtually unchanged.

There was insufficient data to identify or model the impact of any changes in MBS item numbers upon the Medicare Safety Net or Extended Medicare Safety Net (EMSN). However, any new 'Group' of MBS items for sexual health medicine would have EMSN capping in line with other existing professional attendance item 'Groups' (see Section 1.17 for more information).Thus, under a consultant physician equivalent MBS item (adjusting for anticipated increases in private sector employment and identified reductions in the specialist workforce), a net increase to the MBS budget of $2.069m in 2013, $2.281m in 2014 and $2.188m in 2015 (indexed) has been forecast.

1.14 Key Issues for MSAC

Main issues relating to the proposed eligible population

The proposed eligible population that is likely to benefit from sexual health medicine services can only be estimated from available population studies, which indicate that sexual health problems such as sexually transmissible infections are under-diagnosed.

Despite the estimated number of Australians reporting symptoms consistent with sexually transmissible infections and blood borne viruses, the actual number of individuals who recognise these symptoms as problematic, and who subsequently seek treatment, remains unknown. Nevertheless, some attempt to estimate the potential demand has been made, using the best available information.

Main issues around the evidence and conclusions for safety

The safety of pharmacotherapies listed on the Pharmaceutical Benefits Scheme (PBS) and prescribed to treat patients with sexual health problems has been previously established. The safety of psychosocial interventions is more difficult to ascertain, as it is dependent upon the appropriate training and qualifications of those delivering specific interventions. Training and ongoing professional accreditation remains within the purview of individual medical Colleges. Sexual health medicine specialists are trained and professionally accredited to deliver a wide range of psychosocial interventions. Thus, there is no evidence that the safety of pharmacotherapy or psychosocial interventions will be any worse than the safety of the same interventions delivered by other appropriately qualified medical practitioners.

Main issues around the evidence and conclusions for clinical effectiveness

The effectiveness of pharmacotherapies listed on the PBS and prescribed to treat patients with sexual health problems has also been previously established. The clinical effectiveness of individual pharmacotherapies and other psychosocial interventions is evident across a range of systematic reviews. Importantly, the scientific literature highlights the enhanced effectiveness of combining pharmacotherapy with behavioural and other psychological interventions delivered in specialist treatment environments. Sexual health medicine specialists are well placed to deliver these services. Thus there is no evidence that the clinical effectiveness of interventions to address sexual health related problems by sexual health medicine specialists would be any worse off than the effectiveness of the same interventions provided by alternative medical specialties.

Other important clinical issues and areas of clinical uncertainty

It is acknowledged that the specialty of sexual health medicine has only recently been recognised. As such, there has been limited time to develop and implement specific randomised controlled trials examining the safety and effectiveness of interventions delivered by this group of specialists with interventions provided by other specialists.

Main economic issues and areas of uncertainty

Economic analysis has relied upon an examination of the relative cost efficiency of services provided by sexual health medicine specialists funded under current MBS arrangements, versus physician equivalent benefits, and infectious disease physician equivalent benefits. In the absence of specific studies focusing upon relative differences in clinical outcomes achieved by this group of specialists, analysis has relied upon the assumption that clinical outcomes will be no worse off. A comparison of costs has occurred within this context. It is acknowledged that no better information is currently available to inform the economic analysis.

1.15 Other significant factors

Several additional factors are worthy of consideration in relation to the current submission by sexual health medicine specialists for new MBS items, namely that:

- Current funding arrangements available through the MBS present inequities in access to reimbursement of services by different sexual health medicine specialists: Many specialists have dual fellowship with another medical college and can access items available to other medical practitioners in order to achieve a higher rebate for services provided to patients. Other specialists who only have fellowship with the Chapter of Sexual Health Medicine are unable to access these levels of rebate and thus receive reimbursement for services that is equivalent to medical practitioners who have undergone no specialty training.
- Current funding arrangements available through the MBS present inequities in reimbursement arrangements between sexual health medicine specialists and other specialists recognised by the Australian Medical Council and the Australian Government.
- Current funding arrangements have been reported to be a disincentive for trainees considering a future in sexual health medicine. Inequitable reimbursement arrangements compared to other specialty areas has been reported to limit employment opportunities largely to public sector services. The capacity to engage in full scope of practice in the private sector has been limited. Workforce numbers are in decline and attraction of new trainees is considered important to maintain the viability and sustainability of the speciality area.

1.16 Summary of consideration and rationale for MSAC's advice

In summary, despite difficulties identifying accurate estimates of community demand for services, there appears to be significant demand for services to address sexual health problems. The interventions provided by sexual health medicine specialists appear to be no worse off in terms of safety or clinical effectiveness than the same services provided across a range of alternative medical specialists. Financial modelling indicates that any services provided by sexual health medicine specialists are likely to be more cost-effective and result in lower out-of-pocket costs to patients compared with the same services provided by other medical specialists.

1.17 Proposed new items for sexual health medicine

After considering the strength of the available evidence in relation to the demand, safety, effectiveness and anticipated cost of MBS items for sexual health medicine, this contracted assessment concludes that MBS item descriptors could be similar to those detailed below.

To ensure policy consistency between existing MBS item groups, it is also advised that Extended Medicare Safety Net capping be applied to the new sexual health medicine MBS Group, at a suitable time after MBS listing of the new items. Given both houses of parliament will need to vote on and pass this part of the listing, the EMSN capping may not occur until early in 2014 (in the context of the 2013 federal election and associated parliamentary shut-down). The financial risk of initially listing new professional attendance items in the absence of EMSN capping has been assessed as low, given sexual health specialists, to date, have not been associated with excessive out-of-pocket costs.

- It is also advised that a rule be applied to the sexual health medicine items, similar to current rule 2.5.1 (limitation of items 112 to 114) within Group A4 of the General Medicine Services Table, as follows:

Items 112, 113 and 114 do not apply if the patient, specialist or physician travels to a place to satisfy the requirement in:

(a) for item 112—sub-subparagraph (d) (i) (B) of the item; and

(b) for items 113 and 114—sub-subparagraph (c) (i) (B) of the item.

(This rule is intended to prevent participants from abusing the telehealth items.)

OPTION 1

Item descriptors for physician-equivalent MBS consultations

SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED ATTENDANCE MBS Item 6051 Professional attendance by sexual health medicine specialist in his or her specialty, where the patient is referred to him or her by a referring medical practitioner. Detailed assessment provided once in a single course of treatment, provided at any point during that course of treatment. Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30
SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED SHORTER ASSESSMENT OR PATIENT REVIEW MBS Item 6052 Patient assessment prior to or following a detailed assessment under item 6018 in a single course of treatment, or following an initial complex treatment and management plan under item 6023 or following a review of that plan under item 6024 in a single course of treatment. Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20

OPTION 2

Item descriptors for time-tiered consultation items

Category 1 – Professional attendances MBS Item 6051 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of not more than 15 minutes duration Fee: $42.71 Benefit: 75% = $32.03 85% = $36.30 MBS Item 6052 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 15 minutes, but not more than 30 minutes duration Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20

MBS Item 6054

Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 30 minutes, but not more than 45 minutes duration

Fee: $113.29 Benefit: 75% = $84.97 85% = $96.30

MBS Item 6055

Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 45 minutes duration

Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30

Proposed items for complex treatment and management planning (which would sit under Option 1 or 2 above)

SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED COMPLEX PATIENT TREATMENT AND MANAGEMENT PLAN - SURGERY OR HOSPITAL

MBS Item 6059

Professional attendance of at least 45 minutes duration for an initial assessment of a patient with at least two morbidities, where the patient is referred by a referring practitioner, and where:

a) assessment is undertaken that covers:

- a comprehensive history, including psychosocial history and medication review;
- comprehensive multi or detailed single organ system assessment;
- the formulation of differential diagnoses; and

b) a consultant physician treatment and management plan of significant complexity is developed and provided to the referring practitioner that involves:

- an opinion on diagnosis and risk assessment
- treatment options and decisions
- medication recommendations

Not being an attendance on a patient in respect of whom, an attendance under items 6051 and 6052 has been received on the same day by the same sexual health medicine specialist.

Not being an attendance on the patient in respect of whom, in the preceding 12 months, payment has been made under this item for attendance by the same sexual health medicine specialist.

Fee: $263.90 Benefit: 75% = $197.95 85% = $224.35

SEXUAL HEALTH MEDICINE SPECIALIST, REVIEW OF REFERRED COMPLEX PATIENT TREATMENT AND MANAGEMENT PLAN - SURGERY OR HOSPITAL

MBS Item 6060

Professional attendance of at least 20 minutes duration subsequent to the first attendance in a single course of treatment for a review of a patient with at least two morbidities where:

a) a review is undertaken that covers:

- review of initial presenting problem/s and results of diagnostic investigations
- review of responses to treatment and medication plans initiated at time of initial consultation comprehensive multi or detailed single organ system assessment,
- review of original and differential diagnoses; and

b) a modified consultant physician treatment and management plan is provided to the referring practitioner that involves, where appropriate:

- a revised opinion on the diagnosis and risk assessment
- treatment options and decisions
- revised medication recommendations

Not being an attendance on a patient in respect of whom, an attendance under item 6051, or 6052 has been received on the same day by the same sexual health medicine specialist.

Being an attendance on a patient in respect of whom, in the preceding 12 months, payment has been made under item 6059 by the same sexual health medicine specialist, payable no more than twice in any 12-month period.

Fee: $132.10 Benefit: 75% = $99.10 85% = $112.30

Proposed descriptors for multidisciplinary case conferencing items (which would sit under the first or second option)

MULTIDISCIPLINARY CASE CONFERENCE ORGANISATION AND CHAIR – SEXUAL HEALTH MEDICINE SPECIALIST

MBS Item 6064

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of up to 15 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines.

Fee: $42.71 Benefit: 75% = $32.03 85% = $36.30

MBS Item 6065

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines.

Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20

MBS Item 6067

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 30 minutes but less than 45 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines

Fee: $113.29 Benefit: 75% = $84.97 85% = $96.30

MBS Item 6068

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 45 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines

Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30

MULTIDISCIPLINARY CASE CONFERENCE PARTICIPATION - SEXUAL HEALTH MEDICINE SPECIALIST

MBS Item 6071

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of a least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines.

Fee: $34.16 Benefit: 75% = $25.62 85% = $29.04

MBS Item 6072

Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of a least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines.

Fee: $60.42 Benefit: 75% = $45.32 85% = $51.36

MBS Item 6074

Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of at least 30 minutes but less than 45 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines.

Fee: $90.63 Benefit: 75% = $67.98 85% = $77.04

MBS Item 6075

Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of at least 45 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines.

Fee: $120.75 Benefit: 75% = $90.56 85% = $102.64

Proposed descriptors for residential care/home visits items which would sit under Option 1 or 2 above)

SEXUAL HEALTH MEDICINE SPECIALIST - REFERRED CONSULTATION - HOME VISITS

MBS Item 6057

Professional attendance at a place other than consulting rooms or hospital by a consultant physician in the practice of his or her specialty (other than in psychiatry) where the patient is referred to him or her by a referring practitioner

- INITIAL attendance in a single course of treatment

Fee: $183.10 Benefit: 75% = $137.35 85% = $155.65

SEXUAL HEALTH MEDICINE SPECIALIST - REFERRED CONSULTATION - HOME VISITS

MBS Item 6058

- Each attendance SUBSEQUENT to the first in a single course of treatment

Fee: $110.75 Benefit: 75% = $83.10 85% = $94.15

Proposed descriptors for short and long telehealth items (which would sit under Option 1 or 2 above)

OPTION 1 – Physician-equivalent items for telehealth

PROFESSIONAL ATTENDANCE – TELEHEALTH (SHORT)

MBS Item 6062

Initial professional attendance of 10 minutes or less in duration on a patient by an sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the patient is not an admitted patient; and
(c) the patient:

(i) is located both:
(A) within a telehealth eligible area; and
(B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
(ii) is a care recipient in a residential care service; or
(iii) is a patient of:
(A) an Aboriginal Medical Service; or
(B) an Aboriginal Community Controlled Health Service; for which a direction made under subsection 19 (2) of the Act applies; and
(d) no other initial consultation has taken place for a single course of treatment.

Fee: $113.20 Benefit: 85% = $96.25

TELEHEALTH (MORE THAN 10 MINS)

MBS Item 6063

Professional attendance on a patient by a sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the attendance is for a service:
(i) provided with item 6051 lasting more than 10 minutes; or
(ii) provided with item 6052,6059 or 6060; and
(c) the patient is not an admitted patient; and
(d) the patient:
(i) is located both:
(A) within a telehealth eligible area; and
(B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
(ii) is a care recipient in a residential care service; or
(iii) is a patient of:
(A) an Aboriginal Medical Service; or
(B) an Aboriginal Community Controlled Health Service; for which a direction made under subsection 19 (2) of the Act applies

50% of the fee for the associated item. Benefit: 85% of derived fee

OPTION 2 – Time-tiered item for telehealth

PROFESSIONAL ATTENDANCE – TELEHEALTH

MBS Item 6063

Professional attendance on a patient by a sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the attendance is for a service provided with item 6051, 6052, 6054, 6055, 6059 or 6060; and
(c) the patient is not an admitted patient; and
(d) the patient:
(i) is located both:
(A) within a telehealth eligible area; and
(B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
(ii) is a care recipient in a residential care service; or
(iii) is a patient of:
(A) an Aboriginal Medical Service; or
(B) an Aboriginal Community Controlled Health Service;
for which a direction made under subsection 19 (2) of the Act applies

50% of the fee for the associated item. Benefit: 85% of derived fee

1.18 Applicant's response to the Public Summary Document

Nil

1.19 Context for decision

See MSAC terms of reference.

1.20 Linkages to other documents

Australian Medical Council Report on Recognition of the Specialty of Sexual Health Medicine.

Australian Government Gazette recognising the specialty of Sexual Health Medicine.

MSAC's processes are detailed on the MSAC Website at: www.msac.gov.au (home page)

2 Population demand, and supply of clinical services

2.1 The clinical population

Sexual health medicine is defined as a "…specialized area of medical practice concerned with healthy sexual relations, including freedom from sexually transmissible infections, unplanned pregnancy, coercion and physical or psychological discomfort associated with sexuality. Its practice encompasses the individual, population, social, interpersonal, microbial and immunological factors that contribute to Sexually Transmissible Infections (STIs), sexual assault, sexual dysfunction and fertility regulation."[1]

The STIs and BBVs which the Chapter has identified as a current focus of sexual health medicine include:

- Neisseria gonorrhoeae;
- Non-gonococcal urethritis;
- Chlamydia trachomatis;
- Trichomonas vaginalis;
- Donovanosis;
- Lymphogranuloma venereum;
- Chancroid;
- Syphilis;
- Human immunodeficiency virus (HIV);
- Human papilloma virus (HPV);
- Herpes Simplex Virus (HSV 1 and 2); and
- Hepatitis A, B, C & D.

The most reliable data on the population incidence and prevalence of sexual health conditions can be identified from notifications of reportable STIs in Australia[2], relating to:

- Chlamydia;
- Gonorrhoea;
- Syphilis; and
- Human Immunodeficiency Virus (HIV).

1. Definition provided by the Australasian Chapter of Sexual Health Medicine.
2. It is acknowledged that this is only part of the scope of practice of Sexual Health Medicine specialists. Information is thus provided as an indicator of demand rather than any estimate of total demand for sexual health related problems.

2.2 Community demand for services

It should be noted that the true prevalence of STIs in Australia is unknown and in fact under-estimated, due to factors such as:

- Some infections fail to produce symptoms, or are asymptomatic in certain settings (e.g. pharyngeal gonorrhoea) (Templeton et al 2010), and detection depends on screening programs (Bowden et al 1999);
- Non-population-based studies to determine prevalence frequently suffer from sampling bias and low participation rates (Macleod et al 2005);
- Not all infectious agents are notifiable;
- Relying on patient self-report to determine prevalence can be unreliable (Khan et al 2005). For example,
  - Clinician based reporting systems may be unreliable (Bowden et al 1999);
  - Different diagnostic methods can lead to different detection rates (Lusk et al 2010); and
  - "Social desirability" bias may prevent infected persons from seeking treatment (e.g. those living in small communities) (Bowden et al 1999).

Bearing these caveats in mind, the following section presents known and estimated projections of a selection of notifiable STIs in Australia

2.2.1 NATIONAL ESTIMATES OF SEXUALLY TRANSMISSIBLE INFECTION

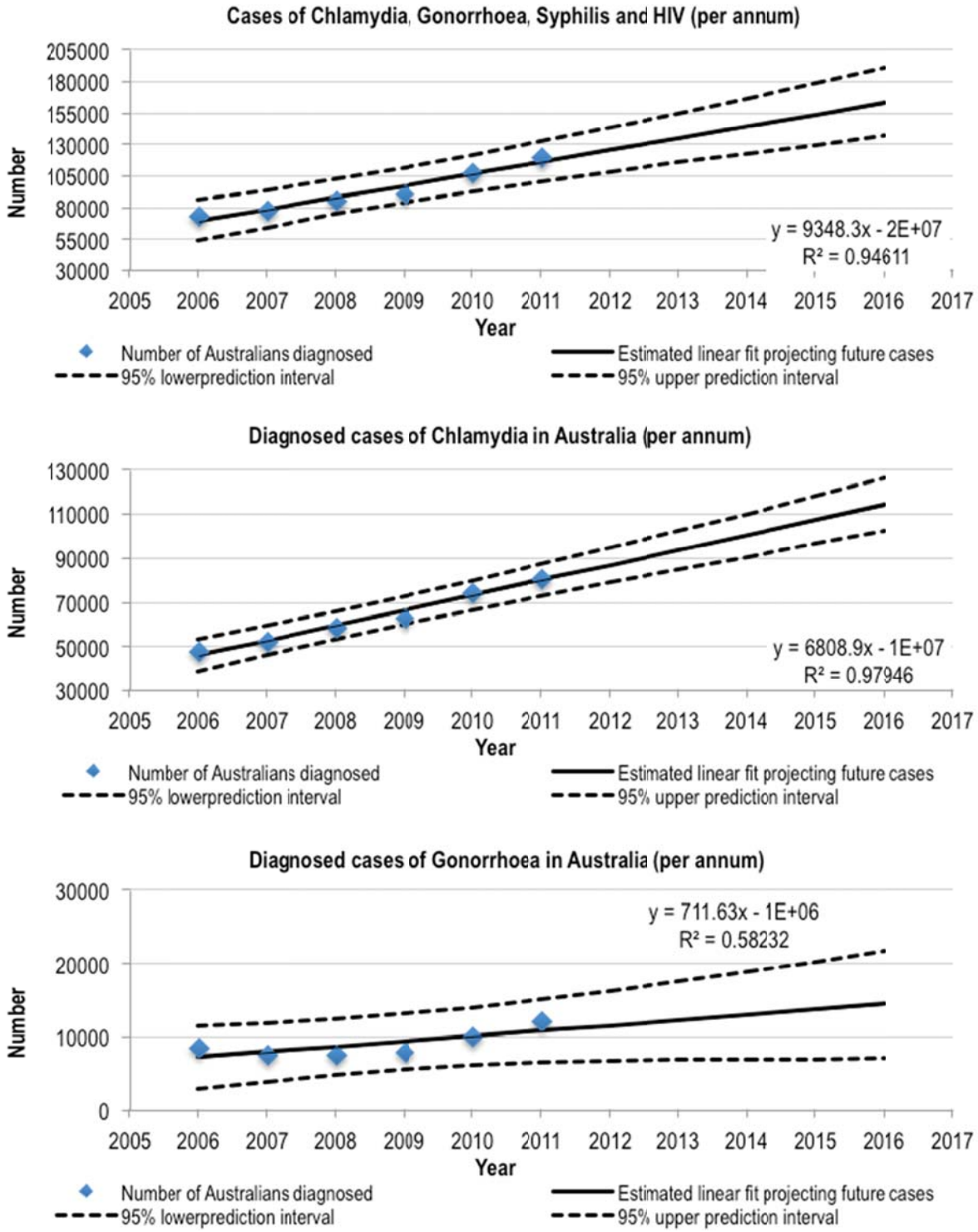
The proportion of Australians with a notifiable STI been estimated[3] from data reported to the Australian Government National Notifiable Diseases Surveillance System, and National HIV Surveillance Centre[4].

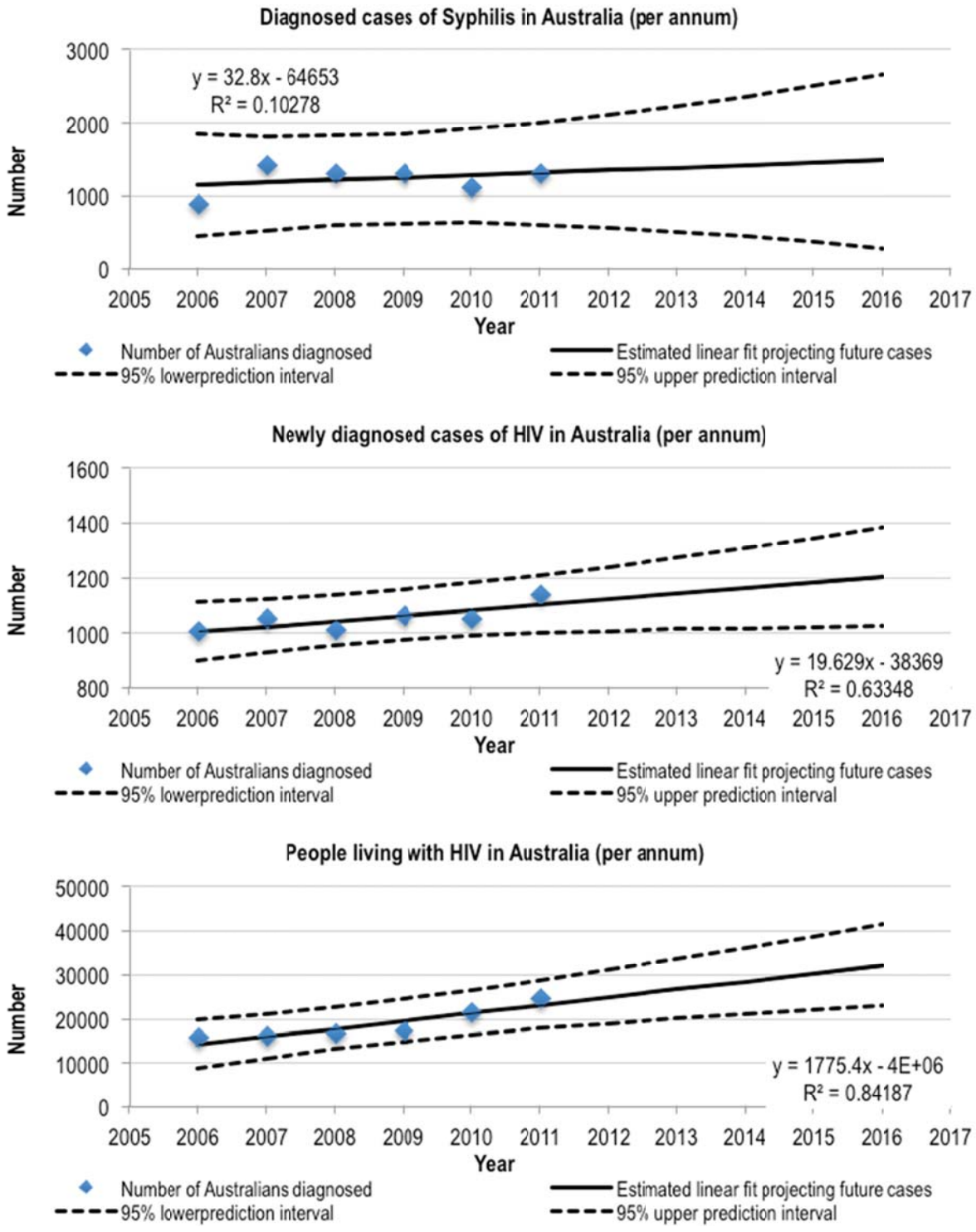
> ***By 2015, it is estimated that at least 155,000 Australians (Estimate: 153,356; 95%CI: 0.9-1.1) will experience a notifiable sexually transmissible infection each year[5].***

The predicted number of Australians with Chlamydia, Gonorrhoea, Syphilis and/or HIV in Australia is presented in Figure 2-1.

3. Using a linear estimation from reported data from 2010-2012 (with 95% prediction intervals for each equation).
4. Annually reported by: The Kirby Institute. HIV, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Reports 2010, 2011, 2012. The Kirby Institute, the University of New South Wales, Sydney, NSW 2052
5. 153,356/ 23,594,120 (linear trend from 2010-12 for total Australian population) Binomial confidence intervals have been applied.

Figure 2-1: National estimates of reportable STIs in Australia per annum





The highest level of demand is anticipated for individuals diagnosed with chlamydia, followed by people living with HIV. However, a trend towards increasing demand for services is apparent across all reportable STIs.

2.2.2 INFLUENCES UPON ESTIMATION OF COMMUNITY DEMAND

As previously identified, estimates of community demand for sexual health services are difficult to accurately estimate. Whilst population trends in the number of reported cases of different STIs has varied over recent years, evidence of underreporting remains.

Gonorrhoea

In recent years, the rate of diagnosis of gonorrhoea increased by 45%, from 36.2 per 100,000 population in 2007 to 52.5 in 2010 (Kirby Institute 2012). Over previous years (2004-2008) there was a 5% decline in the rate for men, but a 16% increase for women. In addition, notifications of rectal isolates of gonorrhoea in men decreased in New South Wales and Victoria in 2008 (Newman et al 2010). Notwithstanding, it has been estimated that around half of all gonorrhoea infections are not reported, due to the asymptomatic nature of the condition (Gewirtzman et al 2011).

Chlamydia trachomatis

Chlamydia is the most frequently reported notifiable condition in Australia (Newman et al 2010). In 2011 there were 80,800 diagnoses (Kirby Institute 2012). Genital chlamydial infection became a notifiable disease in 1991 in all Australian States and Territories except for NSW, which introduced mandatory notification in 1997 (Newman et al 2010). It accounts for 30% to 40% of cases of non-gonococcal urethritis (Horner et al 2001; Horner et al 2002). Chlamydia is also a significant cause of Pelvic Inflammatory Disease (PID) in women, with between 10% and 40% of women with untreated chlamydial infection developing symptomatic PID (WHO 2006).

In the past 5 years, more than 75% of men and women seen for the first time through a network of sexual health services were tested for chlamydia. Rates were greatest between the ages of 20 and 29 years old (National Centre for HIV Epidemiology and Clinical Research 2009). The positivity rate varies between different groups, including:

- 15.9% in Aboriginal and Torres Strait Islander men;
- 18.9% in Aboriginal and Torres Strait Islander women;
- 16.4% in young heterosexual men;
- 15.5% in young heterosexual women; and
- 6.2% in female sex workers (Kirby Institute 2012).

The rate of Chlamydia diagnosis has increased over the last ten years, and nearly doubled from 2004 to 2008 (National Centre for HIV Epidemiology and Clinical Research 2009). From 2010 to 2011 there was a 7% increase to 345 diagnoses per 100,000 population (Kirby Institute 2012).

However, notification data greatly underestimate the true burden of infection (Lewis et al 2012), given that:

- Chlamydia is asymptomatic in up to 90% of infections (Lewis et al 2012);
- Testing rates remain low (less than 10% in the younger age groups) (Kong et al 2011); and

- Re-infections are common.

Findings of community studies conducted in Australia were consistent with these estimates, identifying that 3% of the sample tested positive for Chlamydia, compared with 0.3% of the population with a notified Chlamydial infection – a ten-fold increase in the number of cases identified through community screening (Williams et al 2003). These findings are similar to comparable studies in the United States (Miller et al 2004).

Non-gonococcal non-Chlamydia Urethritis (Non-Specific Urethritis) / Pelvic Inflammatory Disease

Non-specific Urethritis (NSU) represents the syndrome of urethritis caused by agents other than Chlamydia or gonorrhoea. Sexually transmissible agents implicated in NSU include *Herpes simplex* viruses, *Trichomonas Vaginalis* (Iser et al 2005), and *Mycoplasma genitalium* (Horner et al 2001; Taylor-Robinson 2002). However, for around half the cases of urethritis in Australia, no easily identifiable cause of urethritis is found (Iser et al 2005). In addition, a high percentage of men with infections such as trichomoniasis (over 75% in some reports) are asymptomatic (Sena et al 2007). Accordingly, there are no accurate data available regarding the prevalence of NSU in Australia.

Pelvic Inflammatory Disease (PID) presents a similar dilemma in female patients. PID can be caused by *Chlamydia trachomatis* and *Neisseria gonorrhoeae*, and also by other infectious agents such as *Trichomonas Vaginalis* (Cherpes et al 2006). Chlamydia is responsible for about 50% of PID cases, and gonorrhoea is the cause in 25% of cases. Accordingly, there are a substantial number of PID cases that are not caused by a notifiable organism. Further, subclinical PID is not always identified and the diagnosis may be missed (Dayan 2006). For example, in a study of over 350 women at two Australian sexual health clinics, researchers found trichomoniasis in 5%, exceeding previous prevalence figures of less than 1%. They hypothesised that different diagnostic methods accounted for underdiagnosis (Lusk et al 2010). As a result, the true incidence and prevalence of PID in Australia remains unknown (DOHA 2010).

Donovanosis (Granuloma inguinale)

The number of diagnoses of Donovanosis in Australia has declined over the last ten years. In 2002, there were 15 new cases notified (AIHW 2004), and 3 in 2007(Kirby Institute 2012). In 2011 there were none (Kirby Institute 2012).

Syphilis

The prevalence and incidence of syphilis has varied over the last 10 years. Rates of diagnosis of infectious syphilis more than doubled from 3/100,000 in 2004 to 7/100,000 in 2007 (Newman et al 2009), then decreased to 5/100,000 in 2010 (Kirby Institute 2012). An increase to 5.7/100,000 then occurred in 2011, with increases particularly noted in Queensland, South Australia, Victoria and Western Australia (Kirby Institute 2012).

Diagnoses are almost completely confined to gay men and other men who have sex with men in New South Wales, Victoria and Queensland. In the Northern Territory, the vast majority of cases being diagnosed affect Aboriginal and Torres Strait Islander peoples (Newman et al 2009).

Recent estimates from population studies conducted in the United States indicate that syphilis is prevalent in approximately 0.07% of the general (non-institutionalised) white population between the ages of 18 and 49[6] (Gottleib et al 2008).

Human immunodeficiency virus (HIV)

New HIV diagnoses per year in Australia increased to 1,137 cases in 2011, an 8.2% increase over the numbers diagnosed in 2010 (Kirby Institute 2012).

Transmission of HIV in Australia continues to occur primarily through sexual contact between men. In 2007 – 2011:

- 66% of new HIV diagnoses occurred among men who have sex with men (MSM);
- 25% were attributed to heterosexual contact;
- 3% were attributed to injecting drug use; and
- 7% had undetermined exposure (Kirby Institute 2012).

A recent Australian community study has indicated that up to 31% of MSM with HIV were unaware of their condition (Pedrana et al 2012).

Human papilloma virus (HPV)

Following the introduction of vaccination against human papilloma virus, the proportion of young women and heterosexual men aged 21 years or younger presenting to public sexual health services who were diagnosed with genital warts decreased:

- From 12.1% in 2007 to 2.2% in 2011 in young women; and
- From over 9% in 2007 to 5.7% in 2011 in young heterosexual men (Kirby Institute 2012).

Herpes Simplex Virus (HSV 1 and 2)

Genital herpes infections caused by herpes simplex virus type 2 (HSV2) are estimated to affect 12% of adult Australians. Infection with HSV2 also increases the risk of acquiring HIV several-fold [DOHA 2010].

Prevalence varies between groups:

- Twice as common in women (16%) compared with men (8%);
- Lower in rural populations (9%) compared with metropolitan (13%); and
- Higher prevalence in Indigenous (18%) compared with non-Indigenous populations (12%) (Cunningham et al 2006).

The seroprevalence of HSV-1 is 76%, with significant differences by age group, sex and Indigenous status (Cunningham et al 2006).

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[6] Applying these conservative estimates to the Australian population between 18 and 49 (n=10,057,563 as at June 2012) would indicate that approximately 7,040 individuals would test positive to syphilis in the general community.

Hepatitis B and C

In 2011, the estimated number of people living in Australia with chronic hepatitis B was 209,000. The diagnosis rate of newly acquired hepatitis B decreased from 1.4 per 100,000 population in 2007 to 0.8 in 2011 (Kirby Institute 2012).

An estimated 304,000 people living in Australia in 2011 had been exposed to hepatitis C virus. The rate of diagnosis of hepatitis C infection declined to 45.7 per 100,000 population in 2011. The highest rate of hepatitis C transmission is among adults aged 20 – 29 years, primarily those with a history of injecting drug use (Kirby Institute 2012). While Hepatitis C is uncommon in community-based cohorts of homosexual men, the few cases detected in studies appear to be related to sexual-risk behaviours and are more common in HIV-positive men (Jin et al 2010).

Liver transplant is an indicator of chronic illness caused by hepatitis B and C. Of 194 people who had a liver transplant in 2011, 28% had hepatitis C infection whereas hepatitis B was the primary cause of liver failure for 5% of people having liver transplants (Kirby Institute 2012).

2.3 Supply of community services

2.3.1 NATIONAL ESTIMATES OF GENERAL PRACTICE ENCOUNTERS

A large number of patients with STIs and other sexual function problems would present for treatment to a general practitioner. Using data from the Bettering Evaluation and Care of Health Study (BEACH) from October 2007 and September 2012, it has been estimated that a total of 1,727,000 (95%ci: 1,659,000-1,795,000) general practice encounters occur each year relating to sexual function, representing around 1.48% (95%ci: 1.43-1.54) of all general practice visits. Up to 92% of all sexual health encounters can be classified into five distinct groups (Table 2-1).

The two ***most common reasons*** for sexual health encounters comprised around 40%[7] of all sexual health encounters and included:

- Around 20% (323,000; 95%CI 303,000-343,000) for male sexual functioning; and
- Around 17% (277,000; 95%CI 255,000-299,000) for STI screening.

7. Note: that summary percentages may sum to >100% as patients may present with more than one problem in any individual encounter.

Table 2-1: Classification of GP encounters for sexual health

REASON FOR ENCOUNTER	ESTIMATED % OF ENCOUNTERS
Concerns about sexual function	31%
Non-notifiable STIs	22%
STI screening	17%
Genital pain	12%
Notifiable STIs	10%

GP visits relating to ***notifiable STIs comprised around 10%*** of all sexual health encounters and included:

- Around 5% (54,000; 95%CI 20,000-88,000) for HIV;
- Around 3% (63,000; 95%CI 54,799-71,201) for Chlamydia;
- Around 1% (8,000; 95%CI 4,646-11,354) for Syphilis; and
- Less than 1% (6,000; 95%CI 3,085-8,915) for Gonorrhoea.

GP visits relating to ***other STIs*** comprised around 22% of all sexual health encounters and included:

- Around 15% (249,000; 95%CI 232,000-266,000) for genital Candidiasis.
- Around 10% (159,000; 95%CI 278,600-315,400) for genital Herpes;
- Around 6% (82,000; 95%CI 72,395-91,605) for genital Warts; and
- Less than 1% (4,000; 95%ci 2,000-5,000) for genital Trichomoniasis.

Visits relating to ***other sexual health issues*** comprised approximately 44% of all sexual health encounters and included:

- Around 31% (495,000; 95%CI 470,485-519,515) for concerns about sexual function[8];
- Around 12% (188,000; 95%CI 173,884-202,116) for genital pain; and
- Around 1% (11,000; 95%CI 7,000-14,000) for sexual assault.

2.3.2 NATIONAL ESTIMATES OF PUBLIC SECTOR ENCOUNTERS

Public sector data relating to the number of sexual health related occasions of service between 2010-12 were received from one Australian jurisdiction[9].

Extrapolating this data to the national population[10], an average estimate of 685,796 patient encounters occur for sexual health related problems in the public sector each year and around a third (28%) of these (190,404) are seen by medical practitioners. The number of patients seen for different sexual health problems, and with the estimated number of occasions/episodes of service by medical and non-medical staff is presented in (Table 2-2).

8. Includes male sexual function as the single largest number of estimated GP encounters per annum.
9. Data was requested from five jurisdictions (WA, NT, QLD, NSW, VIC) but was only available for New South Wales.
10. The methods required to extrapolate NSW data at a national level were complex, and are outlined in Appendix 1.

Table 2-2: National estimated number of patients and occasions of service for sexual health problems in the public sector

	ESTIMATED TOTAL PATIENTS (% TOTAL/ *SUBTOTAL*)	ESTIMATED MEDICAL PATIENTS (% TOTAL/ *SUBTOTAL*)	ESTIMATED TOTAL EPISODES (% TOTAL/ *SUBTOTAL*)	ESTIMATED MEDICAL EPISODES (% TOTAL/ *SUBTOTAL*)	AVERAGE TOTAL EPISODES PER PATIENT	AVERAGE MEDICAL EPISODES PER PATIENT
STI Screening/Testing/Results	95,282 (46%)	39,093 (41%)	266,759 (39%)	61,320 (32%)	2.8	1.6
Notifiable STIs	36,662 (18%)	21,383 (23%)	223,117 (33%)	71,149 (37%)		
Chlamydia	14,354 *(39%)*	5,930 *(28%)*	25,629 *(11%)*	7,392 *(10%)*	1.8	1.2
HIV/AIDS	13,037 *(36%)*	9,538 *(45%)*	164,905 *(74%)*	51,404 *(72%)*	12.6	5.4
HIV/AIDS and viral hepatitis	1,333 *(4%)*	966 *(5%)*	13,936 *(6%)*	4,691 *(7%)*	3.1	1.9
HIV/AIDS and another STI(s)	1,011 *(3%)*	770 *(4%)*	3,083 *(1%)*	1,451 *(2%)*	10.5	4.9
Gonorrhoea	4,745 *(13%)*	2,538 *(12%)*	9,728 *(4%)*	3,308 *(5%)*	2.1	1.3
Syphilis	2,182 *(6%)*	1,642 *(8%)*	5,835 *(3%)*	2,902 *(4%)*	2.7	1.8
Non-notifiable STIs	22,899 (11%)	14,911 (16%)	44,888 (7%)	23,298 (12%)		
Human Papilloma Virus	11,346 *(50%)*	7,009 *(47%)*	27,238 *(61%)*	12,895 *(55%)*	2.4	1.8
Herpes Simplex Virus	4,775 *(21%)*	3,400 *(23%)*	8,328 *(19%)*	4,770 *(20%)*	1.7	1.4
Trichomoniasis	247 *(1%)*	86 *(1%)*	306 *(1%)*	108 *(0%)*	1.2	1.3
Other STI	5,106 *(22%)*	3,485 *(23%)*	7,182 *(16%)*	4,454 *(19%)*	1.4	1.3
Other multiple STIs	1,425 *(6%)*	931 *(6%)*	1,835 *(4%)*	1,071 *(5%)*	1.3	1.2
Other sexual health conditions	52,556 (25%)	18,824 (20%)	151,033 (22%)	34,637 (18%)		
None of the above	38,589 *(73%)*	14,313 *(76%)*	124,113 *(82%)*	28,698 *(83%)*	3.2	2.0
Vaccination	11,304 *(22%)*	2,809 *(15%)*	18,094 *(12%)*	3,206 *(9%)*	1.6	1.1
HIV Post Exposure Prophylaxis	2,662 *(5%)*	1,703 *(9%)*	8,825 *(6%)*	2,732 *(8%)*	3.3	1.6
Total	207,399	94,211	685,796	190,404		

2.3.3 ESTIMATES OF THE TOTAL NUMBER OF PATIENTS

Table 2-2 also reveals the average number of episodes of care each year for medical patients with different sexual health problems, ranging from 1.2 for Chlamydia and 1.3 for Gonorrhoea to 5.4 for patients with HIV. These estimates can be applied to general practice data (as a conservative over-estimate) to identify the number of patients seen each year in the private sector. A summary of these calculations is presented in (Table 2-3).

Table 2-3: Estimated number of sexual health patients per annum

	PUBLIC			PRIVATE	TOTAL
	Non-medical patients	Medical patients	Total patients	Medical patients	Patients seen
STI Screening/Testing/Results	56,190 (58%)	39,092 (42%)	95,282	138,500	233,782
Notifiable STIs	15,279 (41%)	21,383 (59%)	36,662	66,539	103,201
Chlamydia	8,424 (58%)	5,929 (42%)	14,353	50,539	64,892
HIV/AIDS	4,107 (26%)	11,272 (74%)	15,379	9,000	24,379
Gonorrhoea	2,208 (46%)	2,537 (54%)	4,745	3,000	7,745
Syphilis	540 (24%)	1,642 (76%)	2,182	4,000	6,182
Non-notifiable STIs	7,989 (34%)	14,910 (66%)	22,899	247,000	269,899
Human Papilloma Virus	4,336 (38%)	7,009 (62%)	11,345	41,000	52,345
Herpes Simplex Virus	1,375 (28%)	3,400 (72%)	4,775	79,500	84,275
Trichomoniasis	161 (65%)	85 (35%)	246	2,000	2,246
Other STIs	2,117 (32%)	4,414 (68%)	6,531	124,500	131,031
Other sexual health conditions	33,732 (64%)	18,823 (36%)	52,555	288,667	341,222
None of the above	24,277 (62%)	14,312 (38%)	38,589		38,589
Vaccination	8,496 (75%)	2,808 (25%)	11,304		11,304
HIV Post Exposure Prophylaxis	960 (36%)	1,702 (64%)	2,662		2,662
Total	170,191 (53%)	149,328 (47%)	319,519	710,500	1,030,019

From Table 2-3 it is estimated that approximately 319,519 (31%) patients are seen for sexual health related problems in the public sector, and 710,500 (69%) patients are seen in the private sector each year. Of the notifiable STIs, a higher proportion of patients with HIV and Gonorrhoea are seen in public clinics compared with general practice, where a higher proportion of patients with Chlamydia and Syphilis are seen.

2.4 Unmet demand for community services

Calculating unmet community demand for sexual health related services is challenging. Whilst figures are reported for notifiable STIs, the fact that they are notified implies that services were provided (consultation and pathology). Therefore any evidence for unmet demand relies on evidence of undetected STIs in the community. Few studies have systematically attempted population wide screening for specific STIs in Australia or overseas. Accordingly, estimates of the likely number of undetected STIs in the community have had to draw on a number of smaller studies (previously discussed). These studies indicate that:

- Only 10 to 20 percent of all cases of Chlamydia are formally diagnosed (median 85% potentially undiagnosed);
- Only 70 to 80 percent of all cases of HIV are formally diagnosed (median 25% potentially undiagnosed);
- Only 50 percent of all cases of Gonorrhoea are diagnosed (estimate 50% potentially undiagnosed); and
- Possibly only 20% of all cases of Syphilis are diagnosed (estimate 80% potentially undiagnosed).

Drawing on these estimates the number of potential STIs that are notifiable in Australia is likely to be substantially higher than current data would suggest (Table 2-4).

Table 2-4: Estimated number of sexual health patients per annum

NOTIFIABLE STI	AVERAGE ANNUAL NOTIFICATIONS (2010-2012)	PERCENTAGE NOTIFIED/ DETECTED (ESTIMATE)	ESTIMATED MAXIMUM ANNUAL NUMBER OF CASES
Chlamydia	79,661	15%	531,073
HIV/AIDS	24,202	75%	32,269
Gonorrhoea	10,792	50%	21,584
Syphilis	1,307	20%	6,535
Total	115,962		591,462

Evidence from published community studies report that all STIs remain under-diagnosed in the community. Estimates using identified rates of under-detection indicate that the true population prevalence of notifiable STIs may be up to 4 times (410%) higher.

Current estimates of the number of patients seen in Australia each year for notifiable STIs (103,201) are similar to the total number of notifications recorded, but remain significantly lower than the estimated population prevalence of the same diseases (591,462). If these estimates are to be accepted, then two general issues must also be considered in relation to demand for services, namely that:

- Whilst individual patient demand for services may not be as high, given that a number of individuals will be asymptomatic and thus not know they have an STI;
- **Public demand for services will be significantly higher in order to identify these individuals and reduce the rate of community infection. This in turn places workforce pressures upon medical practitioners to become more knowledgeable and vigilant about STIs and routinely screen their patients regardless of the reason for presentation. Pressure is also placed upon public policy and community programs to increase the rate of STI screening in the community.**

Specialists have an enhanced capacity to detect asymptomatic disease, and a significant role to play in reducing the impact of STIs across the Australian community.

2.5 Demand for specialist services

2.5.1 NATIONAL ESTIMATES OF GP REFERRAL TO SPECIALISTS

Between October 2007 and September 2012 approximately 1.83 in every 100 patients (95%ci: 1.50-2.20) with sexual health-related problems were referred to medical specialists (BEACH, 2012). Using the annual average estimated number of sexual health-related problems presenting to general practice (1,758,000)[11], a total of 32,171 specialist referrals are anticipated each year. The highest percent of specialist referrals was made to gynaecologists (56.67%), followed by urologists (16.67%) and other specialty 'clinics' (5.00%).

Assuming that, for the majority of patients, one specialist referral will be made in any given year, it is estimated that:

> ***Around 5% (Estimate: 4.5; 95%CI: 4.47-4.57) of all patients presenting to general practice with sexual health-related problems are referred for independent specialist assessment each year[12].***

However, a number of specialists in sexual health medicine originally qualified and are currently billing MBS assessment items as GPs. In order to ascertain a more accurate level of 'demand' the assessments provided by these individuals must also be taken into account.

Analysis of MBS data from a sample of sexual health medicine specialists revealed that an average of around 22.6% of all occasions of service per annum (between 2010-2012) were claimed as assessments undertaken by GPs. Adding these numbers to the annual estimated rate of referrals from GPs who are not sexual health medicine specialists reveals that there is demand for around 16,709 potential referrals for specialist assessment. Thus:

> ***Around 7% (Estimate: 6.9; 95%CI: 6.82-6.94) of all patients presenting with sexual health-related problems actually received***

11. Note that this is higher than the number of encounters, as individuals may present with more than one problem per encounter.
12. 32,171 /710,500. Binomial confidence intervals have been applied.

specialist assessment each year. General practitioners who are specialists in sexual health medicine currently assess a third of these patients[13].

2.5.2 NATIONAL ESTIMATES OF PUBLIC SECTOR REFERRAL TO SPECIALISTS

In the public sector, a number of specialist and non-specialist medical practitioners are employed to address the needs of patients with sexual health-related problems. As such, specific referrals to specialists may or may not occur. Data is therefore unavailable to estimate the number of specific referrals from non-specialist medical practitioners to specialists in the public sector.

2.5.3 INFLUENCES UPON ESTIMATION OF DEMAND FOR SPECIALIST SERVICES

Estimates of demand for specialist services are likely to be influenced by a number of issues, including:

- Constraints upon general practice referral: It is appreciated that the number of referrals from general practitioners for specialist assessment will be heavily influenced by the known availability of specialists and anticipated time to treatment for patients. Thus, current demand may also be constrained by supply. Whilst the majority of referrals are currently made to a range of specialists, around 5% are made to clinics that employ sexual health medicine specialists. Referrals to sexual health medicine specialists were not included in the BEACH data (as they were not officially recognised until mid-way through the selected data collection period). Accordingly, it is highly likely that an increase in the supply of sexual health medicine specialists may also generate demand for services (supply induced demand);
- Constraints upon public sector referral to specialists: Public sector medical practitioners encounter similar issues to those faced by general practitioners. Specialists working in the public sector base referrals upon the availability and time to assessment for any given patient. Accordingly, if more specialists are available in the public sector, a higher number of referrals may be anticipated (supply constrained demand); and
- Exclusion of demand arising from other sources of referral: As previously identified, individuals may present for public treatment services on a 'self-referred' basis, rather than presenting to their general practitioner. Further, other medical practitioners may also refer for specialist assessment. Data on public sector self-referrals was not available for analysis, and thus additional demand for specialist services is likely (and demonstrated in the number of notifiable STIs above the estimated number of consultations with general practitioners and sexual health medicine specialists).

2.6 Supply of specialist services

Every general practice referral should result in a specialist assessment.

13. 48,880 /710,500. Binomial confidence intervals have been applied. General practitioner assessments as specialists in Sexual Health Medicine = 16,709/48,880(34.2%).

2.6.1 NATIONAL ESTIMATES OF PRIVATE SECTOR SPECIALIST ASSESSMENTS

MBS data indicates that an average of 19,432 specialist assessments are provided per annum in relation to sexual health medicine[14]. Of these, an average of 29% are provided by specialists billing as general practitioners[15], and 71% are provided by specialists billing as physicians or other medical practitioners[16].

2.6.2 NATIONAL ESTIMATES OF PUBLIC SECTOR MEDICAL ASSESSMENTS

Estimates derived from jurisdictional data indicates that an average of 64,539 medical assessments are provided across the public sector for sexual health related problems each year. The proportion of these assessments conducted by sexual health medicine specialists remains unknown.

2.6.3 NATIONAL ESTIMATES OF SUPPLY FOR SPECIALIST SERVICES

Thus, it is estimated that an average of at least 83,791 assessments are provided across both public and private sector each year for sexual health related problems. However, in the absence of public sector data distinguishing services provided by specialist and non-specialist medical practitioners:

The true supply of sexual health medicine specialists remains unknown from the available data.

2.7 Unmet demand for specialist services

If it were accepted that (based upon prior assumptions) at least:

- 48,880 patients are referred to or seen by a specialist for assessment of sexual health related concerns; and that
- At least 10% of these patients have one or more notifiable STIs; then
- Around 4,880 referrals are made for specialist assessment of notifiable STIs each year, representing around 4.2% of all notifiable STIs in Australia (on average over the same period).

If it were also accepted that the true prevalence of STI's in the Australian community was 4.1 times higher than the currently observed rate, then referrals to specialists would increase by at least 24,841[17] per annum for this group of sexual problems alone.

Estimates based only upon notifiable STIs (ignoring all other sexual health problems) indicate a potential increase of 50% to the workload of all sexual health related medical specialists.

14. Average over 3 years (2010-2012).
15. N = 5,630.
16. N = 13,801.
17. 4.2% of 591,462 = 24,841.

Thus, whilst estimates of true demand for the specialist assessment and/or treatment of sexual health related problems remain uncertain:

> ***There is sufficient indication that unmet need currently exists within the Australian community – particularly to diagnose and treat more complex cases of STIs in individuals who are unaware that they have an STI and may place others at risk of infection.***

Current specialist services do not appear to meet anticipated levels of demand for notifiable STIs alone, regardless of other STIs and reportable blood borne viruses in the Australian community.

2.8 The consequences of unmet demand

2.8.1 THE COSTS OF SEXUALLY TRANSMISSIBLE INFECTIONS IN AUSTRALIA

STIs cause significant morbidity and mortality and place a substantial burden, economic and otherwise, on Australian society. The costs are related to screening, testing and treatment, as well as loss of productivity and income for those affected by STIs. Costs can be high because an infection is particularly common (e.g. Chlamydia – 358.8 notifications per 100,000 population in 2012)[18], or requires costly treatments (e.g. HIV/AIDS). Further, some STIs can lead to serious and significant complications; for example, liver cancer in Hepatitis C, or neurocognitive disorders in HIV. Where HIV results in Dementia, the costs of care are estimated at $126,000 per person per year (Cysique et al 2011).

Unfortunately, detailed information regarding the economic burden of various STIs in Australia is not available. However, comparable data are available from the United States (Owusu-Edusei et al 2013). Using the US costs per case (and assuming parity between US and Australian dollars), and the number of new cases per year in Australia, the direct costs of five STIs (Chlamydia, Gonorrhoea, Syphilis, Hepatitis B and HIV) is presented in Table 2-5.

18 National Notifiable Diseases Surveillance System. http://www9.health.gov.au/cda/source/rpt_2.cfm?RequestTimeout=500

Table 2-5: Estimated Lifetime Cost Per Case, Number of New Cases, and Total Medical Costs (2010 dollars) of Five Major STIs in Australia

STI	LIFETIME COST PER CASE, $ (RANGE)	NUMBER OF CASES*	TOTAL DIRECT COST, $MILLION (RANGE)
HIV	304,500 (229,300-379,700)	1,137	346 (260 – 432)
Chlamydia	197 (15-546)	80,800	15.9 (1.2 – 44.1)
Gonorrhoea	217 (40-531)	12,087	2.6 (0.5 – 6.4)
Syphilis	709 (355-1064)	1,303	0.9 (0.5 – 1.4)
Hepatitis B	2,667 (2,172-2,924)	290	0.8 (0.6 – 0.9)

** Numbers of new cases diagnosed each year, derived from the Kirby Institute*

Overall disease burden can be also expressed as Disability-Adjusted Life Years (DALYs).[19] In 2003 in Australia, 2,048 DALYs were accounted for by STIs (AIHW).

Because detailed information regarding the burden of all STIs in Australia is not available, a discussion of the impact of Hepatitis B and C on health and society will now follow as an exemplar of STI/BBV conditions dealt with by Sexual Health Specialists in Australia.

2.8.2 THE COSTS AND BURDENS OF HEPATITIS B AND C IN AUSTRALIA

Little is known about the economic burden of hepatitis B in Australia (ACT Hepatitis Resource Centre 2013). Whilst the financial burden of hepatitis B is not well understood, Butler and colleagues (2004) analysed average costs per patient with chronic hepatitis B across six disease states (e.g. non-cirrhotic chronic infection, decompensated cirrhosis, liver cancer and liver transplantation). In 2001 dollars, the study found the annual costs of managing patients with hepatitis B varied between $1,233 (for non-cirrhotic chronic infection) and $144,392 (for a patient who has had a liver transplant).

Regarding Hepatitis C in Australia, a recent report (Boston Consulting Group 2012) found that hepatitis C creates an annual cost to governments of $252 million with a projected five year cost of $1.5 billion. In addition to the costs to the health system, nearly half of those costs are spent to assist those disabled by chronic infection, who are too ill to work or who have lost jobs for reasons related to hepatitis C infection.

Each year in Australia, hepatitis C results in approximately 213 cases of liver failure (costing $5.6m), 44 liver transplants ($5.8m), and 48 cases of liver cancer ($2.2m). The bulk of the $252m one-year costs are generated by people with mild or moderate fibrosis ($84m and $39.5m respectively) and cirrhosis ($45.1m). Amounting to an estimated $1.5 billion in costs to government over five years, hepatitis C is expected to cause 24,668 cases of cirrhosis, 1,494 cases of liver failure, 332 cases of liver cancer, and 144 liver transplants (ACT Hepatitis Resource Centre 2013)..

[19] DALYs are years of life lost due to **premature mortality** combined with years of life lost due to time **lived in less than full health** to create a single indicator that assesses the overall burden of disease for a given population (WHO 2004).

The health burden associated with hepatitis B and C is expected to rise sharply in coming years. In 2011, chronic hepatitis B and C infection was the underlying cause of liver disease in nearly one third of liver transplants (Kirby Institute 2012). Alarmingly, the AIHW has reported that on 2007 figures, age-standardised rates of liver cancer in Australia are projected to increase by 38% in men and 78% in women by 2020 (AIHW 2012).

Hepatitis B and C create burdens beyond economic costs. In a study of psychosocial aspects of living with hepatitis C, The National Centre in HIV Social Research (Harris & Richters 2008) found that, in addition to health impacts, living with a chronic stigmatised illness with an uncertain future creates dilemmas around disclosure, accessing support, and sustaining self-esteem, employment and relationships. Other consequences of Hepatitis C include high levels of psychological distress, impaired quality of life (Coughlan et al 2005), anxiety, depression, reduced quality of life, feelings of loss of control, and difficulties in coping (Zickmund et al 2003; Conrad et al 2006; Olsen et al).

3 The clinical safety and effectiveness of interventions

3.1 Types of intervention provided for sexual health problems

Medical practitioners in Australia provide a number of different clinical interventions to patients with sexual health related problems. The practice of sexual health medicine typically embraces two perspectives: a clinical perspective that consists of the use of diagnostic and treatment modalities including pharmacotherapy and psychosexual interventions, together with a public health approach to sexual health problems.

A large number of pharmacotherapies are prescribed to treat comorbidities and complications associated with HIV and other chronic sexual health conditions. The majority of drugs used in the treatment of sexual health diseases are section 100 drugs or authority/restricted drugs. Examples of drugs used in the treatment of sexual health diseases include:

- A range of drugs section 100 drugs used in the treatment of HIV including but not limited to:
  - Abacavir;
  - Didanosine;
  - Lamivudine;
  - Saquinavir; and
  - Zidovudine.
- Section 100 drugs used in the treatment of chronic hepatitis B and C, such as:
  - Adefovir Dipivoxil;
  - Interferon Alfa-2b;
  - Peginterferon Alfa-2a; and
  - Ribavirin And Peginterferon Alfa-2a.
- Drugs used in the treatment of a range of sexually transmissible infections including;
  - Aciclovir in the treatment of herpes simplex;
  - Ceftriaxone in the treatment of uncomplicated gonorrhoea;
  - Nystatin in the treatment of fungal or yeast infections; and
  - Vardenafil used in the treatment of erectile dysfunction.

A more comprehensive list of pharmacotherapies used in the treatment of sexual health related problems is detailed at Appendix 2.

3.2 Clinical safety of interventions

The Therapeutic Goods Administration (TGA) is responsible for regulating therapeutic goods including medicines, medical devices, blood and blood products. The TGA administers the *Therapeutic Goods Act 1989,* which provides the legislative framework for a risk management approach that ensures that the Australian community has timely access to therapeutic goods which are **consistently safe, effective and of high quality**. In effect, no therapeutic product can be supplied in Australia unless it has been assessed and approved

for registration by the TGA. The TGA is also responsible for ongoing monitoring of products once they are available on the Australian market.

Analysis of available evidence from the BEACH (2012) data suggests that the 10 most common medications prescribed by general practitioners for the treatment of sexual health related problems include (in descending order):

- Sildenafil citrate (17.28%);
- Tadalafil (13.34%);
- Valaciclovir (10.10%);
- Azithromycin (8.29%);
- Famciclovir (4.55%)
- Testosterone (3.30%);
- Clotrimazole vaginal (3.21%);
- Doxycyline (2.77%);
- Vardenafil (2.54%); and
- Fluconazole (2.42%).

The drugs used by GPs as noted above, include a number of section 100 and authority/restricted drugs that have been approved for listing on the PBS and account for 68% of all medications prescribed to patients presenting to general practice with sexual health related problems.

The specific safety of psychosexual interventions is less well documented in systematic reviews. Notwithstanding, it is recognised that the safety of these intervention is dependent upon the training and competencies of individual medical practitioners. Individual Colleges regulate these standards through fellowship training and ongoing professional education.

Having reviewed the range of interventions provided by sexual health medicine specialists, the Australian Medical Council (2006) has concluded that:

> ***"…that there is a demonstrable link between the skills and expertise of sexual health physicians and healthcare outcomes, including safety; and that this link is supported in the scholarly literature." (p.24)***

3.3 Clinical effectiveness of interventions

A total of 88 studies of the highest levels of evidence were reviewed to evaluate the clinical effectiveness of interventions provided for sexually transmissible infections (STIs) and blood borne viruses (BBVs). A detailed list of these references is presented in Appendix 3.

3.3.1 COMPARISON OF DIFFERENT THERAPIES

The literature demonstrates clear evidence for the effectiveness of a range of pharmacological and other interventions for sexual health-related conditions.

Findings from the published literature regarding the effectiveness of pharmacological therapies for a range of sexually transmissible infections are summarised in Table 3-1.

Table 3-1: Sexual Health Medicine Interventions proved to be beneficial/effective or likely to be beneficial/effective

CONDITION	TREATMENT OR INTERVENTION	OUTCOME	LEVEL OF EVIDENCE
CHLAMYDIA	Azithromycin	97% cure rate	Level I
	Doxycycline	98% cure rate	Level I
	Single-dose Azithromycin in non-pregnant women	95% to 100% cure rate	Level I
	Oral doxycycline 200 mg/day for 7 days in non-pregnant women.	88% to 100% cure rate	Level I
GONORRHOEA	Ceftriaxone	88% cure rate	Level I
SYPHILIS	Azithromycin	95% cure rate	Level I
	Penicillin G	84% cure rate	Level I
HUMAN IMMUNODEFICIENCY VIRUS	HIV Integrase Inhibitors (e.g. Raltegrovir)	Preferred drug in the setting of treatment-naive and as beneficial addition in treatment-experienced patients with virological failure, based on virological efficacy	Level I
HEPATITIS B / C	Entecavir (vs Lamivudine)	Significantly improved liver histology Significantly greater HBV-DNA loss Significantly better ALT levels	Level I
	Tenofevir (vs lamivudine, pegylated interferon, adefovir, entecavir, and telbivudine)	Most effective in reducing HBV-DNA Most effective in normalising ALT levels Most effective in HBeAg seroconversion Most effective in hepatitis B surface antigen loss	Level I
	Entecavir (vs lamivudine, pegylated interferon, adefovir, telbivudine, and tenofovir)	Most effective in improving liver histology Second most effective in reducing HBV-DNA Second most effective in	Level I

CONDITION	TREATMENT OR INTERVENTION	OUTCOME	LEVEL OF EVIDENCE
		normalising ALT levels	
HUMAN PAPILLOMA VIRUS (condylomata acuminata)	Podophyllotoxin	45% to 77% successful clearance rate; 38% recurrence rate	Level II
	Imiquimod (imidazoquinolinamine) 5% cream	40% to 77% successful clearance rate; 13% recurrence rate	Level II
	Sinecatechins	58% successful clearance rate; 9% recurrence rate	Level II
	Surgical excision	94% successful clearance rate; 29% recurrence rate	Level II
	Cryotherapy	88% successful clearance rate; 39% recurrence rate	Level II
ACUTE VULVOVAGINAL CANDIDIASIS	All topical and oral azole therapies give cure rates of 80-95% in non-pregnant women. Nystatin preparations give cure rates of 70 to 90%. Treatments are fungistatic, not fungicidal, and relapses occur.	80% to 95% cure rate in non-pregant women	Level I equivalent
	Nystatin preparations		Level I equivalent

3.3.2 TREATMENT OF NON-INFECTIVE SEXUAL HEALTH PROBLEMS

Evidence also indicates that an appropriate mix of interventions is required in order to maximise the likelihood of success for patients with non-infective sexual health conditions.

Treatment of other sexual health conditions can benefit from specialist knowledge and/or multi-disciplinary care. Examples include:

- *Genital/Pelvic Pain*. Empirical evidence suggests the existence of multiple aetiologic pathways leading to the development and persistence of genital pain. Physical factors such as biomedical/mechanical trauma, inflammatory processes and pelvic floor muscle dysfunctions may combine with cognitive, behavioural, affective, and interpersonal factors leading to persistent pain and/or sexual dysfunction (General Review - No NHMRC Level of Evidence, Bergeron et al 2011). Accordingly, a range of effective therapies may be employed via multi-disciplinary services, including:
  - Topical amitriptyline-ketamine (Retrospective Review - No NHMRC Level of Evidence, Poterucha et al 2012);
  - Gabapentin alone or in combination with amitriptyline (Level II evidence; Sator-Katzenschlager et al 2005);

- Cognitive-behavioural therapy for dyspareunia/vulvodynia (Level II evidence; Masheb et al 2009; Level II equivalent evidence[20]; Lofrisco et al 2011);
- Relationship/couples therapy for vulvodynia (Level II evidence, Reese 2009);
- Psychotherapy for non-specific male genital pain (Level IV evidence, Naim & Ende 2011);
- Physiotherapy for pelvic floor/sexual pain (Level II evidence; Rosenbaum 2007); and
- Botulinum Toxin for genital pain (Level IV evidence, Romito et al 2004).

- *Erectile dysfunction*: Erectile dysfunction (ED; inadequate penile erection) is relatively common among sexually active males, and is estimated to affect 21% of middle aged and older Australian men (Holden et al 2005; Britt et al 2008). As with genital pain, ED can be multi-factorial in aetiology. Causes may be organic (e.g. Neurological disorders, Diabetes mellitus, vascular disorders, medication side effects, alcohol, recreational drugs, local penile factors) or psychogenic (Shamloul & Ghanem 2013). Accordingly, ED often requires a range of therapies (Review – no NHMRC level of evidence, Wagner et al 2002). These may include:
  - Oral Phosphodiesterase-5 inhibitors (PDE5-Inhibitors). This class of drugs includes the well-known sildenafil (Viagra). Sildenafil is more likely than placebo to lead to successful sexual intercourse, with a higher percentage of successful intercourse attempts and a greater percentage of men experiencing at least 1 intercourse success during treatment (Level I evidence, Fink et al 2002). These medications have also been found to be effective in the medium term when treating ED in men who have undergone radiotherapy or prostatectomy for prostate cancer (Level I evidence, Candy et al 2008),
  - Lifestyle modification. When lifestyle measures such as regular aerobic exercise are combined with PDE5 inhibitors, patients experience significantly greater erectile function, confidence, sexual desire and intercourse satisfaction (compared with PDE5-I alone) (Level II evidence, Maio et al 2010),
  - Intracavernosal injection therapies. Commonly used drugs include alprostadil (prostaglandin E1), papaverine, phentolamine, and vasoactive intestinal polypeptide. A combination of three drugs has a 90% success rate (Level II evidence, Hatzimouratidis & Hatzichristou 2005),
  - Testosterone therapy (Level II evidence, Jacob 2011),
  - Penile devices such as Vacuum Erectile Devices (Level II evidence, Brison et al 2013; Level II evidence, Yuan et al 2010),
  - Psychotherapy. In particular, group psychotherapy results in significantly better outcomes compared with controls, and when combined with sildenafil, leads to significant improvement of successful intercourse, with less drop-out compared with sildenafil alone (Level I evidence, Melnik et al 2007), and
  - Combination therapies. Examples of effective combinations for the treatment of erectile dysfunction include:
    - PDE5 Inhibitors plus Vacuum Erectile Devices (Level II evidence; Dhir et al 2011);
    - PDE5 Inhibitors plus intraurethral alprostadil (Level II evidence; Dhir et al 2011);

[20] Review of Randomized Controlled Trials

- PDE5 Inhibitors plus α-adrenergic receptor antagonists (Level II evidence; Dhir et al 2011).

Delivery of such a range of interventions, especially when several are combined, is potentially best delivered in a Sexual Health specialist setting with multi-disciplinary input. Specialist referral is particularly recommended:

- Where laboratory evaluations are ambiguous or to identify the need for more comprehensive evaluation;
- When there is a suspicion of cardiac problems;
- When there is primary ED, e.g. in young patients with a history of pelvic/perineal trauma;
- In patients with significant penile curvature (e.g. Peyronie's disease or congenital deformity); or
- When there is a request from the patient or a medico-legal requirement for further evaluation (Review – no NHMRC level of evidence, Wagner et al 2002).

Despite these recommendations, patients with erectile dysfunction are rarely referred elsewhere by GPs for this problem with a referral rate of only 3.1 per 100 erectile dysfunction problems managed[21].

3.3.3 EFFECTIVENESS OF DIFFERENT MEDICAL PRACTITIONERS

The Australian Medical Council has identified a need for specialists in Sexual Health Medicine, citing that:

> ***"…the discipline of Sexual Health Medicine is both sufficiently complex and extensive to require a comprehensive and complete training program to practice at a level expected of the specialist practitioner." (p.37)***

Accordingly, the literature was examined to identify any studies comparing the outcomes achieved by sexual health medicine specialists and other types of medical practitioners.

A search of the medical literature identifies very few studies of sexual health that compare outcomes achieved by sexual health medicine specialists versus those achieved by GPs.

However, there is evidence that many GPs may experience difficulties in promoting sexual health (Survey of GPs - No NHMRC Level of Evidence, Khan et al 2008) and in treating sexual health issues. Reviews of existing studies (Survey of patients - No NHMRC Level of Evidence, Gott & Hinchliff 2003; Survey of GPs - No NHMRC Level of Evidence, Gott et al 2004; Survey of GPs - No NHMRC Level of Evidence, Survey of GPs - Hinchliff et al 2005; Survey of GPs - No NHMRC Level of Evidence, Freedman et al 2006; Survey of GPs - No NHMRC Level of Evidence, Temple-Smith et al 2008; Survey of GPs - No NHMRC Level of Evidence, Khan et al 2008; Survey of GPs - No NHMRC Level of Evidence, Schneider et al 2005), have identified inconsistent involvement of GPs in sexual health management, and a number of reasons for lack of GP involvement in managing these patients including:

[21] http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=6442456266

- Lack of time;
- Inadequate knowledge, training or expertise;
- Discomfort with discussing sexual heath with:
  - Patients of the opposite gender,
  - Patients from ethnic minority groups,
  - Sex workers and/or drug users,
  - Middle-aged and older patients, and
  - Non-heterosexual patients (e.g. Difficulties related primarily to ignorance of lesbian and gay lifestyles and sexual practices, and also included concerns about the appropriate language to use and assumptions about the nature of gay men's relationships);
- Complex and difficult nature of issues pertaining to sexual health;
- Limited access to testing by GPs (very few, if any, general practices have on-site microscopy);
- Perceived structural barriers to limit the number of pathology tests taken;
- Concerns about confidentiality; and
- Reluctance of patients to consult GP (e.g. because of shame/embarrassment and fear, perceiving sexual problems as "not serious" and lack of knowledge about appropriate services).

Further, analysis of BEACH data (Survey of GPs - No NHMRC Level of Evidence, Freedman et al 2006) has revealed that GPs are frequently managing sexual health problems without a proven diagnosis and without testing for other conditions. Moreover, the tests to provide a specific diagnosis do not seem to be taken by GPs. Accordingly, inappropriate or suboptimal pharmacological therapy may be prescribed.

Examples of sub-optimal sexual health management in general practice include:

- In an audit of Australian GPs regarding management of Hepatitis B, only 29% of patients were monitored at recommended intervals, 47% were managed according to the current guidelines and 25% of patients had been referred to a specialist (Survey of GPs - No NHMRC Level of Evidence, Dev et al 2011);
- In a survey of GPs in Western Australia regarding management of Chlamydia, only 8% of GPs took a comprehensive sexual history from symptomatic cases, 53% routinely tested for blood-borne sexually transmissible infections and 29% recorded a discussion of partner notification in the medical records (Survey of GPs - No NHMRC Level of Evidence, Bangor-Jones 2011);
- In a survey of Victorian GPs regarding attitudes to taking a sexual history, 28% would do so for a patient routinely requesting the contraceptive pill, 30% would do so for a Papanicolaou (Pap) smear, and 30% would do so when giving advice about immunisation before overseas travel (Survey of GPs - No NHMRC Level of Evidence, Temple-Smith et al 1999).

General practitioners have also been reported as unwilling or uncomfortable in dealing with more complex conditions such as HIV (Survey of GPs - No NHMRC Level of Evidence, Defty et al 2010). Specific barriers include:

- Complexity of highly active antiretroviral therapy (HAART) regimens, including interactions and side effects;
- Insufficient experience or inadequate training;
- Inadequate reimbursement;
- Inadequate communication between primary and specialist care; and
- Belief that patients with HIV prefer to have their illness (+/- all health issues) managed by specialists.

Conversely, there is some evidence that multi-disciplinary and multifaceted treatments, and centralised care with high patient volumes, such as treatment and care provided by specialist centres, could lead to improved outcomes (including reduced mortality) in conditions such as HIV/AIDS (Level I evidence; Handford et al 2006). Similarly, improved medical outcomes are achieved for patients when treated by a provider with more training/expertise in HIV/AIDS care in the outpatient (clinic) setting (Level II evidence; Rackal et al 2011). These improved outcomes included:

- Greater plasma viral load control;
- Patients more likely to be on highly active antiretroviral therapy (HAART);
- Patients on newer treatment regimens sooner;
- Patients having more outpatient care;
- Less likelihood of emergency room visits; and
- Shorter stay in hospital.

Accordingly, the Australian Medical Council in 2007 (AMC 2007) found that:

> ***"Sexual Health physicians are a longstanding and essential piece within a complex and evolving clinical and public health jigsaw; and are recognised as providing clinical and support services by both state and territory health authorities and other specialty groups"***

4 Sexual Health Medicine scope of practice and workforce

4.1 Comparator specialty groups

As previously described, a range of safe and effective interventions for sexual health related problems could be provided by a number of different medical specialties.

General practitioners (GPs) provide the majority of services. In addition to GPs, infectious diseases physicians also see patients with sexual health related problems. However, patients treated by infectious diseases physicians tend to be hospital inpatients rather than ambulatory community patients. Nevertheless, it is useful to identify and compare the training competencies of these medical specialties with the more recent specialty of sexual health medicine. Results of this analysis are presented in Appendix 5.

4.1.1 SEXUAL HEALTH MEDICINE AND GENERAL PRACTITIONERS

Analysis of training competencies indicates that both sexual health medicine specialists are trained to perform a wider role than general practitioners in relation to:

- Patient assessment as it relates to developing a management plan, undertaking health consultations with other health professionals and providing advanced sexual counselling;
- Sexual assault, particularly as it relates to a child;
- Public health activities as it relates to developing and implementing health promotion activities in relation to sexual health, particularly in containment of STIs and BBVs;
- Professional qualities specific to sexual health medicine including seeking and critically appraising information from a range of sources, outlining principles of research and advocating for sexual health as some examples; and
- Community prescribing of s100 HIV drugs with the exception of those GPs who seek accreditation via ASHM upon undertaking the nationally endorsed education program.

A small group of general practitioners are qualified and accredited as community prescribers of S100 medications for patients with HIV and usually provide shared care of patients with sexual health medicine specialists. The number of community prescribers across jurisdictions in 2010 through 2012 is at Table 4-1[22].

22. Data provided by AChSHM.

Table 4-1: Accredited S100 HIV Community Prescribers by State/Territory 2010-12

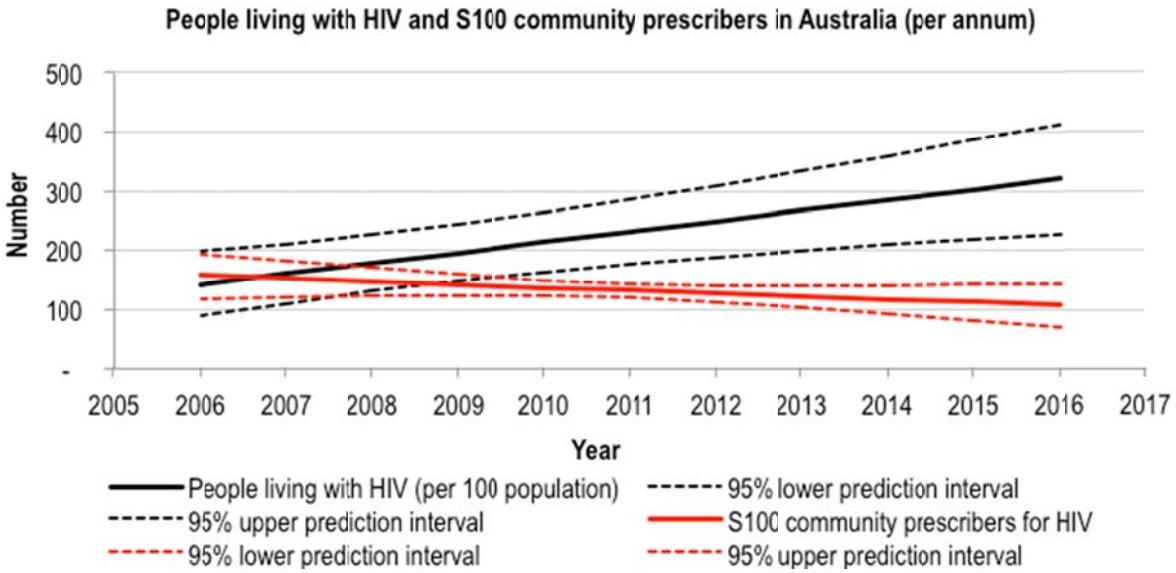
YEAR	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	TOTAL
2010	3	58	0	32	7	0	32	3	135
2011	6	59	0	28	5	0	28	3	129
2012	5	54	0	29	7	0	27	3	125

Adequate clinical service provision for people living with STIs such as HIV has been reported to be essential for effective disease management (Mallitt et al 2012). In particular, timely access to quality services for diagnosis, drug prescription and the treatment of comorbidities is believed to affect long-term prognosis (Keiser et al 2008). Despite this, there is little published evidence of unmet need in Sexual Health Medicine.

Another review of HIV clinical service capacity (Mallitt et al 2012) concluded that, while demand for clinical services with expertise in HIV management is increasing in Australia, supply is decreasing. In particular, the numbers of general practices that offer a doctor who can prescribe anti-retroviral drugs for HIV have not increased in line with the increase in HIV patients.

Examination of the rate of increase in prevalence of people living with HIV against the number of accredited community prescribers is presented in Figure 4-1, which indicates a widening gap between the number of community prescribers and the growing number of individuals living with HIV in the community.

Figure 4-1: Accredited S100 prescribers of HIV medications across Australia



Nevertheless, the majority of services provided to patients with sexual health related problems will continue to be provided by general practitioners. The AMC carefully considered the impact of introducing sexual health medicine specialists upon the existing roles and responsibilities of general practitioners and concluded that:

> ***"….sexual health physicians are recognised by health authorities as essential to the development of a primary care workforce in the area of sexual health medicine; and that the Chapter has a strong track record in providing training, education and other support to general practitioners and other health professionals, including sexual health nurses." (p.25)***

4.1.2 PERCEPTIONS OF SEXUAL HEALTH MEDICINE SPECIALISTS

Chapter fellows were surveyed to identify perceived differences in patient management compared with general practitioners (including those who had trained as S100 prescribers)[23]. Results of the survey responses were consistent with the published literature and are depicted graphically in Appendix 4. Specialist intervention was perceived to result in:

- More time spent with patients per patient visit;
- More appropriate medication prescriptions;
- Better patient compliance with medication regimes; and
- A lower number of patient visits for treatment per annum.

4.1.3 SEXUAL HEALTH MEDICINE AND INFECTIOUS DISEASE PHYSICIANS

The training competencies of sexual health medicine specialists and infectious disease physician appear to be largely the same. Where differences are apparent, they relate to additional training by sexual health medicine specialists in areas relating to:

- Assessment and management of sexual symptom complexes (e.g. pelvic pain, genital discharge, genital ulceration, genital lumps and bumps);
- Assessment and management of upper genital tract conditions;
- Understanding of human sexuality throughout the lifespan;
- Understanding of sexual dysfunction;
- Reproductive health; and
- Assessment and management of sexual assault.

The AMC consulted with a variety of related speciality groups within the RACP, including infectious diseases medicine and public health medicine, during the process of determining whether there was sufficient evidence to support sexual health medicine as an independent specialty. Several key issues were identified:

23. Ideally, a comparison sample of general practitioner perceptions would be sought. However, this was beyond the time available to conduct the current project.

- Infectious Disease Physicians in the adult Adult Medicine Division of RACP were amendable to developing mutually recognised training modules and conjoint accreditation of training posts, which amongst other benefits, had the potential to expose a higher number of trainees to sexual health medicine than previously;
- Recognition that HIV management has moved away from hospital-based inpatient management of opportunistic infection and that many infectious diseases and immunology units are no longer ideal places for management of HIV medicine. In effect, sexual health medicine specialists are best trained for increasingly complex outpatient management of ambulant patients with an incurable sexually transmissible infection; and
- Training solely within an infectious diseases framework does not provide a holistic approach to sexual health, such as reproductive health concerns including contraception, which is not covered in the infectious diseases curriculum. In addition, sexually transmissible infections receive only a small mention within the curriculum and infectious diseases physicians have no training in anogenital examination, including the use of the speculum and/or proctoscope or bimanual examination and appropriate testing of the anogenital region. Infectious diseases physicians also have neither training in human sexual behaviour nor the clinical problems associated with sexuality, including sexual assault, sexual identity and orientation.

The AMC report noted that the Chapter's position on these issues was strongly endorsed by the Australasian Society for Infectious Diseases, concluding:

> ***"…that sexual health medicine related services are provided in part by a number of 'overlapping' specialty groups in Australia including infectious disease physicians, public health medicine physicians and general practitioners; but that sexual health physicians are a longstanding and essential piece within a complex and evolving clinical and public health jigsaw; and are recognised as providing specialist-level clinical and support services by both state and territory health authorities and other specialty groups." (p. 24)***

4.2 Sexual Health Medicine training

Recognised specialists in sexual health medicine are Fellows of the Australasian Chapter of Sexual Health Medicine (FAChSHM) affiliated with the Royal Australasian College of Physicians (RACP). Fellowship is awarded to trainees who have completed three years of advanced training in sexual health medicine in addition to the requirement for fellowship of another accredited medical college as specified in the first of the mandatory conditions for training detailed below.

To be eligible for training, an applicant must be registered as a Medical Practitioner (in Australia or New Zealand), and must satisfy **all three** of the following conditions:

1. Either hold Fellowship of **one** of the following Colleges or Faculties:
   - Physicians (FRACP) Adult Internal Medicine or Paediatrics & Child Health;
   - Dermatology (FACD);
   - Obstetrics and Gynaecology (FRANZCOG);
   - General Practice (FRACGP and FRNZCGP);

- Pathology (FRCPA);
- Psychiatry (FRANZCP);
- Public Health Medicine (FAFPHM);
- Rural and Remote Medicine (FACRRM);
- Surgery (FRACS – urology); or

2. In the case of overseas trained specialists (including general practitioners):
   - Hold a qualification considered equivalent by the relevant Australian or New Zealand medical college; or
   - Have completed Basic Training of the RACP (including success in the FRACP Examination)[24]; and
   - Have a satisfactory practice history (no professional misconduct or disciplinary issues).

3. In addition to satisfactory supervision reports from clinical training, trainees are also required to complete:
   - Three projects over a three year period, with topics to be agreed to by the Chapter Education Committee; and
   - Formal instruction from recognised education and training providers in the following areas:
     - Fertility regulation
     - Sexual health counselling
     - HIV medicine
     - Sexual health medicine
     - Epidemiology
     - Biostatistics
     - Sexual assault
     - Principles of adult education

The AMC report notes:

> ***"….that the discipline of sexual health medicine is both sufficiently complex and extensive to require a comprehensive and complete training program to practise at a level expected of the specialist practitioner." (p. 37)***

4.3 Sexual Health Medicine scope of practice

4.3.1 THE FOCUS OF CLINICAL ATTENTION

Sexual Health Medicine specialists are concerned with the promotion of sexual health in the community by identifying and minimising the impact of sexually transmissible infections, unplanned pregnancy, coercion, and physical or psychological discomfort associated with

24. This an the following bulleted criterion also relate to all trainees (not just overseas trained specialists).

sexuality education; through behaviour change, advocacy, targeted medical and laboratory screening, diagnostic testing, clinical service provision, surveillance, and research.

The Chapter describes the discipline as having both clinical and public health medicine components, which are more closely integrated than in most other specialist-level disciplines. This is largely due to the infectious nature of many of the relevant conditions and the relationship between transmission and behaviour. The treatment of individuals and the contact tracing and treatment of their sexual partner(s) is an essential part of the role of a sexual health medicine specialist.

The STIs and blood borne viruses (BBVs) identified by the Chapter as a current focus of sexual health medicine include:

- Neisseria gonorrhoeae;
- Non-gonococcal urethritis;
- Chlamydia trachomatis;
- Trichomonas vaginalis;
- Donovanosis;
- Lymphogranuloma venereum;
- Chancroid;
- Syphilis;
- Human immunodeficiency virus (HIV);
- Human papilloma virus (HPV);
- Herpes Simplex Virus (HSV 1 and 2); and
- Hepatitis A, B, C & D

The majority of which are listed as notifiable diseases by Australian health authorities.

4.3.2 CLINICAL COMPETENCIES ACHIEVED BY MEDICAL SPECIALISTS

According to the Chapter, the sexual health physician at specialist-level must have the requisite knowledge and skills to provide:

- Assessment, diagnosis and management of STIs and BBVs in patients, with specific focus on sexual history taking (including, where relevant, substance-use and gynaecological histories), physical examination of the ano-genital and oro-pharyngeal regions, and use of relevant diagnostic investigations and procedures;
- Testing, diagnosis and management of HIV/AIDS within ambulatory settings, including the prescription and therapeutic monitoring of highly active antiretroviral therapy (HAART) regimes, and managing hospital admissions where required;
- Forensic examination of sexual assault victims with clinical follow-up;
- Assessment of sexual function, including the provision of counselling and the prescription of relevant drugs to manage sexual dysfunction;
- Consultation and referral services for GPs and other specialists;
- Clinical leadership in a multidisciplinary team setting that includes other medical practitioners, sexual health nurses, psychologists and counsellors, health promotion and community liaison officers, and contact tracers;

- Educational and training support to other medical and health professionals;
- Contributing to the development and dissemination of a comprehensive evidence-base to guide and inform clinical practice;
- Contributing to sexual health medicine research;
- Contributing to health promotion and public health policy development;
- Contributing to academic teaching and professional training;
- Contributing to the development and dissemination of clinical practice guidelines;
- Contributing to the development and management of both general and sentinel surveillance systems; and
- Contributing to the development of health service policy at the national, state and local levels.

4.4 Sexual Health Medicine interventions

In order to address the complex and chronic issues that people experience with sexual health related problems, specialists in sexual health medicine provide a variety of clinical interventions including:

- Sexual history and risk assessment;
- Complex diagnostic investigations and procedures;
- Assessment and management of complex sexual dysfunction;
- Management of STIs and HIV in ambulatory settings;
- Multi-disciplinary clinical leadership;
- Education and support to other health professionals;
- Contact tracing and sexual health promotion;
- Forensic examination of sexual assault; and
- Management of other sexual/reproductive health issues.

These interventions may be provided directly by specialists or via consultation with other specialists, general practitioners or and other health providers.

4.5 Sexual Health Medicine workforce

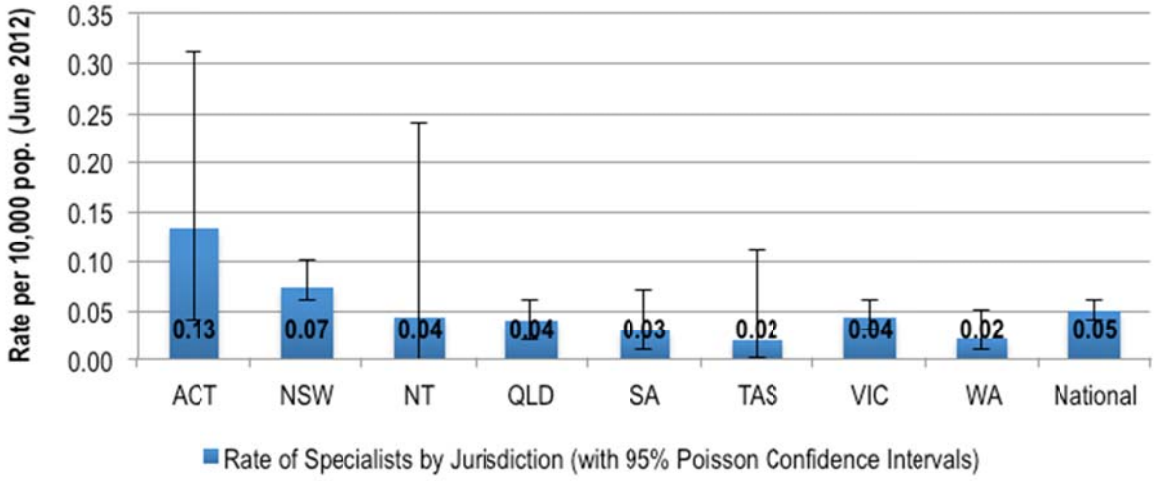
Registration data from the Chapter of Sexual Health Medicine reveal a total of 174 sexual health medicine specialists in Australia, 142 of whom are below the current age of retirement (Table 4-2).

Table 4-2: Sexual Health Medicine Specialists Working in Australia 2013

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	TOTAL
Fellows	7	58	1	22	9	1	28	6	132
Fellows aged 65 or less	5	54	1	18	5	1	24	5	113

Comparison of the rate of specialists under the age of retirement (per 10,000 population) revealed a significantly higher proportion of specialists in New South Wales (Z=2.52, p = 0.023) compared with the national average (Figure 4-2).

Figure 4-2: Standardised Distribution of Specialists across Australia 2011



Chapter representatives and a range of other sexual health medicine specialists reported concerns about the average age of Fellows. It was estimated that a sizable proportion of the current fellowship will be eligible for retirement over the coming years. Further examination of Chapter data revealed that the average age of all fellows was 56 years (Median 56 years), with:

- 15% (95%CI: 9-23) of the current fellowship eligible to retire within the next three years;
- 26% (95%CI: 19-35) eligible for retirement within the next six years; and
- 40% (95%CI: 31-48) of all current fellows eligible to retire within nine years.

Fellowship concerns were further reinforced by the number of trainees admitted to the program, which was considered insufficient for workforce replenishment. Examination of Chapter data for the total number of current trainees, and the number of new trainees entering the fellowship program over the past three years is presented in Table 4-3.

This reveals that only 5 trainees have entered the fellowship program over the past two years. Data also indicates that the majority of current trainees are completing at least part of their fellowship program on a part time basis (taking more than the three year full time equivalent to complete training).

Table 4-3: Sexual Health Medicine Trainees Working in Australia 2013

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	TOTAL
Total current trainees	0	4	0	0	3	0	2	1	10
New trainees 2010	0	1	0	0	0	0	0	0	1
New trainees 2011	0	0	0	0	0	0	0	0	0
New trainees 2012	0	1	0	0	3	0	0	1	5

The sexual health medicine workforce is in decline, a significant proportion of current Fellows are nearing the age of retirement and an insufficient number of trainees are currently being recruited to redress workforce shortages.

4.6 Practice settings for Sexual Health Medicine

4.6.1 PUBLIC VERSUS PRIVATE PRACTICE

A survey of Chapter fellows has identified that 86% of Chapter fellows (95% ci: 75-94) work in the public sector, and 38% of fellows (95% ci: 26-52) work in the private sector[25]. Specifically:

- 62% (95%CI: 48-74) worked in public clinics only;
- 24% (95%CI: 14-37) worked in both public and private clinics; and
- 14% (95%CI: 6-25) work in private clinics only.

4.6.2 PUBLIC PRACTICE ARRANGEMENTS

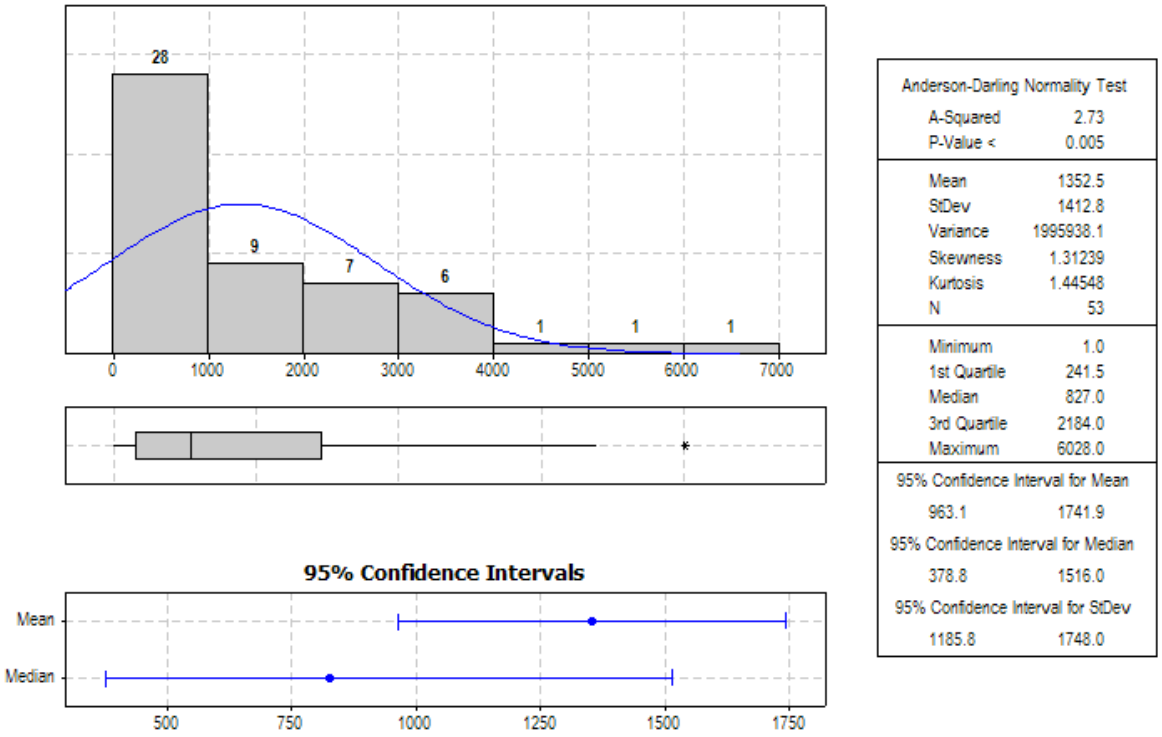
Within the public sector, patients are identified via medical practitioner referral, or hospital in-reach/community out-reach activities undertaken by non-medical practitioners. Those in need of specialist assessment and or management are triaged to the attention of sexual health medicine specialists. All other treatment is provided through advice to the referring medical practitioner and/or other health clinician. Public sector data on medical occasions of service were provided by one Australian jurisdiction and were consistent with model of care arrangements described across all jurisdictions, such that medical practitioners saw an average of 39% of all patients and undertook around 24% of all occasions of service.

25. Calculations are based upon n=58 cases (response rate 94% of targeted sample 58/62; 52% of all sexual health medicine fellows), Binomial confidence intervals are applied.

4.6.3 PRIVATE PRACTICE ARRANGEMENTS

Analysis of de-identified MBS billing data[26] from Chapter Fellows indicated that around 49%[27] of all sexual health medicine specialists are likely to provide private services across Australia. The majority of specialists (53%) are billing less than 1000 episodes per annum and around 83% of specialists bill less than 3000 episodes each year. A small number of specialists are undertaking a higher private practice caseload of more than 4000 episodes each year (Figure 4-3).

Figure 4-3: MBS billing episodes for Sexual Health Specialists per annum (2010-12)

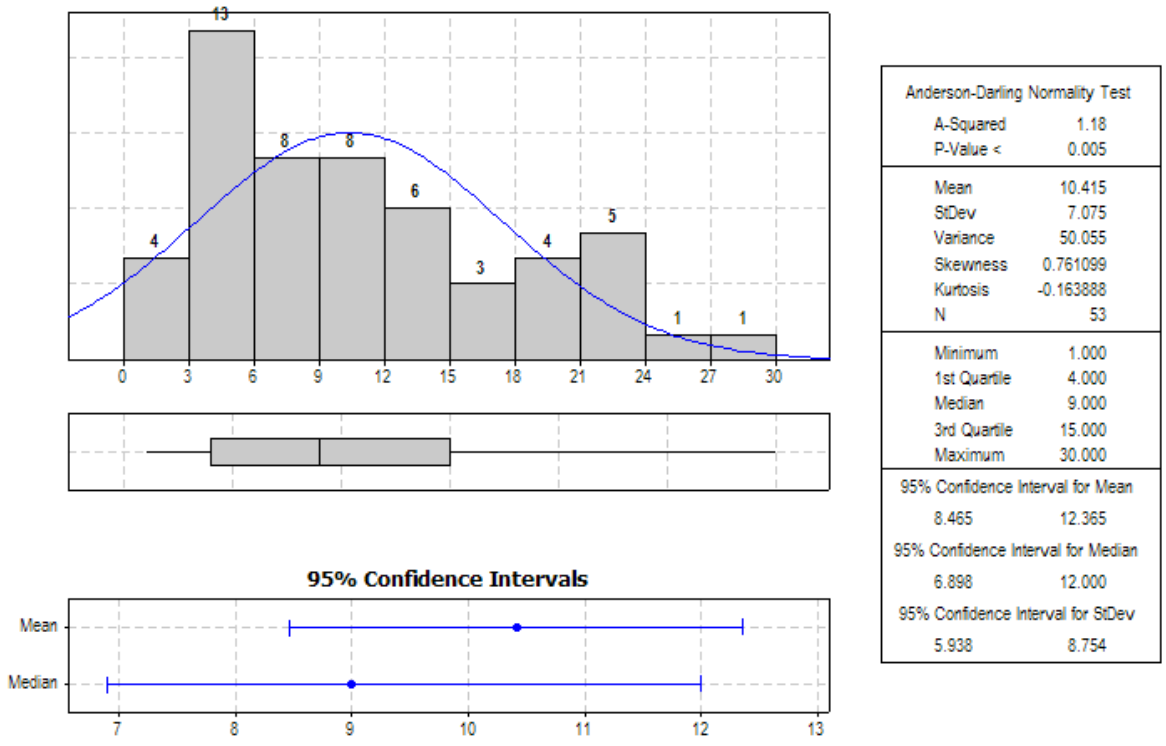


Y (vertical) axis represents 'Number of Specialists' in sample data. X (horizontal) axis represents 'Average Number of MBS Consultations per Annum' in sample data.

Most specialists (62%) are seeing up to 12 patients (on average) during any given day (Figure 4-4).

26. Sample response rate = 97% (110/113 non-retired fellows < 66 years of age, at 31 December, 2012 who did not opt out to have their MBS item numbers submitted for extraction of billing data to the MBS).
27. Estimated from 53 fellows divided by .97 response rate = 55/113 fellows = 49%.

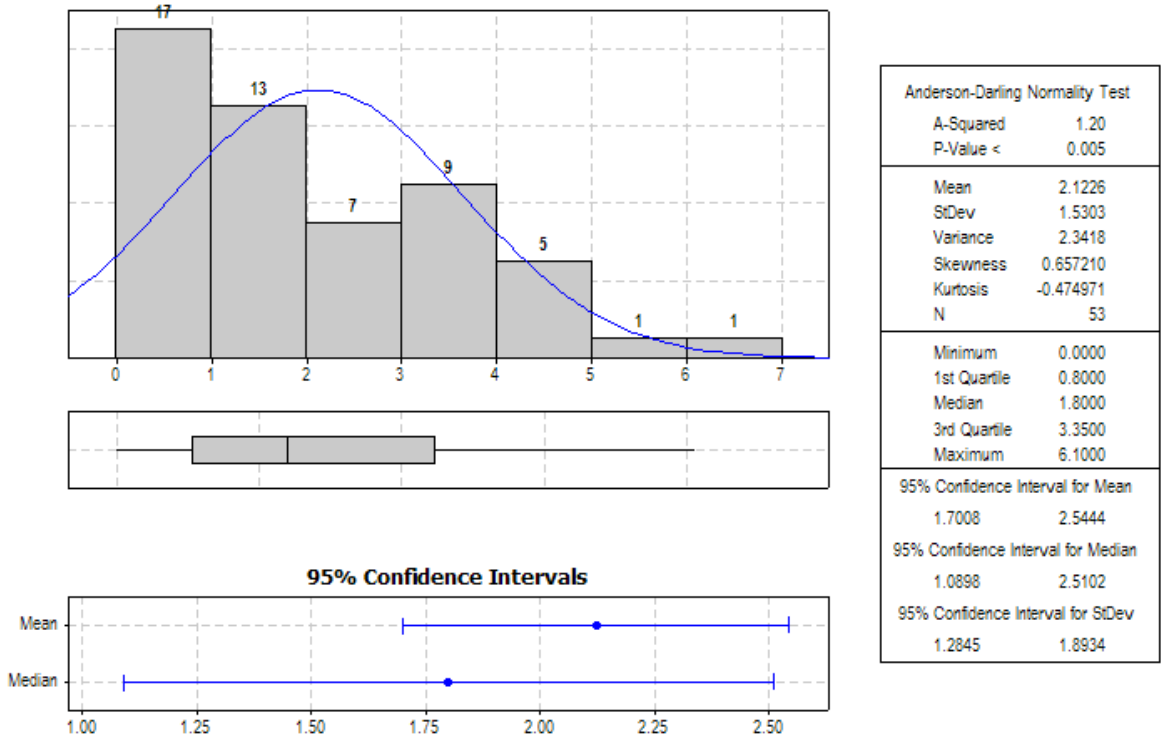
Figure 4-4: Average episodes per actual day of MBS billing (2010-12)



Y (vertical) axis represents 'Number of Specialists' in sample data. X (horizontal) axis represents 'Average Number of MBS Consultations per Day' in sample data.

The number of days worked in any given week (on average) varied across the specialist group. Around 57% of all specialists worked up to two days in private practice each week, around 30% worked between two to four days, and around 13% worked more than 4 days in private practice each week (Figure 4-5).

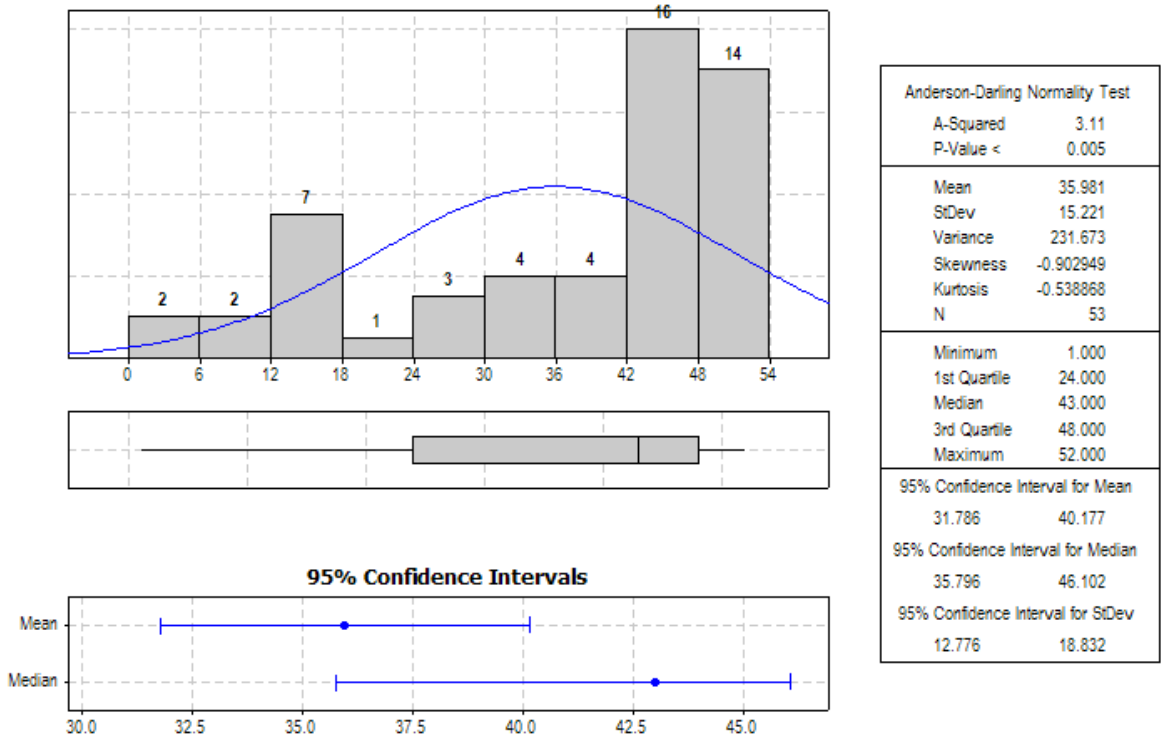
Figure 4-5: Average days per week of MBS billing (2010-12)



Y (vertical) axis represents 'Number of Specialists' in sample data. X (horizontal) axis represents 'Average Number of Days Working in Private Practice per Week' in sample data.

Most specialists (64%) who worked in private practice did so for more than 36 weeks of any given year. Around a quarter of all specialists (23%) worked in private practice for less than 24 weeks in any given year. This may be associated with fortnightly practice arrangements or private consultations occurring during particular blocks of any 12-month period (Figure 4-6).

Figure 4-6: Average weeks per year of MBS billing (2010-12)



Y (vertical) axis represents 'Number of Specialists' in sample data. X (horizontal) axis represents 'Average Number of Weeks undertaking MBS Consultations per Annum' in sample data.

The number of MBS services varied across Australian jurisdictions (Figure 4-7). Private practice arrangements were more common in New South Wales and Victoria, compared with the other states and territories. The Northern Territory, Tasmania and Western Australia had virtually no private practice billing. The distribution of private sector work was broadly consistent with the relative workforce distribution of specialists, previously identified.

Current MBS billing patterns indicate that the majority of sexual health medicine specialists work in private practice between one and three days each week and see up to four patients per day. This billing pattern would be consistent with specialists undertaking around three private practice sessions per week.

Figure 4-7: Sexual Health Medicine MBS billing by Australian jurisdiction (2010-12)

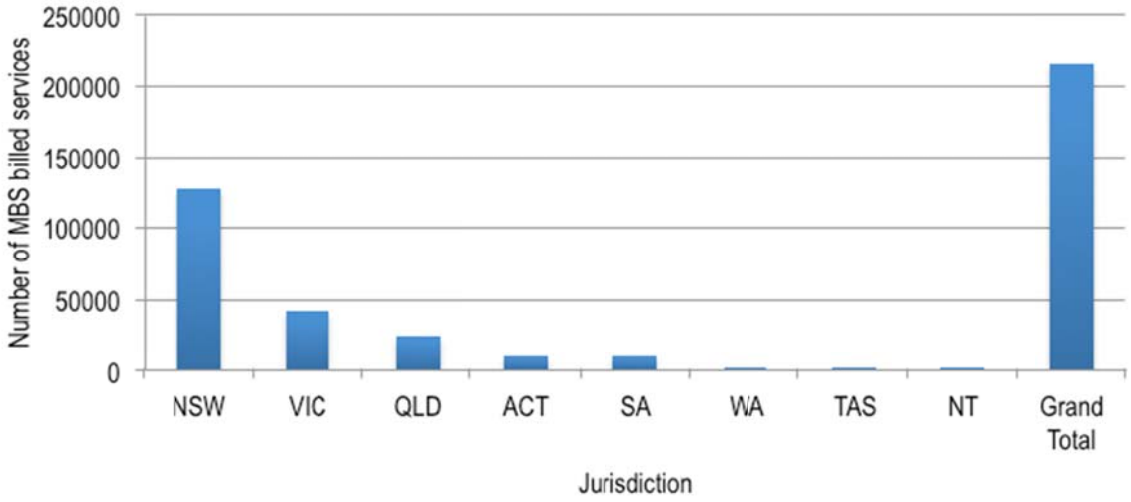
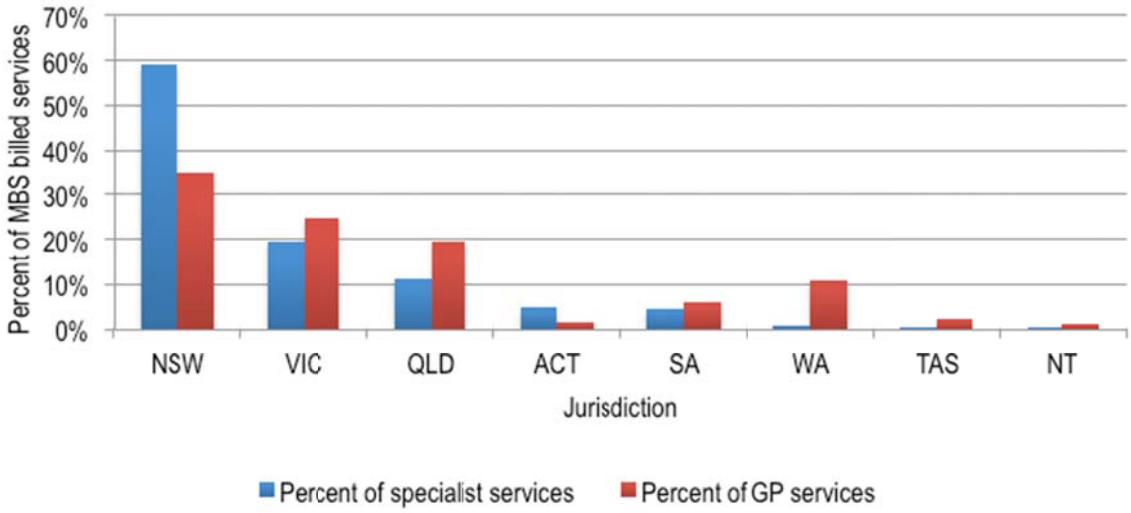


Figure 4-8: Comparison of Sexual Health Medicine and General Practice billing



Comparison of sexual health medicine billing with that of GPs indicates that current specialist services are under supplied in Victoria, Queensland, Western Australia, Tasmania, the Northern Territory and possibly South Australia.

Differences in the availability of private sexual health medicine services vary greatly between each jurisdiction of Australia. Per capita, the availability of private services are over represented in NSW and Vic, and relatively under-represented in all other jurisdictions (particularly the NT). These findings parallel the workforce distribution of sexual health medicine specialists across Australia.

5 Current Private Sector Remuneration Arrangements

5.1 Patient assessment and follow-up

Current MBS billing arrangements available to sexual health medicine specialists depend upon whether or not they have registered on the MBS as fellows in sexual health medicine, or rely upon other fellowships they have obtained prior to becoming a recognised fellow of the Chapter of Sexual Health Medicine. Around 33%[28] of all sexual health medicine specialists have another independent fellowship. Rates of MBS reimbursement under different fellowships are significantly different from those available to sexual health medicine specialists (Table 5-1).

Table 5-1: Fellowships held by specialists and rates of MBS reimbursement[29]

FELLOWSHIP GROUP AND CURRENT ELIGIBILITY TO CLAIM ON THE MBS	NUMBER OF FELLOWS (% OF FELLOWSHIP)	MBS ITEM GROUP	MBS ITEM FOR LONG OR COMPREHENSIVE ASSESSMENT (BENEFIT AT 85%)	MBS ITEM FOLLOW UP OF MORE THAN 20-25 MINUTES (BENEFIT AT 85%)
Non-vocationally registered general practitioner (no fellowship)	89 (67%)	A2	57 ($61.00)	54 ($38.00)
Sexual health medicine	132 (100%)	A3	104 ($72.75)	105 ($36.55)
Vocationally registered general practitioner	17 (13%)	A1	44 ($103.50)	36 ($70.30)
Public Health Medicine	13 (10%)	A13	413 ($103.45)	412 ($70.30)
Physician (Including Infectious Disease)	13 (10%)	A4	110 ($128.30)	116 ($64.20)
Other[1]	5 (4%)	-	-	-

1. Other includes fellows in medical specialties related to Pain Medicine, Anesthetics, and Emergency Medicine.

Under current arrangements, should sexual health medicine specialists choose to become registered under the A3 group of MBS items, they would be marginally better off than non-vocationally registered general practitioners for reimbursement of comprehensive assessments, and worse off for reimbursement of follow-up consultations. MBS billing arrangements, for comprehensive assessments as any other type of medical practitioner, would result in an increase of between 42% (as a vocationally registered general practitioner), and 76% (as a consultant physician) above the currently available rate. Follow-up consultations would similarly be disadvantaged as all other medical specialists are

28. From current registration data supplied by the Australasian Chapter of Sexual Health Medicine (January 2013).
29. As at February 2013.

currently remunerated at a higher rate than that available to sexual health medicine specialists (by up to 92% - for public health medicine specialists). Thus in summary:

> ***MBS item level analysis indicates that accredited specialists in all sexual health-related disciplines currently receive levels of remuneration that are from 42% to 76% higher than those available to specialists in sexual health medicine.***

Evidence from current claims data suggests that clinic based assessment-related items (96% of total) for sexual health medicine specialists each year (2010-12), comprised:

- 55% (24,758) for item 110 - A4 Consultant Physician initial attendance;
- 12% (5,452) for item 104 - A3 Specialist initial attendance;
- 11% (4,862) for item 132 - A4 Consultant Physician complex assessment;
- 9% (4,217) for item 57 - A2 Non-referred prolonged consultation; and
- 9% (4,051) for item 44 - A1 General Practitioner prolonged consultation.

Available evidence also demonstrates that the most frequent clinic based treatment-related items (90% of total) for sexual health medicine specialists each year (2010-12), comprised:

- 66% (111,748) for item 117 - A4 Consultant Physician subsequent attendance;
- 10% (17,362) for item 36 - A1 General Practitioner consultation up to 40 minutes;
- 8% (13,346) for item 23 - A1 General Practitioner consultation more than to 20 minutes;
- 4% (6,444) for item 105 – A3 Specialist subsequent attendance; and
- 2% (3,129) for item 53 - A2 Non-referred standard consultation less than 25 minutes.

Based upon these findings, it might reasonably be concluded that:

> ***MBS claims data demonstrates that current billing patterns of specialists favour use of alternative MBS items for assessment and treatment to those currently available for registered sexual health medicine specialists.***

5.2 Complex assessment, case conferencing and groups

Moreover, many other specialty areas have access to a wider number of MBS items appropriate to the scope of their professional practice (Table 5-2). Examination of the current MBS schedule, identifies that:

- Vocationally registered GPs have additional items to support complex case planning, multi-disciplinary case conferencing;
- Public health physicians have access to complex case planning and group treatment items; and
- Physicians have access to complex case planning and multi-disciplinary case conferencing.

Sexual health medicine specialists do not have current access to any equivalent items for complex assessment and treatment planning, and for multidisciplinary case conferencing.

At the current point in time, if these services are provided, MBS claims need to be raised against other fellowship credentials.

Table 5-2: MBS items available to support professional scopes of practice

FELLOWSHIP GROUP AND CURRENT ELIGIBILITY TO CLAIM ON THE MBS	MBS ITEM FOR LONG OR COMPREHENSIVE ASSESSMENT (BENEFIT AT 85%)	MBS ITEM FOLLOW UP > 20-25 MINUTES (BENEFIT AT 85%)	ASSESS OR FOLLOW-UP FOR COMPLEX TREATMENT PLANNING	MULTI-DISCIPLINARY CASE CONFERENCE ORGANISATION <31 MINS
Non-vocationally registered general practitioner (no fellowship)	57 ($61.00)	54 ($38.00)	Nil	Nil
Sexual health medicine	104 ($72.75)	105 ($36.55)	Nil	Nil
Vocationally registered general practitioner	44 ($103.50)	36 ($70.30)	721 ($141.40)	739 ($118.60)
Public Health Medicine	413 ($103.45)	412 ($70.30)	413 ($103.45)	Nil
Physician	110 ($128.30)	116 ($64.20)	132 ($224.35)	822 ($177.40)
Infectious Disease Physician	296 ($221.30)	302 ($73.50)	291 ($384.80)	855 ($118.25)

Current claims data for sexual health medicine specialists was examined to identify the proportion of MBS items relating to Assessment, Treatment, Complex Assessment and Management, Multidisciplinary Case Conferencing and Home/Residential patient visits[30].

The proportion of items in each category is presented in Figure 5-1. The proportion cost of the same activities (at 2013 MBS item rebates) is presented in Figure 5-2. Analysis reveals that:

Complex assessment and treatment planning, together with multi-disciplinary case conferencing currently occupies around 7% of all current MBS related activity, and up to 13% of MBS related costs for sexual health medicine specialists.

30. Home and residential care facility visits, although not currently commonplace for this group of specialists, were seen as important to address the future needs of patients – particularly those who are ageing with HIV.

These activities and costs are restricted to those specialists who can claim MBS items as other types of medical practitioners.

Figure 5-1: Proportion of MBS item groups claimed by SHM specialists (2010-12)

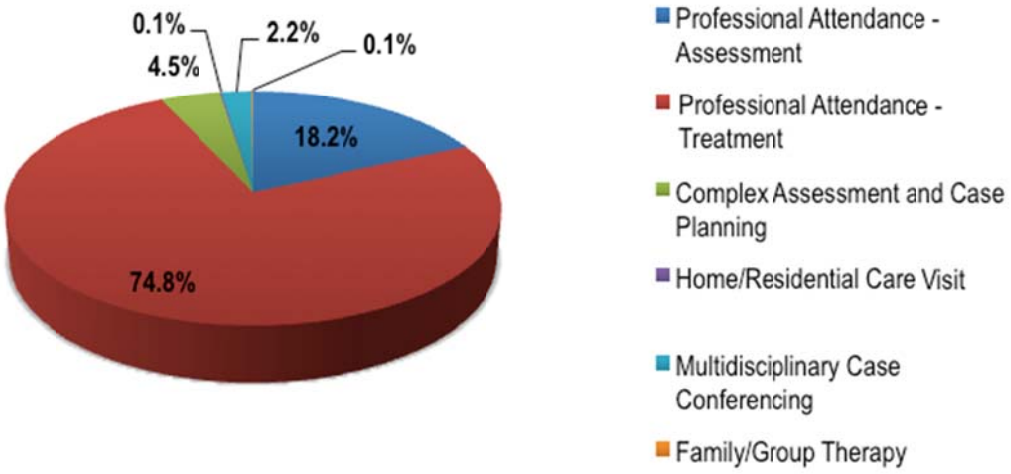
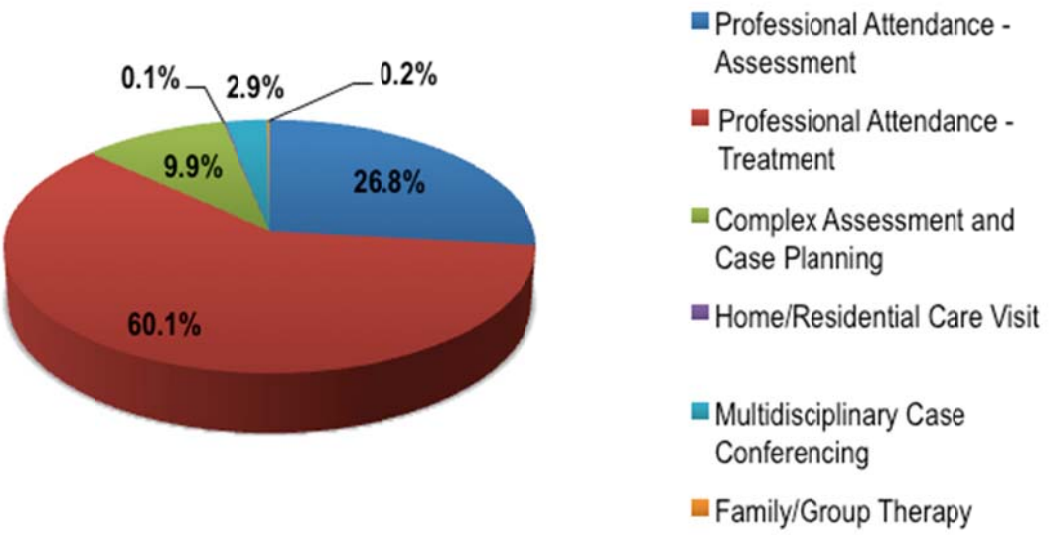


Figure 5-2: Proportion of MBS item group costs for SHM specialists (at $ 2013)



It was considered useful to compare the proportion of similar activities with data reported from General Practitioners (BEACH, 2012). Comparisons are presented in Figure 5-3 and Figure 5-4.

Figure 5-3: General Practice billing of MBS item groups for sexual health problems

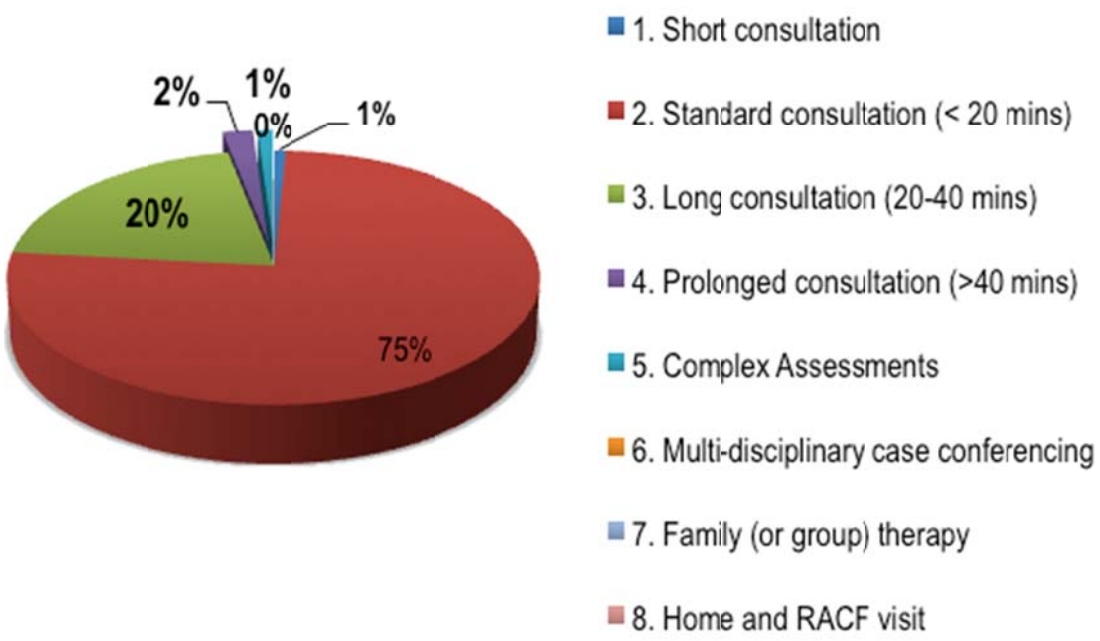
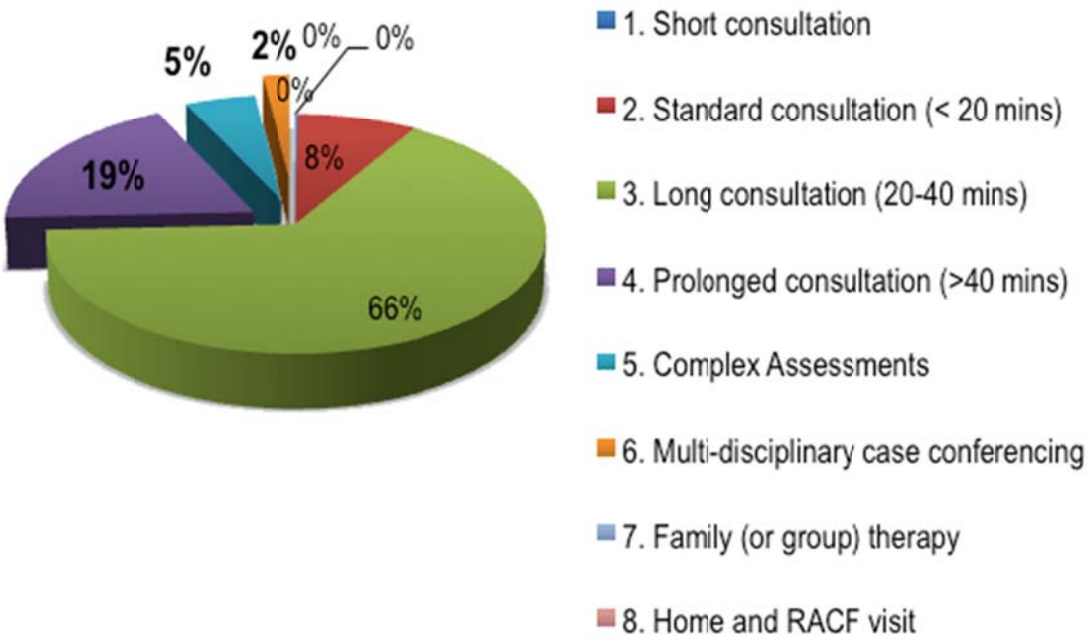


Figure 5-4: Sexual health medicine billing of MBS item groups for sexual health problems



The data revealed two notable differences in the clinical activities undertaken by GPs compared with those undertaken by sexual health medicine specialists:

- Sexual health medicine specialists spend (on average) more time with patients compared with GPs; and
- Sexual health medicine specialists spend more time in prolonged consultations, complex assessments, and multidisciplinary case conferencing (26%) compared with GPs (3%).

These findings are consistent with previous findings that GPs have more limited time to spend with patients experiencing sexual health-related problems. They also identify that specialists spend more time in complex assessment and care-coordination.

5.3 Modelled Costs of Current Expenditure

The cost of current expenditure on sexual health medicine was modelled from available MBS data. The approach to modelling is outlined in Appendix 6. A summary of the data is shown below in Table 5-3, and has been used as a basis for comparison modelling of alternative billing scenarios described in Chapter 6 and presented in Chapter 7.

Table 5-3: Summary of sample MBS billing data – Sexual Health Medicine

	TOTALS			AVERAGE/SERVICE		
	2010	2011	2012	2010	2011	2012
Providers	46	49	16	-	-	-
Services	68,064	73,171	73,807	-	-	-
	$	$	$	$	$	$
Charge	5,565,043	6,119,446	6,140,679	81.76	83.63	83.20
Benefit	4,428,449	4,901,253	4,944,179	65.06	66.98	66.99
Out of Pocket	1,136,594	1,218,193	1,196,500	16.70	16.65	16.21

The overall number of services within the limited time series increased in 2011 to 73,171 (7.5%) with a further modest increase in 2012 to 73,807 (0.08%). Benefits to specialists followed a parallel trajectory, however out-of-pocket costs to the consumer followed a slightly different pattern. Out-of-pocket costs increased in 2011 and then showed a slight decline in 2012.

5.3.1 DEMAND AND FINANCIAL PROJECTIONS

Separate growth estimates were identified for "assessment" and "treatment" type items. These growth factors were then applied to the MBS sample data shown in Table 5-3 and the results are provided in Table 5-4.

Note that the amounts shown for 2013 to 2015 are expressed in terms of 2012 dollars. The impact of inflation is included in Chapter 7.

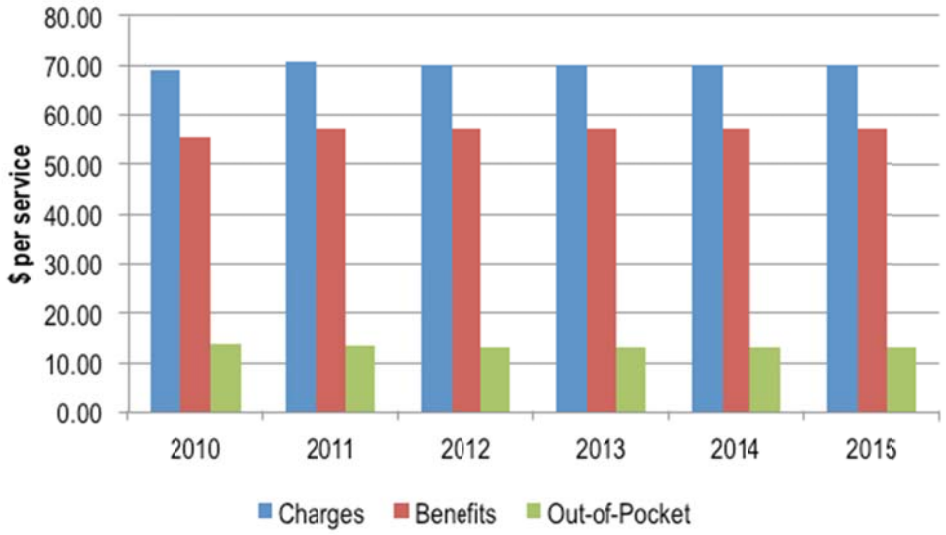
Table 5-4: Estimated MBS billing data for total demand – Sexual Health Medicine

	2010	2011	2012	2010	2011	2012
Services	70,938	73,898	76,857	79,817	82,776	85,736
	$	$	$	$	$	$
Charge	5,794,630	6,190,941	6,388,973	6,628,215	6,867,457	7,106,699
Benefit	4,611,300	4,958,117	5,144,325	5,337,247	5,530,169	5,723,090
Out of Pocket	1,183,330	1,232,824	1,244,648	1,290,969	1,337,289	1,383,609

Sexual health medicine demand is estimated at 76,857 services in 2012 and this is expected to increase to 85,736 services by 2015. Benefits paid over the same period increased from $5.144m in 2012 to $5.723m in 2015 (unindexed).

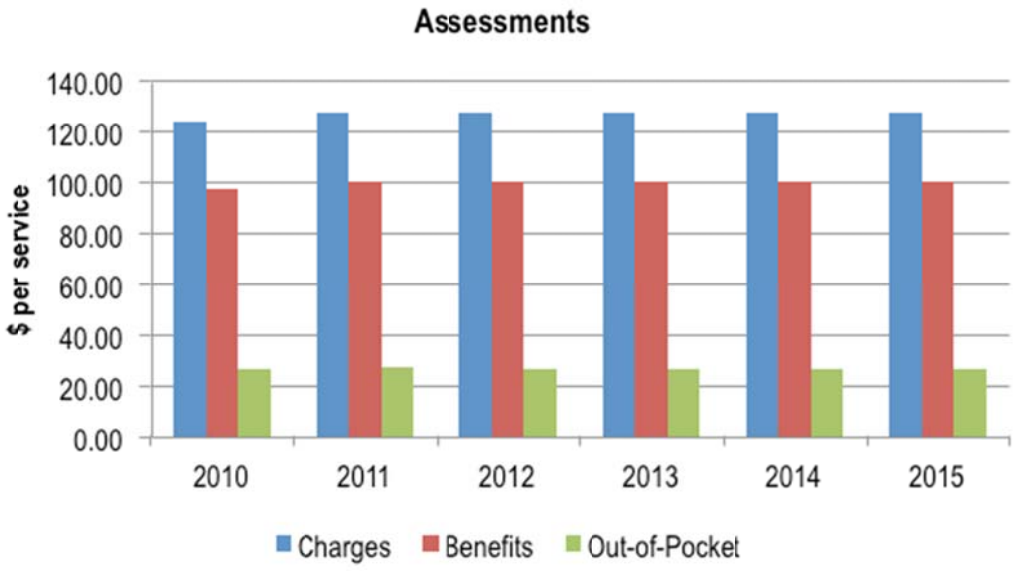
Figure 5-5 and Figure 5-6 show the average charge, benefit and out-of-pocket amounts for treatment and assessment services respectively under current operating conditions.

Figure 5-5: Treatment services – Average $/service



In 2012, the weighted average charge for treatment type services was $70.23, the benefit was $57.10 and the out-of-pocket amount was $13.14.

Figure 5-6: Assessment services – Average $/service



The weighted averages for assessment type services in 2012 were a charge of $127.68, benefit $100.92 and out-of-pocket $26.76.

6 Options for Future Private Sector Remuneration

A number of dedicated MBS item numbers have been proposed in the Decision Analytic Protocol by MSAC, following earlier consultations with sexual health medicine specialists. A number of additional MBS items have been more recently suggested to align the scope of practice of sexual health medicine specialists in both public and private sectors.

These item numbers have been suggested in accordance with several key principles, including (but not necessarily limited to):

- Professional recognition: Of the specialty of sexual health medicine alongside other specialties acknowledged by the Australian Medical Council.
- Equity of reimbursement: Of sexual health medicine specialists in an equivalent manner to other accredited specialists claiming on the MBS.
- Safe and effective care: To enable patients to receive safe and effective interventions.
- Responsiveness: To enable the best interests of patients to be addressed in a timely and comprehensive manner by the most appropriate specialist, rather than distributing service provision across multiple alternative service providers in order to meet patient need.
- Efficiency: To provide the most appropriate suite of services in order to achieve maximum outcomes within a minimum number of occasions of service for each patient.
- Access to services: By promoting workforce development of the specialty area to increase specialist supply in both the public and private sectors.
- Care co-ordination: To streamline access to the most appropriate range of medical, psychological, social, and legal services required to address the needs of patients with sexual health related problems.
- Minimal cost to consumers: To minimise out-of-pocket costs to consumers associated with multiple specialty referrals.
- Ethical behaviour: To minimise over servicing to patients whilst maximising potential benefits of clinical interventions (however applied in accordance with best available evidence).

Proposed options for future MBS billing arrangements are presented in the following sections.

6.1 MBS items for Professional attendances

Two options for MBS items have been proposed to reimburse professional consultations undertaken by sexual health medicine specialists.

Physician equivalent items

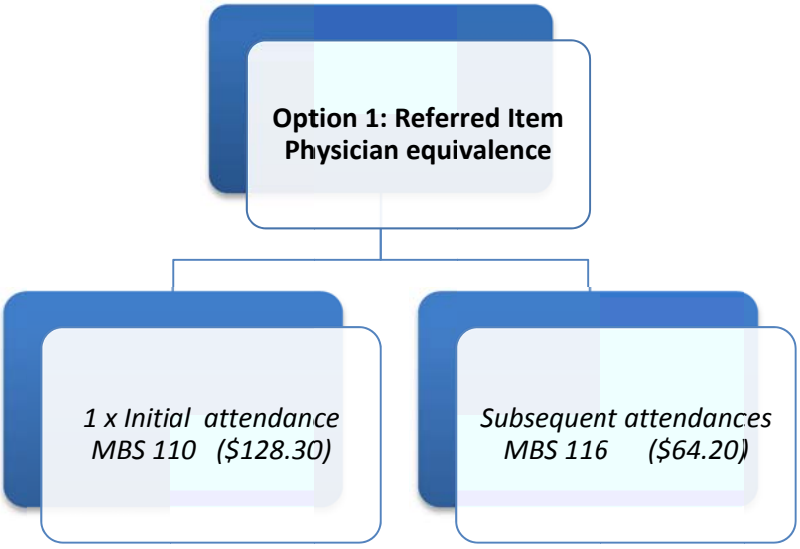
Option 1 would involve “Physician equivalent” items enabling access to the A4 MBS Group. Specifically, this level of remuneration would enable specialists to claim reimbursement for:

- One initial attendance; and

- An unlimited number of subsequent attendances.

This approach would parallel the current MBS items 110 (for initial attendance) and 116 (subsequent attendance) available for physicians.

Figure 6-1: Proposed structure for physician equivalent items



The proposed MBS item descriptors for physician equivalent items are presented in Figure 6-2.

Figure 6-2: Item descriptors for physician equivalent MBS consultations

SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED ATTENDANCE
MBS Item 6051 Professional attendance by sexual health medicine specialist in his or her specialty, where the patient is referred to him or her by a referring medical practitioner. Initial attendance in a single course of treatment Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30
SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED SHORTER OR PATIENT REVIEW
MBS Item 6052 Each attendance subsequent to the first in a single course of treatment. Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20

The scenario developed to model the potential impact of these items upon the MBS involved:

- The costs of all observed assessment items transferred/substituted to a rate of the current physician equivalent MBS item 110 (initial attendance).
  - Items relating to complex assessment or management planning were included as components of assessment.

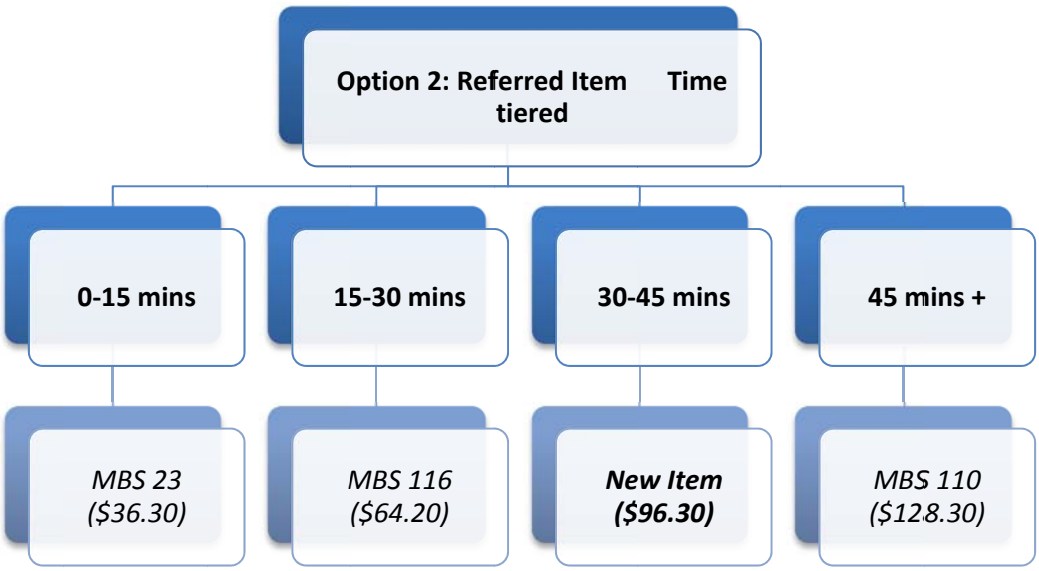
- The costs of all observed treatment items were transferred/substituted to a rate of the current physician equivalent MBS item 116 (subsequent attendance).
  - Items relating to multidisciplinary case conferencing were included as components of treatment.

Estimations derived from these scenarios are separately presented in Chapter 7.

Time-tiered items

An alternative approach to claiming physician equivalent items for sexual health medicine would be to allow a time-tiered structure by which specialists could bill for actual time spent with any individual patient. This approach parallels existing MBS items available for General Practice (items: 3, 23, 36, 44). It has been previously proposed that time-tiered items would enable greater flexibility to respond to the fluctuating needs of individual patients.

Figure 6-3: Proposed structure for time-tiered items



Under this structure, time-tiered items could be anchored so as not to exceed the physician equivalent rates available under the A4 schedule (items 110 and 116). A proposed structure for time-tiered items is presented in Figure 6-3, to allow MBS billing for:

- Consultations that lasts not more than 15 minutes duration;
- Consultations that last more than 15 but not more than 30 minutes duration;
- Consultations that last more than 30 but not more than 45 minutes duration; and
- Consultations that last for more than 45 minutes duration.

The proposed MBS item descriptors for physician equivalent items are presented in Figure 6-4.

Figure 6-4: Item descriptors for time-tiered MBS consultations

Category 1 – Professional attendances MBS Item 6051 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of not more than 15 minutes duration Fee: $42.71 Benefit: 75% = $32.03 85% = $36.30
MBS Item 6052 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 15 minutes, but not more than 30 minutes duration Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20
MBS Item 6054 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 30 minutes, but not more than 45 minutes duration Fee: $113.29 Benefit: 75% = $84.97 85% = $96.30
MBS Item 6055 Professional attendance by an sexual health medicine specialist in the practice of his or her specialty, following referral of the patient to him or her by a medical practitioner - an attendance of more than 45 minutes duration Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30

The scenario developed to model the potential impact of these items upon the MBS involved:

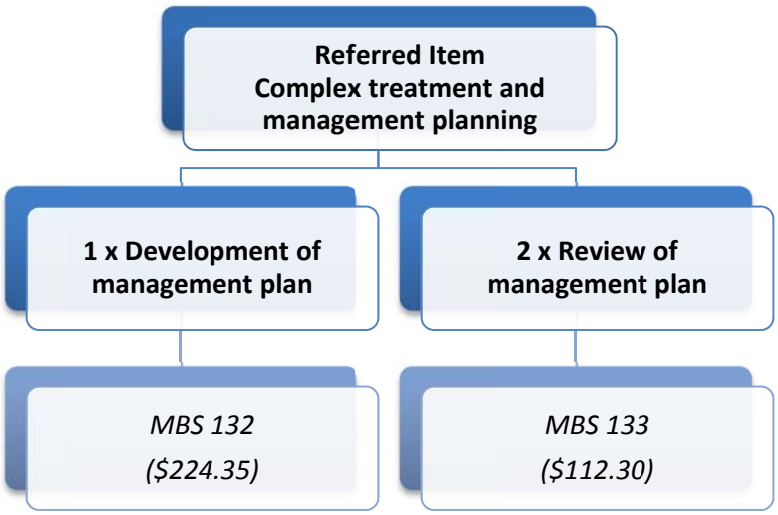
- Anchoring tier 1 (up to 15 minutes duration) at the GP equivalent rate of an MBS item 23;
- Anchoring tier 2 (more than 15 but less than 30 minutes duration) at the physician equivalent item rate of 116 for a subsequent attendance;
- Anchoring tier 3 (more than 30 but less than 45 minutes duration) at a costing midpoint between tier 2 and tier 4; and
- Anchoring tier 4 (more than 45 minutes duration) at the physician equivalent item rate of 110 for an initial attendance.
- Estimating the proportion of claims within each of the four tiers:
  - Based upon current item volumes for assessment and treatment related MBS items it was assumed that 21% of all items would be billed at the highest time tier (for patient assessments).
  - The remaining items were estimated at the following rates of billing (to maximise efficiency and revenue arising from clinical practice arrangements).
    - 11.85% (15% of assessment residual) for short/standard consultations (tier 1)
    - 55.30% (70% of assessment residual) for physician follow-up consultations (tier 2)
    - 11.85% (15% of assessment residual) for prolonged follow-up consultations (tier 3)
- Conducting a sensitivity analysis on the impact of changes in billing volumes within the first three tiers, to identify variations at:

- 10-20% of the assessment residual billed at tier 1.
- 60-80% of the assessment residual billed at tier 2.
- 10-20% of the assessment residual billed at tier 3.

Estimations derived from these scenarios are separately presented in Chapter 7.

6.2 MBS items for complex treatment and management planning

Figure 6-5: Proposed items for complex treatment and management planning



Fellow consultation and analysis of current MBS data indicates that around 10% of all clinical activities undertaken by sexual health medicine specialists relates to the preparation of complex treatment and management plans. Accordingly, a set of equivalent MBS items to those available to general practitioners and consultant physicians has been proposed to undertake complex treatment and management planning (Figure 6-5).

It is suggested that the item descriptors follow the same structure as MBS items currently available to Physicians (Figure 6-6).

Figure 6-6: Proposed items descriptors for complex patients

SEXUAL HEALTH MEDICINE SPECIALIST, REFERRED COMPLEX PATIENT TREATMENT AND MANAGEMENT PLAN - SURGERY OR HOSPITAL

MBS Item 6059

Professional attendance of at least 45 minutes duration for an initial assessment of a patient with at least two morbidities, where the patient is referred by a referring practitioner, and where:

a) assessment is undertaken that covers:

- a comprehensive history, including psychosocial history and medication review;
- comprehensive multi or detailed single organ system assessment;
- the formulation of differential diagnoses; and

b) a consultant physician treatment and management plan of significant complexity is developed and provided to the referring practitioner that involves:

- an opinion on diagnosis and risk assessment
- treatment options and decisions
- medication recommendations

Not being an attendance on a patient in respect of whom, an attendance under items 6051 and 6052 has been received on the same day by the same sexual health medicine specialist.

Not being an attendance on the patient in respect of whom, in the preceding 12 months, payment has been made under this item for attendance by the same sexual health medicine specialist.

Fee: $263.90 Benefit: 75% = $197.95 85% = $224.35

SEXUAL HEALTH MEDICINE SPECIALIST, REVIEW OF REFERRED PATIENT TREATMENT AND MANAGEMENT PLAN - SURGERY OR HOSPITAL

MBS Item 6060

Professional attendance of at least 20 minutes duration subsequent to the first attendance in a single course of treatment for a review of a patient with at least two morbidities where:

a) a review is undertaken that covers:

- review of initial presenting problem/s and results of diagnostic investigations
- review of responses to treatment and medication plans initiated at time of initial consultation comprehensive multi or detailed single organ system assessment,
- review of original and differential diagnoses; and

b) a modified consultant physician treatment and management plan is provided to the referring practitioner that involves, where appropriate:

- a revised opinion on the diagnosis and risk assessment
- treatment options and decisions
- revised medication recommendations

Not being an attendance on a patient in respect of whom, an attendance under item 6051, or 6052 has been received on the same day by the same sexual health medicine specialist.

Being an attendance on a patient in respect of whom, in the preceding 12 months, payment has been made under item 6059 by the same sexual health medicine specialist, payable no more than twice in any 12-month period.

Fee: $132.10 Benefit: 75% = $99.10 85% = $112.30

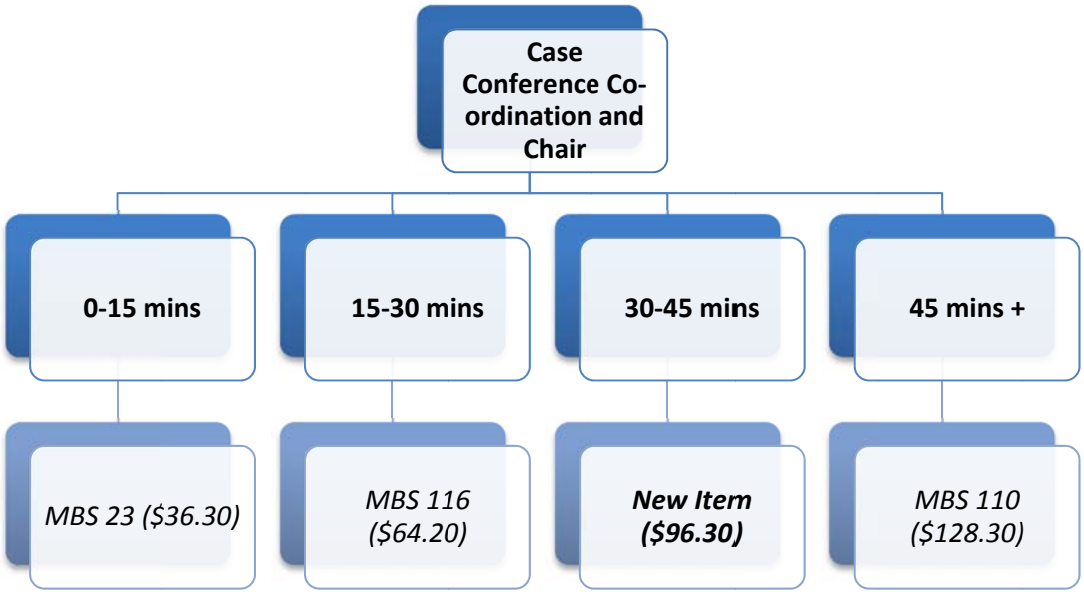
Scenario modelling for complex treatment and management planning items assumed that:

- Costs for 5% of all observed assessment items would be transferred to a rate of complex assessment and treatment planning at the physician equivalent MBS item 132 rate (development of a plan);
- The number of services corresponding to 10% of assessments was also converted to a physician equivalent rate for follow-up of complex assessment and treatment planning (tier 2) using MBS item 133. (10% of assessments were converted to account for a maximum of two follow-ups for each complex assessment undertaken); and
- These converted rates were added to the existing estimates derived for physician equivalent items.

Results of the scenario modelling are presented in Chapter 7.

6.3 MBS items for multidisciplinary case conferencing

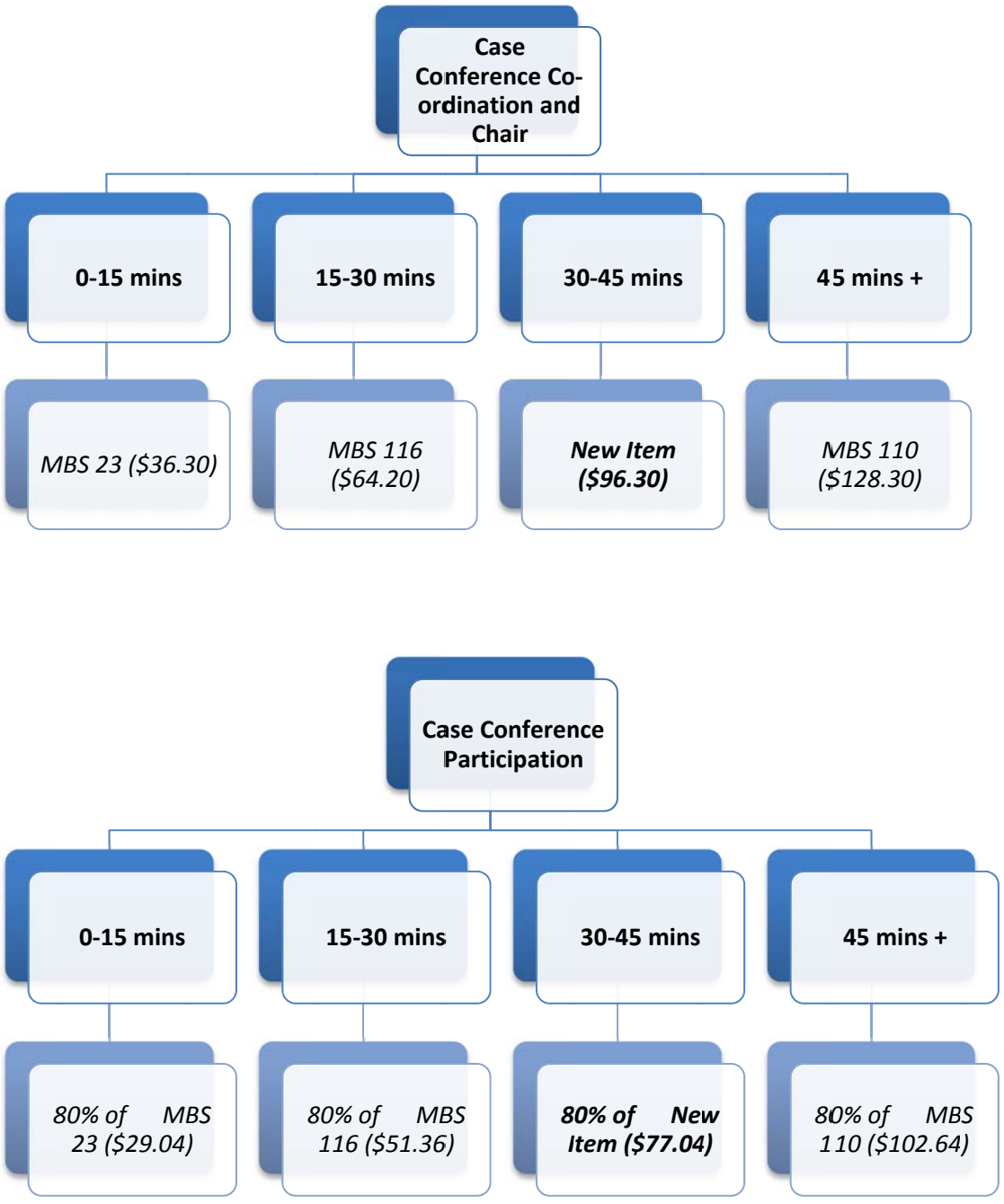
The proposed item structure for multidisciplinary case conferencing is presented in



, to parallel equivalent MBS items available to general practitioners, consultant physicians and psychiatrists. To promote efficiency, these items have been constructed to replicate the time-tiered items previously discussed. Differences exist in the percentage of rebate depending upon whether:

- The specialist has previously co-ordinated case conference participation by different professionals and acted as case conference chair. In this case full time tier rates may apply; or
- The specialist has participated in a case conference co-ordinated and chaired by another professional. In this case an 80% benefit of the full rebate may apply.

Figure 6-7: Proposed structure for multi-disciplinary case conferencing items



Proposed item descriptors for multidisciplinary case conferencing are presented in Figure 6-8.

Figure 6-8: Proposed descriptors for multidisciplinary case conferencing items

MULTIDISCIPLINARY CASE CONFERENCE ORGANISATION AND CHAIR – SEXUAL HEALTH MEDICINE SPECIALIST MBS Item 6064 Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of up to 15 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines.

Fee: $42.71 Benefit: 75% = $32.03 85% = $36.30
MBS Item 6065 Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines. Fee: $75.50 Benefit: 75% = $56.65 85% = $64.20
MBS Item 6067 Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 30 minutes but less than 45 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines Fee: $113.29 Benefit: 75% = $84.97 85% = $96.30

MBS Item 6068
Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND CHAIR A COMMUNITY CASE CONFERENCE of at least 45 minutes, with a multidisciplinary team of at least three other formal care providers of different disciplines Fee: $150.90 Benefit: 75% = $113.20 85% = $128.30
MULTIDISCIPLINARY CASE CONFERENCE PARTICIPATION - SEXUAL HEALTH MEDICINE SPECIALIST
MBS Item 6071 Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of a least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines. Fee: $34.16 Benefit: 75% = $25.62 85% = $29.04
MBS Item 6072 Attendance by an sexual health medicine specialist in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of a least 15 minutes but less than 30 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines. Fee: $60.42 Benefit: 75% = $45.32 85% = $51.36
MBS Item 6074 Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of at least 30 minutes but less than 45 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines. Fee: $90.63 Benefit: 75% = $67.98 85% = $77.04
MBS Item 6075 Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to PARTICIPATE IN A COMMUNITY CASE CONFERENCE (other than to organise and to coordinate the conference) of at least 45 minutes, with a multidisciplinary team of at least two other formal care providers of different disciplines. Fee: $120.75 Benefit: 75% = $90.56 85% = $102.64

Scenario modelling for complex case conferencing items assumed that:

- Costs for an additional 5% of all treatment items (uniformly distributed across tiers 1-4) were incorporated at the newly established time-tiered rates to accommodate two new items relating to:
  - Case conference participation having co-ordinated other professional involvement prior to the meeting (as an unbilled activity) and acting as case conference chair during the meeting, to be billed at the full rates of the new time-tiered schedule; and
  - Case conference participation (without prior co-ordination and without responsibilities of the chair), to be billed at 80% of the full rates of the new time-tiered schedule.
- These costs would be added to the existing estimates derived for time-tiered items with complex treatment and management planning.

Results of modelling for this scenario are also presented in Chapter 7.

6.4 Additional items proposed for sexual health medicine

A number of additional items have also been proposed for sexual health medicine listing on the MBS. These items fall into two groups relating to:

- Residential Care or Home visits; and
- Telehealth consultations, available to all other medical practitioners.

The proposed item descriptors for Residential Care and Home Visit consultations are presented in Figure 6-9 as equivalent current MBS items 122 (initial attendance) and 128 (subsequent attendance) for physicians. Given the small volume of current MBS activity in this area, separate modelling of the impact of this item has not been undertaken.

Figure 6-9: Proposed descriptors for residential care/home visits items

SEXUAL HEALTH MEDICINE SPECIALIST - REFERRED CONSULTATION - HOME VISITS MBS Item 6057 Professional attendance at a place other than consulting rooms or hospital by a consultant physician in the practice of his or her specialty (other than in psychiatry) where the patient is referred to him or her by a referring practitioner - INITIAL attendance in a single course of treatment Fee: $183.10 Benefit: 75% = $137.35 85% = $155.65
SEXUAL HEALTH MEDICINE SPECIALIST - REFERRED CONSULTATION - HOME VISITS MBS Item 6058 - Each attendance SUBSEQUENT to the first in a single course of treatment Fee: $110.75 Benefit: 75% = $83.10 85% = $94.15

The proposed item descriptors for telehealth consultations are presented in Figure 6-10 as equivalent to current MBS items 114 (for short consultation by a physician) and 112 (for longer consultation by a physician) for Option 1. For Option 2 (time-tiered items), the descriptor for telehealth consultations is similar to MBS psychiatry telehealth item 288, but with Extended Medicare Safety Net capping calculated in the same way as physician-equivalent (Group A4) items (see Figure 6-11). The psychiatry telehealth item is used for Option 2 because these items are also time-tiered.

Figure 6-10: Proposed descriptors for short and long teleconference items – physician-equivalent items

PROFESSIONAL ATTENDANCE –TELEHEALTH (SHORT)

MBS Item 6062

Initial professional attendance of 10 minutes or less in duration on a patient by an sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the patient is not an admitted patient; and
(c) the patient:
- (i) is located both:
  - (A) within a telehealth eligible area; and
  - (B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
- (ii) is a care recipient in a residential care service; or
- (iii) is a patient of:
  - (A) an Aboriginal Medical Service; or
  - (B) an Aboriginal Community Controlled Health Service;

for which a direction made under subsection 19 (2) of the Act applies; and
(d) no other initial consultation has taken place for a single course of treatment.

Fee: $113.20 Benefit: 85% = $96.25

PROFESSIONAL ATTENDANCE –TELEHEALTH (LONG)

MBS Item 6063

Professional attendance on a patient by a sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the attendance is for a service:
- (i) provided with item 6051 lasting more than 10 minutes; or
- (ii) provided with item 6052,6059 or 6060; and

(c) the patient is not an admitted patient; and
(d) the patient:
- (i) is located both:
  - (A) within a telehealth eligible area; and
  - (B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
- (ii) is a care recipient in a residential care service; or
- (iii) is a patient of:
  - (A) an Aboriginal Medical Service; or
  - (B) an Aboriginal Community Controlled Health Service;

for which a direction made under subsection 19 (2) of the Act applies

50% of the fee for the associated item. Benefit: 85% of derived fee

Figure 6-11: Proposed descriptor for telehealth item – time-tiered items

PROFESSIONAL ATTENDANCE – TELEHEALTH

MBS Item 6063

Professional attendance on a patient by a sexual health medicine specialist practising in his or her specialty if:
(a) the attendance is by video conference; and
(b) the attendance is for a service provided with item 6051, 6052, 6054, 6055, 6059 or 6060; and
(c) the patient is not an admitted patient; and
(d) the patient:
(i) is located both:
(A) within a telehealth eligible area; and
(B) at the time of the attendance-at least 15 kms by road from the sexual health medicine specialist; or
(ii) is a care recipient in a residential care service; or
(iii) is a patient of:
(A) an Aboriginal Medical Service; or
(B) an Aboriginal Community Controlled Health Service;
for which a direction made under subsection 19 (2) of the Act applies

50% of the fee for the associated item. Benefit: 85% of derived fee

The Department has already factored in the impact of teleconferencing items to estimates. As such, there was no formal modelling of the impact of these items upon future MBS billing for sexual health medicine specialists.

7 Impact of Changes to Remuneration Arrangements

7.1 Modelling Objectives

The purpose of the financial modelling undertaken was to quantify the implications for the private sector of the proposed new MBS item structures for sexual health medicine.

7.2 Private Sector

7.2.1 SCENARIO MODELLING

A number of scenarios have been modelled to assess the impact of revised MBS item structures. A detailed explanation of each scenario is provided at Chapter 6. The following sections provide a summary of the main outcomes for each scenario.

7.2.2 PHYSICIAN RATES

Physician Rates

In this scenario the original forecasts for assessment and treatment services are maintained. All assessment and treatment consultations attract the current consultant physician weighted average benefits of $135.35 and $60.50 respectively. Figure 7-1 and Figure 7-2 shows a comparison of this scenario with the current weighted average charges, benefits and out-of-pocket amounts.

Figure 7-1: Physician Rates– Average $/service for Assessment

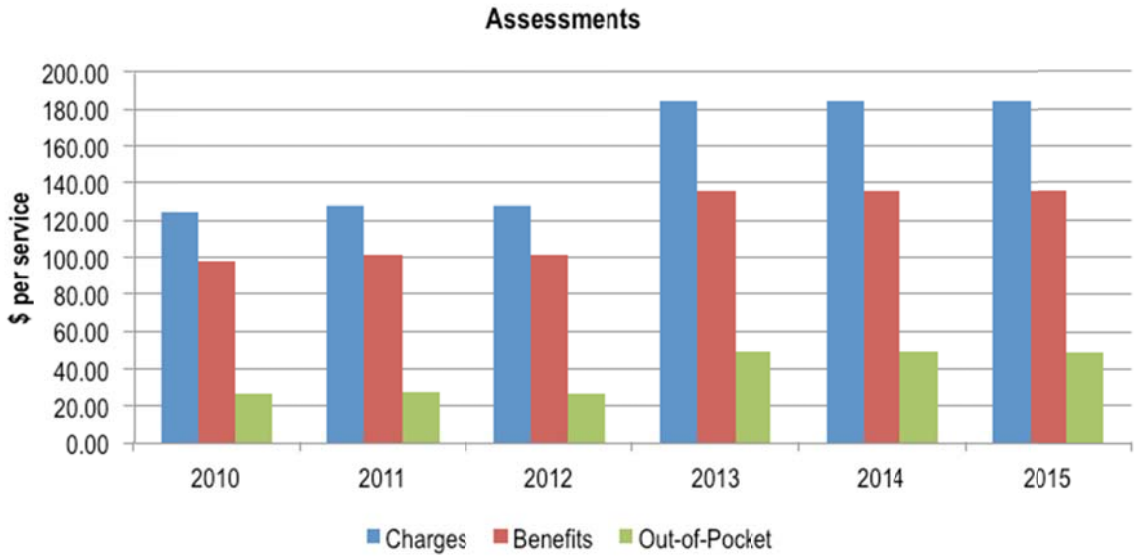
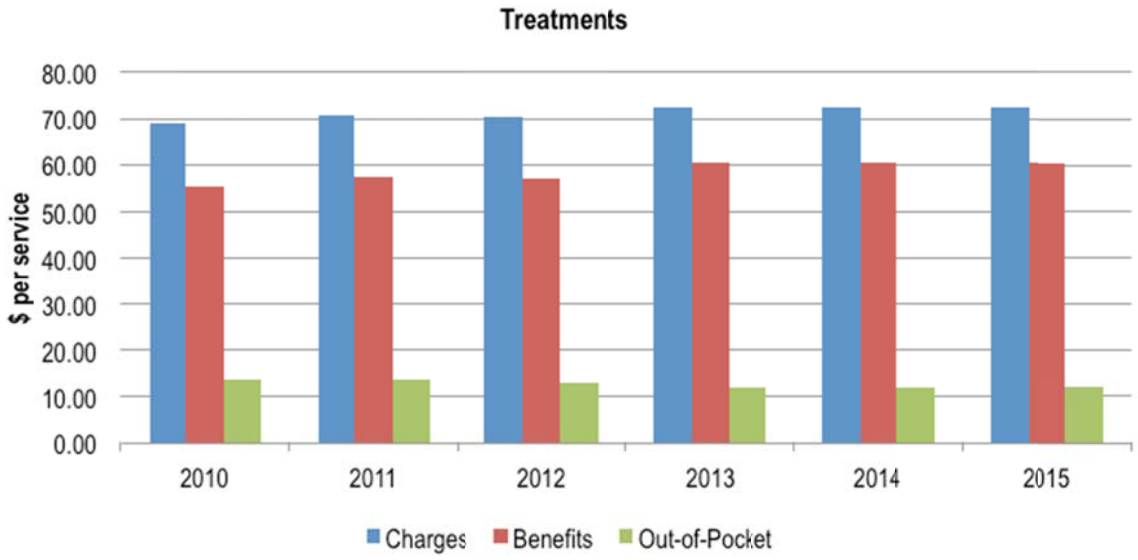


Figure 7-2: Physician Rates– Average $/service for Treatment



There is no change in the volume of services delivered under this scenario.

In this scenario, assessment benefits increase by 34% and treatment benefits rise by 6%. The total benefits paid under this scenario in 2013 are $0.824m higher than the current scenario.

7.2.3 TIME-TIER RATES

Benefits for assessment services in this scenario are costed at $135.35 per service (the weighted average physician benefit) compared with the current weighted average benefit of $100.92, an increase of 34%. Treatment services have a time-tiered structure, which results in an average benefit of $61.38 per service compared with the current average of $57.10, an increase of 7.5%, which is slightly higher than the weighted average physician rates. Charges, benefits and out-of-pocket fees per service are shown in Figure 7-3 and Figure 7-4.

Figure 7-3: Time-Tier Rates – Average $/service for Assessment

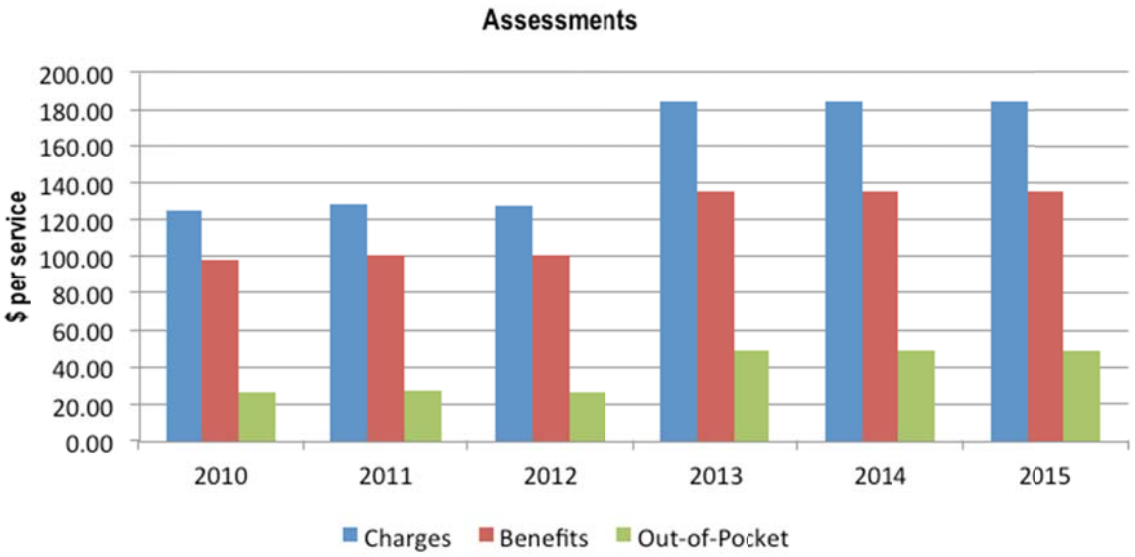
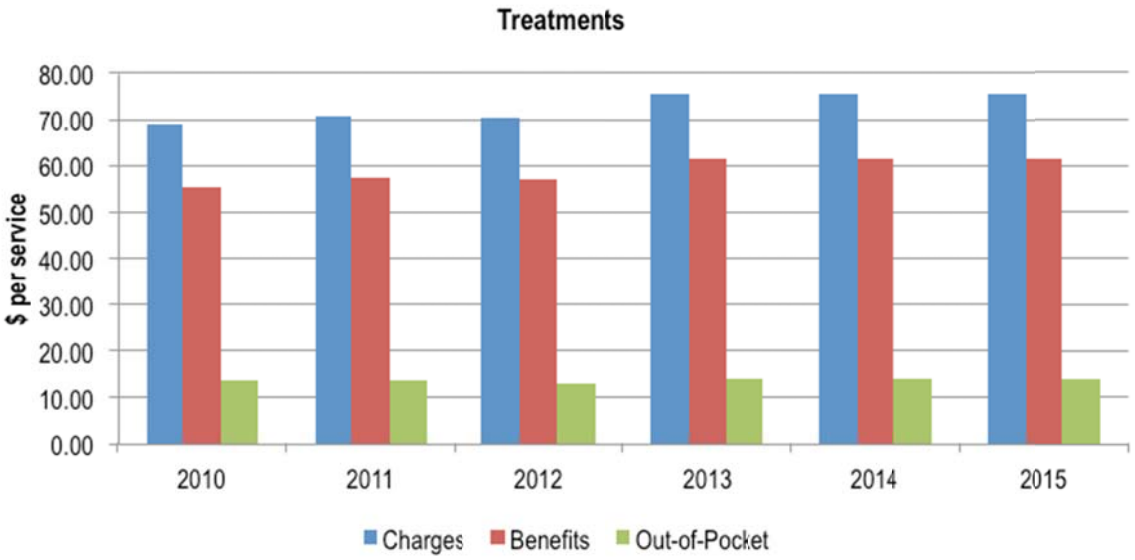


Figure 7-4: Time-Tier Rates – Average $/service for Treatment



Once again, there is no change in the expected volume of services under the time-tiered scenario. Total benefits payable in 2013 are $0.879m higher than the current scenario, and $0.054m higher than the modified physician rate scenario.

7.2.4 COMPLEX TREATMENT AND MANAGEMENT PLANS

This scenario provides for complex treatment and management plans for sexual health medicine specialists that sit parallel with the consultation items. In this scenario, there is an estimated increase in the number of services provided as a result of additional complex treatment and management plan services by 6.7% of the total consultations. The basis for the estimated increase is tied to the estimated total assessment consultations relative to total consultations. In 2013, services rise by 5,341 compared to the earlier scenarios.

The weighted average benefit for assessments in this scenario rises to $143.44, an increase of 42% on current rates. The weighted average benefit for treatments increases by 11% to $63.32. Unit prices for charges, benefits and out-of-pockets are shown in Figure 7-5 and Figure 7-6.

Figure 7-5: Complex Treatment– Average $/service for Assessment

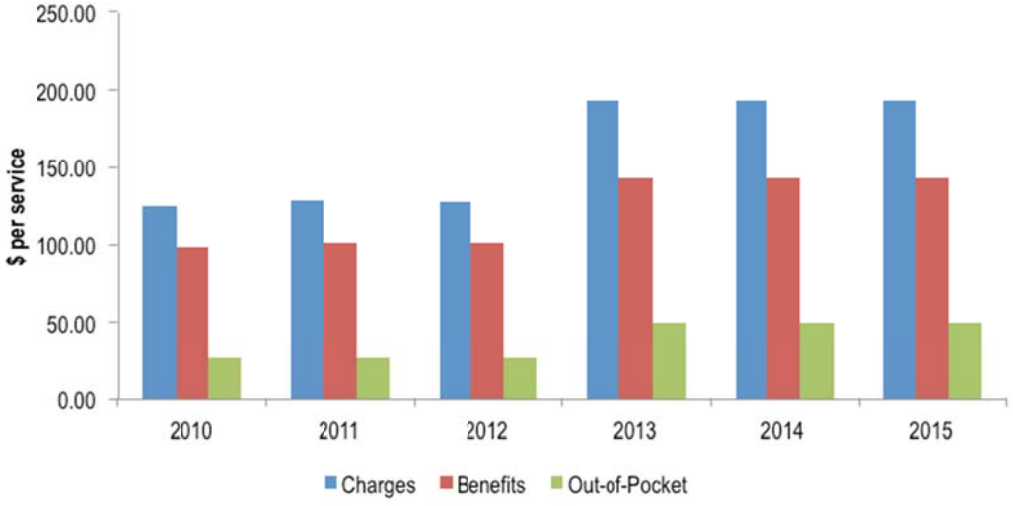
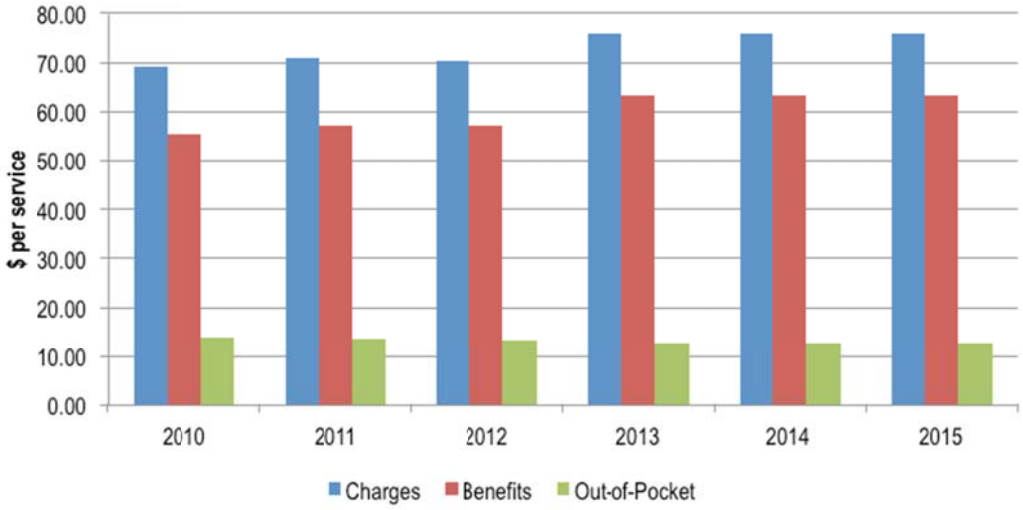


Figure 7-6: Complex Treatment– Average $/service for Treatment



The impact of additional volume and higher weighted average rates under this scenario increase total benefits by ~$0.745m per annum compared with the time-tiered scenario and by $1.624m compared to the current scenario.

7.2.5 CASE CONFERENCING

In this scenario, items for case conferencing are added (Figure 7-7, Figure 7-8). It is estimated that the volumes increase by a further 6,558 services in 2013 due to additional services for case conference co-ordination and participation. The total volume increase over the current scenario is now 11,898 services or 14.9%.

Figure 7-7: Case Conferencing – Average $/service for Assessment

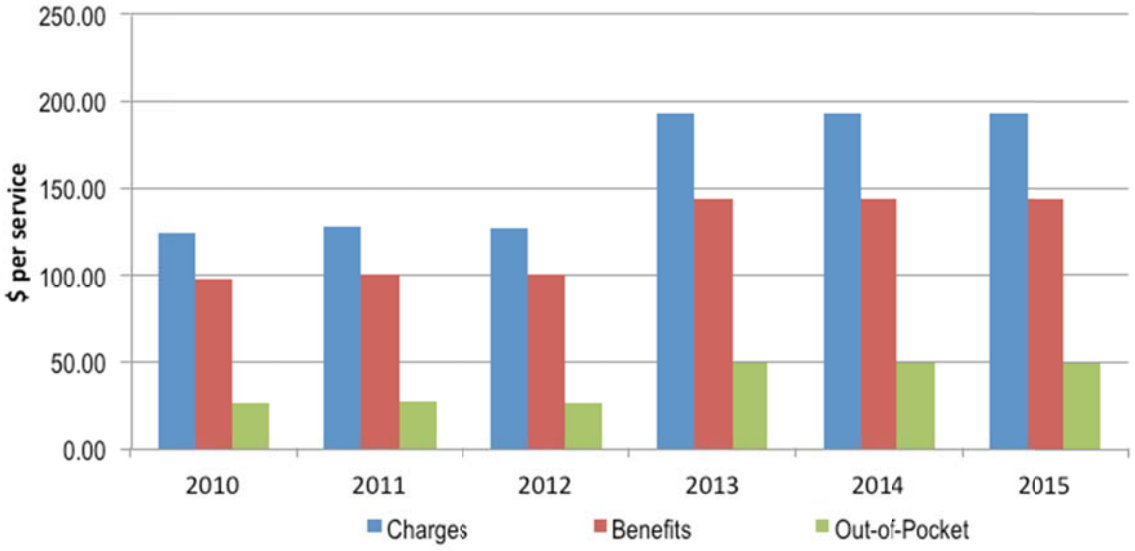
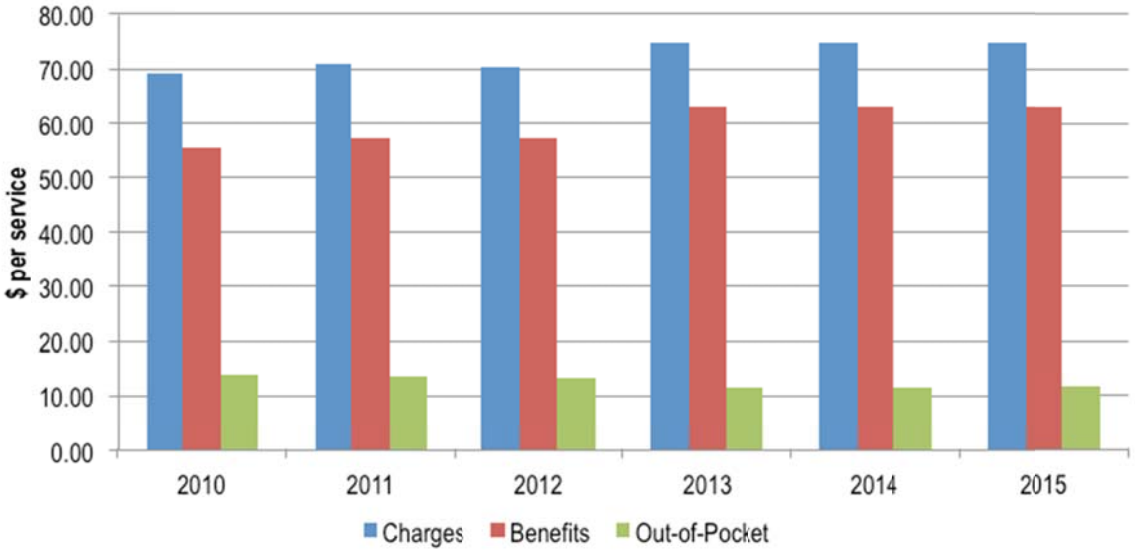


Figure 7-8: Case Conferencing – Average $/service for Treatment



There is no change in the weighted average benefits for assessments and only a very minor decrease in the weighted average benefits for treatments compared to the previous scenario. Total benefits under this scenario in 2013 are $2.028m higher than the current scenario.

7.2.6 WORKFORCE CHANGES

The financial model has also been used to test the implications of two other factors on MBS activity and financial outcomes:

- The impact of workforce changes (ie new trainees commencing less retirees); and
- The impact of increased private MBS billing due to the new item structure.

Table 7-1 summarises the assumptions that have been applied to estimate the impact of these changes.

Table 7-1: Estimated workforce and billing changes

Workforce - Sexual Health	2013	2014	2015
Current	107	107	102
Retirees		-5	-10
New members ex trainees		0	3
Adjusted Total	107	102	95
Full-time private	2	2	2
Part-time/Public	105	100	93
Estimated % to increase	33%	33%	33%
Number of Specialists increasing	34.65	33	30.69
Extra sessions per week		1	2
Patients per session		3.5	3.5
Weeks per annum		45	45
Extra O o S		5,198	9,667
% of year total		6.3%	11.3%

The workforce is estimated to ***decline*** from its current number of 107 specialists in 2013 to around 95 by 2015; a reduction of 11.2%. The estimates for retirees have been based on the current age profile of sexual health medicine specialists and an assumption that retirement will occur at age 65. The estimates for new members have been derived from trainee data provided by the Chapter for Sexual Health Medicine (as previously outlined in Chapter 4).

In relation to the second issue, the estimated increase in MBS billing activity due to the proposed increase in benefits and the use of new item numbers is 6.3% in 2014 (5,198) and by 11.3% in 2015 (9,667) based on the following assumptions:

- That there are currently 2 full-time specialists in private practice (based on MBS sample data received);
- That 33% of the remaining part-time specialists will increase their MBS billing by one session per week in 2014 and by two sessions (i.e. one further session) per week in 2015; and
- An average of 3.5 patients per session over 45 working weeks per annum.

Under this scenario there is no change to the weighted average benefits per service. However, there is a change in the volume of services delivered.

Figure 7-9 shows the number of current services per provider from the MBS data sample provided by Medicare Australia. There are very few specialists working full-time, with only two providers from the sample of 49 providers with more than 5,000 services per annum.

Figure 7-9: Number of services by provider in 2012

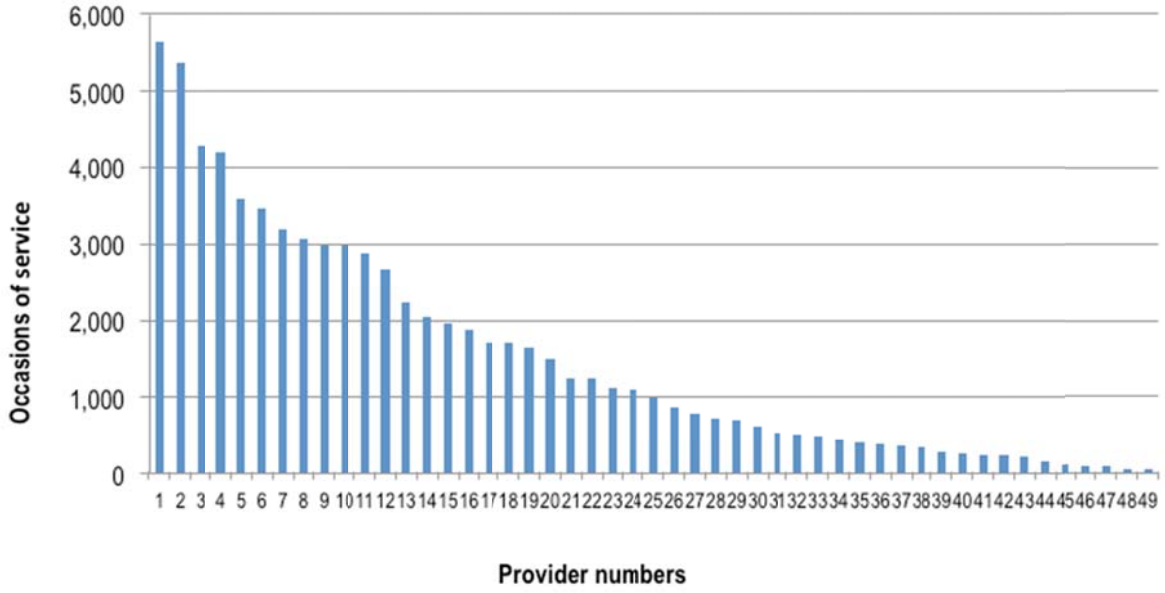
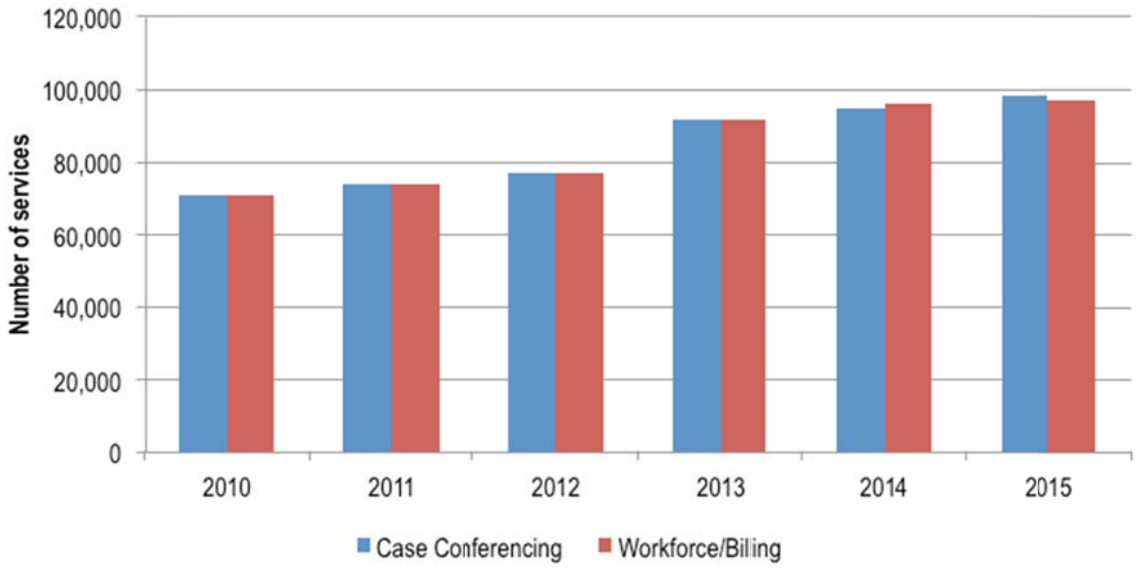


Figure 7-10 shows the net impact on volume of services from the previous scenario after taking into account the declining workforce and the expected increase in sessions from the part-time workforce and the shift from the public to private sector.

Figure 7-10: Occasions of Service – Workforce & billing changes included



There is a net increase of 1,248 services in 2014 (1.3%) and a net decrease of 1,185 services by 2015 (-1.2%).

7.2.7 FINANCIAL PROJECTIONS

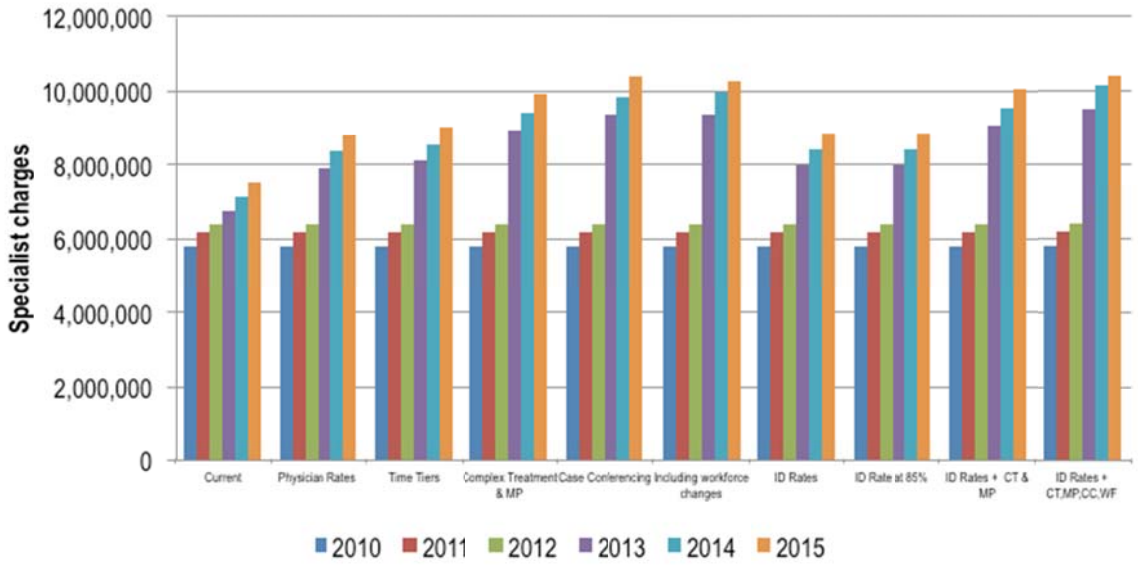
All financial projections shown below have now been indexed at the following rates, which are based on the linear trend increases for a group of relevant MBS items:

- 2013 by 1.98%
- 2014 by a further 1.88%
- 2015 by a further 1.85%

Figure 7-11 shows the estimated total amounts for specialist ***charges*** under the various scenarios. Under the ***current*** scenario, total charges are expected to increase from $6.39m in 2012 to $7.52m in 2015 due to the estimated increase in sexual health medicine services over this period.

The cumulative impact of physician rates, complex treatment and management plans, case conferencing and workforce/billing changes results in total charges of $10.26m in 2015. This is an increase of $2.74m over the current scenario by 2015. The comparator group (infectious disease specialists) charges are also shown in Figure 7-11.

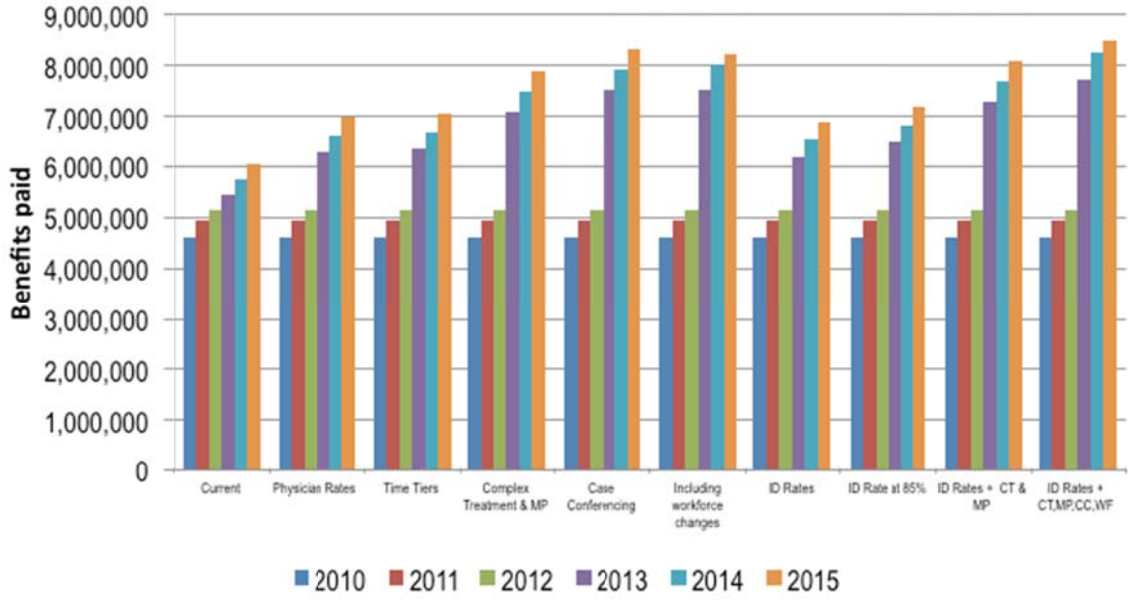
Figure 7-11: Summary of options – Charges



The weighted average charge in 2015 including workforce/billing changes is estimated at $105.52 compared with the current scenario at $87.72, an increase of 20%.

The weighted average ***benefits paid*** under the various scenarios are displayed in Figure 7-12. Under the current scenario total benefits paid in 2012 are estimated at $5.14m, which increases to $6.06m by 2015. The cumulative total benefit amount with workforce/billing changes in 2015 is $8.24m, an increase of $2.19m over the current projection for 2015.

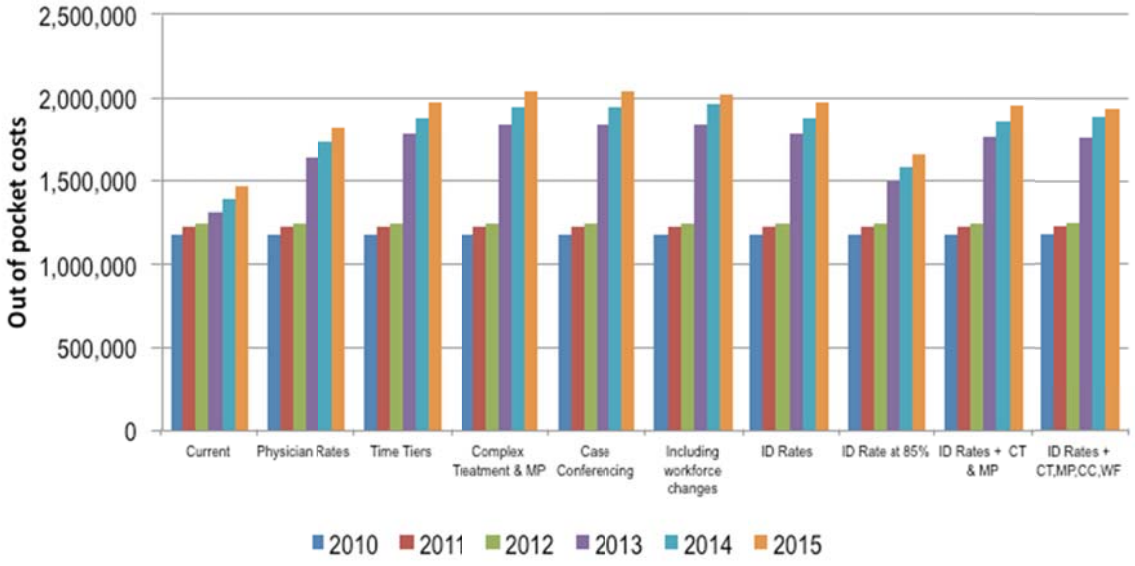
Figure 7-12: Summary of options – Benefits paid



The average benefit paid in 2015 with the cumulative effect including workforce/billing changes is $84.75 compared with the current scenario at $70.64, an increase of 20%.

Out-of-pocket amounts under the current scenario are estimated at $1.24m in 2012 and this rises to $1.46m by 2015. The cumulative impact of all scenarios would result in an out-of – pocket amount of $2.02m by 2015, an increase of $0.56m or 38%. Details are shown in Figure 7-13.

Figure 7-13: Summary of options – Out-of-pockets



The average out-of-pocket fee under the cumulative workforce/billing scenario in 2015 is $20.76 compared with $17.08 under the current scenario for that year.

7.3 Public Sector

Current costs of public sector services could not be reliably estimated. More than half of the current sexual health medicine specialists work in the public sector. However, the costs associated with individual patient treatments cannot be separated from the costs of other clinicians assessing and treating patients.

The multi-disciplinary models of care that universally operate in the public sector are often very different in the level of involvement of the sexual health medicine specialist in the care of patients.

7.4 Impact upon supply of specialists

Anecdotal reports from representatives of the Chapter of Sexual Health Medicine indicate that the availability of MBS items for sexual health medicine would have a positive impact upon the supply of specialists. There are several self-reinforcing reasons for this advice, including but not limited to:

- Current benefit levels are unable to support a viable private practice. Hence, the fee structure is actively working against attracting specialists into private practice; and
- The current remuneration levels for sexual health medicine are a disincentive in attracting candidates compared with other specialty areas. There is strong evidence of the difficulty in filling accredited sexual health medicine registrar positions.

7.5 Impact upon access to services

It is estimated that there would be an increase in the supply of sexual health medicine specialists over time as a direct result of a new – more appropriately remunerated – MBS item structure.

The rate of increase in qualified specialists is a function of the number of accredited trainee positions and the interest in specialisation in sexual health medicine. It is anticipated that there will not be a major or sudden turnaround in the current paucity if interest, and that the 'take up' rates will be gradual.

As there will be strong jurisdictional interest in developing sexual health medicine specialists, there is likely to be concerted efforts, particularly in the take up of training positions in WA, NT and Qld where the current workforce is limited. A new regime of MBS items is reported to give impetus to developing flexible public-private training models.

7.6 Impact upon patient outcomes

The AMC, and the medical profession more broadly, recognise that sexual health medicine is a complex area, requiring a dedicated specialty able to deliver a range of high quality interventions to patients. Patient outcomes can therefore expect to improve through:

1. Advice and support to general practitioners.
2. Improving integration and coordination of care through the 'collaborative or shared care' service models.

3. Direct management of more complex cases – as is the case with any specialty.
4. Enabling equivalent scope of practice to that currently available within the public sector – currently a significant limitation to specialists who are not already fellows of other medical colleges. Given the efficacy of these interventions and the accredited training to provide a wide range of services, it is assumed that patient outcomes will therefore be no worse than those achieved in the public sector.
5. Workforce development that may also increase the availability of input by sexual health medicine specialists into public policy and program development to increase awareness of the importance of testing and treatment for notifiable sexually transmissible and blood borne infections. This would ideally result in a higher proportion of individuals recognising the need to address harmful behaviour.
6. Improving access to timely care by:
    a. Reducing preventable delays in treatment associated with waiting lists of a number of different providers; and
    b. Reducing out-of-pocket costs (on average) to the patient.

Notwithstanding the proposition that patient outcomes are expected to improve, there is no basis for quantifying the level of expected patient outcome improvement by any of the standard quantification methods – at individual patient level or system level - through the provision of medical consultation services.

7.7 Impact upon private sector providers

There is no anticipated change to the requirements for referral to sexual health medicine specialists, as is the case with all other specialties, for advice and management of more complex co-morbidities. Therefore, there is no expected change to the current patient presentation arrangements for GPs or private practice specialist providers.

Based on the expected unmet demand in the community, there is unlikely to be any adverse impact on the demand for GP or other specialist services.

7.8 Impact upon public sector services

There is expected to be minimal impact on the demand for, or provision of, public sector services in sexual health medicine.

The most likely impact based on anecdotal advice is that alternative treatment opportunities may exist for patients who would prefer to attend a private clinic rather than a public clinic for their sexual health related conditions.

It is possible that the time available for current sexual health medicine specialists in public sector may be marginally diminished if there is an increase in accredited training of registrars.

7.9 Impact upon overall health expenditure (relative cost effectiveness)

Cost effectiveness analysis is used as a means to determine the relative cost of undertaking a course of action compared with the most appropriate existing course of action.

In the context of sexual health medicine cost effectiveness analysis is between two independent[31] 'interventions', i.e. between medical consultations by an sexual health medicine specialist or an infectious diseases physician, as the physician is the next most clinically appropriate clinical treatment course for most sexual health related issues.

Analysis between independent interventions would ordinarily suggest comparative analysis between the cost of interventions compared with the health gain of the intervention (usually expressed as a ratio). This is where conventional cost effectiveness analysis becomes problematic. Whilst it is possible to estimate the cost difference between consultations delivered by a sexual health medicine specialist *vis a vis* a physician, it is not possible to identify the relative or absolute health gain resulting from one or a series of medical consultations.

Section 4.2 above indicates "…that sexual health medicine related services are provided in part by a number of 'overlapping' specialty groups in Australia including infectious disease physicians, public health medicine physicians and general practitioners; but that sexual health physicians are a longstanding and essential piece within a complex and evolving clinical and public health jigsaw. (p.24)" This indicates that there has been acceptance within the medical profession that there are superior clinical benefits from sexual health medicine interventions for sexual health related disorders relative to infectious disease physician interventions. On this basis, a cost effectiveness analysis should only need to demonstrate costs at or below the alternative infectious disease physician consultation option to demonstrate overall superior cost effectiveness.

Therefore, an economic evaluation of the sexual health medicine MBS items has been based on a *relative cost of alternative medical consultations.* A modelled comparative analysis of *future* costs to 2015 by sexual health medicine specialists and infectious disease physicians has been developed. The forecast costs for sexual health medicine are based on the proposed fee structure where assessment and patient review are at physician rates.

Modelled comparative analysis

The current (2012) MBS outlays for sexual health medicine are estimated to be ~$5.14m. However, due to service number increases, it is estimated that this would rise to $6.06m by 2015.

The forecast (2015) MBS outlays for sexual health medicine is ~$8.24m, noting that there are rate increase to consultant physician levels, changes to complex care, case conferencing and a modest fall in claims due to expected workforce reductions. This suggests that there would be an *increase* in MBS outlays of ~$3.10m based on the difference between actual 2012 and forecast 2015, **or** ~$2.19m based on the forecast

[31] This means that the actions are independent but not mutually exclusive.

outlays in 2015 with no change to MBS structure and reduced workforce, and forecast outlays under a new item structure.

The forecast MBS outlays using infectious disease physician consultation rates is ~$8.49m. This indicates that there is a $0.24m cost advantage, or 3.0% for sexual health medicine. This suggests that even with an increase in payment rates for sexual health medicine specialists, a small cost advantage is maintained, albeit at a much lower level.

The assumed mix of consultations between sexual health medicine and infectious disease physician are the same; namely:

- Assessment (21.4%);
- Patient review (71.5%); and
- Complex care planning & Case Conferencing (7.1%).

Sensitivity analysis of the assumed mix of items claimed indicates that:

- An increase of 10% in assessments and a commensurate decrease in patient reviews will impact on the costs by $136k in 2015 or 1.7%.
- An increase of 10% in complex care and case conferences and a commensurate decrease in patient reviews would add only $29k to the total cost in 2015.

Another important aspect of the cost effectiveness analysis is the forecast for out-of-pocket costs for patients. The analysis assumes the same out-of pocket cost differential between current sexual health medicine and infectious disease physician out-of-pockets. Due to the relatively low level of current benefits for sexual health medicine, the out-of-pocket costs might ordinarily be pushed higher. This was not the case. Out-of-pocket costs for (private) sexual health medicine patients are similar to infectious disease physician.

The estimated out-of-pocket costs to patients (2015), suggests ~$2.02m for sexual health medicine, compared to out-of-pocket costs for infectious disease physician of $1.93m. This is a minor difference of ~$0.086m, or 4.4% higher for sexual health medicine than for infectious disease physicians.

Appendix 1 Methods used to extrapolate NSW data

Around half (49.8%) of all people living with HIV reside in NSW (Kirby Institute, 2012). The majority of these individuals are male. Accordingly, NSW data was disaggregated for the percentage of the population with reportable STIs (by male and female for each year of reporting), and then re-applied to each State and Territory based upon the individual percentage of the population within each jurisdiction with reportable STIs (by male and female for each year of reporting).

Thus, data extrapolation and estimations for public sector data were calculated according to the following methods (for each year between 2010-12) in relation to the number of public sector patients receiving services for HIV, Chlamydia, Gonorrhoea and Syphilis:

- Identified the number of men and women with Chlamydia, Gonorrhoea and Syphilis at a national level (male and female breakdowns of this data are not publically reported at the State/Territory level);
- Identified the percentage of men (and women) with Chlamydia, Gonorrhoea and Syphilis at a national level;
- Applied this percentage to the known number of cases of Chlamydia, Gonorrhoea and Syphilis for each State/Territory to estimate the number of men and women with each condition;
- Identified the number of men and women in each State/Territory with HIV (this information is publically reported at the jurisdictional level);
- Divided the number of unique individuals treated in the NSW public sector (for each condition) by the reported number of individuals with each condition in NSW, to obtain a *standardized rate of people treated in the public sector for each condition*. In this way, the estimates derived for other jurisdictions would not be over-influenced by the higher proportion of people in NSW with particular STIs.
- Applied the standardized rate (separately for men and women) to the estimated number of men and women with each STI in each State/Territory to estimate the number of patients treated in the public sector in that State/Territory.

The estimated number of individuals treated in the public sector for STI screening and other non-reportable STIs was calculated according to the following:

- Identified the population of individuals by male and female, living in Australia (at a national level, and separately for each State/Territory);
- Calculation of the number of individuals by male and female, living in Australia (at a national level, and separately for each State/Territory);
- Estimated of the proportion of males and females in the population with non-reportable STIs for which public health service data was available (HSV: 33.3%M to 66.6%F; Condylomata Acuminata: 50%M to 50%F; Trichomoniasis: 25%M to 75%F);
- Divided the number of individuals presenting to NSW public sector services by the proportion of men and women estimated to have each of the non-reportable STIs (for which public health service data was available) to achieve a standardized rate of male and female presentation (per head of population) for each condition; and

- Applied this percentage (separately for men and women) to the known population distribution and number of men and women in each State/Territory to estimate the number of people presenting for public sector services in each jurisdiction.

Future demand was projected by:

- Fitting each of the observations for each State/Territory and Nationally to a linear prediction equation[32]; and
- Calculating the prediction intervals associated with current and future demand.

32. This approach was preferred given the limited data points available for estimation. Linear prediction was considered to be more conservative (and reduce the risks of over fitting the available data. Calculation of prediction intervals was considered to provide a more transparent picture of the degree of variability associated with future estimations. The data series was not projected beyond the number of observations available for analysis.

Appendix 2 HSDs and authority drugs used in treatment of sexual health diseases

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Abacavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Abacavir is indicated in antiretroviral combination therapy for the treatment of Human Immunodeficiency Virus (HIV) infection in adults and children. This indication is based on surrogate endpoints in studies up to 48 weeks in duration.	Jun-99
Atazanavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Atazanavir is indicated for the treatment of HIV 1 infection, in combination with other antiretroviral agents. This indication is based on analyses of plasma HIV-1 RNA levels and CD4 cell counts from controlled studies.	Jan-04
Darunavir	Treatment of HIV infection, in addition to optimised background therapy in combination with other antiretroviral agents, and co-administered with 100 mg ritonavir twice daily in an antiretroviral experienced patient who, after at least one antiretroviral regimen, has experienced virological failure or clinical failure or genotypic resistance. Virological failure is defined as a viral load greater than 400 copies per mL on two consecutive	Authority Required (Streamlined)	S4	Yes	Adult Patients: Darunavir (with low dose ritonavir as a pharmacokinetic enhancer) is indicated in combination with other antiretroviral agents for the treatment of human immunodeficiency virus-1 (HIV-1) infection in adult patients. Paediatric Patient: (with low dose ritonavir as a pharmacokinetic enhancer) is indicated in combination with other antiretroviral agents for the treatment of human immunodeficiency virus-1 (HIV-1) infection in	Mar-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	occasions, while clinical failure is linked to emerging signs and symptoms of progressing HIV infection or treatment-limiting toxicity.				adult patients.	
Didanosine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Indicated for use in adult and paediatric patients in the treatment of HIV infection in combination with other antiretroviral drugs.	May-01
Efavirenz	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Indicated for use in combination with other antiviral agents for the treatment of HIV-1 infection in adults and children.	Jan-05
Emtricitabine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease.	Authority Required (Streamlined)	S4	Yes	Indicated for the treatment of HIV infected adults over the age of 18 years. This indication is based on analyses of plasma HIV-1 RNA levels and CD4 cell counts in controlled studies of VIREAD, EMTRIVA and STOCRIN in treatment-naïve and treatment-experienced adults.	Jan-05

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Enfuvirtide	Treatment of HIV infection, in addition to optimised background therapy in combination with other antiretroviral agents in an antiretroviral experienced patient who, after each of at least three different antiretroviral regimens that have included one drug from at least 3 different antiretroviral classes, has experienced virological failure or clinical failure or genotypic resistance. Virological failure is defined as a viral load greater than 400 copies per mL on two consecutive occasions, while clinical failure is linked to emerging signs and symptoms of progressing HIV infection or treatment-limiting toxicity.	Authority Required (Streamlined)	S4	Yes	Indicated in combination with other antiretroviral agents for the treatment of HIV-1 infection in antiretroviral experienced patients with treatment failure due to intolerance to previous antiretroviral agents or with evidence of HIV-1 replication despite ongoing therapy. Evidence to support this indication is based on surrogate endpoints (change in viral load and CD4 count) in controlled studies following 48 weeks of treatment.	Sep-03
Etravirine	Treatment of HIV infection, in addition to optimised background therapy in combination with other antiretroviral agents in an antiretroviral experienced patient who, after each of at least three different antiretroviral regimens that have included one drug from at least 3 different antiretroviral classes, has experienced virological failure or clinical failure or genotypic resistance. Virological failure is defined as a viral load greater than 400 copies per mL on two consecutive occasions, while clinical failure is linked to emerging signs and symptoms of progressing HIV infection or treatment-limiting toxicity.	Authority Required	Prescription only medicine	Yes	Etravirine, in combination with other antiretroviral agents is indicated for the treatment of HIV-1 infection in antiretroviral treatment-experienced adults who have evidence of viral replication and resistance to non-nucleoside transcriptase inhibitors and other antiretroviral agents. This indication is based on 24-week analyses from 2 randomised, double-blind, placebo controlled trials of etravirine. Both studies were conducted in clinically advanced, 3-class antiretroviral (NNRTI, N(t)RTI, PI) treatment-experienced adults. Treatment history of patients and genotypic testing should be performed to guide the use of etravirine.	Aug-11

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Fosamprenavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Combination with low dose ritonavir, is indicated for the treatment of Human Immunodeficiency Virus Type 1 (HIV-1) infected adults, adolescents and children of 6 years and above in combination with other antiretroviral medicinal products. In antiretroviral experienced adults Fosamprenavir in combination with low dose ritonavir has not been shown to be as effective as lopinavir/ritonavir. No comparative studies have been undertaken in children or adolescents.	May-04
Indinavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	Not indicated in PI	Yes	Indinavir sulfate is indicated for the treatment of adults and paediatric patients with HIV-1 infection. Indinavir should be used in combination therapy with other appropriate antiretroviral agents.	May 2005.
Lamivudine	Chronic hepatitis B in a patient without cirrhosis who satisfies all of the following criteria: 1. Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented chronic hepatitis B infection; 2. Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy Chronic hepatitis B in a patient with cirrhosis who has	Authority Required (Streamlined)	S4	Yes	3TC (lamivudine) in combination with other antiretroviral agents is indicated for the treatment of HIV infected adults and children.	Dec-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy.					
Lopinavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Indicated for the treatment of HIV-1 infection, in combination with other antiretroviral agents in adults and children aged 2 years and older. This indication is based on the analyses of plasma HIV-1 RNA levels and CD4 cell counts from controlled clinical studies (see clinical trials).	Nov-12
Maraviroc	Treatment, in addition to optimised background therapy in combination with other antiretroviral agents, of an antiretroviral experienced patient infected with only CCR5-tropic HIV-1, who, after each of at least three different antiretroviral regimens that have included one drug from at least 3 different antiretroviral classes, has experienced virological failure or clinical failure or genotypic resistance. A tropism assay to determine CCR5 only strain status is required prior to initiation. Individuals with CXCR4 tropism demonstrated at any time point are not eligible. Virological failure is defined as a viral load greater than 400 copies per mL on two consecutive occasions, while clinical failure is linked to emerging	Authority Required (Streamlined)	S4	Yes	Maraviroc in combination with other antiretroviral medicinal products is indicated for adult patients infected with only CCR5-tropic HIV-1. The use of other active agents with Maraviroc is associated with a greater likelihood of treatment response.	Jan-08

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	signs and symptoms of progressing HIV infection or treatment-limiting toxicity.					
Nevirapine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient who has been stabilised on nevirapine immediate release with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	S4	Yes	Nevirapine Alphapharm in combination with antiretroviral agents is indicated for the treatment of HIV-1 infection in adults. Resistant virus emerges rapidly when nevirapine is administered as monotherapy or in dual combination therapy with an antiretroviral agent. Therefore, nevirapine should always be administered in combination with at least two additional antiretroviral agents.	Mar-11
Raltegravir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required (Streamlined)	S4	Yes	Raltegravir in combination with other antiretroviral agents, is indicated for the treatment of human immunodeficiency virus (HIV-1) infection in adults, adolescents and children from the age of 2 years. This indication is based on analyses of plasma HIV-1 RNA levels in controlled studies of Raltegravir. The indication in paediatric patients is based on the evaluation of safety, tolerability, pharmacokinetic parameters and efficacy of Raltegravir through at least 24 weeks in a multicentre, open label, non-comparative study in HIV-1 infected, treatment - experienced children and adolescents 2 to 18 years of age. The use of other active antiretroviral agents in combination with Raltegravir is associated with a greater likelihood of treatment response. There are no	Jan-08

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					study results demonstrating the effect of Raltegravir on clinical progression of HIV-1 infection.	
Rilpovirine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	Prescription Only Medicine	Yes	Rilpivirine in combination with other antiretroviral medicinal products, is indicated for the treatment of human immunodeficiency virus type 1 (HIV-1) infection in antiretroviral treatment-naive adult patients with viral load 100,000 copies/ml at baseline. This indication is based on Week 48 safety and efficacy analyses from 2 randomised double-blind, controlled Phase III trials in treatment-naive adult patients and on Week 96 safety and efficacy analyses from the Phase IIb trial TMC278-C204 in treatment-naive adult patients.	Dec-11
Ritonavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	S4	Yes	Ritonavir is indicated for use in combination with appropriate antiretroviral agents or as monotherapy if combination therapy is inappropriate, for the treatment of HIV-1 infection in adults and children aged 12 years and older. For persons with advanced HIV disease, the indication for ritonavir is based on the results for one study that showed a reduction in both mortality and AIDS defining clinical events for patients who received ritonavir. Median duration of follow-up in this study was 6 months. The clinical benefit from ritonavir for longer periods of treatment is unknown. For persons with less advanced disease, the indication is based on changes in surrogate markers in controlled trials of up to 16 weeks duration.	Feb-10

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Saquinavir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	S4	Yes	Saquinavir is indicated for the treatment of HIV/AIDS in adults and children 12 years of age and older. Clinical studies indicate that saquinavir should be used only in combination with ritonavir and other antiretroviral therapies. This indication is based on changes in surrogate markers. At present there are no results from controlled clinical trials evaluating the effect of regimens containing saquinavir on HIV disease progression or survival.	Jul-06
Stavudine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	S4	Yes	Stavudine is indicated for the treatment of HIV infection in adults and paediatric patients, in combination with other anti-retrovirals.	Apr-04
Tenofovir	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection. Chronic hepatitis B in a patient with cirrhosis who has failed antihepadnaviral therapy and who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than	Authority Required	S4	Yes	Tenofoviris indicated for the treatment of HIV infected adults over the age of 18 years, in combination with other antiretroviral agents. This indication is based on analyses of plasma HIV-1 RNA levels and CD4 cell counts in controlled studies of VIREAD and EMTRIVA in treatment-naïve and treatment-experienced adults.	Aug-02

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy. Treatment, as sole PBS-subsidised therapy, in a patient with chronic hepatitis B without cirrhosis who is nucleoside analogue naive and satisfies all of the following criteria: 1) Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented hepatitis B infection; 2) Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy Chronic hepatitis B in a patient without cirrhosis who has failed antihepadnaviral therapy and who satisfies all of the following criteria: (a) Repeatedly elevated serum ALT levels while on concurrent antihepadnaviral therapy of greater than or equal to 6 months duration in conjunction with documented chronic hepatitis B infection; or (b) Repeatedly elevated HBV DNA levels one log greater than the nadir value or failure to achieve a 1 log reduction in HBV DNA within 3 months, whilst on previous antihepadnaviral therapy except in patients with evidence of poor compliance.					

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Tipranavir	Treatment of HIV infection, in addition to optimised background therapy in combination with other antiretroviral agents, and co-administered with 200 mg ritonavir twice daily in an antiretroviral experienced patient who, after each of at least three different antiretroviral regimens that have included one drug from at least 3 different antiretroviral classes, has experienced virological failure or clinical failure or genotypic resistance. Virological failure is defined as a viral load greater than 400 copies per mL on two consecutive occasions, while clinical failure is linked to emerging signs and symptoms of progressing HIV infection or treatment-limiting toxicity				Tipranavir, co-administered with low dose ritonavir, is indicated for combination treatment of HIV infection in antiretroviral treatment experienced patients from 2 years of age, with evidence of viral replication, who have HIV-1 strains resistant to more than one protease inhibitor. In deciding to initiate therapy withTipranavir,/ritonavir, careful consideration should be given to treatment history of the individual patient and the patterns of mutations associated with different agents. Genotypic testing should be performed to guide the use of Tipranavir. There are insufficient data in paediatric patients less than 2 years of age and treatment of these children with Tipranavir, is therefore not recommended.	
Zidovudine	Initial treatment of HIV infection in combination with other antiretroviral agents in a patient with a CD4 count of less than 500 per cubic millimetre or symptomatic HIV disease. Continuing treatment of HIV infection in combination with other antiretroviral agents where the patient has previously received PBS-subsidised therapy for HIV infection.	Authority Required	S4	Yes	Zidovudine is indicated for use in the treatment of HIV infection, alone and in combination with other antiretroviral therapies. The optimal dosage for this indication has not been established.	Aug-91
Ribavirin And Peginterferon Alfa-2a	Patients naive to interferon based therapies (non-pegylated or pegylated) Treatment, managed by an accredited treatment centre, of chronic hepatitis C in patients 18 years or older who have compensated liver disease and who have received no prior interferon alfa or peginterferon	Authority Required (Streamlined)	No PI available	Yes	No PI available	May-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	alfa treatment for hepatitis C and who satisfy all of the following criteria: 1. Documented chronic hepatitis C infection (repeatedly anti-HCV positive and HCV RNA positive); 2. Female patients of child-bearing age are not pregnant, not breast-feeding, and both patient and their partner are using effective forms of contraception (one for each partner). Male patients and their partners are using effective forms of contraception (one for each partner). Female partners of male patients are not pregnant. For patients with genotype 2 or 3 hepatitis C without hepatic cirrhosis or bridging fibrosis, the treatment course is limited to 24 weeks. For hepatitis C patients with genotype 1, 4, 5 or 6 and those genotype 2 or 3 patients with hepatic cirrhosis or bridging fibrosis, the treatment course is limited to 48 weeks. Patients with genotype 1, 4, 5 or 6 who are eligible for 48 weeks of treatment may only continue treatment after the first 12 weeks if the result of an HCV RNA quantitative assay (performed at the same laboratory using the same test) shows that the plasma HCV RNA has become undetectable or the viral load has decreased by at least a 2 log drop. (An HCV RNA assay at week 12 is unnecessary for genotype 2 and 3 patients because of the high likelihood of early viral response by week 12). Patients with genotype 1, 4, 5 or 6 who are viral					

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	positive at week 12 but have attained at least a 2 log drop in viral load may only continue treatment after the first 24 weeks of treatment if plasma HCV RNA is not detectable by an HCV RNA qualitative assay at week 24. Similarly, genotype 2 or 3 patients with hepatic cirrhosis or bridging fibrosis may only continue treatment after the first 24 weeks if plasma HCV RNA is not detectable by an HCV RNA qualitative assay at week 24. An HCV RNA qualitative assay at week 24 is unnecessary for those patients with genotype 1, 4, 5 or 6 who became viral negative at week 12. Patients who have failed one prior attempt at interferon based therapies (non-pegylated or pegylated). Treatment, managed by an accredited treatment centre, of chronic hepatitis C in patients 18 years or older who have compensated liver disease and who have received no more than one prior treatment with interferon alfa or peginterferon alfa for hepatitis C and who satisfy all of the following criteria: 1. Documented chronic hepatitis C infection (repeatedly anti-HCV positive and HCV RNA positive); 2. Female patients of child-bearing age are not pregnant, not breast-feeding, and both patient and their partner are using effective forms of contraception (one for each partner). Male patients and their partners are using effective forms of contraception (one for each partner).					

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	Female partners of male patients are not pregnant. The treatment course is limited to 48 weeks. Patients may only continue treatment after the first 12 weeks of treatment if plasma HCV RNA is not detectable by an HCV RNA qualitative assay at week 12.					
	Patients who have failed one prior attempt at interferon based therapies (non-pegylated or pegylated). Treatment, managed by an accredited treatment centre, of chronic hepatitis C in patients 18 years or older who have compensated liver disease and who have received no more than one prior treatment with interferon alfa or peginterferon alfa for hepatitis C and who satisfy all of the following criteria: 1. Documented chronic hepatitis C infection (repeatedly anti-HCV positive and HCV RNA positive); 2. Female patients of child-bearing age are not pregnant, not breast-feeding, and both patient and their partner are using effective forms of contraception (one for each partner). Male patients and their partners are using effective forms of contraception (one for each partner). Female partners of male patients are not pregnant. The treatment course is limited to 48 weeks. Patients may only continue treatment after the first 12 weeks of treatment if plasma HCV RNA is not detectable by an					

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	HCV RNA qualitative assay at week 12.					
Ribavirin And Peginterferon Alfa-2b	As Above	Authority Required (Streamlined)	S4	Yes	No PI available	Nov-11
Peginterferon Alfa-2a	Treatment, as sole PBS-subsidised therapy, in a patient with chronic hepatitis B without cirrhosis who satisfies all of the following criteria: 1. Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented chronic hepatitis B infection; 2. Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy; 3. Has received no prior peginterferon alfa therapy for the treatment of hepatitis B. Treatment, as sole PBS-subsidised therapy, in a patient with chronic hepatitis B with cirrhosis who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy. Treatment is limited to 1 course of treatment for a duration of up to 48 weeks.	Authority Required	S4	Yes	Chronic Hepatitis C (CHC) The combination of PEGASYS and COPEGUS is indicated for the treatment of chronic hepatitis C in patients who have received no prior interferon therapy (treatment-naïve patients) and patients who have failed previous treatment with interferon alfa (pegylated or non-pegylated) alone or in combination therapy with ribavirin. The combination of PEGASYS and COPEGUS is also indicated for the treatment of chronic hepatitis C patients with clinically stable human immunodeficiency virus (HIV) co-infection who have previously not received interferon therapy. PEGASYS monotherapy is indicated for the treatment of chronic hepatitis C in treatment-naïve patients (see DOSAGE AND ADMINISTRATION; Chronic Hepatitis C: Treatment-Naive Patients). Patients must be 18 years of age or older and have compensated liver disease. Chronic Hepatitis B (CHB) PEGASYS is indicated for the treatment of chronic hepatitis B in adult patients with evidence of viral replication and liver inflammation and compensated	May-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					liver disease.	
Interferon Alfa-2b	Adjunctive therapy of malignant melanoma following surgery in patients with nodal involvement. Use in the treatment of Philadelphia chromosome positive myelogenous leukaemia in the chronic phase. Chronic hepatitis B in a patient without cirrhosis who satisfies all of the following criteria: 1. Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented chronic hepatitis B infection; 2. Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy Chronic hepatitis B in a patient with cirrhosis who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy. Treatment, managed by an accredited treatment centre, of chronic hepatitis C in patients 18 years or older who have compensated liver disease and who have received no prior interferon alfa or peginterferon alfa treatment for hepatitis C and have a contraindication to ribavirin, who satisfy all of the following criteria:	Authority Required (Streamlined)	Not listed in PI	Yes	Hairy cell leukaemia: INTRON A is indicated for the treatment of hairy cell leukaemia in splenectomised or non-splenectomised patients. Kaposi's sarcoma in AIDS: INTRON A is indicated for the treatment of Kaposi's sarcoma in patients with acquired immune deficiency syndrome (AIDS). Chronic myelogenous leukaemia: INTRON A is indicated for the treatment of Philadelphia chromosome positive chronic myelogenous leukaemia in the chronic phase. Multiple myeloma: INTRON A is indicated for the maintenance of control of multiple myeloma once control has been achieved by chemotherapy. The effect on overall survival has not as yet been determined. Follicular non-Hodgkin's lymphoma: INTRON A is indicated as an adjuvant treatment of high tumour burden Stage III or IV follicular non-Hodgkin's lymphoma in conjunction with an appropriate chemotherapy regimen. In controlled clinical trials in which efficacy was demonstrated anthracycline chemotherapy was employed. Malignant Melanoma: INTRON A is indicated as an adjuvant therapy of malignant melanoma following surgery in patients who are at high risk of recurrence. The potential benefit to the patient should be assessed carefully. Although toxicity of the treatment may be substantial, for most patients, the benefit of	Sep-01

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	1. Documented chronic hepatitis C infection (repeatedly anti-HCV positive and HCV RNA positive); 2. Female patients of child-bearing age are not pregnant, not breast-feeding, and are using an effective form of contraception. The treatment course is limited to up to 48 weeks. Patients may only continue treatment after the first 12 weeks if the result of an HCV RNA quantitative assay (performed at the same laboratory using the same test) shows that the plasma HCV RNA has become undetectable or the viral load has decreased by at least a 2 log drop.				therapy outweighed the risk. Chronic hepatitis B: INTRON A injection is indicated for the treatment of adults with histologically proven compensated chronic active hepatitis B. Patients should be serum HBsAg positive and have evidence of HBV replication (such as serum HBeAg positive) and raised serum alanine aminotransferase (ALT) levels (>3 times the upper limit of the reference range) for at least 6 months. [See Pharmacology for response rate]. Chronic hepatitis C: INTRON A is indicated for the treatment of histologically proven compensated chronic hepatitis due to hepatitis C (HCV antibody positive) in adult patients with persistently elevated serum alanine aminotransferase (ALT). Studies in these patients demonstrate that INTRON A Injection therapy can produce normalisation of serum ALT, clearance of serum HCV RNA and improvement in liver histology	
Adefovir Dipivoxil	Chronic hepatitis B in a patient without cirrhosis who has failed antihepadnaviral therapy and who satisfies all of the following criteria: a. Repeatedly elevated serum ALT levels while on concurrent antihepadnaviral therapy of greater than or equal to 6 months duration in conjunction with documented chronic hepatitis B infection; or b. Repeatedly elevated HBV DNA levels one log greater than the nadir value or failure to achieve a 1 log reduction in HBV DNA within 3 months, whilst on previous antihepadnaviral therapy	Authority Required (Streamlined)	S4	Yes	Adefovir Dipivoxil is indicated for the treatment of chronic hepatitis B in patients 12 years of age and older with evidence of active viral replication and either evidence of persistent elevations in serum aminotransferases (ALT or AST) or histologically active disease. For adult patients, this indication is based on histological, virological, biochemical, and serological responses in adult patients with HBeAg+ and HBeAg-/HBVDNA+ chronic hepatitis B with compensated liver function, and in adult patients with clinical evidence of	Sep-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
	except in patients with evidence of poor compliance. Chronic hepatitis B in a patient with cirrhosis who has failed antihepadnaviral therapy and who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy.				lamivudine-resistant hepatitis B virus with either compensated or decompensated liver function. For adolescent patients (12 to <18 years of age), the indication is based on virological and biochemical responses in patients with HBeAg+ chronic hepatitis B virus with compensated liver function.	
Telbivudine	Treatment, as sole PBS-subsidised therapy, in a patient with chronic hepatitis B without cirrhosis who is nucleoside analogue naive and satisfies all of the following criteria: 1. Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented hepatitis B infection; 2. Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy Treatment, as sole PBS-subsidised therapy, in a patient with chronic hepatitis B with cirrhosis who is nucleoside analogue naive and who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per	Authority Required (Streamlined)	S4	Yes	Telbivudine is indicated for the treatment of HBeAg-positive and HBeAg-negative chronic hepatitis B patients who have compensated liver disease, evidence of viral replication and active liver inflammation and who are nucleoside analogue naïve. The following points should be considered when initiating therapy with Telbivudine: • For HBeAg-positive patients, Telbivudine treatment should only be initiated in patients with baseline HBV DNA < 9log 10 copies/mL and baseline ALT ≥ 2x ULN. • For HBeAg-negative patients, Telbivudine treatment should only be initiated in patients with baseline HBV DNA < 7log 10 copies/mL.	Jul-10

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	L) should have their treatment discussed with a transplant unit prior to initiating therapy.					
Entecavir Monohydrate	Chronic hepatitis B in a patient without cirrhosis who satisfies all of the following criteria: 1. Elevated HBV DNA levels - greater than 20,000 IU/mL (100,000 copies/mL) if HBeAg positive, or greater than 2,000 IU/mL (10,000 copies/mL) if HBeAg negative - in conjunction with documented chronic hepatitis B infection; 2. Evidence of chronic liver injury as determined by: (a) Confirmed elevated serum ALT; or (b) Liver biopsy Chronic hepatitis B in a patient with cirrhosis who has detectable HBV DNA. Persons with Child's class B or C cirrhosis (ascites, variceal bleeding, encephalopathy, albumin less than 30 g per L, bilirubin greater than 30 micromoles per L) should have their treatment discussed with a transplant unit prior to initiating therapy.	Authority Required (Streamlined)	S4	Yes	Entecavir Monohydrate is indicated for the treatment of chronic hepatitis B virus infection in adults 16 years or older with evidence of active liver inflammation. This indication is based on histologic, virologic, biochemical and serological responses in nucleoside-treatment naïve and lamividine-resistant adult patients with HBeAg-positive or HBeAg-negative chronic HBV infection with compensated liver disease.	Apr-06
Azithromycin	Upper and lower respiratory tract infections	Restricted Benefit	S4	No	Community acquired pneumonia caused by susceptible organisms in patients who require initial intravenous therapy. In clinical studies efficacy has been demonstrated against Chlamydia pneumoniae, Haemophilus influenzae, Legionella pneumophilia,Moraxella catarrhalis, Mycoplasma pneumoniae, Staphylococcus aureus and Streptococcus pneumoniae.	Apr-94

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Procaine Penicillin	Indications not listed	General Schedule	S4	No	Treatment of moderately severe infections due to penicillin sensitive organisms. Therapy should be guided by bacteriological studies, including sensitivity tests and also by clinical response. Infections which usually respond to adequate dosage are: Group A streptococcal infections including upper respiratory tract infections, skin and skin structure infections and scarlet fever; pneumococcal infections of the respiratory tract; susceptible staphylococcal infections, most gonococcal infections, syphilis, fusospirochaetosis (Vincent's gingivitis and pharyngitis). Procaine penicillin must be administered by the intramuscular route only	Jun-98
Benzathine Benzylpenicillin	Indications not listed	General Schedule	S4	No	Intramuscular benzathine benzylpenicillin is indicated in the treatment of infections due to penicillin-sensitive micro-organisms that are susceptible to the low and very prolonged serum levels common to this particular dosage form. Therapy should be guided by bacteriological studies (including sensitivity tests) and by clinical response. The following infections will usually respond to adequate dosage of intramuscular benzathine benzylpenicillin: Streptococcal infections (Group A - without bacteraemia). Mild-to-moderate infections of the upper respiratory tract (eg. pharyngitis). Venereal infections - Syphilis, yaws, bejel and pinta. Medical conditions in which benzathine benzylpenicillin therapy is indicated as prophylaxis	Jul-96

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					Rheumatic fever and/or chorea - Prophylaxis with benzathine benzylpenicillin has proven effective in preventing recurrence of these conditions. It has also been used as follow-up prophylactic therapy for rheumatic heart disease and acute glomerulonephritis.	
Ceftriaxone	Infections where positive bacteriological evidence confirms that this antibiotic is an appropriate therapeutic agent. Septicaemia, suspected. Septicaemia, proven.	Restricted Benefit	S4	No	Ceftriaxone Injection is indicated for the treatment of the following infections when caused by susceptible aerobic organisms. Lower respiratory tract infections. Caused by Strep. pneumoniae, Streptococcus sp. (excluding Enterococci), methicillin sensitive Staph. aureus, H. influenzae, H. parainfluenzae, Klebsiella sp. (including K. pneumoniae), E. coli, E. aerogenes, P. mirabilis and Serratia marcescens. Skin and skin structure infections. Caused by methicillin sensitive Staph. aureus, methicillin sensitive Staph. epidermidis, Streptococcus group B, Streptococcus group G, Strep. pyogenes, Strep. viridans, Streptococcus sp. (excluding Enterococci), Peptostreptococcus sp., E. coli, E. cloacae, Klebsiella sp. (including K. pneumoniae and K. oxytoca), P. mirabilis, M. morganii and S. marcescens. Urinary tract infections (complicated and uncomplicated). Caused by E. coli, P. mirabilis, P. vulgaris, M. morganii and Klebsiella sp. (including K. pneumoniae). Uncomplicated gonorrhoea (cervical/ urethral and rectal). Caused by N. gonorrhoeae, including both	Aug-91

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					pencillinase and nonpenicillinase producing strains. Bacterial septicaemia. Caused by Strep. pneumoniae, E. coli and H. influenzae. Bone infections. Caused by methicillin sensitive Staph. aureus, methicillin sensitive Staph. epidermidis, Streptococcus group B, Strep. pneumoniae, Streptococcus sp. (excluding Enterococci), E.coli, Enterobacter sp., P. mirabilis and K. pneumoniae. Joint infections. Caused by methicillin sensitive Staph. aureus, Strep. pneumoniae, Streptococcus sp. (excluding Enterococci), E. coli, P. mirabilis, K. pneumoniae and Enterobacter sp. Meningitis. The initial treatment, as a single agent, of meningitis in children and immunocompetent adults when presumed or proven to be caused by H. influenzae type b, N. meningitidis, Strep. pneumoniae or Enterobacteriaceae pending culture and sensitivity results. Surgical prophylaxis. The preoperative administration of a single 1 g dose of ceftriaxone may reduce the incidence of postoperative infections in patients undergoing vaginal or abdominal hysterectomy or cholecystectomy in high risk patients, surgical procedures which are classified as contaminated or potentially contaminated, and patients undergoing coronary artery bypass surgery. Although ceftriaxone has been shown to have been as effective as cefazolin in the prevention of infection following coronary artery bypass surgery, no placebo controlled trials have been conducted.	

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					Susceptibility testing. Before instituting treatment with ceftriaxone, appropriate specimens should be obtained for isolation of the causative organism and for determination of its susceptibility to the drug. Therapy may be instituted prior to obtaining results of susceptibility testing.	
Doxycycline	Urethritis	Restricted Benefit	Not indicated in PI	No	Infections caused by the following microorganisms: Mycoplasma pneumoniae (primary atypical pneumonia); Rickettsiae (Queensland tick typhus, epidemic typhus fever, Q fever, murine endemic typhus fever, Australo-Pacific endemic scrub typhus): Chlamydia psittaci (psittacosis); Chlamydia trachomatis (lymphogranuloma venereum, trachoma, inclusion conjunctivitis). (Doxycycline is indicated in the treatment of trachoma, although the infectious agent is not always eliminated, as judged by immunofluorescence. Inclusion conjunctivitis may be treated with oral doxycycline alone, or in combination with topical agents.) Borreliae (relapsing fever); Calymmatobacterium (Donovania) granulomatis (granuloma inguinale). Infections caused by the following Gram-negative microorganisms: Vibrio sp. (cholera); Brucella sp. (Brucellosis; in conjunction with streptomycin); Yersinia pestis (plague); Francisella tularensis (tularaemia); Bartonella bacilliformis (Bartonellosis); Bacteroides sp. When penicillin is contraindicated, doxycycline is an alternative drug in the treatment of infections due to: Treponema pallidum (syphilis);	Apr-93

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					Treponema perenue (yaws); Neisseria gonorrhoea. Doxycycline is not the drug of choice in the treatment of any type of staphylococcal infection or infections caused by Streptococcus pneumoniae, Haemophilus influenzae, Streptococcus pyogenes, Streptococcus faecalis or any type of enteric bacteria because many strains of these organisms have been shown to be resistant to doxycycline. Doxycycline should not be used in these infections unless the organism has been shown to be sensitive. For upper respiratory infections due to group A b-haemolytic streptococci (including prophylaxis of rheumatic fever), penicillin is the usual drug of choice. In acute intestinal amoebiasis doxycycline may be a useful adjunct to amoebicides. In severe acne doxycycline may be a useful adjunctive therapy. Doxycycline is indicated, in adults and children older than 10 years, as chemoprophylaxis for malaria caused by Plasmodium falciparum and, in combination with other antimalarial agents, against malaria caused by Plasmodium vivax. Doxycycline is only able to suppress malaria caused by P. vivax. As there are relatively few locations where P. vivax does not co-exist to some extent with P. falciparum, it is recommended that doxycycline should be used routinely with other agents, for example chloroquine.	

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Valaciclovir	Suppressive therapy of moderate to severe recurrent genital herpes. Microbiological confirmation of diagnosis (viral culture, antigen detection or nucleic acid amplification by PCR) is required but need not delay treatment	Authority Required (Streamlined)	S4	No	Valaciclovir is indicated: • For the treatment of herpes zoster (shingles) in adult patients who commence therapy within 72 hours of the onset of rash. • For the treatment of ophthalmic zoster. • For the treatment of clinical episodes of genital herpes simplex infections. • For the prevention of recurrent genital herpes in immunocompromised patients with creatinine clearance of >15 mL/min. • For reduction of transmission of genital herpes in patients suffering from recurrent genital herpes. In addition to therapy with VALACOR 500 (valaciclovir), it is recommended that patients use safer sex practices. (see PRECAUTIONS). • For prophylaxis of cytomegalovirus (CMV) infection and disease following solid organ transplantation in patients at risk of CMV disease.	Feb-11
Aciclovir	Herpes simplex keratitis	Restricted Benefit	S4	No	Treatment of first episode (primary or nonprimary) genital herpes and the management of recurrent episodes of genital herpes in certain patients. Treatment of acute attacks of Herpes zoster (shingles) when the duration of rash is less than 72 hours. The management of patients with advanced symptomatic HIV disease (CD4+ counts < 150 x 106/L). Genital herpes. Initial episodes. The duration of viral shedding is reduced very significantly; the duration of pain and time to healing are also reduced. The promptness of initiation of therapy and/or the patient's prior exposure	Aug-96

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					to Herpes simplex virus may influence the degree of benefit from therapy. Intravenous aciclovir should be considered in patients in whom prostration, CNS involvement or inability to take oral medication requires hospitalisation and initiation of more aggressive management. Aciclovir does not prevent the establishment of latency in initial episodes. Recurrent episodes. Suppression. In patients with frequent recurrences, suppressive therapy prevents or reduces the frequency and/or severity of recurrences in a high proportion of patients. Abortive episodes (prodromal symptoms without vesicle formation) and occasional breakthrough episodes may, however, continue to occur during suppressive therapy. Suppressive therapy is not considered appropriate for patients in whom attacks are mild, last for short periods and/or occur infrequently (eg. less frequently than once a month). Aciclovir is effective only during the period of intake and has no residual beneficial effect. It does not eradicate the body viral pool. Following cessation of therapy, the time to onset of recurrences, their frequency, severity and duration remain generally unaffected. Some patients may experience increased severity of the first episode following cessation of therapy. The risk of inducing viral resistance and of potential long-term adverse effects (see Precautions, Carcinogenesis, mutagenesis and impairment of	

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					fertility) should be weighed carefully before initiating suppressive therapy. Asymptomatic cases of genital herpes are known to shed the virus with a high frequency. However, at present only limited data are available on the extent and frequency of viral shedding in patients receiving suppressive therapy. Therefore, if therapy with aciclovir tablets is being used in the prenatal period (see Precautions, Use in pregnancy), it should not be assumed that viral shedding has ceased. Pregnancy should be managed according to considerations normally applicable to patients with genital herpes. In view of the complex and variable natural history of genital herpes, suppressive therapy should be interrupted periodically to ascertain whether the disease has undergone spontaneous change in frequency or severity. Intermittent treatment. For certain patients, intermittent short-term treatment of recurrences is effective. Although the average patient would derive limited benefits from such treatment, a minority of patients who have experienced severe, prolonged recurrent episodes or recurrences complicated by eczema, burns or immunosuppression may experience more appreciable benefits. In those patients, intermittent treatment may be more appropriate than suppressive therapy when recurrences are infrequent.	

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Famciclovir	Episodic treatment of moderate to severe recurrent genital herpes. Microbiological confirmation of diagnosis (viral culture, antigen detection or nucleic acid amplification by PCR) is required but need not delay treatment	Authority Required (Streamlined)	S4	No	Famciclovir is indicated for: • treatment of herpes zoster infection in adult patients who commence therapy within 72 hours of the onset of rash. Greatest benefit occurs if the drug is started within 48 hours. Efficacy has not been demonstrated in patients less than 50 years of age, although the occasional younger patient with severe herpes zoster may benefit from therapy with famciclovir. Herpes zoster infection is generally a milder condition in younger patients. • treatment of recurrent episodes of genital herpes in adults and adolescents 12 years of age and older. • suppression of recurrent genital herpes. • treatment of recurrent herpes labialis (cold sores) in immunocompetent adult patients. • Famciclovir is also indicated in immunocompromised patients for: o treatment of uncomplicated herpes zoster o treatment of recurrent herpes simplex o suppression of recurrent herpes simplex.	May-95
Podophyllotoxin	For the treatment of ano-genital warts	Authority Required	S4	No	For the treatment of anogenital warts.	Feb-92

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Imiquimod	Treatment of biopsy confirmed primary (previously untreated) superficial basal cell carcinoma (sBCC) in patients with normal immune function for whom surgical excision, cryotherapy, or curettage with diathermy are inappropriate and topical drug therapy is required. The date of the pathology report and name of the Approved Pathology Authority must be provided at the time of application	Authority Required	S4	No	Imiquimod indicated for: • treatment of solar (actinic) keratosis on the face and scalp (see Precautions), and • primary treatment of confirmed superficial basal cell carcinoma where surgery is considered inappropriate, and • treatment of external genital and perianal warts/condyloma acuminata in adults	Aug-98
Metronidazole	Treatment of anaerobic infections	Restricted Benefit	S4	No	Oral treatment of urogenital trichomoniasis in the female (trichomonal vaginitis) and in the male, and for the treatment of bacterial vaginosis. The male consort of females suffering from urogenital trichomoniasis should be treated concurrently; all forms of amoebiasis (intestinal and extraintestinal disease and that of symptomless cyst passers); giardiasis; acute ulcerative gingivitis.	Oct-91
Fluconazonle	Treatment of serious and life-threatening candida infections	Authority Required (Streamlined)	S4	No	Vaginal candidiasis, when topical therapy has failed.	June 2005.
Ketcanazole	Oral candidiasis in severely immunocompromised persons where topical therapy has failed. Systemic or deep mycoses where other forms of therapy have failed.	Authority Required (Streamlined)	S4	No	Ketoconazole 200 mg tablets are indicated for the treatment of: 1. Systemic and deep mycoses (due to susceptible fungi) where other available antifungal therapies have failed or are contraindicated. Ketoconazole does not penetrate well in the CNS. Therefore, fungal meningitis should not be treated with oral ketoconazole.	May-11

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
					2. Recalcitrant cases of superficial mycoses (due to susceptible fungi) which fail to respond to topical therapy and other conventional treatments.	
Itraconazole	Systemic aspergillosis. Systemic sporotrichosis. Systemic histoplasmosis. Treatment and maintenance therapy in patients with AIDS who have disseminated pulmonary histoplasmosis infection. Treatment and maintenance therapy in patients with AIDS who have chronic pulmonary histoplasmosis infection. Treatment of oropharyngeal candidiasis in immunosuppressed patients. Treatment of oesophageal candidiasis in immunosuppressed patients.	Authority Required (Streamlined)	Not listed in PI	No	Itraconazole is indicated for: • the treatment of oral and/or oesophageal candidiasis in HIV-positive or other immunocompromised patients. • prophylaxis of fungal infections in neutropenic patients.	Aug-08
Nystatin	Treatment of a fungal or a yeast infection in an Aboriginal or a Torres Strait Islander person	Authority Required (Streamlined)	S4	No	Kenacomb is indicated for the relief of the inflammatory and pruritic manifestations of dermatoses likely to become or which are already infected.	May-94

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Tinidazole	Indications not listed	General Schedule	S4	No	Tinidazole is indicated for the oral treatment of: a. Trichomonas vaginalis infections of the genito-urinary tract in both female and male patients. When infection with Trichomonas vaginalis has been confirmed or is suspected, simultaneous treatment of the consort is recommended. b. Giardiasis c. Amoebic Dysentery and Amoebic Liver Abscess d. Acute Giardiasis and Acute Amoebic Dysentery and Amoebic Liver disease in children. e. The prevention of infection of the surgical site which may be contaminated or potentially contaminated with anaerobic organisms, for example during colonic, gastro-intestinal and gynaecological surgery.	Sep-06
Betamethasone Dipropionate (As Diprosone Ov)	Treatment of corticosteroid-responsive dermatoses	Restricted Benefit	S4	No	DIPROSONE OV Cream, Ointment and Lotion are indicated for the relief of the inflammatory and pruritic manifestations of resistant or severe corticosteroid-responsive dermatoses. These include atopic eczema, nummular eczema, contact dermatitis, neurodermatitis, anogenital and senile pruritus, lichen planus and psoriasis. DIPROSONE OV Ointment is also indicated for the maintenance of remission in chronic psoriasis.	Not indicated in PI
Sildenafil (Viagra)	Specific accepted war-caused or service-related disabilities for males with vasculogenic, psychogenic or neurogenic erectile dysfunction.	Authority Required	S4	No	Sildenafil is indicated for the treatment of erectile dysfunction in adult males.	Feb-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Tadalifil	Application for initial PBS-subsidised treatment with tadalafil of patients who have not received prior PBS-subsidised treatment with a PAH agent and who have been assessed by a physician from a designated hospital to have: a. WHO Functional Class III primary pulmonary hypertension and a mean right atrial pressure of 8 mmHg or less, as measured by RHC, or, where a RHC cannot be performed on clinical grounds, right ventricular function as assessed by ECHO; OR b. WHO Functional Class III pulmonary arterial hypertension secondary to connective tissue disease and a mean right atrial pressure of 8 mmHg or less, as measured by RHC, or, where a RHC cannot be performed on clinical grounds, right ventricular function as assessed by ECHO. Patients must have failed to respond [see Note for definition of response] to 6 or more weeks of appropriate vasodilator treatment unless intolerance or a contraindication to such treatment exists.	Authority Required	S4	No	ADCIRCA is indicated in adults for the treatment of pulmonary arterial hypertension (PAH) classified as WHO functional class II and III, to improve exercise capacity. Efficacy has been shown in idiopathic PAH (IPAH) and in PAH related to collagen vascular disease.	Aug-11
Vardenafil	Specific accepted war-caused or service-related disabilities for males with vasculogenic, psychogenic or neurogenic erectile dysfunction.	Authority Required	S4	No	Levitra is indicated for the treatment of erectile dysfunction in adult males (inability to achieve or maintain penile erection sufficient for satisfactory sexual performance).	Apr-03

MEDICATION	PBS INDICATION	CLASS	SCHEDULE	S100	TGA PRODUCT INFORMATION	DATE OF TGA REGISTRATION
Testosterone	Androgen deficiency in males with established pituitary or testicular disorders. Androgen deficiency in males 40 years and older who do not have established pituitary or testicular disorders other than aging, confirmed by at least 2 morning blood samples taken on different mornings. Androgen deficiency is confirmed by testosterone less than 8 nmol per L, or 8-15 nmol per L with high LH (greater than 1.5 times the upper limit of the eugonadal reference range for young men). Micropenis, pubertal induction, or constitutional delay of growth or puberty, in males under 18 years of age.	Authority Required	S4	No	Testosterone is indicated for testosterone replacement therapy for confirmed testosterone deficiency in males.	Aug-91

Appendix 3 References for clinical effectiveness

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Appendix 4 Perceived impact of specialist interventions

Comparisons between Sexual Health Medicine Specialists and General Practitioners (N=58; * Denotes missing responses)

Percentages and binomial confidence intervals for sample responses

Sample	X	N	Sample p	95% CI
1	1	58	0.017241	(0.000436, 0.092361)
2	2	58	0.034483	(0.004204, 0.119077)
3	3	58	0.051724	(0.010796, 0.143805)
4	4	58	0.068966	(0.019109, 0.167268)
5	5	58	0.086207	(0.028586, 0.189826)
6	6	58	0.103448	(0.038921, 0.211686)
7	7	58	0.120690	(0.049927, 0.232984)
8	8	58	0.137931	(0.061480, 0.253810)
9	9	58	0.155172	(0.073493, 0.274232)
10	10	58	0.172414	(0.085904, 0.294299)
11	11	58	0.189655	(0.098664, 0.314051)
12	12	58	0.206897	(0.111735, 0.333518)
13	13	58	0.224138	(0.125089, 0.352724)
14	14	58	0.241379	(0.138701, 0.371690)
15	15	58	0.258621	(0.152552, 0.390432)
16	16	58	0.275862	(0.166625, 0.408964)
17	17	58	0.293103	(0.180907, 0.427297)
18	18	58	0.310345	(0.195386, 0.445442)
19	19	58	0.327586	(0.210054, 0.463406)
20	20	58	0.344828	(0.224901, 0.481197)
21	21	58	0.362069	(0.239921, 0.498821)
22	22	58	0.379310	(0.255108, 0.516282)
23	23	58	0.396552	(0.270457, 0.533585)
24	24	58	0.413793	(0.285963, 0.550734)
25	25	58	0.431034	(0.301625, 0.567730)
26	26	58	0.448276	(0.317438, 0.584577)
27	27	58	0.465517	(0.333400, 0.601275)
28	28	58	0.482759	(0.349511, 0.617826)
29	29	58	0.500000	(0.365769, 0.634231)
30	30	58	0.517241	(0.382174, 0.650489)
31	31	58	0.534483	(0.398725, 0.666600)
32	32	58	0.551724	(0.415423, 0.682562)
33	33	58	0.568966	(0.432270, 0.698375)
34	34	58	0.586207	(0.449266, 0.714037)
35	35	58	0.603448	(0.466415, 0.729543)
36	36	58	0.620690	(0.483718, 0.744892)
37	37	58	0.637931	(0.501179, 0.760079)
38	38	58	0.655172	(0.518803, 0.775099)
39	39	58	0.672414	(0.536594, 0.789946)
40	40	58	0.689655	(0.554558, 0.804614)
41	41	58	0.706897	(0.572703, 0.819093)
42	42	58	0.724138	(0.591036, 0.833375)

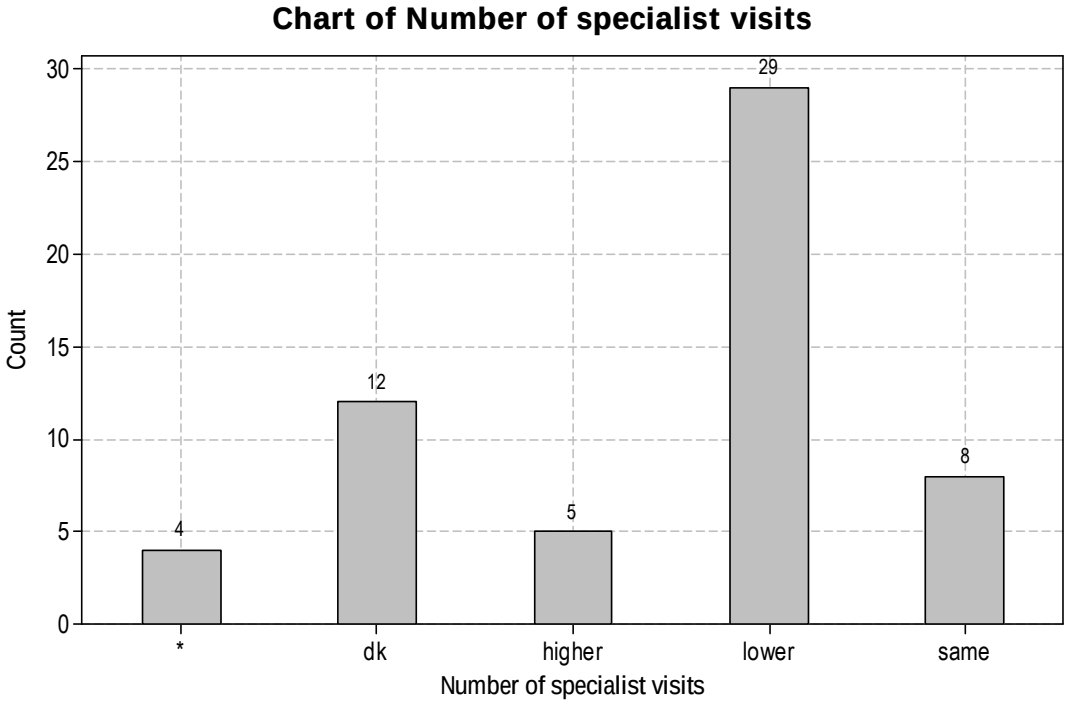


Chart of Number of specialist visits
Count
30
25
20
15
10
5
0
4
12
5
29
8
*
dk
higher
lower
same
Number of specialist visits

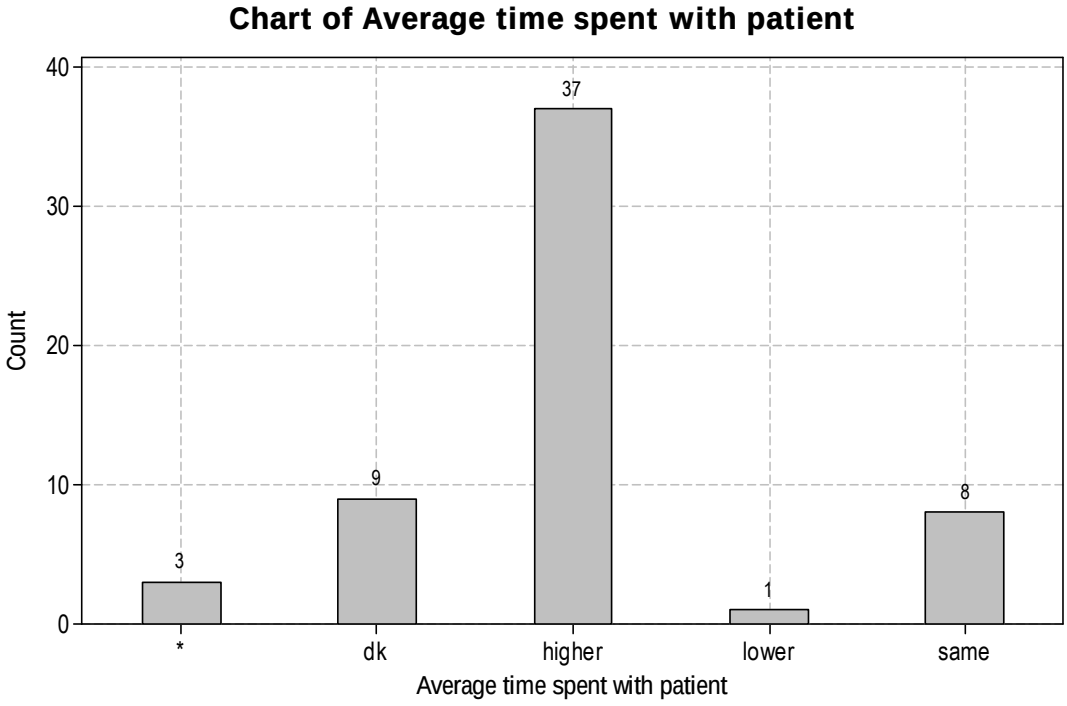


Chart of Average time spent with patient
Count
40
30
20
10
0
3
9
37
1
8
*
dk
higher
lower
same
Average time spent with patient

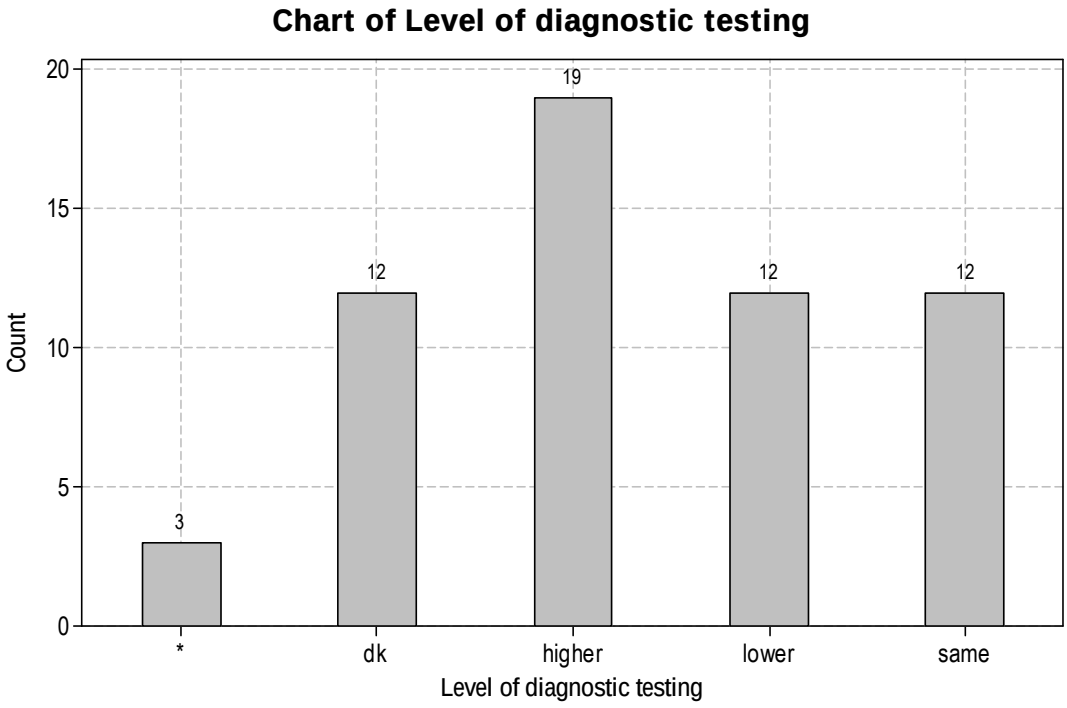


Chart of Level of diagnostic testing
Count
20
15
10
5
0
3
12
19
12
12
*
dk
higher
lower
same
Level of diagnostic testing

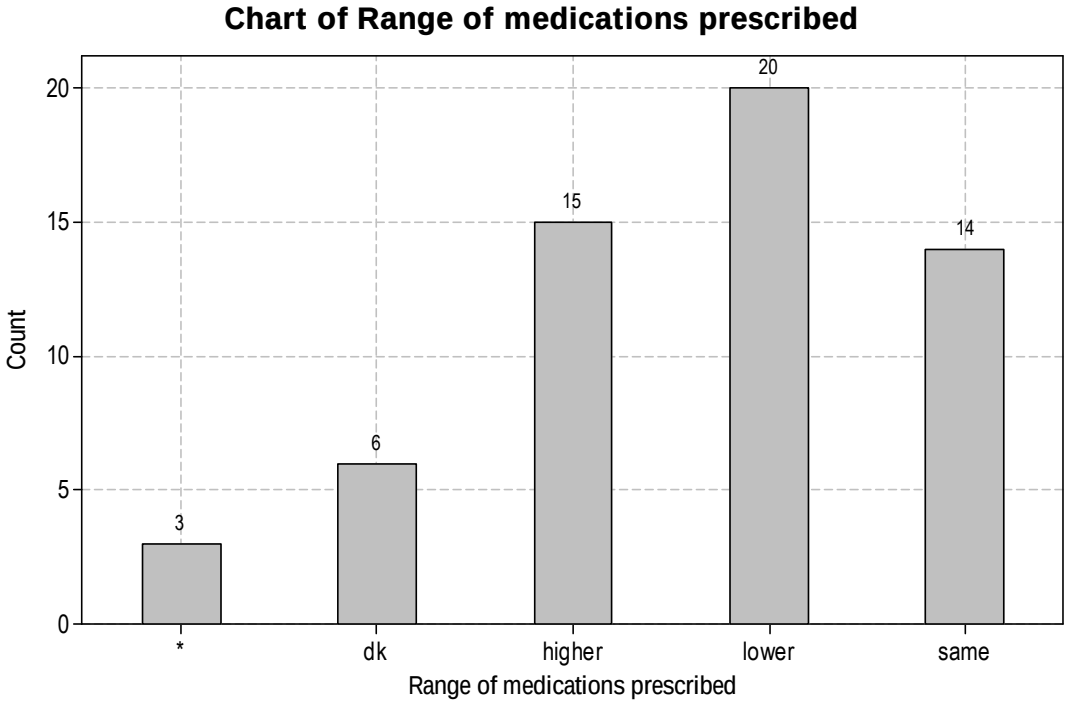


Chart of Range of medications prescribed
Count
20
15
10
5
0
3
6
15
20
14
*
dk
higher
lower
same
Range of medications prescribed

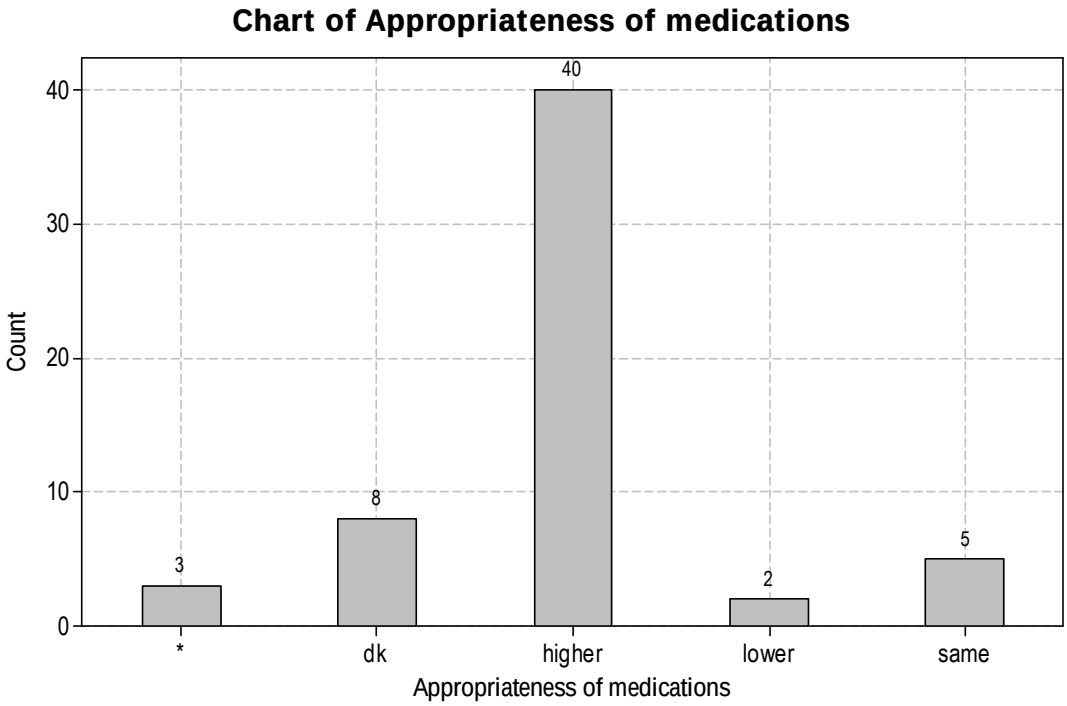


Chart of Appropriateness of medications
Count
40
30
20
10
0
3
8
40
2
5
*
dk
higher
lower
same
Appropriateness of medications

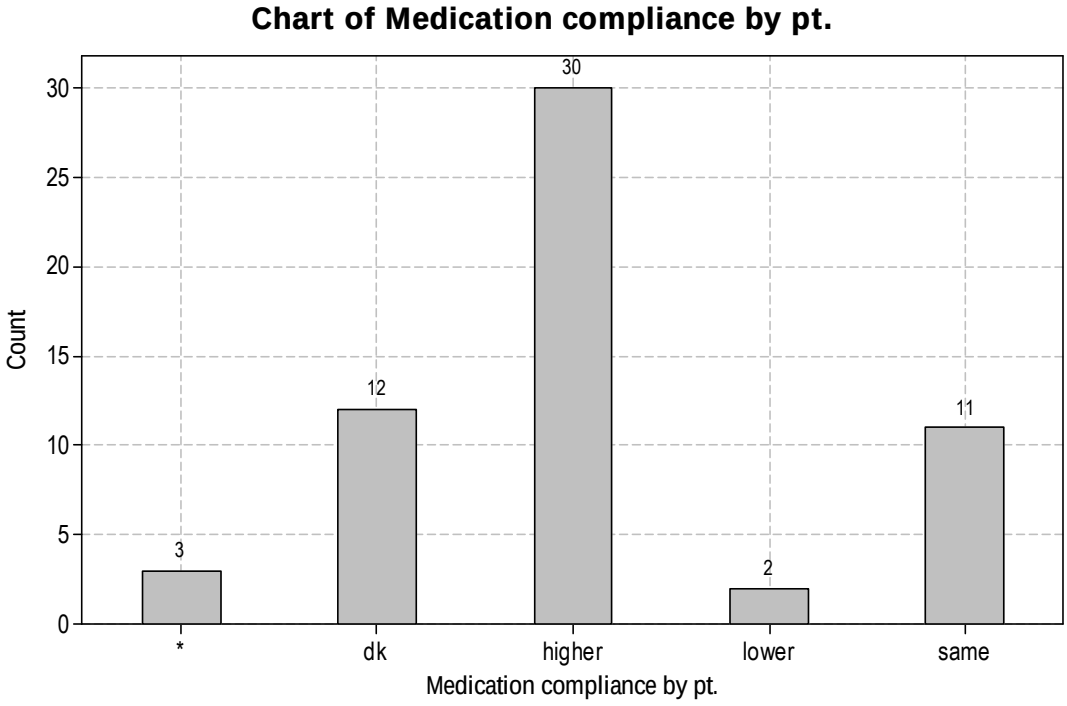


Chart of Medication compliance by pt.
Count
30
25
20
15
10
5
0
3
12
30
2
11
*
dk
higher
lower
same
Medication compliance by pt.

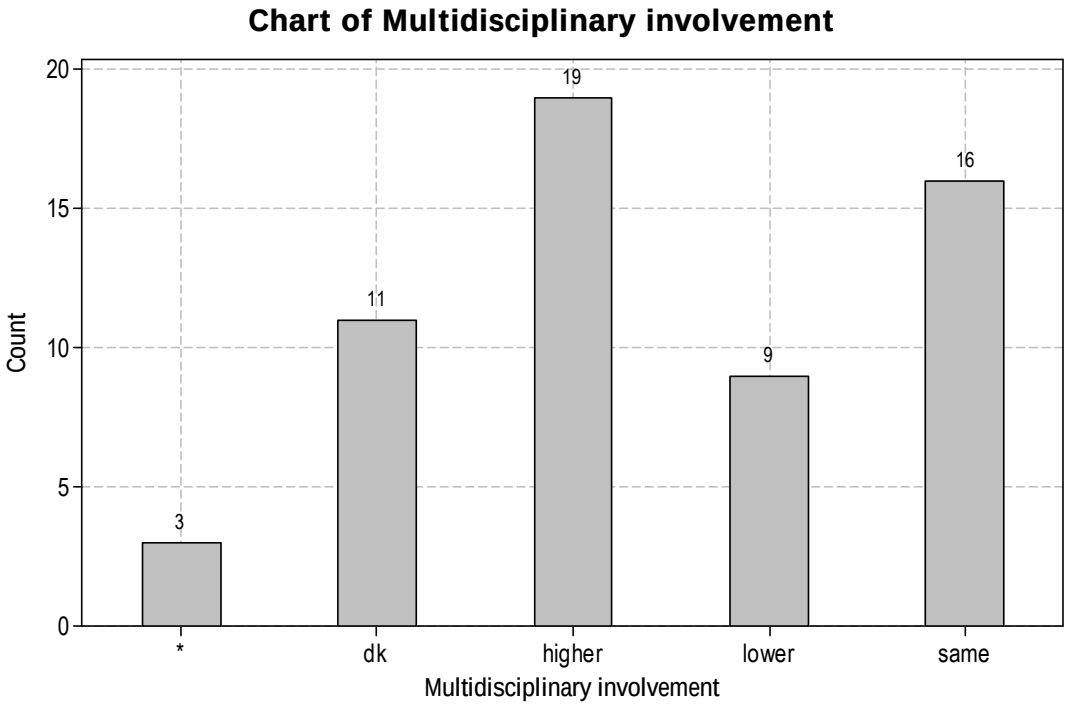


Chart of Multidisciplinary involvement
Count
20
15
10
5
0
3
11
19
9
16
*
dk
higher
lower
same
Multidisciplinary involvement

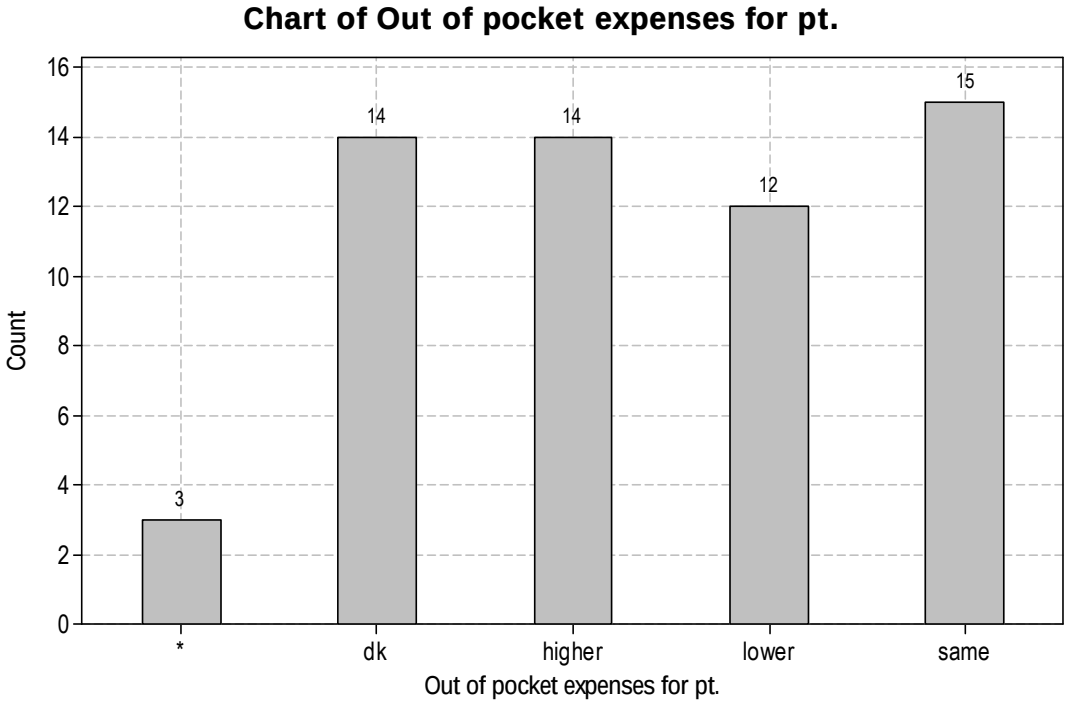


Chart of Out of pocket expenses for pt.
Count
16
14
12
10
8
6
4
2
0
3
14
14
12
15
*
dk
higher
lower
same
Out of pocket expenses for pt.

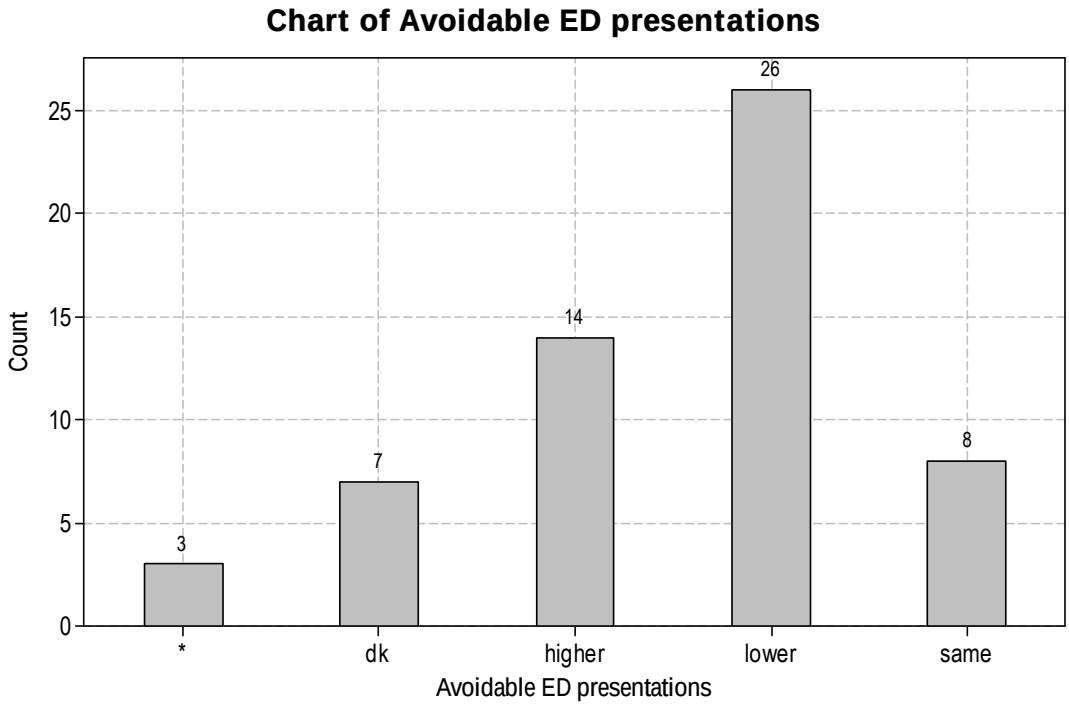


Chart of Avoidable ED presentations
Count
0
5
10
15
20
25
3
7
14
26
8
*
dk
higher
lower
same
Avoidable ED presentations

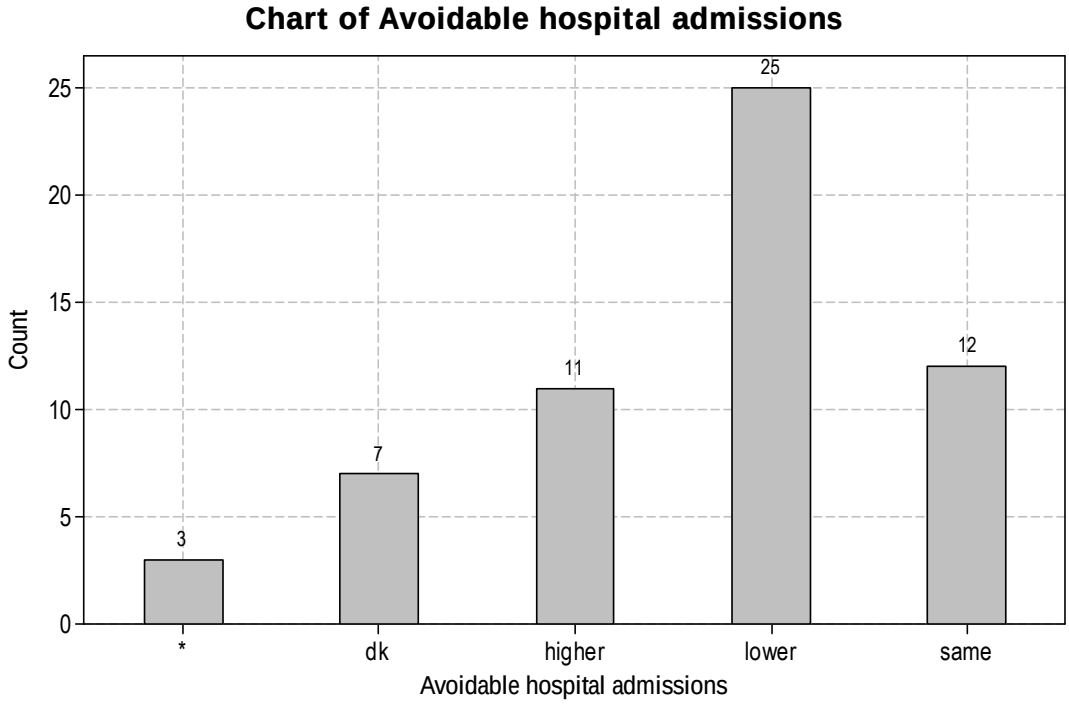
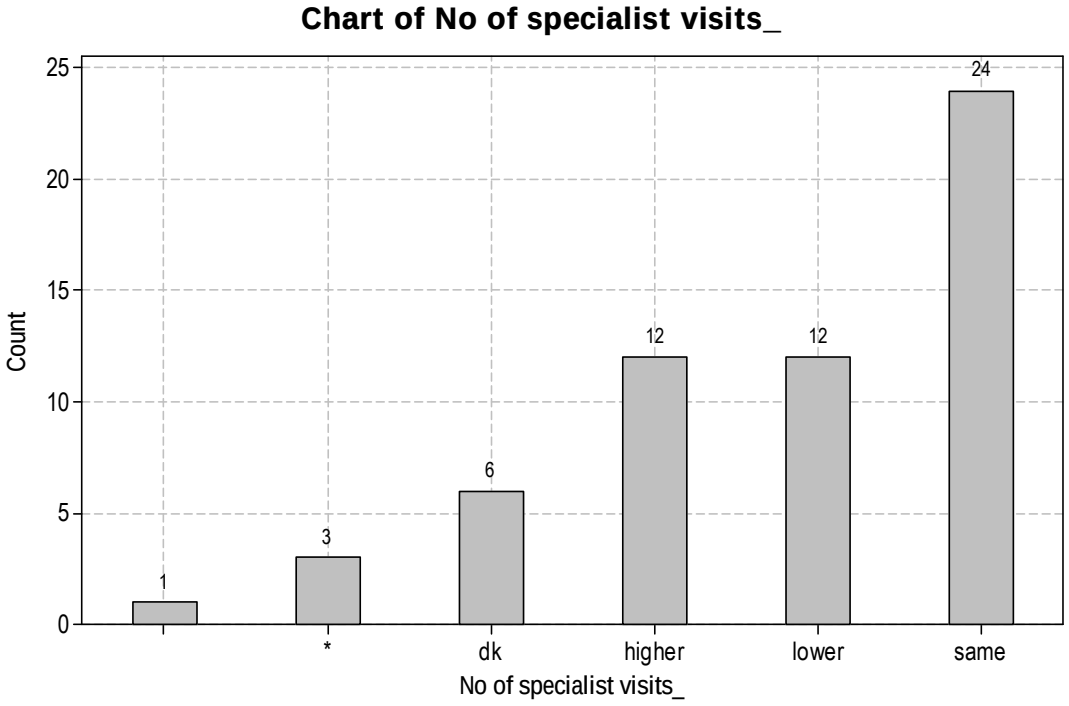
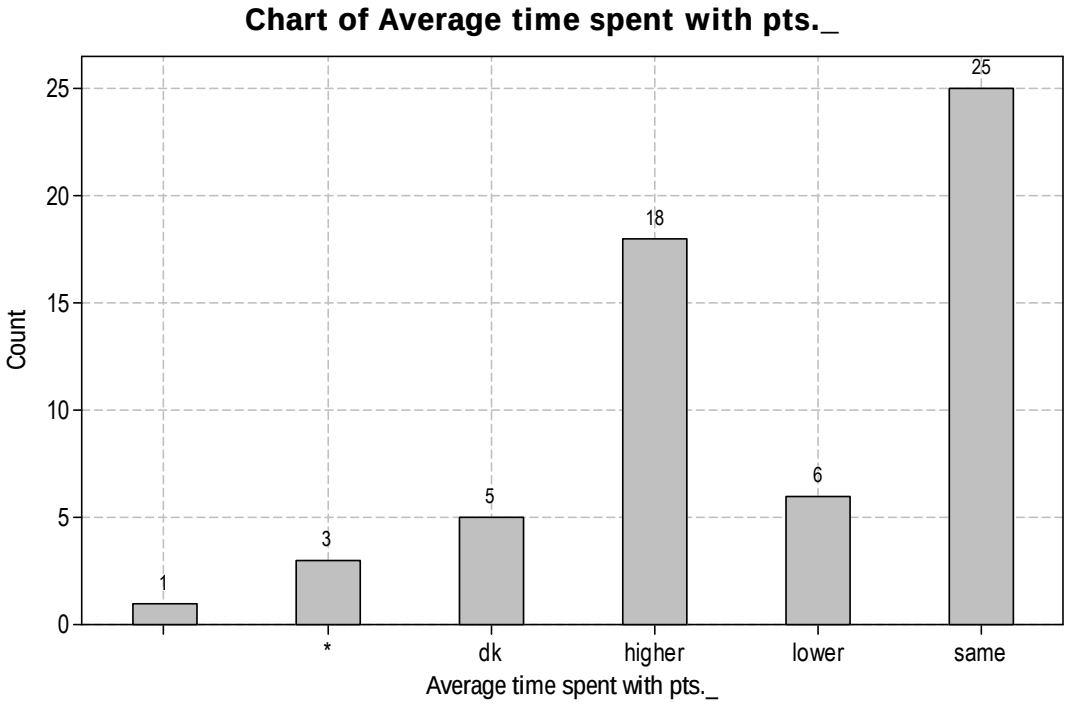


Chart of Avoidable hospital admissions
Count
0
5
10
15
20
25
3
7
11
25
12
*
dk
higher
lower
same
Avoidable hospital admissions

Comparisons between Sexual Health Medicine Specialists working in the PUBLIC sector versus private sector (N=58; * Denotes missing responses)





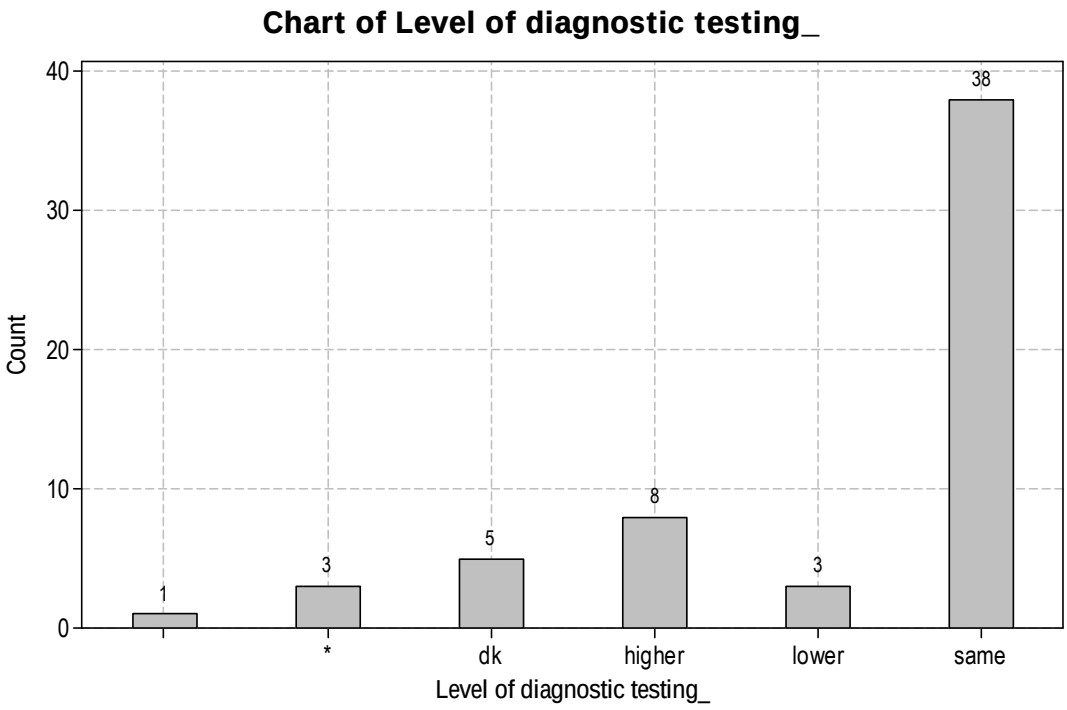


Chart of Level of diagnostic testing_
Count
Level of diagnostic testing_
*
dk
higher
lower
same
1
3
5
8
3
38
0
10
20
30
40

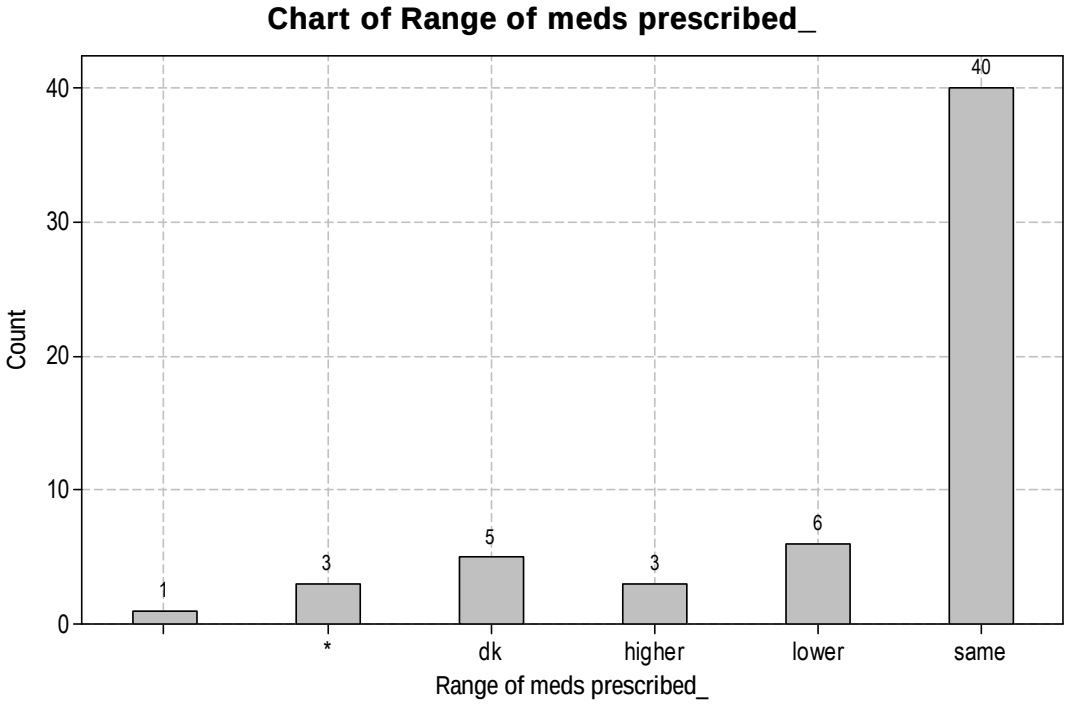


Chart of Range of meds prescribed_
Count
Range of meds prescribed_
*
dk
higher
lower
same
1
3
5
3
6
40
0
10
20
30
40

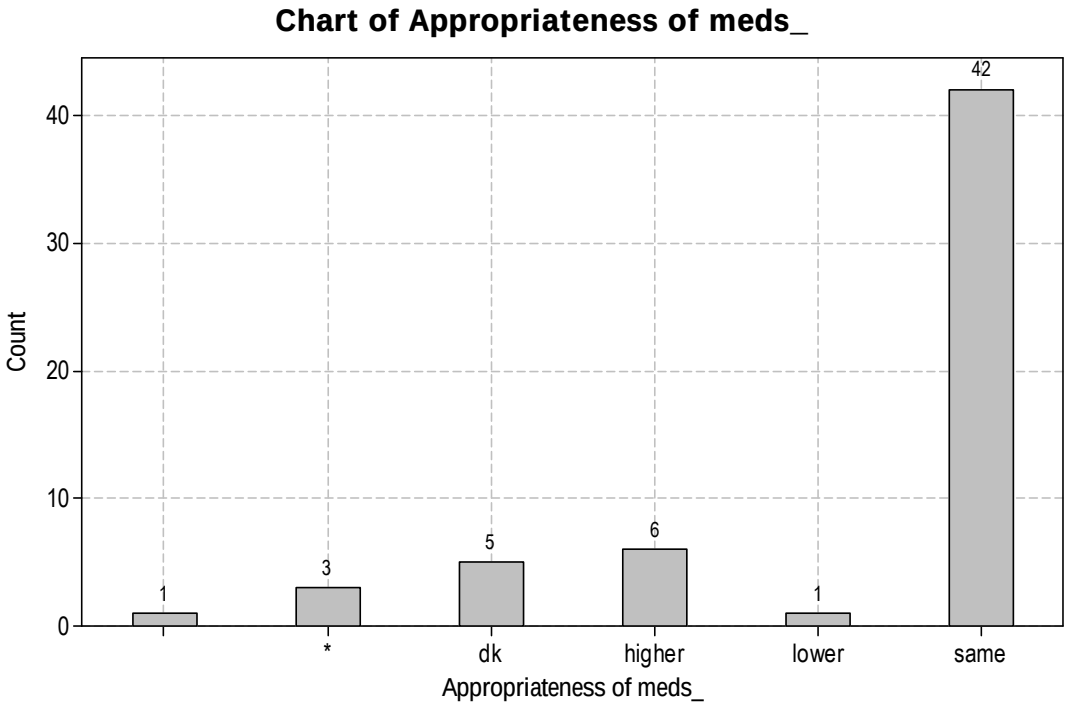


Chart of Appropriateness of meds_
Count
0
10
20
30
40
1
3
5
6
1
42
*
dk
higher
lower
same
Appropriateness of meds_

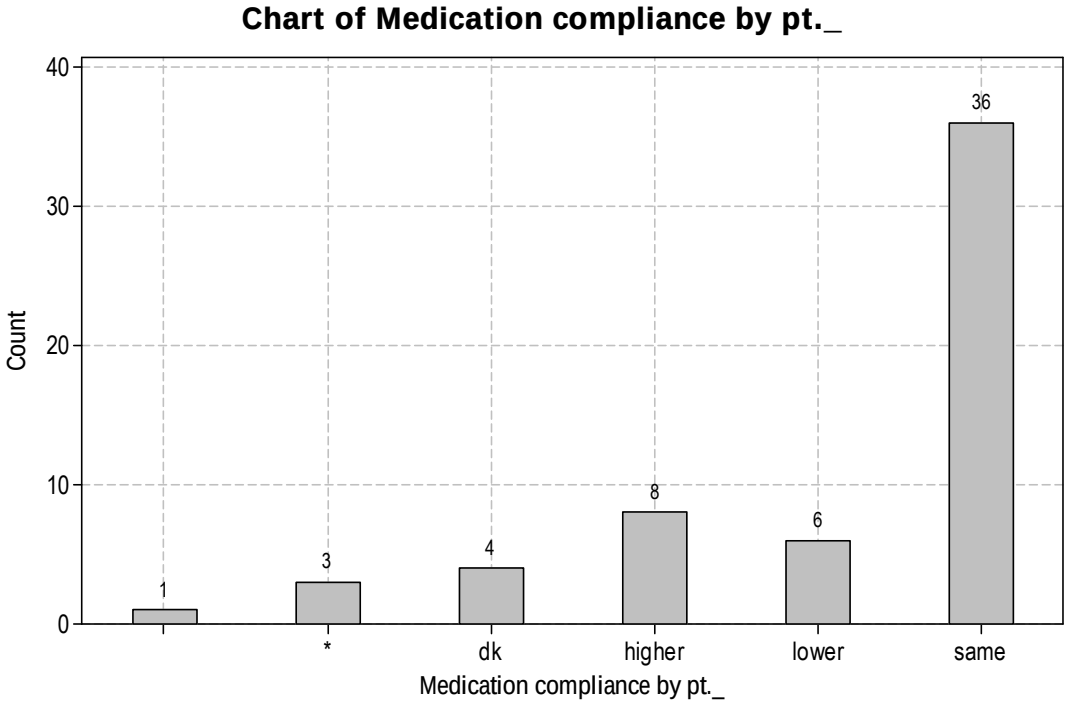


Chart of Medication compliance by pt._
Count
0
10
20
30
40
1
3
4
8
6
36
*
dk
higher
lower
same
Medication compliance by pt._

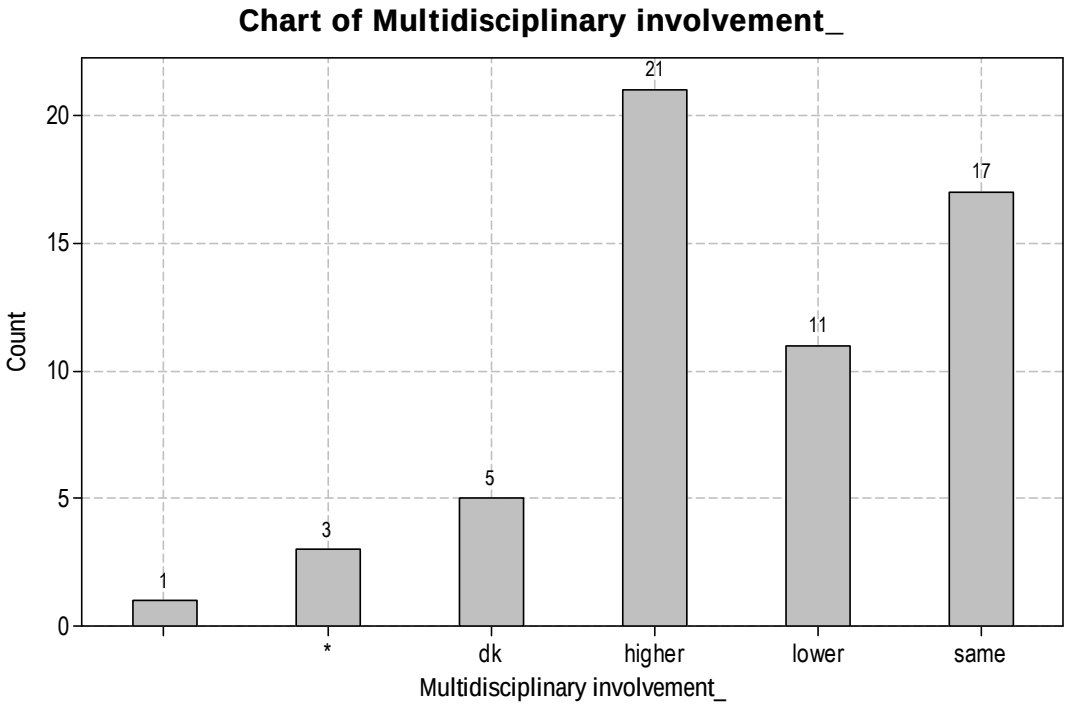


Chart of Multidisciplinary involvement_
Count
0
5
10
15
20
1
3
5
21
11
17
*
dk
higher
lower
same
Multidisciplinary involvement_

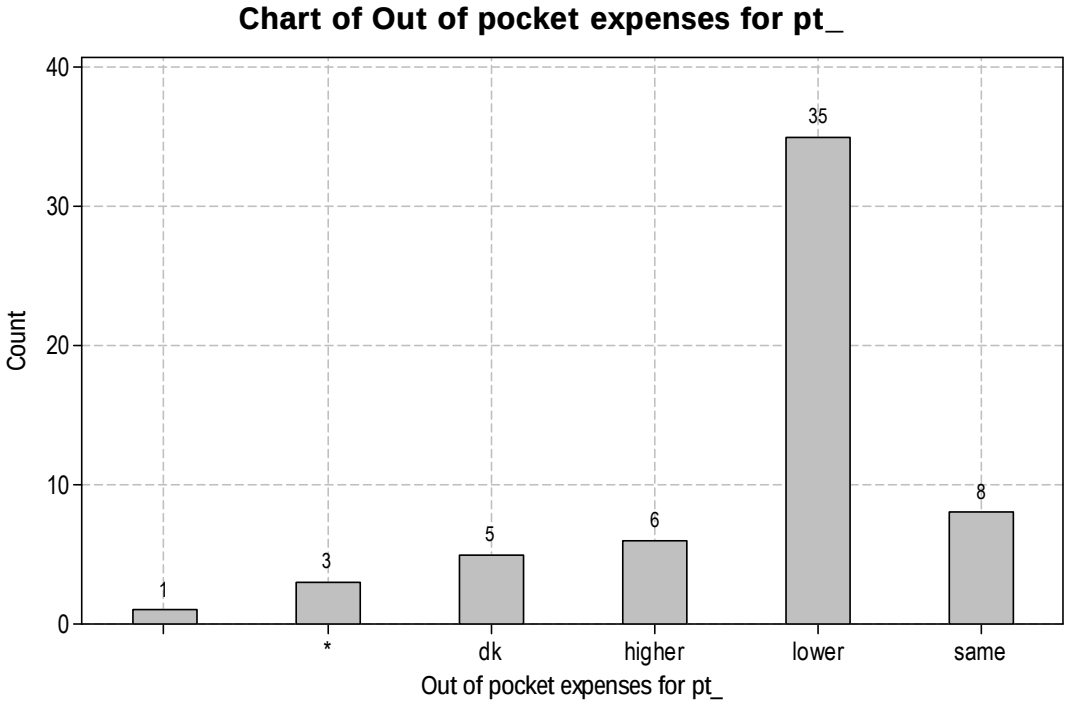


Chart of Out of pocket expenses for pt_
Count
0
10
20
30
40
1
3
5
6
35
8
*
dk
higher
lower
same
Out of pocket expenses for pt_

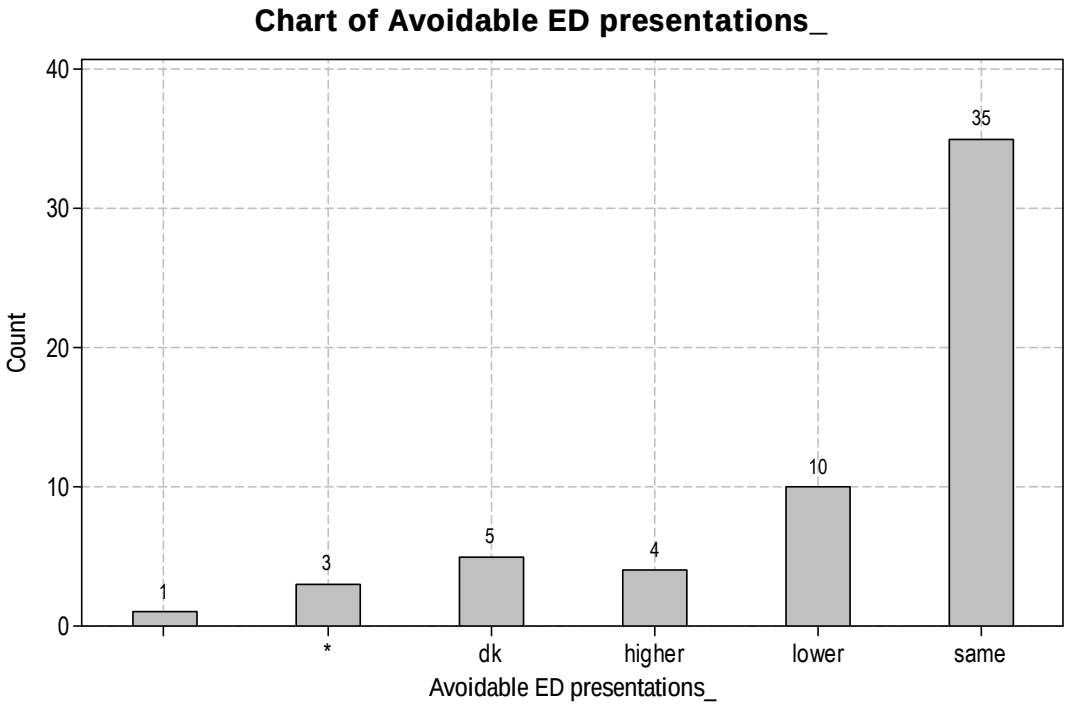


Chart of Avoidable ED presentations_
Count
40
30
20
10
0
1
3
5
4
10
35
*
dk
higher
lower
same
Avoidable ED presentations_

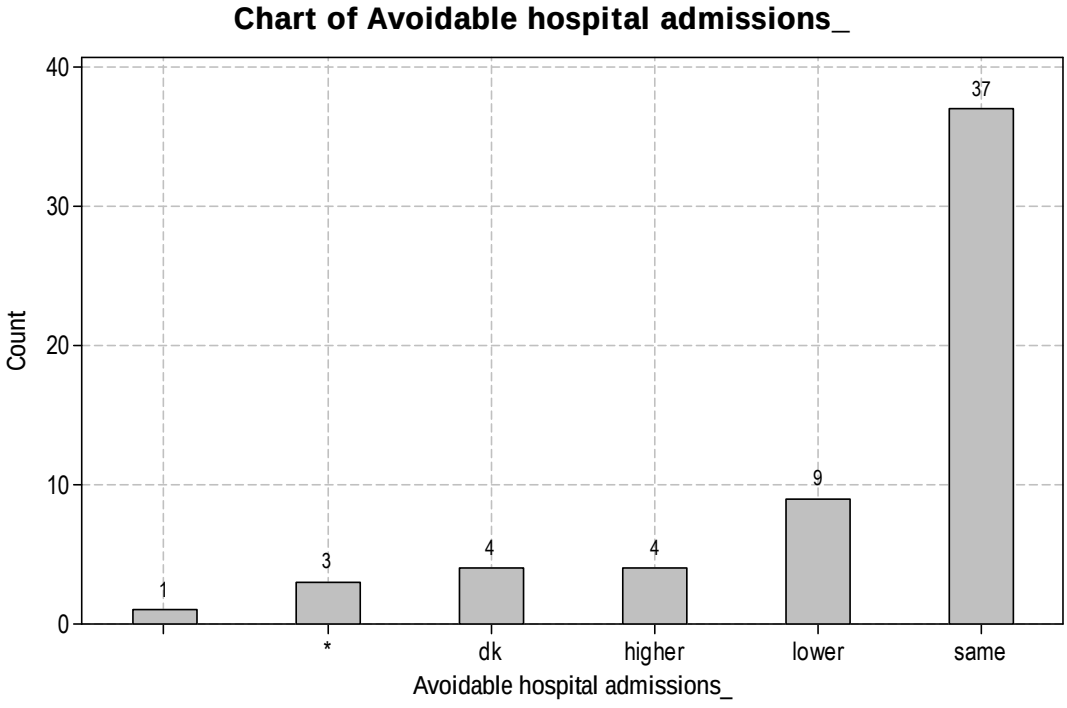


Chart of Avoidable hospital admissions_
Count
40
30
20
10
0
1
3
4
4
9
37
*
dk
higher
lower
same
Avoidable hospital admissions_

Appendix 5 Training competencies of medical specialties

DOMAIN & THEME	ACHSHM	RACGP	RACGP S100 PRESCRIBERS	INFECTIOUS DISEASES
DOMAIN 1 : BASIC PRINCIPLES				
Theme 1.1: Patient Assessment				
Elicit history and obtain other relevant data	✓	✓	✓	✓
Conduct a physical examination and plan and arrange investigations	✓	✓	✓	✓
Develop a management plan	✓	✗	✗	✓
Undertake a sexual health consultation with other health professionals	✓	✗	✗	✓
Provide advanced sexual health counseling	✓	✗	✗	✓
DOMAIN 2: PRINCIPLES OF DIAGNOSIS AND MANAGEMENT				
Theme 2.1: Symptom Complexes				
Assess and manage pelvic pain	✓	✓	✓	✗
Assess and manage genital discharge	✓	✓	✓	✗
Assess and manage genital ulceration	✓	✓	✓	✗
Assess and manage genital lumps and rashes	✓	✓	✓	✗
Theme 2.2: Bacterial				
Assess and manage chlamydia	✓	✓	✓	✓
Assess and manage lymphogranuloma venereum (LGV)	✓	✓	✓	✓
Assess and manage genital mycoplasma infections	✓	✓	✓	✓
Assess and manage non-gonococcal and non-chlamydia urethritis	✓	✓	✓	✓
Assess and manage gonococcal infections	✓	✓	✓	✓
Assess and manage syphilis	✓	✓	✓	✓
Assess and manage chancroid	✓	✓	✓	✓
Assess and manage donovanosis	✓	✓	✓	✓
Theme 2.3: Viral				
Assess and manage human papilloma virus (HPV)	✓	✓	✓	✓
Assess and manage herpes simplex virus (HSV)	✓	✓	✓	✓
Assess and manage Molluscum contagiosum	✓	✓	✓	✓
Theme 2.4: Fungal				
Assess and manage candida	✓	✓	✓	✓
Assess and manage tinea	✓	✓	✓	✓

DOMAIN & THEME	ACHSHM	RACGP	RACGP S100 PRESCRIBERS	INFECTIOUS DISEASES
Theme 2.5: Protozoans				
Assess and manage Trichomonas vaginalis infection	✓	✓	✓	✓
Assess and manage sexually acquired intestinal protozoa	✓	✓	✓	✓
Theme 2.6: HIV				
Assess and manage HIV infection	✓	✓	✓	✓
Manage fertility issues of patients with HIV infection	✓	✓	✓	✗
Assess and manage paediatric patients with HIV infection	✓	✓	✓	✓
Theme 2.7: Other BBVs				
Assess and manage hepatitis B virus (HBV) infection	✓	✓	✓	✓
Assess and manage hepatitis C virus (HCV) infection	✓	✓	✓	✓
Assess and manage hepatitis A virus (HAV) infection	✓	✓	✓	✓
Assess and manage hepatitis D virus (HDV) infection	✓	✓	✓	✓
Theme 2.8: Upper Genital Tract Conditions				
Assess and manage pelvic inflammatory disease (PID)	✓	✓	✓	✗
Assess and manage prostatitis	✓	✓	✓	✗
Theme 2.9: Non-Infectious and Dermatological Conditions				
Assess and manage malignant and non-malignant conditions	✓	✓	✓	✓
DOMAIN 3: PSYCHOSOCIAL ASPECTS OF SEXUAL HEALTH MEDICINE				
Theme 3.1: Sexuality				
Describe the theoretical basis of sexuality	✓	✓	✓	✗
Describe the variants of sexuality	✓	✓	✓	✗
Outline how sexuality varies through life	✓	✓	✓	✗
Theme 3.2: Sexual Function/Dysfunction				
Assess sexual function issues	✓	✓	✓	✗
Theme 3.3: Reproductive Health				
Undertake management of a range of reproductive health issues	✓	✓	✓	✗
Theme 3.4: Sexual Assault				
Undertake management of an adult who has been sexually assaulted	✓	✓	✓	✗
Undertake management of a child who has been sexually assaulted	✓	✗	✗	✗
DOMAIN 4: COMMUNITY PRACTICE				
Theme 4.1: Public Health				

DOMAIN & THEME	ACHSHM	RACGP	RACGP S100 PRESCRIBERS	INFECTIOUS DISEASES
Integrate evidence related to questions of public health, including contact tracing, diagnosis, therapy, prognosis, risk, and cause into clinical decision-making	✓	✓	✓	✓
Balance the needs of the population with those of the individual in the management of infectious diseases, such as STIs and BBVs	✓	✓	✓	✓
Apply public health principles to prevention of STIs and BBVs	✓	✓	✓	✓
Develop and implement health promotion activities in relation to sexual health, particularly in relation to the containment of STIs and BBVs	✓	✗	✗	✓
Describe the relationship between public health and individual rights	✓	✓	✓	✓
Theme 4.2: Priority Populations				
Describe the special needs and epidemiology of priority populations	✓	✓	✓	✓
Theme 4.3: Law and Ethics				
Resolve complex ethical and/or legal issues concerning patient management	✓	✓	✓	✓
DOMAIN 5: PROFESSIONAL QUALITIES SPECIFIC TO SEXUAL HEALTH				
Theme 5.1: Professional Qualities Specific to Sexual Health Medicine				
Seek, obtain, critically appraise, and apply information from a range of evidence sources	✓	✗	✗	✓
Outline principles of research	✓	✗	✗	✓
Outline principles of health service management	✓	✗	✗	✓
Work in a multidisciplinary team	✓	✗	✗	✓
Develop a process for lifelong learning in CPD	✓	✗	✗	✓
Advocate for sexual health	✓	✗	✗	✗
NATIONALLY ENDORSED CURRICULUM FOR COMMUNITY HIV S100 EDUCATION PROGRAMS				
Describe the current HIV epidemiology at local, national and global levels	✓	✗	✓	N/A
Demonstrate knowledge and understanding of the science of HIV infection, as well as its implications for the prevention of disease and the clinical management of patients with HIV and related infections	✓	✗	✓	N/A
Demonstrate understanding of the principles of antiretroviral therapy and competence in selecting, prescribing and monitoring appropriate therapy in a range of clinical scenarios	✓	✗	✓	N/A
Demonstrate understanding of scientific principles on which diagnostic and treatment decisions in HIV care are based	✓	✗	✓	N/A
Demonstrate competence in interpreting clinical and other relevant information to guide effective care of people living with HIV infection	✓	✗	✓	N/A

DOMAIN & THEME	ACHSHM	RACGP	RACGP S100 PRESCRIBERS	INFECTIOUS DISEASES
Demonstrate competence in planning, implementing and evaluating the clinical care of patients with HIV across all stages of the disease	✓	✗	✓	N/A
Demonstrate competence is managing the complex health problems experienced by patients with HIV	✓	✗	✓	N/A
Outline the importance of demonstrating respect for patients' choices and adhering to the legal obligations associated with HIV care	✓	✗	✓	N/A

Appendix 6 Modelling methodology and assumptions

Billing data for three financial years (2009/10, 2010/11 and 2011/12) was obtained at "item number" level showing:

- Date of service;
- Provider number;
- MBS item number;
- Bulk bill indicator;
- State;
- Remoteness Area code;
- Number of services;
- Charge;
- Schedule fee;
- Benefit paid; and
- Out-of-pocket amount.

The data was further categorised to assist analysis according to the following areas[33]:

- Practice type (general practice, specialist, etc.);
- MBS item category and description (1 to 8);
- MBS item group (A1 to T10);
- MBS item sub-group (0 to 15); and
- Whether an MBS item was more likely to be for "assessment" or "treatment";

In addition to the above information, similar data was obtained from consultant physicians in infectious disease as the comparator group for sexual health medicine.

Modelled estimations of current and future MBS expenditure were calculated according to the following methods:

- The number of services for items relating to 'assessment' and 'treatment' were identified from the data sample;
- Estimates were rounded up (dividing by the response rate: 0.97) to estimate a total proportion of services across all working sexual health medicine specialists;
- The estimated number of services for each of the three years was fitted to a linear prediction equation[34];
- Prediction intervals were calculated for the fitted equation to provide an upper and lower estimate of error (associated with the observed fit); and
- Fitted estimates were then used for estimating current and future MBS services.

33. Detailed classification is presented in Appendix 8.
34. This approach was preferred given the limited data points available for estimation. Linear prediction was considered to be more conservative (and reduce the risks of over fitting the available data. Calculation of prediction intervals was considered to provide a more transparent picture of the degree of variability associated with future estimations. The data series was not projected beyond the number of observations available for analysis.

Assumptions underlying different modelling scenarios are presented in Section 6, but may be summarised according to the following:

Basic scenario:

a. Costs of all observed MBS items classified as 'assessment' and 'treatment' were summed.
b. Items relating to complex assessment or management planning were included as components of assessment.
c. Items relating to multidisciplinary case conferencing were included as components of treatment.

Physician equivalent scenario:

a. Costs of all observed assessment items were transferred/substituted to rate of the current physician equivalent MBS item 110 (initial attendance).
    i. Items relating to complex assessment or management planning were included as components of assessment.
b. Costs of all observed treatment items were transferred/substituted to a rate of the current physician equivalent MBS item 116 (subsequent attendance).
    i. Items relating to multidisciplinary case conferencing were included as components of treatment.

Time-tiered (anchored at physician equivalent rate):

A new time-tiered structure was identified to accommodate attendances of:

a. Up to 15 minutes duration (anchored at the GP equivalent rate of an MBS item 23);
b. More than 15 but less than 30 minutes duration (anchored at the physician equivalent item rate of 116 for a subsequent attendance);
c. More than 30 but less than 45 minutes duration (estimated at a costing midpoint between tier 2 and tier 4); and
d. More than 45 minutes duration (anchored at the physician equivalent item rate of 110 for an initial attendance):
    i. Based upon current item volumes for assessment and treatment related MBS items it was assumed that 21% of all items would be billed at the highest time tier (for patient assessments).
    ii. The remaining items were estimated at the following rates of billing (to maximise efficiency and revenue arising from clinical practice arrangements).
        - 11.85% (15% of assessment residual) for short/standard consultations (tier 1)
        - 55.30% (70% of assessment residual) for physician follow-up consultations (tier 2)
        - 11.85% (15% of assessment residual) for prolonged follow-up consultations (tier 3)
    iii. Sensitivity analysis was conducted on the impact of changes in billing volumes within the first three tiers, to identify variations at:
        - 10-20% of the assessment residual billed at tier 1.

- 60-80% of the assessment residual billed at tier 2.
- 10-20% of the assessment residual billed at tier 3.

Complex treatment and management planning:

a. Costs for 5% of all observed assessment (tier 4) items were transferred to rate of complex assessment and treatment planning at the physician equivalent MBS item rate of 132 (initial attendance).
b. The number of services corresponding to 10% of assessments was also converted to a physician equivalent rate for follow-up of complex assessment and treatment planning (tier 2) using MBS item 133. (10% of assessments were converted to account for a maximum of two follow-ups for each complex assessment undertaken).
c. These converted rates were added to the existing estimates derived for time-tiered items.

Case conferencing:

a. Costs for an additional 5% of all treatment items (uniformly distributed across tiers 1-4) were incorporated at the newly established time-tiered rates to accommodate two new items relating to:
   i. Case conference participation having co-ordinated other professional involvement prior to the meeting (as an unbilled activity) and acting as case conference chair during the meeting, to be billed at the full rates of the new time-tiered schedule; and
   ii. Case conference participation (without prior co-ordination and without responsibilities of the chair), to be billed at 80% of the full rates of the new time-tiered schedule.
b. These costs were added to the existing estimates derived for time-tiered items with complex treatment and management planning.

Workforce changes:

a. Costs associated with anticipated changes in workforce arrangements were based upon:
   i. A net reduction in practicing fellows from the current estimated base of 107 by 5 in 2014 and an additional 10 in 2015 (from data on the number of fellows reaching the age of retirement: >65 years).
   ii. A net increase in practicing fellows from graduating trainees above the estimated base of 107 in 2013 by 3 in 2015 (from data on the number of trainees anticipated to graduate).
   iii. A constant rate of increment to a net increase in the proportion of current fellows undertaking increased private practice activity, assumed at a 30% increase for all fellows engaging in private practice (but not working in private practice on a full time basis) over the next two years (from 2014-1015).
b. These costs were added to the existing estimates derived for time-tiered items with complex treatment and management planning and multi-disciplinary case conferencing.

Infectious Disease Physician:

a. Costs for current sexual health medicine specialists were transferred/substituted to the equivalent rate of activity that would otherwise be performed by the next most relevant specialty area -infectious disease physician:
b. Costs of all observed assessment items were transferred/substituted to rate of the current infectious disease physician equivalent MBS item 110 (initial attendance following referral).
    i. All assessment occasions of service were retained under an assumption of modified equivalence allowing a comprehensive assessment to occur at any point in the patient episode of care.
    ii. Items relating to complex assessment or management planning were included as components of assessment.
c. Costs of all observed treatment items were transferred/substituted to a rate of the current infectious disease physician equivalent MBS item 116 (subsequent attendance).
    i. Treatment occasions of service were retained under an assumption of modified equivalence allowing a patient review to occur at any point in the patient episode of care.
    ii. Items relating to multidisciplinary case conferencing were included as components of treatment.

Infectious Disease Physician with complex treatment and management planning and case conferencing:

a. Costs for current sexual health medicine specialists were transferred/substituted to the equivalent rate of activity that would otherwise be performed by the next most relevant specialty area – infectious disease physician. As for the previous scenario:
    i. Costs of all observed assessment items were transferred/substituted to rate of the current infectious disease physician equivalent MBS item 110 (initial consultation following referral).
    ii. Costs of all observed treatment items were transferred/substituted to a rate of the current infectious disease physician equivalent MBS item 116 (subsequent attendance).
b. In addition to the previous scenario, complex assessment or management planning was also transferred/substituted to a rate of the current Infectious Disease Physician equivalent MBS items 132 and 133 (referred patient assessment and management plan).

Graphical comparisons were made in all scenarios to present current modelled estimates of services and costs for 2010, 2011, 2012 followed by comparative costs for the estimated cohort of sexual health medicine specialists funded under different rates of MBS reimbursement.

Appendix 7 MBS item groups and classifications

Items classified as assessment involved prolonged or comprehensive consultations or initial attendances estimated to last for more than 40-45 minutes duration (in accordance with feedback on the length of time to undertake a comprehensive assessment, provided by Chapter fellows).

All items involving development of a referred assessment and/or non-referred comprehensive or other dedicated treatment plan were classified as comprehensive assessment and treatment planning.

Other standard consultation items (at surgery or home/RACF) were classified as treatment items.

Multidisciplinary case conferencing, and group/family therapy items were separately classified.

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
1 Professional Attendances	A1 General Practitioner	1 GP Attendances	3	Unspecified	Treatment
			4	Unspecified	Treatment
			23	0-19.9	Treatment
			24	Unspecified	Treatment
			35	0-20	Treatment
			36	20-20+	Treatment
			37	20-20+	Treatment
			43	20-20+	Treatment
			44	40-40+	Assessment
			47	40-40+	Assessment
			51	40-40+	Assessment
	A11 After Hours	1 General Practitioner - After Hours	597	0	Treatment
			598	0	Treatment
		2 General Practitioner - Transitional Hours	600	0	Treatment
	A13 Public Health Physician Attendances		411	0	Treatment
			412	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			413	0	Treatment
	A14 Health Assessments		701	0	Treatment
			703	0	Assessment
			705	0	Assessment
			707	0	Assessment
			715	0	Treatment
	A15 Multidisciplinary Care Plans and Case Conferences	1 Multidisciplinary care plans	721	Unspecified	Assessment
			723	Unspecified	Treatment
			731	0	Treatment
			732	Unspecified	Treatment
		2 Case Conferences	735	15-19.9	Treatment
			739	20-39.9	Treatment
			743	0	Treatment
			747	0	Treatment
			750	0	Treatment
			758	0	Treatment
			820	0	Treatment
			830	0	Treatment
			871	0	Treatment
			872	0	Treatment
	A17 Domiciliary Medication Management Review (DMMR)		900	0	Treatment
			903	0	Treatment
	A18 GP attendance associated with PIP incentive payments	1 Taking of cervical smear from unscreened woman	2501	0	Treatment
			2504	0	Treatment
		2 Completion of an annual cycle of care for patients with diabetes mellitus	2517	0	Treatment
			2521	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			2525	0	Treatment
		3 Completion of the asthma cycle of care	2552	0	Treatment
	A19 Other non-referred attendance associated with PIP incentive payments	1 Taking of cervical smear from unscreened woman	2600	0	Treatment
			2603	0	Treatment
	A2 Other non-referred	1 Surgery Consultations	52	0-5	Treatment
			53	5.1-25	Treatment
			54	25.1-45	Treatment
			57	45.1-45+	Assessment
			59	5.1-25	Treatment
			60	25.1-45	Assessment
	A20 GP Mental Health Treatment	1 GP Mental Health Care plans	2700	0	Treatment
			2701	0	Treatment
			2712	Unspecified	Treatment
			2713	20-20+	Treatment
			2715	20-20+	Treatment
			2717	0	Treatment
	A22 GP after-hours attendances to which no other item applies		5020	0-19.9	Treatment
			5040	0	Treatment
			5043	0	Treatment
			5049	0	Treatment
			5060	0	Treatment
			5063	0	Assessment
	A23 Other non-referred after-hours attendances to which no other item applies		5207	0	Treatment
			5208	0	Treatment
	A29 Early Intervention Services for Children		135	45.1-45+	Treatment
	A3 Specialist		99	10.1-10+	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			104	Unspecified	Assessment
			105	Unspecified	Treatment
			107	Unspecified	Treatment
			108	Unspecified	Treatment
	A4 Consultant Physician (other than Psychiatry)		110	Unspecified	Assessment
			112	10.1-10+	Treatment
			116	Unspecified	Treatment
			119	Unspecified	Treatment
			122	Unspecified	Assessment
			128	Unspecified	Treatment
			131	Unspecified	Treatment
			132	0-45	Assessment
			133	0-20	Treatment
	A5 Prolonged		160	60-119.9	Treatment
			161	120-179.9	Treatment
			162	180-239.9	Treatment
			164	300-300+	Treatment
	A6 Group Therapy (other than by psychiatrist)		170	0-60	Treatment
	A7 Acupuncture		173	Unspecified	Treatment
	A8 Consultant Psychiatrist		291	45.1-45+	Assessment
			296	45.1-45+	Assessment
			297	45.1-45+	Treatment
			302	15.1-30	Treatment
			304	30.1-45	Treatment
			306	45.1-75	Treatment
			314	30.1-45	Treatment
			319	45.1-45+	Treatment
			322	15.1-30	Treatment
			324	15.1-30	Assessment
			326	45.1-75	Assessment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			336	45.1-75	Assessment
			352	20-20+	Treatment
89. 2 Diagnostic Procedures and Investigations	D1 Miscellaneous Diagnostic Procedures and Investigations	1 Neurology	11000	0	Treatment
			11003	0	Treatment
			11006	0	Treatment
			11018	0	Treatment
			11024	0	Treatment
		10 Other diagnostic Procedures and investigations	12203	0	Treatment
			12213	0	Treatment
			12250	0	Treatment
		3 Otolaryngology	11306	0	Treatment
			11324	0	Treatment
		4 Respiratory	11503	0	Treatment
			11506	0	Treatment
			11509	0	Treatment
			11512	0	Treatment
		5 Vascular	11600	0	Treatment
			11610	0	Treatment
		6 Cardiovascular	11700	0	Treatment
			11702	0	Treatment
			11709	0	Treatment
			11710	0	Treatment
			11712	0	Treatment
			11718	0	Treatment
			11721	0	Treatment
			11722	0	Treatment
			11727	0	Treatment
		7 Gastroenterology and Colorectal	11820	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			11823	0	Treatment
		8 Genito/Urinary Physiological Investigations	11900	0	Treatment
		9 Allergy Testing	12000	0	Treatment
			12003	0	Treatment
			12015	0	Treatment
90. 3 Therapeutic Procedures	T1 Miscellaneous Therapeutic Procedures	10 Management/Procedures in Intensive Care	13870	0	Treatment
			13873	0	Treatment
			13876	0	Treatment
			13881	0	Treatment
			13882	0	Treatment
		11 Chemotherapeutic Procedures	13915	0	Treatment
			13918	0	Treatment
			13921	0	Treatment
			13924	0	Treatment
			13939	0	Treatment
			13942	0	Treatment
			13945	0	Treatment
			13948	0	Treatment
		12 Dermatology	14050	0	Treatment
			14053	0	Treatment
			14100	0	Treatment
		13 Other Therapeutic Procedures	14201	0	Treatment
			14202	0	Treatment
			14203	0	Treatment
			14206	0	Treatment
			14209	0	Treatment
			14221	0	Treatment
			14224	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			14245	0	Treatment
		3 Assisted Reproductive Services	13209	0	Treatment
			13221	0	Treatment
			13251	0	Treatment
		4 Paediatric & Neonatal	13309	0	Treatment
		5 Cardiovascular	13400	0	Treatment
		8 Haematology	13706	0	Treatment
			13757	0	Treatment
		9 Procedures Associated with Intensive Care	13815	0	Treatment
			13839	0	Treatment
	T10 Relative Value Guide for Anaesthesia	1 Head	20160	0	Treatment
		15 Forearm wrist and Hand	21830	0	Treatment
		19 Therapeutic and diagnostic services	22002	0	Treatment
			22012	0	Treatment
		4 Intrathoracic	20560	0	Treatment
		6 Upper Abdomen	20740	0	Treatment
		7 Lower Abdomen	20806	0	Treatment
			20810	0	Treatment
		8 Perineum	20940	0	Treatment
	T4 Obstetrics		16400	0	Treatment
			16500	0	Treatment
			16514	0	Treatment
			16590	0	Treatment
			16591	0	Treatment
	T6 Anaesthetics	1 Examination by an Anaesthetist	17610	0	Treatment
	T7 Regional or Field Nerve Blocks		18260	0	Treatment
	T8 Surgical Operations	1 General	30003	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			30023	0	Treatment
			30024	0	Treatment
			30026	0	Treatment
			30029	0	Treatment
			30032	0	Treatment
			30038	0	Treatment
			30041	0	Treatment
			30042	0	Treatment
			30055	0	Treatment
			30061	0	Treatment
			30062	0	Treatment
			30064	0	Treatment
			30067	0	Treatment
			30068	0	Treatment
			30071	0	Treatment
			30090	0	Treatment
			30094	0	Treatment
			30097	0	Treatment
			30185	0	Treatment
			30186	0	Treatment
			30189	0	Treatment
			30190	0	Treatment
			30192	0	Treatment
			30195	0	Treatment
			30196	0	Treatment
			30202	0	Treatment
			30203	0	Treatment
			30205	0	Treatment
			30207	0	Treatment
			30216	0	Treatment
			30219	0	Treatment
			30223	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			30241	0	Treatment
			30278	0	Treatment
			30293	0	Treatment
			30406	0	Treatment
			30409	0	Treatment
			30443	0	Treatment
			30473	0	Treatment
			30475	0	Treatment
			30476	0	Treatment
			30478	0	Treatment
			30479	0	Treatment
			30481	0	Treatment
			30483	0	Treatment
			30484	0	Treatment
			30628	0	Treatment
			30710	0	Treatment
			31200	0	Treatment
			31205	0	Treatment
			31210	0	Treatment
			31215	0	Treatment
			31220	0	Treatment
			31225	0	Treatment
			31230	0	Treatment
			31235	0	Treatment
			31255	0	Treatment
			31256	0	Treatment
			31257	0	Treatment
			31260	0	Treatment
			31261	0	Treatment
			31263	0	Treatment
			31265	0	Treatment
			31267	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			31270	0	Treatment
			31275	0	Treatment
			31280	0	Treatment
			31281	0	Treatment
			31285	0	Treatment
			31290	0	Treatment
			31310	0	Treatment
			31325	0	Treatment
			31345	0	Treatment
			31350	0	Treatment
			31456	0	Treatment
		10 Operations for Osteomyelitis	43512	0	Treatment
		13 Plastic and Reconstructive	45200	0	Treatment
			45203	0	Treatment
			45206	0	Treatment
			45221	0	Treatment
			45224	0	Treatment
			45442	0	Treatment
			45448	0	Treatment
			45451	0	Treatment
			45500	0	Treatment
			45501	0	Treatment
			45502	0	Treatment
			45515	0	Treatment
			45563	0	Treatment
		14 Hand Surgery	46300	0	Treatment
			46303	0	Treatment
			46309	0	Treatment
			46318	0	Treatment
			46325	0	Treatment
			46327	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			46330	0	Treatment
			46333	0	Treatment
			46336	0	Treatment
			46339	0	Treatment
			46345	0	Treatment
			46348	0	Treatment
			46351	0	Treatment
			46354	0	Treatment
			46363	0	Treatment
			46366	0	Treatment
			46369	0	Treatment
			46372	0	Treatment
			46375	0	Treatment
			46378	0	Treatment
			46384	0	Treatment
			46390	0	Treatment
			46393	0	Treatment
			46396	0	Treatment
			46399	0	Treatment
			46405	0	Treatment
			46408	0	Treatment
			46414	0	Treatment
			46417	0	Treatment
			46420	0	Treatment
			46426	0	Treatment
			46432	0	Treatment
			46441	0	Treatment
			46442	0	Treatment
			46447	0	Treatment
			46450	0	Treatment
			46459	0	Treatment
			46462	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			46465	0	Treatment
			46483	0	Treatment
			46486	0	Treatment
			46489	0	Treatment
			46494	0	Treatment
			46495	0	Treatment
			46498	0	Treatment
			46500	0	Treatment
			46501	0	Treatment
			46502	0	Treatment
			46503	0	Treatment
			46513	0	Treatment
			46519	0	Treatment
			46522	0	Treatment
			46525	0	Treatment
		15 Orthopaedic	47033	0	Treatment
			47039	0	Treatment
			47306	0	Treatment
			47309	0	Treatment
			47312	0	Treatment
			47318	0	Treatment
			47321	0	Treatment
			47324	0	Treatment
			47327	0	Treatment
			47330	0	Treatment
			47333	0	Treatment
			47336	0	Treatment
			47339	0	Treatment
			47342	0	Treatment
			47345	0	Treatment
			47348	0	Treatment
			47351	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			47354	0	Treatment
			47357	0	Treatment
			47360	0	Treatment
			47375	0	Treatment
			47726	0	Treatment
			47729	0	Treatment
			47732	0	Treatment
			47904	0	Treatment
			47912	0	Treatment
			47915	0	Treatment
			47921	0	Treatment
			47927	0	Treatment
			47930	0	Treatment
			47963	0	Treatment
			48239	0	Treatment
			48242	0	Treatment
			48406	0	Treatment
			48418	0	Treatment
			49200	0	Treatment
			49203	0	Treatment
			49206	0	Treatment
			49212	0	Treatment
			49215	0	Treatment
			49218	0	Treatment
			49221	0	Treatment
			49224	0	Treatment
			49227	0	Treatment
			50106	0	Treatment
			50112	0	Treatment
			50206	0	Treatment
		2 Colorectal	32025	0	Treatment
			32072	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			32084	0	Treatment
			32087	0	Treatment
			32090	0	Treatment
			32093	0	Treatment
			32095	0	Treatment
			32123	0	Treatment
			32135	0	Treatment
			32142	0	Treatment
			32145	0	Treatment
			32147	0	Treatment
			32159	0	Treatment
			32174	0	Treatment
			32177	0	Treatment
			32180	0	Treatment
			32186	0	Treatment
		3 Vascular	34528	0	Treatment
		4 Gynaecological	35500	0	Treatment
			35503	0	Treatment
			35506	0	Treatment
			35507	0	Treatment
			35539	0	Treatment
			35545	0	Treatment
			35608	0	Treatment
			35611	0	Treatment
			35614	0	Treatment
			35615	0	Treatment
			35620	0	Treatment
			35630	0	Treatment
			35634	0	Treatment
			35639	0	Treatment
			35643	0	Treatment
		5 Urological	37000	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			37315	0	Treatment
			37415	0	Treatment
			37418	0	Treatment
			37435	0	Treatment
		6 Cardio-Thoracic	38246	0	Treatment
			38256	0	Treatment
			38306	0	Treatment
			38350	0	Treatment
			38353	0	Treatment
			38356	0	Treatment
			38803	0	Treatment
			38806	0	Treatment
		7 Neurosurgical	39000	0	Treatment
			39300	0	Treatment
			39303	0	Treatment
			39306	0	Treatment
			39312	0	Treatment
			39318	0	Treatment
			39321	0	Treatment
			39327	0	Treatment
			39330	0	Treatment
			39331	0	Treatment
		8 Ear, Nose and Throat	41764	0	Treatment
			41819	0	Treatment
			41889	0	Treatment
			41892	0	Treatment
		9 Ophthalmology	42503	0	Treatment
			42575	0	Treatment
			42644	0	Treatment
			42704	0	Treatment
	T9 Assistance at Operations		51300	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			51303	0	Treatment
			51306	0	Treatment
91. 5 Diagnostic Imaging Services	I1 Ultrasound	1 General	55032	0	Treatment
			55036	0	Treatment
			55048	0	Treatment
			55073	0	Treatment
			55076	0	Treatment
		2 Cardiac	55113	0	Treatment
			55114	0	Treatment
			55115	0	Treatment
			55116	0	Treatment
			55117	0	Treatment
			55118	0	Treatment
		3 Vascular	55278	0	Treatment
		5 Obstetric and Gynaecological	55700	0	Treatment
			55702	0	Treatment
			55703	0	Treatment
			55705	0	Treatment
			55706	0	Treatment
			55707	0	Treatment
			55709	0	Treatment
			55731	0	Treatment
			55733	0	Treatment
			55770	0	Treatment
	I3 Diagnostic Radiology	1 Extremities	57509	0	Treatment
			57521	0	Treatment
		13 Angiography	60054	0	Treatment
			60072	0	Treatment
		15 Fluoroscopic examination and report	60506	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
		17 Interventional Techniques	61109	0	Treatment
		6 Thoracic	58503	0	Treatment
		8 Alimentary Tract and Biliary System	58903	0	Treatment
92. 6 Pathology Services	P1 Haematology		65060	0	Treatment
			65066	0	Treatment
			65070	0	Treatment
			65072	0	Treatment
			65075	0	Treatment
			65078	0	Treatment
			65081	0	Treatment
			65084	0	Treatment
			65087	0	Treatment
			65090	0	Treatment
			65093	0	Treatment
			65096	0	Treatment
			65099	0	Treatment
			65105	0	Treatment
			65108	0	Treatment
			65109	0	Treatment
			65110	0	Treatment
			65111	0	Treatment
			65114	0	Treatment
			65117	0	Treatment
			65120	0	Treatment
			65123	0	Treatment
			65126	0	Treatment
			65129	0	Treatment
			65137	0	Treatment
			65142	0	Treatment
			65144	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			65147	0	Treatment
			65150	0	Treatment
			65153	0	Treatment
			65156	0	Treatment
			65159	0	Treatment
			65162	0	Treatment
			65171	0	Treatment
			65175	0	Treatment
			65176	0	Treatment
			65177	0	Treatment
			65178	0	Treatment
			65179	0	Treatment
	P10 Patient Episode Initiation		73920	0	Treatment
			73923	0	Treatment
			73924	0	Treatment
			73925	0	Treatment
			73926	0	Treatment
			73927	0	Treatment
			73928	0	Treatment
			73929	0	Treatment
			73930	0	Treatment
			73931	0	Treatment
			73932	0	Treatment
			73933	0	Treatment
			73934	0	Treatment
			73935	0	Treatment
			73936	0	Treatment
			73937	0	Treatment
			73938	0	Treatment
			73939	0	Treatment
	P11 Specimen Referred		73940	0	Treatment
	P2 Chemical		66500	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			66503	0	Treatment
			66506	0	Treatment
			66509	0	Treatment
			66512	0	Treatment
			66518	0	Treatment
			66519	0	Treatment
			66536	0	Treatment
			66542	0	Treatment
			66545	0	Treatment
			66548	0	Treatment
			66551	0	Treatment
			66554	0	Treatment
			66557	0	Treatment
			66560	0	Treatment
			66563	0	Treatment
			66566	0	Treatment
			66569	0	Treatment
			66572	0	Treatment
			66575	0	Treatment
			66578	0	Treatment
			66581	0	Treatment
			66584	0	Treatment
			66590	0	Treatment
			66593	0	Treatment
			66596	0	Treatment
			66599	0	Treatment
			66602	0	Treatment
			66608	0	Treatment
			66623	0	Treatment
			66626	0	Treatment
			66629	0	Treatment
			66632	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			66635	0	Treatment
			66650	0	Treatment
			66651	0	Treatment
			66652	0	Treatment
			66653	0	Treatment
			66655	0	Treatment
			66656	0	Treatment
			66659	0	Treatment
			66671	0	Treatment
			66680	0	Treatment
			66686	0	Treatment
			66695	0	Treatment
			66696	0	Treatment
			66697	0	Treatment
			66698	0	Treatment
			66701	0	Treatment
			66704	0	Treatment
			66707	0	Treatment
			66715	0	Treatment
			66716	0	Treatment
			66719	0	Treatment
			66722	0	Treatment
			66723	0	Treatment
			66724	0	Treatment
			66725	0	Treatment
			66728	0	Treatment
			66731	0	Treatment
			66734	0	Treatment
			66743	0	Treatment
			66752	0	Treatment
			66755	0	Treatment
			66758	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			66761	0	Treatment
			66764	0	Treatment
			66767	0	Treatment
			66770	0	Treatment
			66773	0	Treatment
			66779	0	Treatment
			66782	0	Treatment
			66800	0	Treatment
			66803	0	Treatment
			66804	0	Treatment
			66806	0	Treatment
			66812	0	Treatment
			66815	0	Treatment
			66819	0	Treatment
			66830	0	Treatment
	P3 Microbiology		69300	0	Treatment
			69303	0	Treatment
			69306	0	Treatment
			69309	0	Treatment
			69312	0	Treatment
			69316	0	Treatment
			69317	0	Treatment
			69318	0	Treatment
			69319	0	Treatment
			69321	0	Treatment
			69324	0	Treatment
			69325	0	Treatment
			69327	0	Treatment
			69328	0	Treatment
			69330	0	Treatment
			69331	0	Treatment
			69333	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			69336	0	Treatment
			69339	0	Treatment
			69345	0	Treatment
			69354	0	Treatment
			69357	0	Treatment
			69360	0	Treatment
			69363	0	Treatment
			69378	0	Treatment
			69379	0	Treatment
			69380	0	Treatment
			69381	0	Treatment
			69384	0	Treatment
			69387	0	Treatment
			69390	0	Treatment
			69393	0	Treatment
			69396	0	Treatment
			69400	0	Treatment
			69401	0	Treatment
			69405	0	Treatment
			69408	0	Treatment
			69411	0	Treatment
			69413	0	Treatment
			69415	0	Treatment
			69418	0	Treatment
			69445	0	Treatment
			69451	0	Treatment
			69471	0	Treatment
			69472	0	Treatment
			69474	0	Treatment
			69475	0	Treatment
			69478	0	Treatment
			69481	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			69482	0	Treatment
			69483	0	Treatment
			69484	0	Treatment
			69488	0	Treatment
			69491	0	Treatment
			69494	0	Treatment
			69495	0	Treatment
			69496	0	Treatment
			69498	0	Treatment
			69499	0	Treatment
	P4 Immunology		71057	0	Treatment
			71058	0	Treatment
			71059	0	Treatment
			71060	0	Treatment
			71062	0	Treatment
			71064	0	Treatment
			71066	0	Treatment
			71068	0	Treatment
			71069	0	Treatment
			71071	0	Treatment
			71072	0	Treatment
			71073	0	Treatment
			71075	0	Treatment
			71076	0	Treatment
			71079	0	Treatment
			71081	0	Treatment
			71083	0	Treatment
			71085	0	Treatment
			71087	0	Treatment
			71097	0	Treatment
			71099	0	Treatment
			71101	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			71103	0	Treatment
			71106	0	Treatment
			71119	0	Treatment
			71121	0	Treatment
			71123	0	Treatment
			71125	0	Treatment
			71127	0	Treatment
			71134	0	Treatment
			71139	0	Treatment
			71141	0	Treatment
			71143	0	Treatment
			71145	0	Treatment
			71146	0	Treatment
			71147	0	Treatment
			71153	0	Treatment
			71155	0	Treatment
			71157	0	Treatment
			71159	0	Treatment
			71163	0	Treatment
			71164	0	Treatment
			71165	0	Treatment
			71166	0	Treatment
			71167	0	Treatment
			71168	0	Treatment
			71170	0	Treatment
			71180	0	Treatment
			71183	0	Treatment
			71186	0	Treatment
			71189	0	Treatment
			71192	0	Treatment
			71195	0	Treatment
			71200	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
	P5 Tissue Pathology		72813	0	Treatment
			72816	0	Treatment
			72817	0	Treatment
			72818	0	Treatment
			72823	0	Treatment
			72824	0	Treatment
			72825	0	Treatment
			72826	0	Treatment
			72827	0	Treatment
			72828	0	Treatment
			72830	0	Treatment
			72836	0	Treatment
			72838	0	Treatment
			72846	0	Treatment
			72847	0	Treatment
			72848	0	Treatment
			72849	0	Treatment
			72850	0	Treatment
			72851	0	Treatment
			72852	0	Treatment
			72855	0	Treatment
			72856	0	Treatment
			72857	0	Treatment
	P6 Cytopathology		73043	0	Treatment
			73045	0	Treatment
			73047	0	Treatment
			73049	0	Treatment
			73051	0	Treatment
			73053	0	Treatment
			73055	0	Treatment
			73057	0	Treatment
			73059	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			73060	0	Treatment
			73061	0	Treatment
			73062	0	Treatment
			73063	0	Treatment
			73064	0	Treatment
			73065	0	Treatment
			73066	0	Treatment
			73067	0	Treatment
	P7 Cytogenetics		73287	0	Treatment
			73289	0	Treatment
			73290	0	Treatment
			73291	0	Treatment
			73293	0	Treatment
			73308	0	Treatment
			73309	0	Treatment
			73311	0	Treatment
			73312	0	Treatment
			73314	0	Treatment
			73315	0	Treatment
			73317	0	Treatment
			73318	0	Treatment
			73323	0	Treatment
			73325	0	Treatment
			73332	0	Treatment
	P8 Infertility and Pregnancy Tests		73521	0	Treatment
			73523	0	Treatment
			73525	0	Treatment
			73527	0	Treatment
			73529	0	Treatment
	P9 Simple Basic Tests		73801	0	Treatment
			73802	0	Treatment
			73805	0	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			73806	0	Treatment
			73808	0	Treatment
			73811	0	Treatment
93. 8 Miscellaneous Services	M12 Services provided by a Practice Nurse/Registered Aboriginal Health Worker	3 Practice Nurse/Aboriginal Health Worker service	10986	0	Treatment
			10987	0	Treatment
			10988	0	Treatment
			10989	0	Treatment
			10997	Unspecified	Treatment
94. #N/A	#N/A	#N/A	1	#N/A	Treatment
			87	#N/A	Treatment
			89	#N/A	Treatment
			90	#N/A	Treatment
			91	#N/A	Treatment
			97	#N/A	Treatment
			697	#N/A	Treatment
			700	#N/A	Treatment
			702	#N/A	Treatment
			710	#N/A	Treatment
			711	#N/A	Treatment
			713	#N/A	Treatment
			717	#N/A	Treatment
			718	#N/A	Treatment
			725	#N/A	Treatment
			727	#N/A	Treatment
			740	#N/A	Treatment
			742	#N/A	Treatment
			744	#N/A	Treatment
			2702	#N/A	Treatment
			2710	#N/A	Treatment
			10993	#N/A	Treatment

CATEGORY DESCRIPTION	GROUP DESCRIPTION	SUB GROUP DESCRIPTION	AGGR ITEM NO.	TIMED OR UNTIMED	PROBABLE ASSESSMENT OR TREATMENT
			10994	#N/A	Treatment
			10995	#N/A	Treatment
			10996	#N/A	Treatment
			10998	#N/A	Treatment
			10999	#N/A	Treatment
			11203	#N/A	Treatment
			50124	#N/A	Treatment
			55208	#N/A	Treatment

Appendix 8 Detailed MBS data classification and analysis framework

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013		NUMBER	OF	SERVICES			ESTIMATE	COST OF	SERVICES	(AT	FEBRUARY	2013)
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
A1 General Practitioner	3	16.6		1,025		33				$17,015		$1,388		
A1 General Practitioner	4	42.05				33						$1,388		
A1 General Practitioner	23	36.3		40,039						$1,453,416				
A1 General Practitioner	24	61.75				335						$20,686		
A1 General Practitioner	35	82.4				176						$14,502		
A1 General Practitioner	36	70.3		52,086						$3,661,646				
A1 General Practitioner	37	95.75				55						$5,266		
A1 General Practitioner	43	116.1				104						$12,074		
A1 General Practitioner	44	103.5	12,152						$1,257,732					
A1 General Practitioner	47	128.95				17						$2,192		
A1 General Practitioner	51	149.3				6						$896		
A11 After Hours	597	127.25		60						$7,635				
A11 After Hours	598	104.75		7						$733				

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
A11 After Hours	600	124.25		1						$124				
A13 Public Health Physician Attendances	411	36.35		11						$400				
A13 Public Health Physician Attendances	412	70.3		81						$5,694				
A13 Public Health Physician Attendances	413	103.45		117						$12,104				
A14 Health Assessments	701	58.2			20						$1,164			
A14 Health Assessments	703	135.2			88						$11,898			
A14 Health Assessments	705	186.55			33						$6,156			
A14 Health Assessments	707	263.55			90						$23,720			
A14 Health Assessments	715	208.1			98						$20,394			
A15 Multidisciplinary Care Plans and Case Conferences	721	141.4					4,172						$589,921	
A15 Multidisciplinary Care Plans and Case Conferences	723	112.05					2,666						$298,725	
A15 Multidisciplinary Care Plans and Case	731	69					9						$621	

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
Conferences														
A15 Multidisciplinary Care Plans and Case Conferences	732	70.65					6,726						$475,192	
A15 Multidisciplinary Care Plans and Case Conferences	735	69.25					308						$21,329	
A15 Multidisciplinary Care Plans and Case Conferences	739	118.6					62						$7,353	
A15 Multidisciplinary Care Plans and Case Conferences	743	197.7					1						$198	
A15 Multidisciplinary Care Plans and Case Conferences	747	50.9					38						$1,934	
A15 Multidisciplinary Care Plans and Case Conferences	750	87.25					2						$175	
A15 Multidisciplinary Care Plans and Case Conferences	758	145.3					2						$291	
A15 Multidisciplinary Care Plans and Case Conferences	820	118.25					12						$1,419	

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
A15 Multidisciplinary Care Plans and Case Conferences	830	118.25					14						$1,656	
A15 Multidisciplinary Care Plans and Case Conferences	871	68.3					2						$137	
A15 Multidisciplinary Care Plans and Case Conferences	872	31.8					1						$32	
A17 Domiciliary Medication Management Review (DMMR)	900	151.75				15						$2,276		
A17 Domiciliary Medication Management Review (DMMR)	903	103.9				6						$623		
A18 GP attendance associated with PIP incentive payments	2501	36.3		12						$436				
A18 GP attendance associated with PIP incentive payments	2504	70.3		11						$773				
A18 GP attendance associated with PIP incentive payments	2517	36.3		21						$762				
A18 GP attendance associated with PIP	2521	70.3		42						$2,953				

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
incentive payments														
A18 GP attendance associated with PIP incentive payments	2525	103.5		1						$104				
A18 GP attendance associated with PIP incentive payments	2552	70.3		1						$70				
A19 Other non-referred attendance associated with PIP incentive payments	2600	21		1						$21				
A19 Other non-referred attendance associated with PIP incentive payments	2603	38		1						$38				
A2 Other non-referred	52	11		105						$1,155				
A2 Other non-referred	53	21		9,388						$197,148				
A2 Other non-referred	54	38		8,752						$332,576				
A2 Other non-referred	57	61	12,652						$771,772					
A2 Other non-referred	59	33.5				12						$402		
A2 Other non-referred	60	51				1						$51		
A20 GP Mental Health Treatment	2700	70.3			107						$7,522			

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
A20 GP Mental Health Treatment	2701	103.5			88						$9,108			
A20 GP Mental Health Treatment	2712	70.3			1,027						$72,198			
A20 GP Mental Health Treatment	2713	70.3			1,492						$104,888			
A20 GP Mental Health Treatment	2715	89.25			124						$11,067			
A20 GP Mental Health Treatment	2717	131.45			70						$9,202			
A22 GP after-hours attendances to which no other item applies	5020	48.05		433						$20,806				
A22 GP after-hours attendances to which no other item applies	5040	82.3		140						$11,522				
A22 GP after-hours attendances to which no other item applies	5043	107.75				4						$431		
A22 GP after-hours attendances to which no other item applies	5049	128.1				2						$256		
A22 GP after-hours attendances to which no other item applies	5060	115.45		39						$4,503				

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
A22 GP after-hours attendances to which no other item applies	5063	140.9				3						$423		
A23 Other non-referred after-hours attendances to which no other item applies	5207	48		1						$48				
A23 Other non-referred after-hours attendances to which no other item applies	5208	71		4						$284				
A29 Early Intervention Services for Children	135	224.35			3						$673			
A3 Specialist	99	42.75		10						$428				
A3 Specialist	104	72.75	16,357						$1,189,972					
A3 Specialist	105	36.55		19,333						$706,621				
A3 Specialist	107	106.7				7						$747		
A3 Specialist	108	67.55				3						$203		
A4 Consultant Physician (other than Psychiatry)	110	128.3	74,272						$9,529,098					
A4 Consultant Physician (other than Psychiatry)	112	54.5275												
A4 Consultant Physician	116	64.2		335,244										

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
(other than Psychiatry)										$21,522,665				
A4 Consultant Physician (other than Psychiatry)	119	36.55		2,683						$98,064				
A4 Consultant Physician (other than Psychiatry)	122	155.65				5						$778		
A4 Consultant Physician (other than Psychiatry)	128	94.15		76						$7,155				
A4 Consultant Physician (other than Psychiatry)	131	67.8		6						$407				
A4 Consultant Physician (other than Psychiatry)	132	224.35			14,568						$3,268,331			
A4 Consultant Physician (other than Psychiatry)	133	112.3			10,821						$1,215,198			
A5 Prolonged	160	217.15		168						$36,481				
A5 Prolonged	161	361.9		5						$1,810				
A5 Prolonged	162	506.5		3						$1,520				
A5 Prolonged	164	723.9		1						$724				
A6 Group Therapy (other than by psychiatrist)	170	115.25						704						$81,136
A7 Acupuncture	173	21.65		1						$22				
A8 Consultant	291	384.8			1						$385			

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
Psychiatrist														
A8 Consultant Psychiatrist	296	221.3	362						$80,111					
A8 Consultant Psychiatrist	297	221.3		7						$1,549				
A8 Consultant Psychiatrist	302	73.5		482						$35,427				
A8 Consultant Psychiatrist	304	113.15		1,447						$163,728				
A8 Consultant Psychiatrist	306	156.15		2,910						$454,397				
A8 Consultant Psychiatrist	314	56.7		26						$1,474				
A8 Consultant Psychiatrist	319	156.15		39						$6,090				
A8 Consultant Psychiatrist	322	73.5		1,067						$78,425				
A8 Consultant Psychiatrist	324	113.15	56						$6,336					
A8 Consultant Psychiatrist	326	156.15	31						$4,841					
A8 Consultant Psychiatrist	336	186.8	16						$2,989					
A8 Consultant Psychiatrist	352	107.75		4						$431				

GROUP DESCRIPTION	ITEM	BENEFIT AS AT FEB 2013	NUMBER OF SERVICES						ESTIMATE COST OF SERVICES (AT FEBRUARY 2013)					
			Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/group therapy	Professional attendance for assessment	Professional attendance for treatment	Treatment and management planning	Home or other residential visit	Case conf.	Family/ group therapy
Total			115,898	475,891	28,630	784	14,015	704	12,842,850	28,849,380	4,761,902	63,195	1,398,981	81,136
Percent of Total			0.2%	1.0%	0.1%	0.0%	0.0%	0.0%	26.4%	59.3%	9.8%	0.1%	2.9%	0.2%