



Analytic Methods and Tools for minimising Fraud and Claims Leakage - Medical

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All members of my team have provided input to this document

Disclaimer: Information presented has been gathered independently by Michael Douman from industry sources and publications which does not necessarily reflect the opinion of Bupa Australia

Lifestyle Nutrition



Technologies & Software – High End

- Virtualised quad core blade server 32 Gb RAM, 2 Tb data
- Designed own data model & extract daily from the mainframe
- SAS is fundamental to everything we do
- **SAS base** is used for sophisticated programming
- **SAS Enterprise Guide** is used for “basic” programming, data extraction, and reporting
- **SAS Enterprise Miner** is used for data mining
- **Futrix** is our major self service OLAP tool, and it uses SAS, Java, J Boss languages
- Bespoke programs developed in-house
 - Ultrasound
 - Lasar

Technologies & Software – Low End

- Hardware - Off the shelf server (PC)
- **Excel** for:
 - trend analysis
 - Cross tabs (pivot table)
 - A range of other statistical functions of which some are:
 - result of an F-test
 - linear trend
 - one-tailed probability of the chi-squared distribution
 - values along an exponential trend
 - Calculates standard deviation based on the entire population
- **Microsoft Access**
 - stores and manages raw data, (add, edit, delete, maintain related tables, query, etc.)
 - has a few statistical functions, nowhere near as many as Excel, SPSS, and even less than SAS

Risk Assessment Guides Analytic Focus

- Where you focus depends on where the greatest weaknesses are.
 - **Provider** (& their employees) **leakage** & fraud is the major issue as providers are the “gatekeepers” to the system both in determining services and invoicing
 - **Member & Fund employee** leakage & fraud is possible.
 - The only areas where fraud is possible are those where the member and Fund employee handles documentation.
 - Given that the maximum potential is:
 - Ancillary – Member & Fund Employee 18%
 - Medical – Member 23%, Fund Employee 14%
 - Hospital (Ex EDI and Eclipse) – Member & Fund Employee 0%
 - The reality is that fraud and leakage is significantly less than the maximum potential shown above
 - **Product** – waiting periods, benefit limits, step downs, etc
 - **System leakage** is potentially significant depending on the effectiveness of system controls and rules eg field parameters, commercial rules, membership rules, claims assessing
 - **Contracts** (Hospital, Medical, Ancillary)

Claims Leakage Analytics

Statistical Analytics

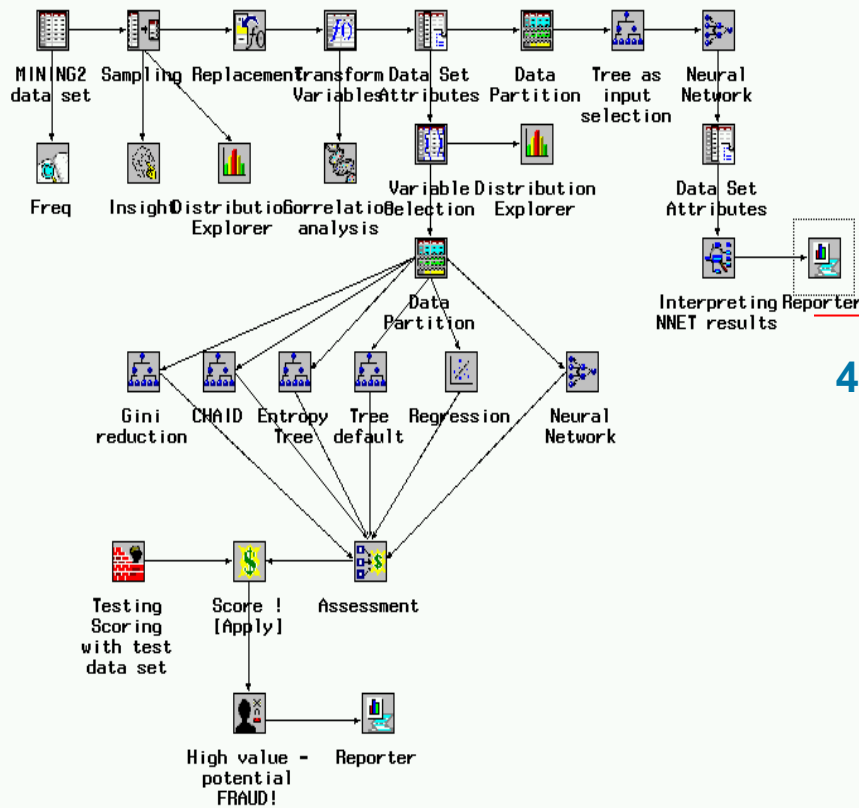
- Data Mining
- Trend analysis
- Predictive analytics
- Ratio analysis
- Profiling & Benchmarking (providers, members, employees, products, services)
- Statistical Standardisation
- Scoring algorithms

Non Statistical analytics

- Targeted Clinical auditing
- Coding audits – targeted and random
- Etc

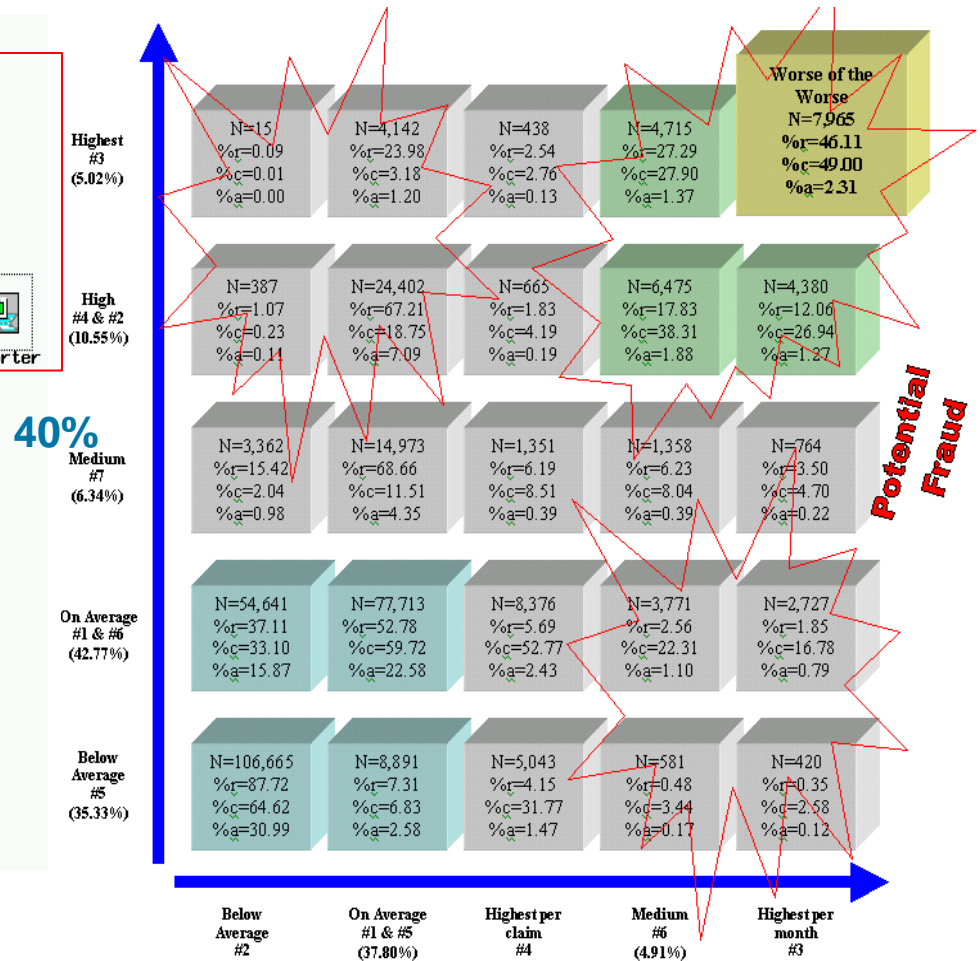
Fraud analytics – Data Mining

Supervised Models



1. Sample & Transform 40%
2. Explore 15%
3. Modify 30%
4. Model 15%
5. Assess 5%

Unsupervised Models



Some Views on Medical Servicing (1)

- In addition to Dr Webber, there are other individuals in Australia who have expressed concerns about medical over servicing and fraud, viz

“Medical centres thrive by volume and over servicing. Kickbacks, benefits and additional profits come from ordering tests.....”

Dr Mohamed Khadra “Making the Cut” (2007) p 137

“in fact the research is clear. **Eighty per cent of patients (TURPS) get better or stay the same if observed over time....Yet the vast majority of patients who turn up to an urologist with these lower urinary tract symptoms are likely to end up with an operation.**”

Dr Mohamed Khadra “Making the Cut” (2007) p.146

Some Views on Medical Servicing (2)

- The health economist, Professor Jeffrey Richardson also stated some years ago that:

“.. where there is a financial incentive to do more, we find a lot more being done. So in the public hospitals you have salaried doctors with no particular interest in these procedures; in private hospitals, where there’s a fee incentive, we get many, many more resources being put into

...doctors have two motivations: one of them is their professional motivation, and then there’s also the financial motivation. Now in the private hospital both of those move in the same direction, and we get far more procedures being done.....

but at the end of 30 months, the patients who initially went into the private hospitals, were still over twice as likely, 100% greater probability of receiving these procedures...”

Source

Richardson, J “Variations of treatment of people with coronary heart disease”

Radio National Health Report 3/4/2000

Some Views on Medical Servicing (3)

- 9 November, The Courier-Mail reported that **doctors were suspected of illegally pocketing private patient fees while working in public hospitals**, a report that could be taking millions of dollars from public health system.
- The potentially massive report has been exposed in a consultant's report recently prepared for the Newman Government.
- Obtained by *The Courier-Mail*, the **report by Ernst & Young** has revealed the Crime and Misconduct Commission has begun probing the issue.
- Senior medical officers can treat private patients using the public hospitals system through either a salary top-up arrangement or by paying a percentage of fees collected to the hospital where the operation is performed.
- Because of fears much-needed specialists could quit the public system altogether, **hospital administrators are suspected of turning a blind eye** to the fee-pocketing practice, as well as doctors not turning up to work at all.

Another View of Claims Leakage

Kellermann Debates Rationing of End of Life Care

By RAND Corporation

October 17, 2012

Despite remarkable progress in medical science, the global death rate is still 100 percent.

So the question is not whether we will live, or die.

The question is where and how we'll die, and who will be with us when we do.

Most of us don't want to die in an intensive care unit, strapped to a bed under fluorescent lights, separated from our loved ones.

Yet that is precisely what happens to many of us, because all too often,

our health care system is too focused on making money, too preoccupied with its technical prowess, and too busy to sit down with patients to have a frank and sensitive discussion about their wishes at the end of life.

As a physician, my goals are simple: to save as many lives as I can; to ease pain and suffering when I cannot, and always, ALWAYS treat my patients with compassion and respect."

Medical Services in Hospital - 1

- Medicare does not cover e.g. cosmetic, etc
- Medicare in it's annual Compliance Reports states that it's areas of focus encompass “unnecessary referrals, tests, investigations” , and “cosmetic” procedures billed to Medicare”
- PHI Funds have historically relied on the fact that Medicare only pays for appropriate medical services. Therefore they have not devoted much attention to this. It has also been seen as less financially significant, however...
- Funds may have a false sense of security
- Changes were announced on 28 June 2012 to the MBS to stop payments for a number of issues including cosmetic surgery.
- Time will tell how successful that is

Medical Services in Hospital - 2

Medicare Compliance Program Areas FY 11

Specialists

- Services not eligible for Medicare benefits e.g. cosmetic
- Incorrect or inappropriate combinations of MBS items e.g. one item covers a procedure
- Billing consultations with procedures that include consultation time
- Inappropriate ordering and incorrect use of pathology and diagnostic
- Gastroenterologists billing unusual combinations of MBS items
- Orthopaedic surgeons billing unusual combinations of MBS items
- Clinical services performed by a technician without supervision
- Billing under specialists and physicians inc pathologists who did not perform services
- Commercial arrangements encouraging unnecessary requests for pathology and diagnostic imaging
- Claims submitted via simplified billing and electronic claiming channels
- Accuracy of claims submitted by billing agents

“Cosmetic” and “Unnecessary” surgery

- The most “politically” contentious and fraught area is cosmetic/unnecessary surgery
- Australians will spend about \$850 million on plastic surgery this year (**IbisWorld** study 7/12/11), with women accounting for 92% of all procedures.

| Expenditure item | 2011-12 spending (\$million*) | Growth on 2010-11 spending (%) |
|---------------------|-------------------------------|--------------------------------|
| Plastic surgery | 850.0 | 1.4 |
| Cosmetic procedures | 560.6 | 25.0 |
| Lap-band surgery | 116.8 | 1.7 |
| Total | 6990.7 | 18.8 |

*Expenditure by all Australians

"In 2011, 62,000 Australians underwent surgical cosmetic procedures, while another 68,000 indulged in non-surgical procedures."

(**Source** <http://www.ibisworld.com.au/about/media/pressrelease/release.aspx?id=276>)

- "When it comes to women, the most popular procedures include breast reduction, liposuction, tummy tucks and eyelid surgery. For men the list includes reduction of enlarged breasts, liposuction, rhinoplasty, eyelid surgery and cosmetic ear surgery,"

Medicare item profile – Rhinoplasty

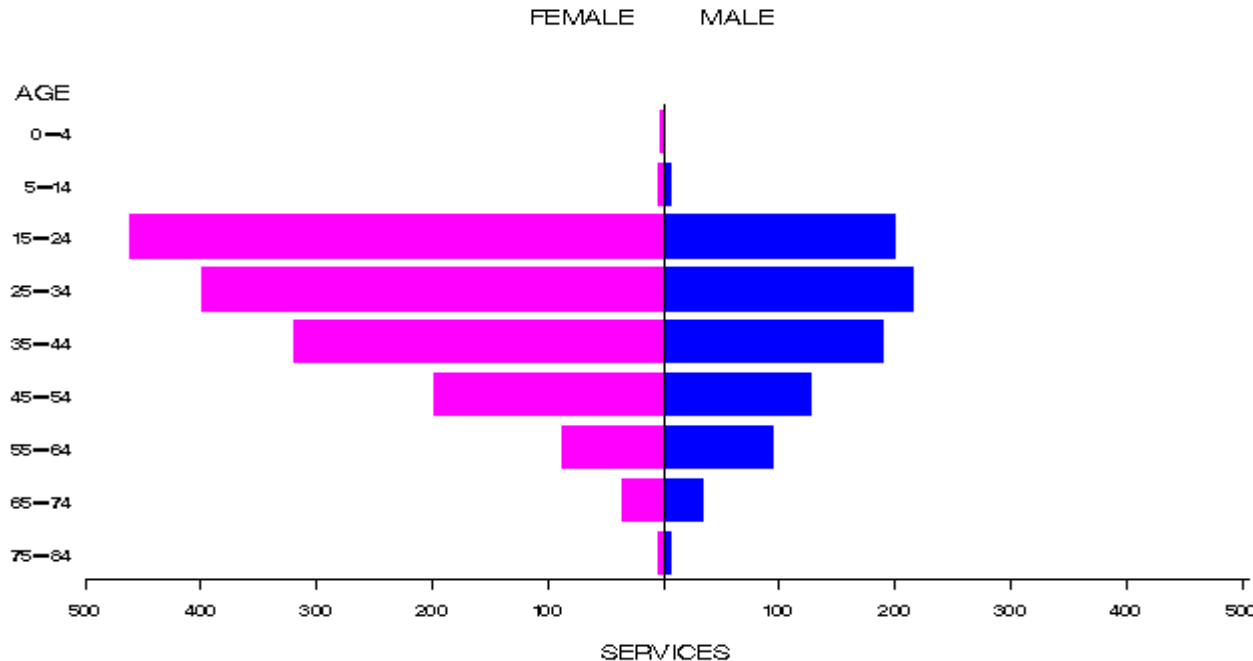


Australian Government
Medicare Australia

You are here: [Statistics](#) > [Medicare Item Reports](#) > Report processed

Medicare Item 45641 processed from July 2011 to May 2012

Patient Demographics



RHINOPLASTY involving nasal or septal cartilage graft, or nasal bone graft, or nasal bone and nasal cartilage graft (Anaes.)

Fee: \$1,062.70 Benefit: 75% = \$797.05
85% = \$989.00

Why do females have this respiratory procedure

(“nose job”) at approximately double the rate of males in age groups from 15 and upwards ?

Cosmetic ?

https://www.medicareaustralia.gov.au/cgi-bin/broker.exe?_PROGRAM=sas.mbs_item_age_gender_report.sas&_SERVICE=default&_DEBUG=0&VAR=services&STAT=count&PTYPE=finyear&START_DT=201107&END_DT=201205&RPT_FMT=by+state&GROUP=45641

MBS Item profile – Eyelid Ptosis

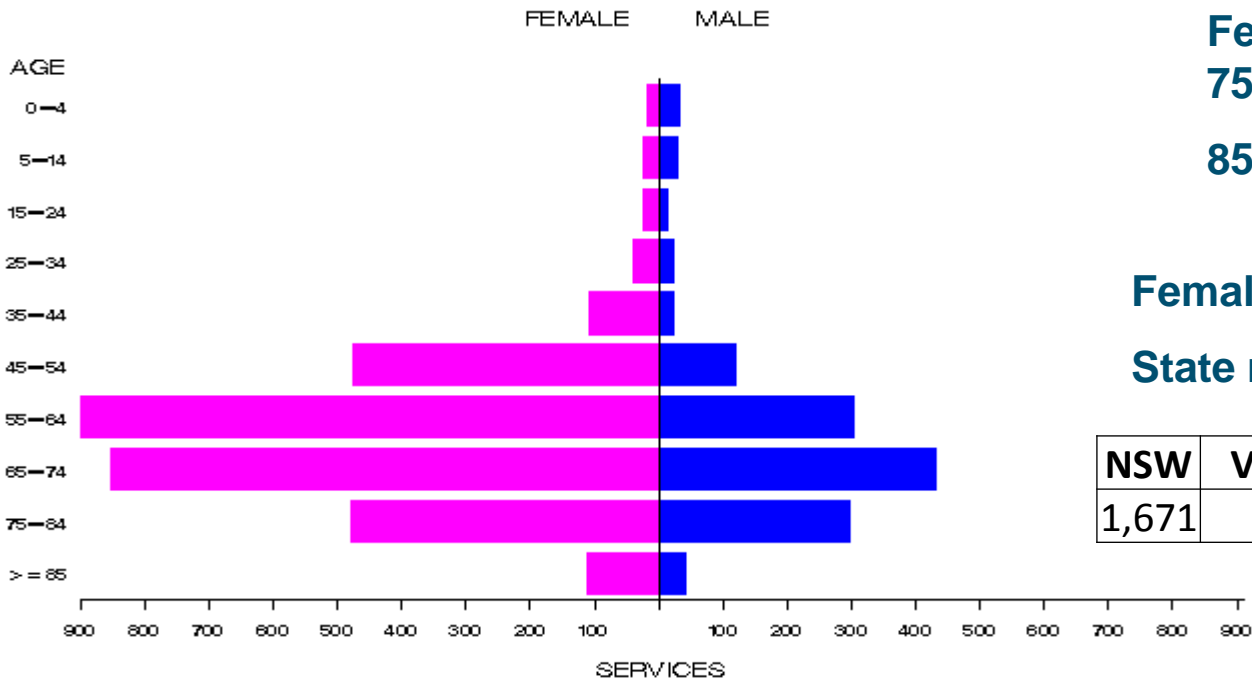


Australian Government
Medicare Australia

You are here: [Statistics](#) > [Medicare Item Reports](#) > Report processed

Medicare Item 45623 processed from July 2011 to May 2012

Patient Demographics



PTOSIS of eyelid (unilateral), correction of (Anaes.) (Assist.)

Fee: \$709.55 Benefit: 75% = \$532.20

85% = \$635.85

Female to male ratios ?

State relativities ?

| NSW | VIC | QLD | SA | WA |
|-------|-----|-----|-----|-----|
| 1,671 | 930 | 809 | 531 | 292 |

https://www.medicareaustralia.gov.au/cgi-bin/broker.exe?_PROGRAM=sas.mbs_item_age_gender_report.sas&_SERVICE=default&_DEBUG=0&VAR=services&STAT=count&PTYPE=finyear&START_DT=201107&END_DT=201205&RPT_FMT=by+state&GROUP=45623

Medicare item profile – Lipectomy

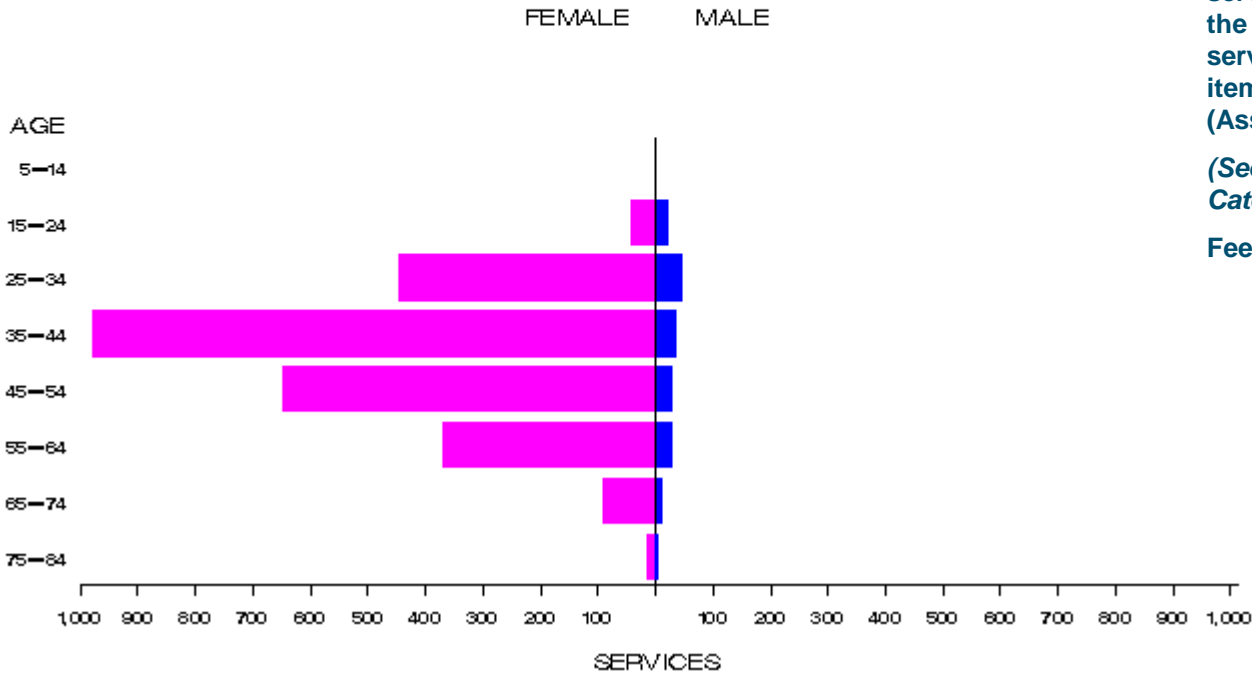


Australian Government
Medicare Australia

You are here: [Statistics](#) > [Medicare Item Reports](#) > Report processed

Medicare Item 30177 processed from July 2011 to May 2012

Patient Demographics



LIPECTOMY radical abdominoplasty (Pitanguy type or similar), with excision of skin and subcutaneous tissue, repair of musculoaponeurotic layer and transposition of umbilicus, not being a service performed within 12 months after the end of a pregnancy and not being a service associated with a service to which item 45564, 45565 or 45530 applies (Anaes.) (Assist.)

(See para T8.8 of explanatory notes to this Category)

Fee: \$967.30 Benefit: 75% = \$725.50

Cosmetic ?

https://www.medicareaustralia.gov.au/cgi-bin/broker.exe?_PROGRAM=sas.mbs_item_age_gender_report.sas&_SERVICE=default&_DEBUG=0&VAR=services&STAT=count&PTYPE=finyear&START_DT=201107&END_DT=201205&RPT_FMT=by+state&GROUP=30177

MBS Item profile – Obesity

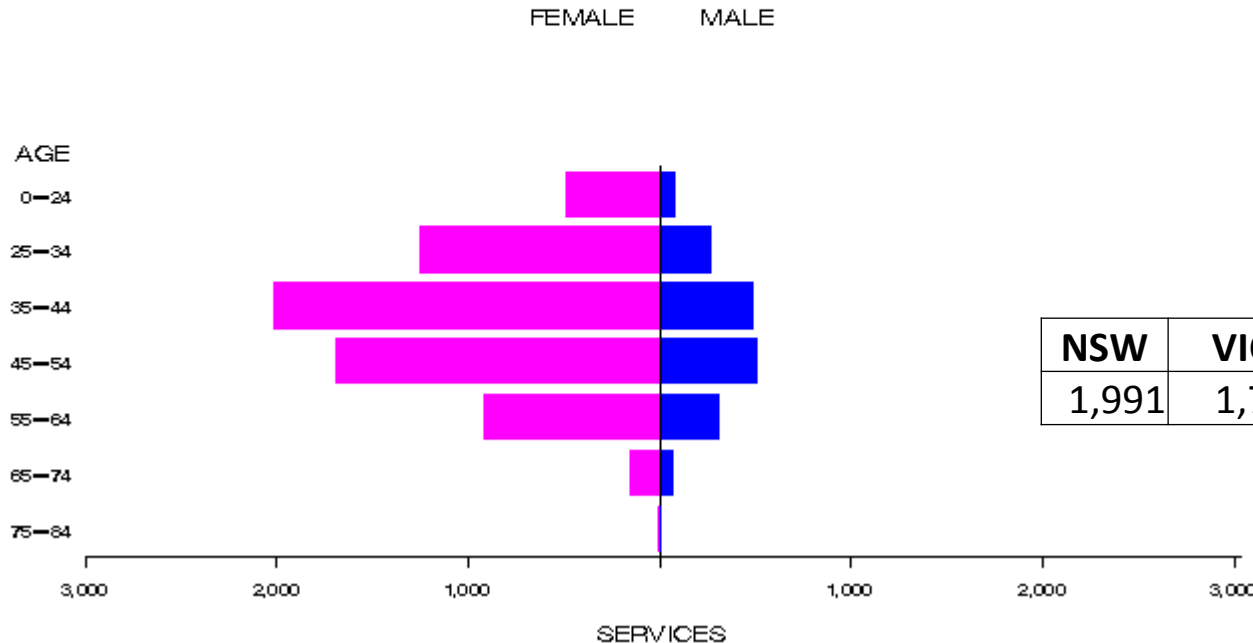


Australian Government
Medicare Australia

You are here: [Statistics](#) > [Medicare Item Reports](#) > Report processed

Medicare Item 30511 processed from July 2011 to May 2012

Patient Demographics



(see Item 31441 for repair, revision or replacement of implanted reservoir associated with adjustable gastric band) (see Item 14215 for adding or removing fluid via the implanted reservoir to adjust the tightness of the gastric band)

MORBID OBESITY, gastric reduction or gastroplasty for, by any method (Anaes.) (Assist.)

Fee: \$833.70 Benefit: 75% = \$625.30

- Female to male relativities ?
- State relativities ?

| NSW | VIC | QLD | SA | WA |
|-------|-------|-------|-----|-------|
| 1,991 | 1,744 | 1,547 | 559 | 1,811 |

https://www.medicareaustralia.gov.au/cgi-bin/broker.exe?_PROGRAM=sas.mbs_item_age_gender_report.sas&SERVICE=default&_DEBUG=0&VAR=services&STAT=count&PTYPE=finyear&START_DT=201107&END_DT=201205&RPT_FMT=by+state&GROUP=30511

Bupa Possible Cosmetic Items by State CY 11 - Examples

| Service Year | | 2011 | | | | | | | | |
|-----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Hospital State | | - Blank - | ACT | NSW | NT | QLD | SA | TAS | VIC | WA |
| MBS Item Number | MBS Description | Services (Med) | Services (Med) | Services (Med) | Services (Med) | Services (Med) | Services (Med) | Services (Med) | Services (Med) | Services (Med) |
| 30171 | Lipectomy | 16 | 3 | 56 | 11 | 46 | 119 | 7 | 126 | 13 |
| 30177 | Lipectomy | 21 | 10 | 145 | 7 | 117 | 180 | 24 | 138 | 25 |
| 30511 | Obesity | 24 | 13 | 394 | 33 | 438 | 319 | 160 | 426 | 155 |
| 30514 | Obesity | 10 | 2 | 105 | 7 | 177 | 124 | 30 | 154 | 28 |
| 45617 | Eyelid reduction | 56 | 15 | 365 | 13 | 391 | 283 | 60 | 326 | 72 |
| 45623 | Eyelid Ptosis | 28 | 5 | 322 | | 270 | 249 | 18 | 192 | 7 |
| 45638 | Rhinoplasty | 18 | 5 | 66 | 1 | 68 | 59 | 4 | 64 | 18 |

Note the relativities between States

Cosmetic Surgery Based on Service Co-existence & Provider Web Site

| Medical Provider Last Name | MBS Item Number | Sex | Age at Service | Adjusted Moop | Med Ben MBS Schedule Fee | Fund Medical Benefit (Inc Non-Res) | Episode Id | Service Date | Item Description |
|----------------------------|-----------------|-----|----------------|---------------|--------------------------|------------------------------------|--|--------------|--|
| | 45558 | F | 36.00 | \$9,420 | \$1,580 | \$395 | 65856197-00-0055190K-20101118-20101122 | 18NOV2010 | Breast Ptosis, Correction Of By Mastopexy By Any Means |
| | 30177 | F | 36.00 | \$0 | \$0 | \$0 | 65856197-00-0055190K-20101118-20101122 | 18NOV2010 | Lipectomy Radical Abdominoplasty (Pitanguy Type |
| | 45641 | F | 49.00 | \$6,289 | \$1,212 | \$303 | 65096521-01-0055190K-20110111-20110112 | 11JAN2011 | Rhinoplasty Involving Nasal Or Septal Cartilage Graft |
| | 45617 | F | 49.00 | \$0 | \$0 | \$0 | 65096521-01-0055190K-20110111-20110112 | 11JAN2011 | Reduction Of Upper Eyelid For Skin Redundancy -Refer S |
| | 45527 | F | 49.00 | \$0 | \$714 | \$592 | 62954250-01-0055190K-20110531-20110601 | 31MAY2011 | Augmentation Mammoplasty -Refer Schedule |
| | 45554 | F | 49.00 | \$0 | \$337 | \$279 | 62954250-01-0055190K-20110531-20110601 | 31MAY2011 | Breast Prosthesis, Removal And Replacement With |
| | 30171 | F | 49.00 | \$0 | \$166 | \$101 | 62954250-01-0055190K-20110531-20110601 | 31MAY2011 | Lipectomy Wedge Excision Of Skin And Fat, Not Being A |
| | 31230 | F | 49.00 | \$0 | \$40 | \$25 | 62954250-01-0055190K-20110531-20110601 | 31MAY2011 | Tumour (Other Than Viral Verrucae Ycommon Warts? |
| | 30171 | F | 49.00 | \$14,408 | \$1,092 | \$273 | 63947188-00-0055190K-20100524-20100531 | 24MAY2010 | Lipectomy Wedge Excision Of Skin And Fat, Not Being A |
| | 45617 | F | 49.00 | \$0 | \$0 | \$0 | 63947188-00-0055190K-20100524-20100531 | 24MAY2010 | Reduction Of Upper Eyelid For Skin Redundancy -Refer S |

Z41, Procedures other than remedying health state

- This ICD 10 AM code encompasses: Z41.1 - Other plastic surgery for unacceptable cosmetic appearance; Z41.2 - Routine and ritual circumcision; Z41.8 - Other procedures for purposes other than remedying health state; Z41.9 - Procedure for purposes other than remedying health state, unspecified
 - A review of **Bupa data for Z41.1** from Jan 2008 to 2012 highlighted the **potential** overpayment of:
 - \$2.1 million in medical payments **plus**
 - \$14.1 million in hospital payments associated with those medical payments
- for all Z41 episodes, whether it was the principal diagnosis or not and whether it included those episodes linked to a Bupa “cosmetic” list or not

Cosmetic
MBS Med
Claim? Values

| No | | | Yes | | | Total Count of episodeid | Total Sum of Hospital Benefit | Total Sum of Medical Benefit |
|--------------------|-------------------------|------------------------|--------------------|-------------------------|------------------------|--------------------------|-------------------------------|------------------------------|
| Count of episodeid | Sum of Hospital Benefit | Sum of Medical Benefit | Count of episodeid | Sum of Hospital Benefit | Sum of Medical Benefit | | | |
| 2191 | \$5,517,878 | \$610,458 | 2738 | \$8,626,537 | \$1,496,400 | 4929 | \$14,144,415 | \$2,106,857 |

Medical Over servicing & Fraud in Summary

- Medical over servicing is a politically sensitive area
- Nevertheless, Funds need to seriously review medical servicing and invoicing
- Medicare & Funds should work collaboratively by informing each other of generic fraud and over servicing patterns, so that:
 - Medicare can save it's 75% of the Fund inpatient MBS Schedule Fee and
 - Funds save their 25% of hospital inpatient medical benefits paid and
 - Funds claw back the hospital costs associated with an inappropriate admission
- This collaboration does not have to offend the relevant Privacy principles
- Funds in addition need to review their Contract and Agreement services (>100% of MBS fee) to determine if providers are compliant and/or invoicing and itemising correctly

Appendices - Medical

Medical Profile – Plastic Surgeon



Medical One Page Summary Report

Provider Details

| Provider Number | Provider Name | Provider Address | Specialty Order | Code and Description |
|-----------------|---------------|------------------|-----------------|--|
| | | | spec1 | 037 - Plastic And Reconstructive Surgery |
| | | | spec2 | 104 - General Practitioner |

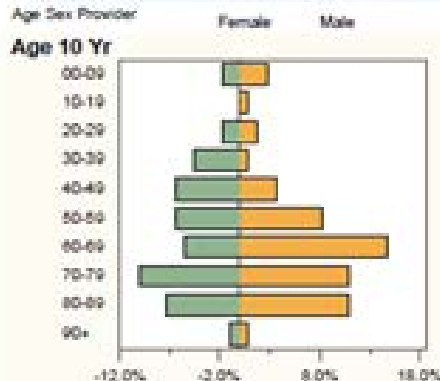
Practice Details

| Provider Number | Practice Number | Practice Rate Group | Practice Name | Practice Type |
|-----------------|-----------------|---------------------|---------------|---------------|
| | | | | Plastic |
| | | | | |
| | | | | |

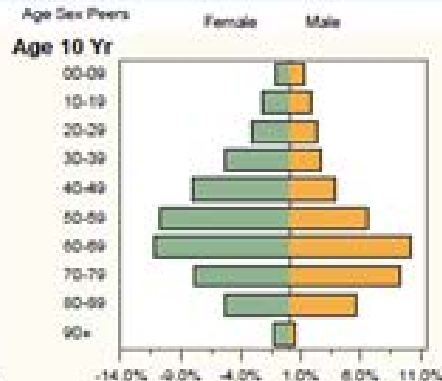
Financial Details

| Provider | Fund Medical Benefit (Inc Non-Res) | Services (Med) | #Count Patient | BPP | SPP | # Providers |
|-----------|------------------------------------|----------------|----------------|----------|-----|-------------|
| | \$21,144 | 235 | 109 | \$193.98 | 2.2 | |
| State | \$6,004,760 | 31,987 | 10,048 | \$597.61 | 3.2 | 305 |
| Specialty | \$17,032,160 | 110,232 | 37,777 | \$450.86 | 2.9 | 1,050 |

Age Sex Provider



Age Sex Peers



Item Details

| Item | Provider Benefit | Provider% | Specialty Benefit | Specialty% |
|-------|------------------|-----------|-------------------|------------|
| 45451 | \$3,163 | 14.96% | \$1,594,088 | 9.37% |
| 45203 | \$2,973 | 14.06% | \$1,181,894 | 6.95% |
| 45206 | \$231 | 1.09% | \$741,510 | 4.36% |
| 30023 | \$768 | 3.63% | \$549,152 | 3.23% |
| 45563 | \$959 | 4.54% | \$529,968 | 3.12% |
| 45442 | \$2,140 | 10.12% | \$489,124 | 2.88% |
| 45003 | \$0 | 0.00% | \$444,857 | 2.62% |
| 45520 | \$666 | 3.15% | \$411,575 | 2.42% |
| 31270 | \$477 | 2.25% | \$380,668 | 2.24% |
| 31260 | \$0 | 0.00% | \$351,982 | 2.07% |

Medical Services per member and item number

| Provider Stem | Services | Claiming Member | fund2 | Total medical benefit | Items Claimed | Ranks Method | | | Outlier Method | | | | | |
|---------------|----------|-----------------|----------|-----------------------|---------------|-----------------------------|--------------------------|----------------------------|--|------------------------|-----------------------|--|------------------------|-----------------------|
| | | | | | | Items ranked in Top 10% SPM | Average Item ranking SPM | Percent of items in top 10 | Occurrences where an item number is deemed an outlier for the provider | | | % of total occurrences the item was an outlier | | |
| | | | | | | | | | SPM Outlier Count | Services Outlier Count | Fund 25 Outlier Count | SPM Outlier Count | Services Outlier Count | Fund 25 Outlier Count |
| 2008 | 4573 | 162 | \$81,190 | \$126,545 | 13 | 8 | 86 | 62% | 6 | 9 | 9 | 46% | 69% | 69% |
| 009 | 3662 | 185 | \$67,831 | \$107,144 | 8 | 5 | 76 | 63% | 3 | 5 | 4 | 38% | 63% | 50% |
| 001 | 2206 | 80 | \$37,357 | \$58,477 | 10 | 7 | 85 | 70% | 2 | 5 | 5 | 20% | 50% | 50% |
| 201 | 248 | 8 | \$11,585 | \$26,790 | 2 | 2 | 99 | 100% | 2 | 2 | 2 | 100% | 100% | 100% |
| 005 | 152 | 4 | \$6,855 | \$14,249 | 2 | 2 | 97 | 100% | 2 | 2 | 2 | 100% | 100% | 100% |
| 206 | 94 | 5 | \$4,340 | \$9,197 | 2 | 2 | 97 | 100% | 2 | 1 | 1 | 100% | 50% | 50% |
| 003 | 382 | 37 | \$4,296 | \$7,459 | 6 | 4 | 79 | 67% | 2 | 3 | 3 | 33% | 50% | 50% |
| 200 | 37 | 2 | | \$1,164 | 6 | 4 | 75 | 67% | 2 | 3 | 0 | 33% | 50% | 0% |
| 003 | 52 | 1 | | \$816 | 3 | 3 | 99 | 100% | 2 | 2 | 0 | 67% | 67% | 0% |

High proportion of items where the number of services per member were outliers

Medical Services per episode for major provider

| % of Total Episodes Classified as Outliers for this major provider | | | | | | | Episodes Flagged as Outliers | | | | | | |
|--|---------|--------------------|------|-----------|-----|-----|------------------------------|--------------------|------|-----------|-----|-----|----------------|
| majProv | Anaesth | Diagnostic Imaging | Path | Other Med | Any | LOS | Anaesth | Diagnostic Imaging | Path | Other Med | Any | LOS | Total Episodes |
| 0404** | 2% | 22% | 41% | 33% | 51% | 32% | 3 | 28 | 53 | 43 | 66 | 41 | 130 |
| 0907** | 11% | 14% | 38% | 4% | 46% | 5% | 21 | 26 | 71 | 7 | 86 | 10 | 189 |
| 0101** | 12% | 20% | 34% | 33% | 51% | 25% | 25 | 41 | 70 | 69 | 106 | 53 | 208 |
| 0402** | 12% | 0% | 33% | 3% | 44% | 2% | 23 | 0 | 64 | 5 | 85 | 4 | 192 |
| 2102** | 1% | 20% | 32% | 3% | 49% | 7% | 1 | 32 | 52 | 5 | 81 | 12 | 164 |
| 0105** | 4% | 8% | 25% | 2% | 33% | 28% | 13 | 27 | 81 | 8 | 108 | 92 | 326 |
| 0408** | 4% | 35% | 25% | 8% | 51% | 12% | 15 | 123 | 86 | 29 | 180 | 43 | 350 |
| 0406** | 6% | 3% | 23% | 2% | 29% | 10% | 21 | 11 | 76 | 8 | 97 | 35 | 335 |
| 0308** | 6% | 40% | 23% | 16% | 51% | 19% | 15 | 93 | 53 | 38 | 120 | 44 | 234 |
| 0604** | 7% | 23% | 19% | 3% | 35% | 8% | 41 | 141 | 114 | 20 | 212 | 50 | 606 |
| 0403** | 19% | 14% | 17% | 19% | 39% | 24% | 60 | 45 | 53 | 59 | 122 | 77 | 316 |
| 0200** | 3% | 59% | 16% | 21% | 66% | 14% | 10 | 205 | 56 | 74 | 229 | 47 | 345 |

Unusually high number of pathology and diagnostic services

Possible Up Coding of MBS

Target:

Providers who consistently charge for the highest available item

Rationale:

Some items provide very similar services and the variation lies in the time allowed to be billed. An example of this is with case conferencing items (excluding psych)

| Item | MBS at November 2011 | Provider Stem |
|-------|----------------------|---|
| 00835 | \$ 98 | 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 DISCHARGE CASE CONFERENCE of at least 15 minutes but less than 30 minutes , with a multidisciplinary team of at least two other formal care providers of different disciplines |
| 00830 | \$ 137 | Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND COORDINATE A DISCHARGE 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 |
| 00832 | \$ 205 | Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND COORDINATE A DISCHARGE 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 |
| 00834 | \$ 273 | Attendance by a consultant physician in the practice of his or her specialty, as a member of a case conference team, to ORGANISE AND COORDINATE A DISCHARGE CASE CONFERENCE of at least 45 minutes , with a multidisciplinary team of at least three other formal care providers of different disciplines |

Method:

Identify providers who more commonly charge for the most expensive items within the subset of items

Possible Up Coding of MBS

| Provider | \$98 | \$137 | \$205 | \$273 | Total | % Services for Most expensive Item |
|-----------------------|------------|-------------|------------|------------|-------------|------------------------------------|
| 2025 | | | | 79 | 79 | 100% |
| 009 | | 1 | 15 | 63 | 79 | 80% |
| 205 | | | | 62 | 62 | 100% |
| 006 | | | 3 | 39 | 42 | 93% |
| 201 | | | | 31 | 31 | 100% |
| 002 | | 3 | 41 | 15 | 59 | 25% |
| 000 | | | | 14 | 14 | 100% |
| 003 | | 28 | 36 | 13 | 77 | 17% |
| 205 | | 1 | 1 | 12 | 14 | 86% |
| 004 | | | | 11 | 11 | 100% |
| National Total | 106 | 5161 | 344 | 447 | 6058 | 7% |

Some providers consistently charge for the most expensive item

Discrepancies between hospital coding and doctors billing

Target:

Providers with consistent discrepancies between the hospital coding and doctors bills

Rationale:

In some instances, we can validate doctors claims by looking at the hospital clinical coding. An example of this is angiographies, which can be billed according to the number of data acquisition runs

| Digital Subtraction angiography - aorta and lower limb codes | | | |
|--|---|----|-------|
| MBS | | | |
| 60060 | Digital subtraction angiography, examination of aorta and lower limb or limbs - 1 to 3 data acquisition runs (R) (Anaes.) | \$ | 564 |
| 60063 | Digital subtraction angiography, examination of aorta and lower limb or limbs - 4 to 6 data acquisition runs (R) (Anaes.) | \$ | 827 |
| 60066 | Digital subtraction angiography, examination of aorta and lower limb or limbs - 7 to 9 data acquisition runs (R) (Anaes.) | \$ | 1,176 |
| 60069 | Digital subtraction angiography, examination of aorta and lower limb or limbs - 10 or more data acquisition runs (R) (Anaes.) | \$ | 1,376 |
| ACHI | | | |
| 60060-00 | Digital subtraction angiography of aorta and lower limb, <= 3 data acquisition runs, unilateral | | |
| 60060-01 | Digital subtraction angiography of aorta and lower limb, <= 3 data acquisition runs, bilateral | | |
| 60063-00 | Digital subtraction angiography of aorta and lower limb, 4 to 6 data acquisition runs, unilateral | | |
| 60063-01 | Digital subtraction angiography of aorta and lower limb, 4 to 6 data acquisition runs, bilateral | | |
| 60066-00 | Digital subtraction angiography of aorta and lower limb, 7 to 9 data acquisition runs, unilateral | | |
| 60066-01 | Digital subtraction angiography of aorta and lower limb, 7 to 9 data acquisition runs, bilateral | | |
| 60069-00 | Digital subtraction angiography of aorta and lower limb, >= 10 data acquisition runs, unilateral | | |
| 60069-01 | Digital subtraction angiography of aorta and lower limb, >= 10 data acquisition runs, bilateral | | |

Method:

Assess discrepancies between doctors codes and ACHI codes

Discrepancies between hospital coding and doctors billing

| ep | Doctors Bill | | | | | Hospital Coding | | | | | Discrep | Hosp |
|------|--------------|-------|-------|---------|-------|-----------------|-------|-------|-------|-------|---------|------|
| | \$564 | | | \$1,376 | Docs | ACHI | ACHI | ACHI | ACHI | ACHI | | |
| | 60060 | 60063 | 60066 | 60069 | Total | 60060 | 60063 | 60066 | 60069 | Total | Discrep | Hosp |
| 1030 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1096 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1133 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1135 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1166 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1166 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1176 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1183 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1209 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1254 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1260 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1328 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1356 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |
| 1435 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 00 |

Hospital Medical Record review may be required

Appendices - Ancillary

Dental Profile

Provider Summary Report

Provider Number: [REDACTED], Period Selected: 365DAYS, Date of Report: 02NOV2012

Provider Details

| | | | |
|------------------------|-------------------------|---------------|-----------------------------------|
| Provider Number: | [REDACTED] | / HIC Spec1: | Dentist(Registered/NonSpecialist) |
| Title: | [REDACTED] | / HIC Spec2: | [REDACTED] |
| Provider Name: | [REDACTED] | / HIC Spec3: | 0 |
| Provider Address: | [REDACTED] | / HIC Spec4: | 0 |
| Provider Type: | Dentist | / HIC Spec5: | 0 |
| Provider Sub Type: | Dentist | / Fund Spec1: | 0 |
| Speciality Codes: | 112,123,000,000,000,000 | / Fund Spec2: | 0 |
| NMHI Speciality Codes: | 000,000,000,000,000,000 | / Fund Spec3: | 0 |
| HICAPS Indicator: | Y | / Fund Spec4: | 0 |
| Organisation ID: | | / Fund Spec5: | 0 |
| Practice Name: | | / Fund Spec6: | 0 |

Provider Network Details

| | |
|-------------------|-----|
| Agreement Number: | - |
| Network Status: | N/A |
| Business Line: | N/A |

Services and Benefits

| Provider Postcode State | Mships | Patients | Services | Benefit Paid | Providers | BPM | BPP | SPM | SPP | Ben.Fee | Nil Benefit Ratio | Cpos Services Ratio | Comparison (x% above avg if highlighted or x% below if white) | | | | |
|-------------------------|---------|----------|-----------|---------------|-----------|----------|----------|-------|------|---------|-------------------|---------------------|--|--------|--------|--------|--------|
| | | | | | | | | | | | | | Provider Postcode State Comparison | BPM | BPP | SPM | SPP |
| Provider | 780 | 1,169 | 9,578 | \$498,842 | 1 | \$639.54 | \$426.73 | 12.28 | 8.19 | 45.00% | 3.82% | 99.46% | Provider vs State | 87.00% | 69.00% | 85.00% | 68.00% |
| Postcode | 3,969 | 5,562 | 35,338 | \$1,833,585 | 25 | \$461.98 | \$329.66 | 8.9 | 6.35 | 48.00% | 8.45% | 96.57% | Provider vs Postcode | 38.00% | 29.00% | 38.00% | 29.00% |
| State | 318,179 | 432,812 | 2,106,253 | \$109,042,253 | 3121 | \$342.71 | \$251.94 | 6.62 | 4.87 | 48.00% | 7.92% | 95.09% | | | | | |

Age Groups, Services

| % Of Services Per Age Group | Provider (%) | State (%) |
|-----------------------------|--------------|-----------|
| 0-9 | 1.82 | 5.97 |
| 10-19 | 6.63 | 10.22 |
| 20-39 | 16.52 | 23.45 |
| 40-64 | 49.05 | 41.91 |
| 65-74 | 14.76 | 12.12 |
| 75+ | 11.22 | 6.33 |
| Unknown | 0.00 | 0.00 |
| Total | 100.00 | 100.00 |

Age Groups, Services

| Services for Different Age Groups | Prov Services | State Services |
|-----------------------------------|---------------|----------------|
| 0-9 | 174 | 125,775 |
| 10-19 | 635 | 215,174 |
| 20-39 | 1,582 | 493,895 |
| 40-64 | 4,698 | 882,808 |
| 65-74 | 1,414 | 255,255 |
| 75+ | 1,075 | 133,339 |
| Unknown | 0 | 7 |
| Total | 9,578 | 2,106,253 |

Item Categories, Providers vs State

| Subcategory | Provider Services | State Services |
|---------------------------------------|-------------------|----------------|
| Diagnostic | 42.22% | 36.92% |
| Preventative, Prophylaxis & Bleaching | 25.49% | 29.75% |
| Periodontics | 0.01% | 1.24% |
| Oral Surgery | 2.00% | 2.99% |
| Endodontics | 5.54% | 3.13% |
| Restorative | 10.80% | 20.76% |
| Prosthodontics | 12.92% | 3.76% |
| Orthodontics | 0.00% | 0.31% |

Item Subcategories

| Subcategory | Services | Benefit Paid [\$] |
|------------------|----------|-------------------|
| Diagnostic | 4044 | 75,593.70 |
| Endodontics | 531 | 34,060.15 |
| Ex-Gratia | 0 | 0.00 |
| General Services | 98 | 4,113.60 |
| Oral Surgery | 192 | 19,320.15 |
| Orthodontics | 0 | 0.00 |
| Periodontics | 1 | 0.00 |

(Continued)

Chiropractor Profile

Provider Summary Report

Provider Number: [REDACTED] 65DAYS, Date of Report: 02NOV2012

Provider Details

| | | | |
|------------------------|------------|---------------|--------------|
| Provider Number: | [REDACTED] | / HIC Spec1: | Chiropractor |
| Title: | [REDACTED] | / HIC Spec2: | 0 |
| Provider Name: | [REDACTED] | / HIC Spec3: | 0 |
| Provider Address: | [REDACTED] | / HIC Spec4: | 0 |
| Provider Type: | [REDACTED] | / HIC Spec5: | 0 |
| Provider Sub Type: | [REDACTED] | / Fund Spec1: | 0 |
| Speciality Codes: | [REDACTED] | / Fund Spec2: | 0 |
| NMHI Speciality Codes: | [REDACTED] | / Fund Spec3: | 0 |
| HICAPS Indicator: | Y | / Fund Spec4: | 0 |
| Organisation ID: | [REDACTED] | / Fund Spec5: | 0 |
| Practice Name: | [REDACTED] | / Fund Spec6: | 0 |

Provider Network Details

| | |
|-------------------|-----|
| Agreement Number: | - |
| Network Status: | N/A |
| Business Line: | N/A |

Services and Benefits

| Provider Postcode State | Mships | Patients | Services | Benefit Paid | Providers | BPM | BPP | SPM | SPP | Ben.Fee | Nil Benefit Ratio | Cpot Services Ratio |
|-------------------------|--------|----------|----------|--------------|-----------|----------|----------|------|------|---------|-------------------|---------------------|
| Provider | 181 | 276 | 1,503 | \$34,257 | 1 | \$189.26 | \$124.12 | 8.3 | 5.45 | 40.00% | 2.86% | 84.56% |
| Postcode | 1,018 | 1,369 | 7,220 | \$158,643 | 17 | \$155.84 | \$115.88 | 7.09 | 5.27 | 42.00% | 3.91% | 76.47% |
| State | 68,213 | 96,459 | 515,970 | \$12,137,372 | 1572 | \$177.93 | \$125.83 | 7.56 | 5.35 | 49.00% | 2.52% | 81.11% |

Comparison (x% above avg if highlighted or x% below if white)

| Provider Postcode State Comparison | BPM | BPP | SPM | SPP |
|------------------------------------|--------|----------|--------|-------|
| Provider vs State | 6.00% | (1.00%) | 10.00% | 2.00% |
| Provider vs Postcode | 21.00% | 7.00% | 17.00% | 3.00% |

Age Groups, Services

| % Of Services Per Age Group | Provider (%) | State (%) |
|-----------------------------|--------------|-----------|
| 0-9 | 19.36 | 7.51 |
| 10-19 | 4.06 | 7.70 |
| 20-39 | 30.61 | 29.02 |
| 40-64 | 34.46 | 44.93 |
| 65-74 | 9.58 | 7.76 |
| 75+ | 1.93 | 3.07 |
| Unknown | 0.00 | 0.00 |
| Total: | 100.00 | 100.00 |

Age Groups, Services

| Services for Different Age Groups | Prov Services | State Services |
|-----------------------------------|---------------|----------------|
| 0-9 | 291 | 38,775 |
| 10-19 | 61 | 39,754 |
| 20-39 | 460 | 149,717 |
| 40-64 | 518 | 231,825 |
| 65-74 | 144 | 40,047 |
| 75+ | 29 | 15,852 |
| Unknown | 0 | 0 |
| Total: | 1,503 | 515,970 |

Item Categories, Providers vs State

| Subcategory | Provider Services | State Services |
|-------------------|-------------------|----------------|
| Chiropractic Cons | 99.87% | 99.05% |
| Osteopathy | 0.00% | 0.46% |
| Orthosis | 0.00% | 0.01% |
| X-Ray | 0.00% | 0.20% |
| Ex-Gratia | 0.00% | 0.00% |
| Misc | 0.13% | 0.07% |

Item Subcategories

| Subcategory | Services | Benefit Paid (\$) |
|-------------------|----------|-------------------|
| Chiropractic Cons | 1501 | 34,256.70 |
| Ex-Gratia | 0 | 0.00 |
| Misc | 2 | 0.00 |
| Orthosis | 0 | 0.00 |
| Osteopathy | 0 | 0.00 |
| X-Ray | 0 | 0.00 |
| Total: | 1503 | 34,256.70 |

Analytics – Scoring Algorithms

Provider : Provider Number
500 records of the top 10 %

Leakage criteria

| Ranking | Provider No | Provider Type | Provider State | Provider Postcode | Distinct count of covno | Benefit Paid | Services | Distinct count of patients | Combined Rank | i013 - High Services per Patient (SPP) | i014 - High Services per Membership (SPM) | i011 - High Benefits per Patient (BPP) | i012 - High Benefits per Membership (BPM) | i015 - High Claims Per Membership | i008 - Items Inappropriate for Patient | i016 - UPI Shopping via CPOS | i023 - Upcoding of Items | i017 - Services at Suspicious Times or Dates | i009 - Backdating CPOS Claims | i022 - Claims Not in Chronological Order | i018 - High Volume of Services Provided Per Day | i025 - Inconsistent Provider Charges |
|---------|-------------|---------------|----------------|-------------------|-------------------------|--------------|----------|----------------------------|---------------|--|---|--|---|-----------------------------------|--|------------------------------|--------------------------|--|-------------------------------|--|---|--------------------------------------|
| 90 | [Redacted] | Dentist | qld | [Redacted] | 136 | \$94,201.80 | 2205 | 198 | 99-100% | 99-100% | 99-100% | 99-100% | 99-100% | 99-100% | 99-100% | 99-100% | 97-99% | 85-95% | 70-85% | 85-95% | 97-99% | 85-95% |
| 99 | [Redacted] | Dentist | | [Redacted] | 298 | \$176,608.45 | 3592 | 464 | 99-100% | 99-100% | 99-100% | 97-99% | 99-100% | 97-99% | 97-99% | 99-100% | 70-85% | 95-97% | 99-100% | 70-85% | 97-99% | 70-85% |
| 11 | [Redacted] | Dentist | | [Redacted] | 405 | \$219,644.00 | 5057 | 701 | 99-100% | 97-99% | 97-99% | 97-99% | 97-99% | 97-99% | 99-100% | 99-100% | 85-95% | 99-100% | 97-99% | 85-95% | 99-100% | 70-85% |
| 34 | [Redacted] | Dentist | | [Redacted] | 926 | \$518,172.55 | 11297 | 1400 | 99-100% | 97-99% | 97-99% | 97-99% | 97-99% | 95-97% | 99-100% | 99-100% | 85-95% | 99-100% | 99-100% | 95-97% | 99-100% | 70-85% |
| 35 | [Redacted] | Dentist | | [Redacted] | 431 | \$220,607.95 | 4858 | 646 | 99-100% | 97-99% | 97-99% | 97-99% | 97-99% | 85-95% | 99-100% | 97-99% | 85-95% | 99-100% | 99-100% | 97-99% | 99-100% | 70-85% |

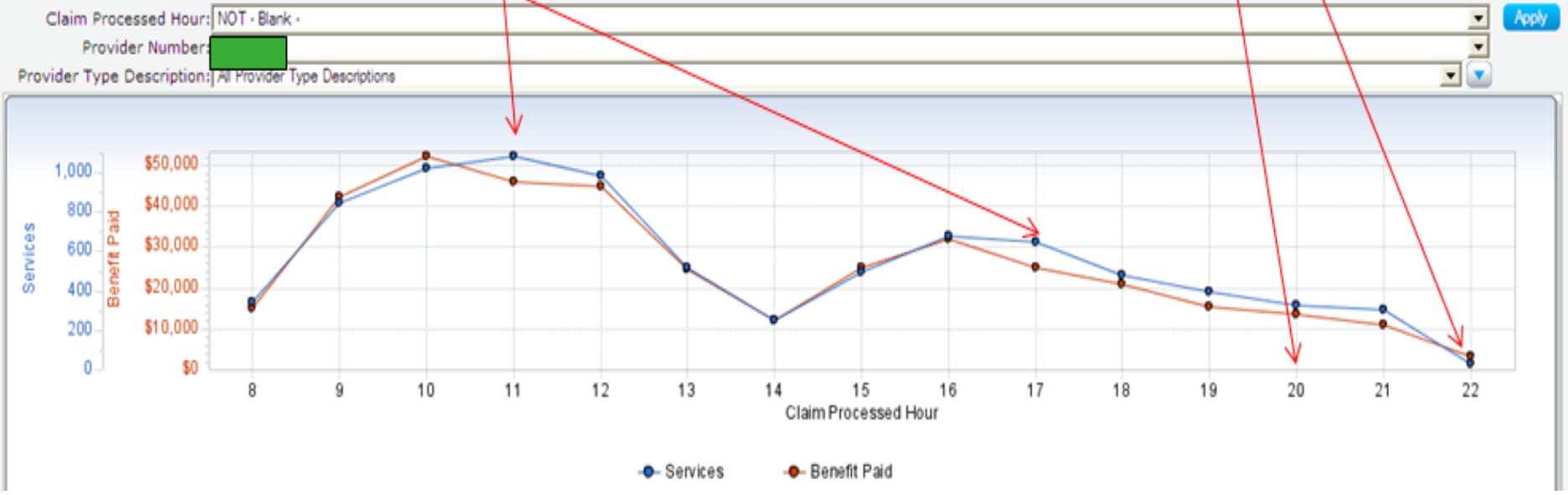
Questionable service Pattern 1

| Provider Long Name | [Redacted] | | | | | |
|----------------------|------------|-------------------|--------------|-----------------------|-----------------|--------------------|
| Provider Number | [Redacted] | | | | | |
| Claim Processed Hour | Services | Services Column % | Benefit Paid | Benefit Paid Column % | #Count Patients | #Count Memberships |
| 9 | 632 | 4.8% | \$29,694 | 5.0% | 132 | 115 |
| 10 | 759 | 5.8% | \$38,641 | 6.6% | 169 | 147 |
| 11 | 693 | 5.3% | \$29,261 | 5.0% | 159 | 139 |
| 12 | 659 | 5.0% | \$29,849 | 5.1% | 155 | 122 |
| 13 | 329 | 2.5% | \$16,714 | 2.8% | 88 | 68 |
| 14 | 188 | 1.4% | \$7,794 | 1.3% | 47 | 43 |
| 15 | 336 | 2.6% | \$15,393 | 2.6% | 78 | 72 |
| 16 | 504 | 3.8% | \$21,250 | 3.6% | 113 | 96 |
| 17 | 433 | 3.3% | \$16,756 | 2.8% | 96 | 76 |
| 18 | 308 | 2.3% | \$13,472 | 2.3% | 79 | 69 |
| 19 | 299 | 2.3% | \$12,420 | 2.1% | 76 | 60 |
| 20 | 245 | 1.9% | \$10,615 | 1.8% | 60 | 51 |
| 21 | 225 | 1.7% | \$8,390 | 1.4% | 52 | 36 |

Services after 8pm at night?
Works 14 hour day?
Quality?

ANC Claims Detailed

Why does the servicing peak drop?



Abuse of Tooth ID



ANC Claims Detailed: Ovrall Ancillary Benefit i042CovNo

First Row Dimension: Item Subcategory 1
 Nested Row Dimension: Claim Date
 Row Dimension #3: Service Date
 Row Dimension #4: Item Description
 Row Dimension #5: Body Part
 Row Dimension #6: Mbr Surname
 Row Dimension #7: Mbr Given Name
 Row Dimension #8: Provider Name
 Row Dimension #9: Assessor Name
 Column Dimension: Service Year

Available Measures:
 Benefits Fees and Services
 Fee Charged
 Network Benefit
 Network Fee
 Network Services
 Count Nil Benefit Serv
 Patient's OOP
 Benefits and Fees (Max / Min)
 Benefit Paid (Max)
 Fee Charged (Max)

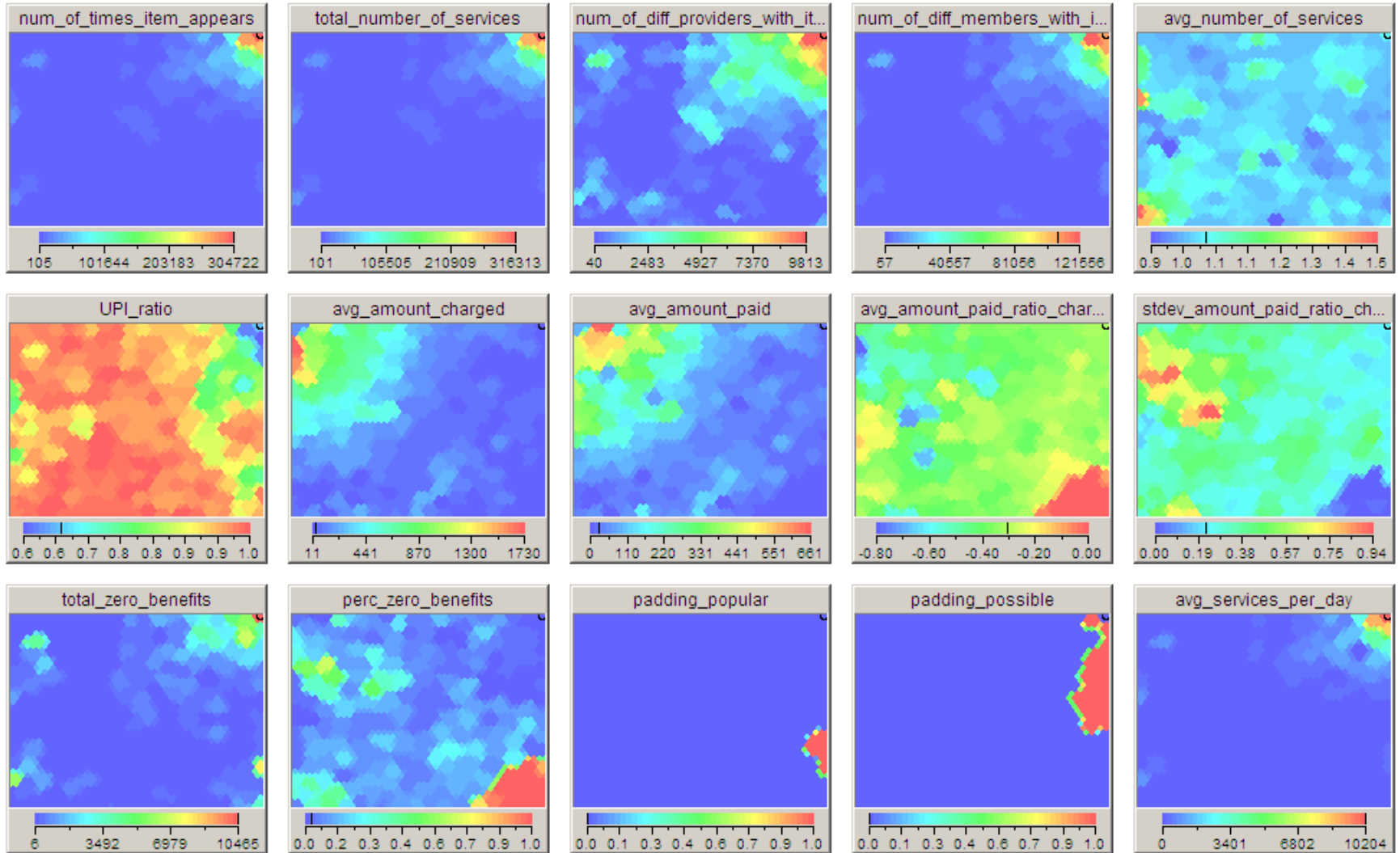
Selected Measures:
 Benefit Paid
 Service

Same teeth & same service
2 visits

Provider Type Description: All Provider Type Descriptions
 Item Subcategory 1: Dental
 Cover Number:

| Service Year | Item Subcategory 1 | Claim Date | Service Date | Item Description | Body Part | Mbr Surname | Mbr Given Name | Provider Name | Assessor Name | Benefit Paid | Services |
|--------------|--------------------|------------|--------------|---|-----------|-------------|----------------|---------------|---------------|--------------|----------|
| 2010 | Dental | 25JUN2010 | 25JUN2010 | 00525-Adhesive Restoration - Five Surface | 31 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 32 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 33 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 41 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 42 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 43 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 31 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 32 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 33 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| | | | | | 43 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$126 | 1 |
| 2010 | Dental | 10JUL2010 | 10JUL2010 | 00525-Adhesive Restoration - Five Surface | 14 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 15 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 24 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 44 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 45 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 46 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 44 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |
| | | | | | 45 | [Redacted] | [Redacted] | [Redacted] | Cpos | \$73 | 1 |

Kohonen Network (SOM) - Item model for popular dental items



- Work undertaken with Deloitte's some years ago

Overpayment of Type C Claims relating to Crohn's Disease

- MBS item number 14245 is a type C procedure therefore the data I selected is based on this number. Run data from BOSS, then import the data to ACCESS database. You can choose to link the data if the dataset is too big as it may slow the performance. This is the limitation of using ACCESS.
- Also import all other related reference tables such as hospital table which may contain contract details such as contracted rates.
- Create query based on selection criteria eg. CEP as we should paid this item as CEP. Day Band type =1 as some hospital pay type c as band 1. DRG=G64Z and ICD principal diagnostic code (K50.9) or procedure code (9619903 or 9619909)
- List the data and check if any obvious charging or payment pattern identified.
- Create and run a summary report to see the overpayment by hospital.

Potential Outliers using Excel – some examples

Potential Outliers for Dental Consultations CY2011

Includes dental consultation items 14 - 17. Excludes nil benefit claims

1. Calculate Outlier Points

| Services Per Member | |
|-----------------------|------|
| Mean | 1.03 |
| Mean + 3 Standard Dev | 1.33 |

| Benefits per Member | |
|---------------------|---------|
| Median | \$31.36 |
| Q3+1.5IQR | \$67.70 |

2. Flag where provider exceeds outlier

| Provider De-identified | Claiming Members | Benefits | Services | Services Per Member | Benefits per Member | Outlier? | | Rank | |
|------------------------|------------------|----------|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | Services Per Member | Benefits per Member | Services Per Member | Benefits per Member |
| 1116 | 496 | \$13,294 | 510 | 1.0 | \$26.80 | No | No | 1269 | 5214 |
| 3099 | 498 | \$19,988 | 507 | 1.0 | \$40.14 | No | No | 1366 | 2287 |
| 1660 | 418 | \$15,204 | 447 | 1.1 | \$36.37 | No | No | 926 | 2936 |
| 4461 | 344 | \$19,531 | 407 | 1.2 | \$56.78 | No | No | 339 | 183 |
| 2895 | 224 | \$5,937 | 393 | 1.8 | \$26.51 | Yes | No | 35 | 5297 |
| 3085 | 220 | \$7,089 | 390 | 1.8 | \$32.22 | Yes | No | 34 | 3750 |
| 1170 | 366 | \$26,908 | 380 | 1.0 | \$73.52 | No | Yes | 1184 | 23 |
| 3507 | 271 | \$8,142 | 377 | 1.4 | \$30.04 | Yes | No | 104 | 4190 |
| 2307 | 371 | \$10,390 | 372 | 1.0 | \$28.01 | No | No | 1466 | 4656 |
| 4857 | 352 | \$9,557 | 361 | 1.0 | \$27.15 | No | No | 1308 | 5107 |
| 2088 | 299 | \$10,246 | 341 | 1.1 | \$34.27 | No | No | 505 | 3325 |
| 136 | 316 | \$10,460 | 320 | 1.0 | \$33.10 | No | No | 1413 | 3542 |
| 1345 | 305 | \$8,570 | 311 | 1.0 | \$28.10 | No | No | 1351 | 4645 |
| 3422 | 307 | \$10,308 | 311 | 1.0 | \$33.58 | No | No | 1411 | 3458 |

Another approach - Rank provider by given metric

Finding Outliers using Excel

Potential Outliers for Dental Consultations CY2011

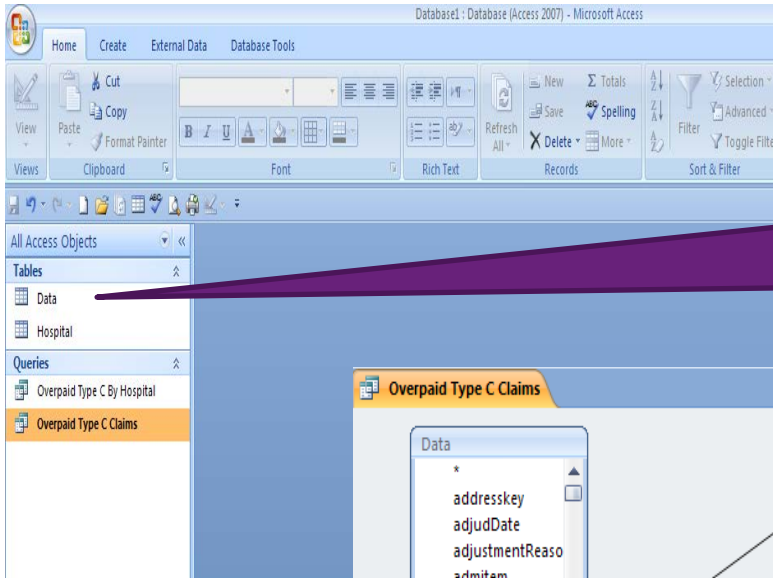
Includes dental consultation items 14 - 17. Excludes nil benefit claims

| Services Per Member | | Benefits per Member | |
|-----------------------|------|---------------------|---------|
| Mean | 1.03 | Median | \$31.36 |
| Mean + 3 Standard Dev | 1.33 | Q3+1.5IQRR | \$67.70 |

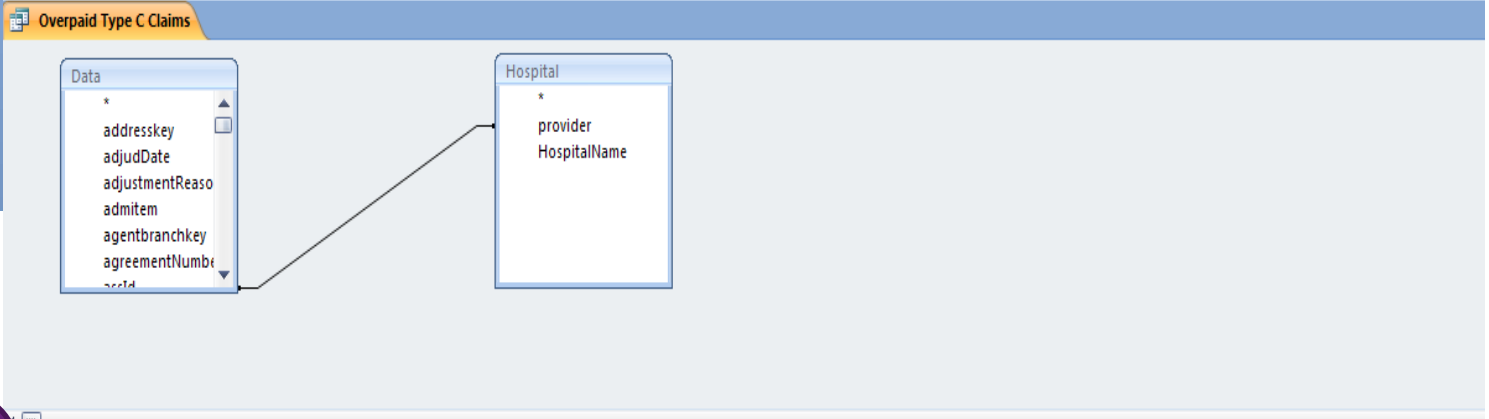
| Provider De-identified | Claiming Members | Benefits | Service | Services Per Member | Benefits per Member | Outlier? | | Rank | |
|------------------------|------------------|----------|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | | | | | Services Per Member | Benefits per Member | Services Per Member | Benefits per Member |
| 1116 | 496 | \$13,294 | 510 | 1.0 | \$26.80 | No | No | 1269 | 5214 |
| 3099 | 498 | \$19,988 | 507 | 1.0 | \$40.14 | No | No | 1366 | 2287 |
| 1660 | 418 | \$15,204 | 447 | 1.1 | \$36.37 | No | No | 926 | 2936 |
| 4461 | 344 | \$19,531 | 407 | 1.2 | \$56.78 | No | No | 339 | 183 |
| 2895 | 224 | \$5,937 | 393 | 1.8 | \$26.51 | Yes | No | 35 | 5297 |
| 3085 | 220 | \$7,089 | 390 | 1.8 | \$32.22 | Yes | No | 34 | 3750 |
| 1170 | 366 | \$26,908 | 380 | 1.0 | \$73.52 | No | Yes | 1184 | 23 |
| 3507 | 271 | \$8,142 | 377 | 1.4 | \$30.04 | Yes | No | 104 | 4190 |

Appendices - Hospital

Type C Services for Crohn's Disease - Overpayment



Import data of related reference tables (eg. Data with claim mbs item=14245) from external



Create query based on special conditions. Eg. Payment paid as CEP, Day Band, specific procedure codes or a DRG etc.

| Field: | admitem | item | claimnum | contract | servcode | dayBand | episodeDRG | keyIcdCode | keyProc | days | fee |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table: | Data | Data | Data | Data | Data | Data | Data | Data | Data | Data | Data |
| Sort: | | | Ascending | | | | | | | | |
| Show: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: | | | | "CEP" | "D" | "1" | | | "9619903" Or "961990" | | |
| or: | | | | "CEP" | "D" | "1" | | In ("K500", "K508") | | | |
| | | | | "CEP" | "D" | "1" | "G64Z" | | | | |

Database1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools

View Paste Copy Format Painter Clipboard Font Rich Text Records Sort & Filter Find

All Access Objects

Tables

| HospitalName | claimnum | contr | servco | dayB | episodeDRC | keylcc | keyProc | da | fee | totalBenefit | Contr | Overp |
|--------------|--------------|-------|--------|------|------------|--------|---------|----|----------|--------------|-------|-------|
| Hospital N | 206102315701 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,074.00 | 400 | \$: |
| Hospital N | 206102439371 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 206102531844 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 206103062808 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,074.00 | 400 | \$: |
| Hospital N | 206103085121 | CEP | D | 1 | G64Z | K501 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 206103163836 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 206103352747 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 206103498150 | CEP | D | 1 | G64Z | K501 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 207102603811 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 207110661124 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 207110746922 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 207110956089 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,124.00 | 4,124.00 | 400 | \$: |
| Hospital N | 207111226398 | CEP | D | 1 | G64Z | K508 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111406008 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111476002 | CEP | D | 1 | G64Z | K508 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111476124 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111546706 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111656934 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111856054 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | 207111966976 | CEP | D | 1 | G64Z | K509 | 9619909 | 1 | 4,268.00 | 4,268.00 | 400 | \$: |
| Hospital N | | | | | | | | | | | | |
| Hospital N | | | | | | | | | | | | |
| Hospital N | | | | | | | | | | | | |

Run query and list data

Create a query to run a Summary Report to see the estimated amount of overpayment by hospital

Database1 : Database (Access 2007) - Microsoft Access

Home Create External Data Database Tools

View Paste Copy Format Painter Clipboard Font Rich Text Records Sort & Filter Find

All Access Objects

| HospitalName | Total Original Charge | Total Hospita Benefit | Total Overpaid |
|--------------|-----------------------|-----------------------|----------------|
| Hospital N | \$92,168.00 | \$92,018.00 | \$83,218.00 |