

INQUIRY INTO DENTAL SERVICES IN NSW

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Theme:

Summary

1 June 2005

The Director
Standing Committee on Social Issues,
Legislative Council
Parliament House
Macquarie Street
SYDNEY NSW 2000

Re: Inquiry into Dental Services in NSW

Dear Sir/Madam

Please find attached a submission on the above matter from Australian Health Management (*ahm*).

I would be pleased to host a visit by the Committee to our Practices should this be of interest to Committee member. Our Director of Clinical Services, Dr Simon Parsons, and I will also be pleased to answer any questions the Committee may have regarding this submission.

Yours faithfully

Christine Thomas
General Manager
Dental and Eyecare Practices



Dental & Eyecare Practice

**Submission to the Standing Committee on
Social Issues, Legislative Council**

Inquiry into Dental Services in NSW

May 2005

INQUIRY INTO DENTAL SERVICES IN NSW

Introduction

This submission is made by **ahm's Dental and Eyecare Practices (DEP)**. Our purpose in making this submission is to inform the Committee about an innovative, quality dental service provided at an affordable price. **ahm** has been providing dental care to members of the Government Employees Health Fund since 1983 and its coverage has grown with amalgamations of small funds. In April 2004 the NSW Dental Board gave permission for the Fund to treat private patients as well as those insured through this Fund. The **ahm** DEPs have about 31,000 patients and provide 191,000 services per annum.

The process of providing high quality care, securing a stable well-trained workforce and meeting the needs of patients has given **ahm** insight into the issues raised in the Committee's Terms of Reference. We recognise the limitations of our experience i.e. our patients are either Fund members or are able to afford to pay for emergency and some routine care. Nevertheless, our experience of treating private patients in the past year suggests that we have become an access point for those who may usually seek public dentistry but who require more immediate treatment than that offered by the public system. The evidence for this assertion is that many of our private patients have sought emergency treatment and the average cost of treatment is about \$130. Provided below is a brief overview of our service.

ahm in Brief

ahm has three practices located in NSW:

- Haymarket 16 dental chairs
- Parramatta 14 dental chairs
- Wagga Wagga 5 dental chairs with an additional chair presently being commissioned.

ahm employs 220 staff of whom 52 are dentists, including 7 specialists. A further 4 staff are hygienists and 3 are prosthetists. The remainder are dental assistants (69), sterilising staff (7), member service officers, administrative staff and optical dispensers.

In addition we are providing cadetships worth \$15,000 each to 7 final year dental undergraduates at University of Sydney. These students also undertake weekend and holiday employment with us as dental assistants. Next year they are all guaranteed (subject to graduation and registration as a dental practitioner), full time employment in our Practices. Their commencing salary will be approximately \$90,000 per annum. They will also be the beneficiaries of Australia's first Dental Internship Program which **ahm** is funding and providing in-house with the assistance of the UK Dental Internship Program and a UK dental consultant. Please see Term of Reference (e) for more information on this initiative.

The DEP provides a wide range of services "under one roof". These include:

- general dentistry
- specialist services such as orthodontics, prosthodontics, oral surgery and endodontics
- conscious sedation (at Parramatta)
- hygienist services
- oral health educators
- minimal intervention dentistry
- cosmetic dentistry, including tooth whitening
- fresh breath clinics
- dental laboratories

Response to the Committee's Terms of Reference

1 (a) *The quality of care received in dental services*

Over-servicing

ahm's DEP pride themselves as being an "ethical provider" of quality dental care. Because staff are employed on a salaried basis they do not have an incentive to over-serve. Many of our dentists work with us part time and in other private practices part time, and have done so for many years. The reason for this pattern of engagement in dentistry is because they can generate higher income through private practice but actually enjoy the work environment offered through our DEPs where there is:

- no pressure to over service
- no restriction on providing appropriate services to those who require them (an experience most endured during their training in the public system)
- opportunity for continuous training and skill development funded by the employer
- none of the usual pressures of running their own private practice e.g. establishment costs of premises, equipment, staff recruitment and retention, and the attraction and retention of a steady supply of patients.

AHM asserts that the balance between providing enough care and not over-servicing is a difficult one for many dentists in private practice. One dental assistant has cited an example of a dentist she worked with in private practice before joining *ahm*, who began proceedings one day with the statement: "I'm taking delivery of a new boat this evening. I have to make \$5,000 today". Most patients seen that day received services in addition to those clinically indicated to guarantee the \$5,000 target was met.

Second Opinions

Our DEP clinicians are often asked for second opinions about treatment plans provided to patients by private practitioners. In the time I have been General Manager of the DEPs (21 months) I am unaware of any treatment plan provided by a private practitioner, where the patient sought a second opinion at our service, where the extent of treatment originally recommended was verified as necessary. One example is a patient advised to have 9 implants at a cost of \$54,000. One of our specialist Prosthodontists who reviewed the patient found that 4 implants were necessary at a cost of \$20,000. This is an extreme case but the review of external treatment plans by our clinicians invariably yields a more modest treatment plan.

Clinical Auditing

Clinical auditing is a key part of the DEPs continuous improvement strategy. In the past 12 months, for example, clinical audit topics have included:

- imaging - compliance with indications for
- dental records policy compliance
- emergency patient management
- orthodontic retreatment requirement
- wisdom teeth removal consent and complications
- implant failures
- endodontic treatment indications and consent
- crown and bridge failures
- periodontal surgery and crown lengthening
- appropriateness of referrals to hygienists and prosthetists
- compliance with treatment planning by patients referred to hygienists

Audits are conducted by peers - senior dentists, results are discussed at a monthly clinical audit meeting which includes management, and decisions are taken about appropriate actions required as a result of audit findings. The usual response is:

- compare our results against available benchmarks (to date audit results lie within acceptable external benchmarks)
- discuss any training or performance feedback which may be appropriate for individuals
- discuss strategy for conveying the outcomes to clinical staff at our regular clinical staff meetings
- reschedule follow up audits if appropriate

It may be that a clinical audit program is difficult to achieve in a suburban private practice or in large public facilities. However, the benefits which our DEP's have yielded from the process have been invaluable and I recommend this commitment to other dental providers.

Quality Staff

Nevertheless, public dentistry may not be the answer to either the quality or quantity of dental services available. **ahm's** experience is that by:

- paying very attractive salaries
- providing excellent conditions
- providing well-trained staff to assist them
- providing continuous training
- providing a very high standard of infection control
- running an active clinical audit program with constructive group and individual feedback to clinicians
- carefully monitoring group and individual performance on variables such as services per patient, patients per hour, revenue per hour, rates of imaging and so on, with detailed feedback to clinicians at regular performance reviews

It is possible to combine the best of all possible worlds. The fact that **ahm** is a mutual (not for profit) organisation assists in this however the DEPs are still required to be commercially viable to enable continued re-investment in the business.

Infection Control

ahm's DEPs place infection control compliance at the top of it's list of priorities. A very significant investment is made:

- in training of all staff in policies and procedures
- upgrading of sterilising facilities and equipment (a new sterilising suite was built at our Haymarket facility in 2004 at a cost of over \$.5m)
- tracking of instrument batches
- monitoring the performance of autoclave equipment
- regular maintenance of equipment
- employment of qualified and experienced sterilising staff
- according sterilising staff and activities status and some priority within the DEPs.

We consider it essential to make this investment due to the overwhelming importance of the issue and because it does distinguish us from our competitors to some extent. All of our sterilising areas are visible to the patients walking by. While they may not enter, patients can readily observe the stringent processes undertaken by the gowned, gloved and masked staff.

Some months ago we enlisted the services of the NSW Infection Control Resource Centre to review our infection control policy and procedures as well as reviewing the adequacy of our facilities. Their advice to us was that we exceeded best practice and offered a standard more akin to a hospital environment. We are proud of our commitment to infection control.

I am unsure of the extent to which this approach is mirrored in other private or health fund practices in NSW. Recent visits to a wide range of private dental practices in the UK and several Canadian public dentistry facilities indicate that not all providers of dental care accord infection control the same high priority.

RECOMMENDATIONS:

Quality dental care requires:

- 1. System-wide review to minimize over-servicing**
- 2. Access to second opinion referral services**
- 3. Active clinical audit programs**
- 4. Recruitment of quality staff**
- 5. Priority give to infection control**

(b) The demand for dental services including issues relating to waiting times for treatment in public services

Service Demand

No doubt other submissions will provide detailed data, often based on the excellent work undertaken by the Australian Institute of Health and Welfare and the University of Adelaide's Australian Research Centre for Population Oral Health (ARCHPOH), regarding the issues of service demand. This submission will not repeat these findings, nor will it comment on alleged waiting times in public dental services. Suffice is to say that when some of the AIHW-ARCHPOH data was presented to the *ahm* Board in October 2004 the Board was so moved by the plight of those seeking and requiring access to dental services but were unable to do so, they removed the requirement that Fund members be given priority for treatment and committed the Fund to growing the number and distribution of our DEPs to improve access. This commitment was strengthened following the publication of a series of articles on access to dental care in the Sydney Morning Herald in February 2005.

ahm Waiting Times

The DEP waiting times vary from clinician to clinician. Emergency and "walk-in" patients are seen same day however they will not be able to choose a clinician. Continuity of care is given a high priority in our scheduling arrangements and we prefer to maintain the patient dentist relationship however this is rarely possible in emergency situations.

Our benchmark for a routine check up is within 2 weeks. Not all of our clinicians meet this benchmark because they may only work part time. Waiting times in our Wagga Wagga practice average 12 weeks for a routine check up, such is the extraordinary demand for basic dental care in rural areas. Our private practice colleagues have waiting times of the same dimensions. We fly specialist orthodontists to Wagga Wagga routinely and have an extensive orthodontic practice there as we provide one of the few orthodontic services in Wagga.

In 2004 I initiated discussion with the United Dental Hospital of Sydney to explore ways in which we might be able to assist them with their long waiting times. The outcome was a suggestion we might consider taking on some of their denture work. We considered the price list offered, where pricing was below even that offered by the Department of Veteran's Affairs, and recognised that we could not undertake any of this work without recording a loss. This would not have been fair to our Fund members who pay significant premiums each year.

In summary, I consider there to be a seemingly insatiable unmet need for basic good quality dental care at an affordable price.

RECOMMENDATION:

Increase access to dental care through a mixture of increased funding of public dental services and outsourcing to private practice. Outsourcing has to be offered on a commercially viable basis or the private sector will decline to participate.

(c) The funding and availability of dental services, including the impact of private health insurance

ahm's DEPs are underwritten by the *ahm* private health insurance fund. As stated above, we operate on a commercially viable basis and do so with considerably higher overheads than the average private practice, for example:

- IT systems which interface with the Fund health insurance network,
- high infection control standards,
- clinical auditing programs,
- electronic patient records,
- call centre functions,
- business analysis functions to monitor utilisation and individual clinician performance
- audit and risk management
- innovative programs and services
- research
- teaching

Charging

Our pricing regime is based on average private practice charges but discounted. Members of the Fund who have ancillary cover are eligible (subject to the level of cover held) for an average of \$500 worth of general dentistry, \$1,000 worth of high cost dentistry and \$1000 worth of specialist dentistry per financial year. How this works is that if an item no. is charged at say \$50, the Fund reimburses say \$25 to the DEP as payment for the services provided and this amount is deducted from the \$500 general dentistry benefit (this forms part of our revenue budget), the balance of \$25 then becomes the Member Advantage. If individual limits are exceeded the DEP is responsible for collecting a co-payment. This means that a patient who has one check up per year along with a scale and clean, two x rays and 2-3 restorations would not usually face any out of pocket

costs. Patients requiring more expensive procedures e.g. endodontics and crowns will be expected to contribute a co-payment.

The effect of these arrangements is that members with *ahm* ancillary cover routinely come for annual check ups and, as a result of a long term monitoring and preventive approach, are requiring less intervention than those private patients who have been "priced out" of traditional private sector dental care. The size of the group who can no longer access private dentistry is growing.

RECOMMENDATION:

Private Health insurers be encouraged to offer basic dental-only products to enable patients not eligible for public dentistry to access necessary dental care. Health care cardholders would ideally be able to access private practice with a "limit scheme" along the lines described above.

(d) The dental services workforce including issues relating to the training of dental clinicians and specialists

Australia is subject to the international shortage of dentists. The Australian Health Minister's Advisory Council Final Report on "Oral Health of Australians: National planning for health improvement" in August 2001 stated that the rate of dentists per 100,000 population will decrease to 35.0 by 2010, whereas in OECD countries the average is 56.6 dentists per 100,000. The only countries with a lower rate than 35.0 are Spain, Portugal and Turkey.

Public and private sector dental services alike all have great difficulty in attracting and retaining dentists. The DEPs in the past have recruited in the UK and usually had some success due to people seeking a fresh start in a new environment and generous remuneration arrangements. Within the past two years we have sponsored the migration of a specialist orthodontist, and a GP dentist to work in our Wagga Wagga Practice. These dentists are of exceptional calibre and are making an outstanding contribution to our services. Nevertheless, this is an expensive and imperfect way to attract staff to our services.

Instead we have commenced offering cadetships to university students in their final year of dentistry. We undertook a merit selection process and offered seven cadetships of \$15,000 per person. These cadets will work with us as new graduates following registration, for a period of at least 2 years. Extensive placement in our Wagga Wagga practice is part of their commitment. We also offer the cadets the opportunity to work as dental assistants on weekends and holidays, for which they are also remunerated.

Traditionally *ahm* has not employed new graduates, considering them to be too slow and a high risk proposition. That thinking has had to change. Accordingly, we are commencing in 2006 Australia's first dental internship program. This is being fully funded by *ahm* and will entail the following:

- adopting the UK internship competency approach (internships or the "vocational year" is mandatory in the UK)
- retaining a dental consultant from the UK who was involved with the initial implementation of the internship program and who continues to have interns in his own private practice, works with the Deans of the Dental Faculties and is a member of the General Dental Council
- "the dental consultant will implement the program, involving a 'train-the-trainer' approach over a 6 month period, where the new graduates will be allocated to a trainer in small groups (say 1 or 2 per trainer) to follow the dental competency program. This will entail delivering patient care, off-line training, debriefing and mentoring, continuous assessment and review. The dental consultant will return to conduct the evaluation after 12 months has passed.
- the "shadowing" of the UK consultant by one of our own clinical consultants on staff. He will conduct the program in future years.

We expect to continue to provide cadetships and internships routinely in future years and will vary the numbers depending on expansion plans.

Dental Assistant Training

We have undertaken a similar initiative with dental assistant training as recruitment and retention of dental assistants is also a significant issue in the dental industry. In February 2005 we commenced an in-house program (using a Registered Training Organisation) to train 12 dental assistants. In addition 6 of our existing staff who are experienced dental assistants but who lacked formal qualifications, have joined the program. The group will emerge after 2 years with a qualification which will be recognised Australia-wide and does not require after-hours attendance at TAFE. We are planning a further intake of 3 sterilising trainees shortly and a further 9 dental assistant trainees in 2006.

I am sure the Committee will appreciate the significant investment being made in training and development of staff by *ahm*. We see this as essential because there has been under investment in the past by Universities (in restricting the number of places for dental undergraduates) and TAFE (through the rigidity of their courses).

Dental Therapists

The other burning issue in the dental workforce is the matter of dental therapists. In NSW they are not permitted to work anywhere other than in public dentistry. The rationale used for this is that they were trained using public funds. Curiously, this argument doesn't seem to apply to dental graduates, dental assistants, hygienists, prosthetists, sterilising staff or laboratory technicians - all of whom are trained in facilities which are publicly funded.

Therapists can play an invaluable role in improving access to dental care at an affordable price. They are used extensively in other states and provide excellent care for children up to 18 years of age. They are able to perform the following:

- check ups
- scale and clean
- restorations
- administer local anaesthetic
- oral education
- minor extractions (i.e. on deciduous teeth)

Therapists have provided a major contribution to school dental programs in the past and it is regrettable that these services have been wound back in NSW.

In January 2004 I approached the Dental Board of NSW to permit a dental therapist we employ in our Wagga Wagga practice (as a member service officer) to practice as a dental therapist. Wagga Wagga is an area with a significant shortage of dental professionals and utilising a therapist to screen and treat children would greatly assist our dentists in reducing the waiting time for treatment. The Dental Board denied my request on the "their education was funded by the public system" argument. This argument needs to be exposed for what it is: an illogical defence of the incomes of private dentists.

RECOMMENDATIONS:

- 1. Fund more places at universities for dentistry students.**
- 2. Introduce a dental internship year for new dental graduates**
- 3. Include private and not-for-profit services as part of the internship training rotation, with particular emphasis on rural placements.**
- 4. Revamp TAFE dental assistant training to better reflect the requirements of public and private practice, especially flexibility in TAFE attendance as opposed to recognition of On-the-job-learning.**
- 5. Amend the Dental Practice Act 2001 to permit therapists to work in private and not-for-profit dental services.**

(f) Preventive dental treatments and initiatives, including fluoridation and the optimum method of delivering such services

Preventive services are the cornerstone of the *ahm* dental service offering. Most dental services talk about prevention, our DEPs deliver on it in 2 key ways:

- all preventive services are provided without a co-payment i.e. as part of the "member advantage" benefit which applies to Fund members.
- *ahm* has funded the first large-scale operational trial of Minimal Intervention (MI) dentistry in Australia, in its own practices.

Attached for the Committee's benefit is a brief evaluation report on the trial conducted between March 2004 and March 2005 on the application of MI

dentistry across our 3 DEP sites. In summary, MI dentistry is an approach which focuses on risk identification and management of the identified risk. Aspects covered in the risk assessment include:

- diet (including number of sugar hits per day, consumption of cola drinks)
- presence of a particular bacteria in one's mouth which has been implicated in the presence of caries (this bacteria can be transmitted from mother to baby)
- saliva flow and production
- presence of plaque
- medical history
- fluoride history
- lifestyle assessment (e.g. snacking throughout the day, take away foods)
- attitude
- oral hygiene practice (e.g. brushing and flossing)

A systematic risk assessment approach to caries management represents current "best practice", is scientifically founded and is consistent with a "physician approach" to disease management as opposed to a "surgeon approach" (drill and fill). Our trial involved a sample of 3,000 patients of which 18% were assessed as being at high risk and 21% at moderate risk. These two groups became the focus of the study.

MI Trial Results

There were many detailed clinical findings which are contained in a PowerPoint presentation should the Committee be interested in seeing the details. Outlined below are a few examples:

- The trial demonstrated that 80% of patients changed their practices as a result of the MI program
- Of the at-risk group 62.1% showed some salivary dysfunction at initial assessment. This was reduced to 42.3% for those who attended at least one review assessment over the 12 month trial
- Decrease in the at-risk group for diet factors, from 59.5% to 22.5%
- Decrease in the at-risk group for plaque/bacteria factors from 30.4% to 17.2%

Fluoride and the 0-24 age group

It is alarming to note that the 0-24 year old age group (who made up 30.2% of the MI trial cohort) accounted for 40.2% of the MI group who presented with cavities in their teeth i.e. high risk. This data is consistent with data presented at the recent Australian Dental Association Congress (March 2005) showing caries in this age group has been increasing since 1996.

It now appears that the "magic bullet" of fluoride has a reduced impact in the 0-24 age group where risk factors such as:

- regular consumption of cola drinks
- insufficient drinking of plain water
- regular sugar hits throughout the day
- irregular brushing and flossing
- regular consumption of take away food
- snacks between meals (instead of fruit)

are a significant lifestyle issue. The gains made by fluoride are in danger of being seriously whittled down unless a major oral health education program is introduced in schools, universities, the media, and both public and private dentistry. Oral health educators and dental therapists are excellent choices for dental health professionals who can deliver such programs in the environments where young people spend large amounts of time i.e.. schools and universities. The MI program provides an excellent foundation on which such programs can be developed.

RECOMMENDATIONS:

1. **The Committee seek a presentation on the detailed application of Minimal Intervention dentistry in our trial population to see for itself the approach, materials used and the results.**
2. **Dental Therapists and Oral Health Educators be retained by education authorities to establish oral health services based on the MI risk assessment approach as well as providing a basic dental service for those at risk.**
3. **Fluoridation of all public water supplies be carried out as a matter of urgency. The Director General of NSW Health has the power to direct this occur in the public interest if local councils are unable to resolve the matter at a local level.**

Report on Minimal Intervention Dentistry (MI) Pilot

1. Précis

From March 2004 to February 2005 a Pilot in Minimal Intervention Dentistry (MI) was conducted at the Dental & Eyecare Practices (DEPs). This paper provides an overview of the Pilot, summarises the outcomes and provides a recommendation to rollout MI "Practice-wide". There are PowerPoint presentations that go with this report that provide the detail regarding the outcomes of the Pilot.

2. Overview of the MI Pilot

The MI Pilot was conducted across the three Practices and involved an "MI Team" of eight GP clinicians, four from Haymarket, three from Parramatta and one from Wagga. Supporting the team was an appropriate allocation of hygienists, dental assistants and member service officers.

The overall objective of the Pilot was to evaluate ways to implement a risk assessment approach to caries disease management in order to

- Deliver best clinical outcomes in the long term and satisfaction and value for patients
- Promote greater staff performance and satisfaction
- Optimise resources and value for *ahm*.

To achieve this, the following questions are considered

- How relevant is the philosophy of caries risk assessment to the treatment needs of the patient cohort seen at the DEPs?
- What is the level of acceptance, support and "buy-in" for this philosophy amongst patients and staff?
- How might a functional, efficient and sustainable approach to implementation of MI be introduced as part of general dental practice?

The project had an integrated system of protocols for assessing risk and determining appropriate treatment interventions, comprised of the Traffic Light-Matrix System and Clinical Pathways.

The Traffic Light-Matrix System provided a comprehensive and systematic approach to assessing a patient's attitude to oral health, disease activity and risk factors. At-risk patients underwent a full work-up of their risk factors such as medical history, saliva and bacteria testing, as well as diet, fluoride history and lifestyle assessment. Support staff played an important role working with MI clinicians in a number of ways; such as data collection and analysis, patient education and motivation and appropriate preventive treatment (from the hygienists).

Once the various risk factors were assessed Clinical Pathways were followed to ensure the most appropriate treatment interventions, based on individual risk rather than a "one-size-fits-all" approach, were adopted.

A systematic risk assessment approach to caries management represents current "best practice", is scientifically founded and is consistent with the medical approach to disease

management. It also has the capacity to mitigate *ahm's* potential risk for not assessing and managing disease appropriately i.e. "just drilling and filling." Caries risk assessment also fits well with *ahm's* overall proactive approach in working alongside members to promote their ongoing good health.

3. Outcomes of the MI Pilot

The attached PowerPoint presentations provide the detailed outcomes for patients, staff and the DEPs and *ahm*. Outlined below are the outcome measures for these key stakeholders.

Patient outcomes were assessed across three areas as measured by

- Systematic and comprehensive assessment of risk factors
- Review of clinical measures (Traffic Light-Matrix System)
- Attitude to oral health and satisfaction surveys
- Summary
 - Risk assessment
 - 3,011 patients risk assessed
 - 1,845 (61%) low risk
 - 1,166 (39%) at risk
 - Of the 1,166 patients at risk, 72% of patients agreed to full risk assessment
 - 227 patients returned for at least one review risk assessment during the course of the Pilot
 - Clinical
 - 21% of all patients had risk factors for caries, but did not present with active disease (moderate risk group)
 - 18% of all patients showed evidence of active disease at time of initial screening (high risk group)
 - 59.5% of patients were assessed at high risk (red light) for diet at initial assessment. This reduced to 22.5% at review assessment
 - 62.1% of patients were assessed at high risk for saliva at initial assessment. This reduced to 42.3% at review
 - 30.4% of patients were assessed at high risk for bacteria at initial assessment. This reduced to 17.2% at review
 - 60% of review patients showed overall improvement as measured by the Traffic Light-Matrix System
 - 6-8% of review patients were "worse off" as measured by the Traffic Light-Matrix System
 - Satisfaction
 - Behaviours consistent with positive attitude to oral health
 - Up from 74.5% to 86.2%
 - Oral health as a high priority
 - Up from 62.8% to 74.3%
 - ~90% happy with treatment received
 - ~90% would recommend MI and ~82% would use MI again
- See attached "Patient Outcomes" presentation for detailed results.

Staff outcomes as measured by

- Satisfaction surveys
- Performance (as measured by individual clinician outcomes)
- Summary
 - Satisfaction
 - > 90% felt MI has better equipped them to do their job
 - ~ 90% satisfaction with effectiveness of teamwork with MI
 - 100% would participate in a similar program if offered
 - Performance
 - There was significant individual variation in the various performance measures and this is the subject of a separate detailed DEP report
- See attached “Staff Outcomes” presentation for detailed results.

DEPs outcomes as measured by

- Direct revenue and expenses of the Pilot
- Financials
- Productivity
- Casemix
- The “bottom line” of MI
- Summary
 - \$11,555 net benefit in direct revenue (from sponsorship and co-payments) over direct costs (eg training) attributed to the Pilot
 - 4.3% decrease in revenue
 - 5% decrease in unique patients per hour
 - 4% decrease services per hour

 - Improved casemix (appropriateness)
 - There were reduced restorations, crown and bridgework, extractions and fissure sealants compared to the same time period the year before (for the same clinicians)
 - This indicates evidence of an assessment for a clinical need for any invasive treatment based on individual risk factors before such treatment was performed.

***ahm* outcomes**

- Summary
 - 4.3% savings in equivalent Private Practice fees compared to the same time period the year before (for the same clinicians)
 - Strong patient support and approval of philosophy of treatment
 - ~90% would recommend MI to others
 - Strong user loyalty and satisfaction
 - 62% of patients felt strongly that MI provided incentive to remain with the fund
 - 64% of patients felt strongly that MI provided additional value for money from their health cover
- See attached “DEPs & *ahm* Outcomes” presentation for detailed results.

4. Discussion

The data shows that the MI cohort is representative of the overall clinic population in both age distribution and by Practice, so any conclusions drawn from the Pilot can be readily applied to all clinic attendees. Given that approximately 10% of total unique patients seen across the Practices were screened for MI during the Pilot, it is also reasonable to assume that the results from this large sample are relevant to the broader cohort of patients seen Practice-wide.

From the initial risk screening 61% were assessed as low risk (not at risk at the time of assessment) whereas 39% were assessed at risk. From the overall group 18% were considered high risk in that they presented with some form of active disease. Twenty-one per cent (21%), although not showing evidence of active disease, were considered as moderate risk due to assessed risk factors.

It is this group of 21% who might normally have been missed by most clinicians for clinical intervention to control or modify their disease process. This is because conventional diagnostic tools used in dentistry, such as periodic radiographs (x-rays), focus on detection of active disease only. This latter group represent a significant opportunity for *ahm's* staff to "make a difference" to the long-term dental health of patients, and indirectly towards the costs of managing disease into the future.

The opportunity to intercept carious lesions before they cavitate is an extremely important one. Lesions diagnosed in the early stages can be remineralised (healed), but this requires an assessment of the patient's risk status and the establishment of a proactive partnership with the patient in order to achieve this. The pilot has demonstrated that 80% of patients surveyed indicated they had changed their practices as a result of the pilot, as discussed below.

It is alarming to note that the 0 to 24-year-old age group, who made up 30.2% of the MI cohort (29.9% for the overall clinic population), accounted for 40.2% of the MI group who presented with actual cavities (i.e. "holes in their teeth"). This data is consistent with that presented at the recent Australian Dental Association Congress (March 2005) showing caries in this age group has been increasing since 1996. This indicates that *ahm's* youngest patients have a disproportionately high level of dental caries, thereby representing potentially the greatest future cost to *ahm's* Practices unless appropriately managed through improved interventions.

There is a high likelihood that these patients are presenting with the first caries experience for any given tooth (i.e. not secondary caries under existing restorations). The significance of this is that once the tooth is cavitated it is "condemned" to the repeat restoration cycle, given the finite nature of mechanical restorations placed in a biological environment. Max Anderson (2001) showed that in an insured population (Delta Dental, Washington State, USA) the cost of a life cycle of a tooth initially restored at the age of 13 was US\$1,811.

Another group that deserves attention is those presenting with medical conditions (eg hypertension, diabetes), the use of multiple medications and / or lifestyle and the impact these factors have on saliva. Of the at risk group, 62.1% showed some salivary dysfunction (red light) at initial assessment. This figure was reduced to 42.3% for those

who attended for at least one review risk assessment during the trial period, an improvement of almost one-third.

Other data shows excellent results in reducing the risk (those assessed as red light) for dietary and plaque / bacteria factors – a decrease from 59.5% to 22.5% for diet and from 30.4% to 17.2% for plaque / bacteria.

The results clearly demonstrate the relevance of MI to patients seen at *ahm's* Practices and represent significant opportunities to redirect resources to better manage patients at the threshold of, or in the early stages of, future dental caries.

The overall satisfaction with the pilot from both staff and patient surveys is very high as can be seen from the detailed results earlier in the report. Over 90% of staff felt that MI had better equipped them to do their job and a similar percentage were satisfied with the effectiveness of the team, at both the chairside (individual surgery) and Practice levels. One hundred per cent (100%) of staff said they would participate in a similar program if it were offered. All clinicians felt MI complemented their clinical freedom to provide the most appropriate care at the end of the pilot; up from 80% after two months (May 2004), 20% stating it had no impact.

There was strong patient support and approval of the philosophy of treatment with 90% saying they would recommend MI to others. Ninety-three per cent (93%) of patients stated they found MI to be either very useful (69.5%) or quite useful (23.5%), while 62% of patients felt that MI either very much (28.5%) or quite a bit (34%) provided incentive for them to remain with *ahm*. Patients were also surveyed on whether they thought MI provided them with additional value for money from their health cover, with 21% saying very much so and 43% quite a bit. Thus MI proved to be widely supported by patients and staff as a worthwhile improvement to conventional clinical treatment and worthy of their commitment.

The pilot did not cost the DEPs in terms of direct costs (in fact there was an estimated net benefit of \$11,555, due to the donation of materials and products), however it did result in an overall 4.3% decrease in revenue (\$85,000). There was also a decrease in patients and services per hour of 5% and 4% respectively. A detailed report has been prepared on the impact of MI for the GPs involved and will allow for individual follow-up, with appropriate recognition and counselling where appropriate.

It could be argued that the decrease in the higher paying services (i.e. restorative, crown and bridge) should have been offset by an increased throughput of patients and services, but this was not seen. It is likely that a combination of decreased efficiency and increased numbers of lower paying services have contributed to this result. This might be expected in any situation where clinical time is used more in an educative and counselling approach to treatment rather than an invasive surgical (restorative) one. The fact that market values for diagnostic and preventive services are frequently less on a revenue per hour basis than restorative services reflects the emphasis on their item use in conventional private practice.

The detailed report on MI's impact on individual clinicians shows that after an initial drop in productivity associated with learning and adopting new clinical techniques, certain clinicians resumed their productivity levels to pre-MI days (or in some cases exceeded

them). The conclusion to be drawn from this is that the MI philosophy in itself is not necessarily one that leads to decreased practice efficiency. However, it is clear that clinicians who are relatively less productive compared to their peers may become increasingly less productive when MI is adopted. For MI to be rolled out efficiently across the Practices a detailed education and mentoring program will be required, in order to minimise the impact on productivity across the diverse range of *ahm* clinicians.

Whilst there was a decrease in revenue for the DEPs this in fact represents a saving to the Health Insurance division of the same amount (\$85,000). In looking at the impact of MI on Casemix there have been substantial savings in terms of restorative dentistry and crown and bridgework. The reduction in these services was hoped for due to a clearer focus on a better diagnostic and preventive approach, accompanied by more appropriate care for the individual patient.

As discussed previously the decreased revenue to the DEPs attributed to MI and a more appropriate clinical practice is actually a saving to *ahm*. There could be merit in considering profit sharing or some other mutually agreed arrangement to compensate the DEPs for this decreased revenue as a result of improved clinical practice. A similar scenario exists with the savings made as a result of the imaging project that has already demonstrated significant savings to *ahm* (and foregone revenue to the DEPs).

The \$30 co-payment made by patients in the MI Pilot would have covered the costs of the extra MI supplies required (eg plaque, saliva and bacteria tests) if we had purchased them (these were donated to us by GC Asia and Colgate Oral Care). It would not be unreasonable to increase this figure modestly (perhaps to \$50, or more). A pricing strategy will need to be developed based on further staff and patient feedback, in conjunction with reviewing the pre-MI cost analysis of materials and time.

The other issue for consideration is the clinic fees for MI item numbers, and ultimately benefits if we wish to reward this type of behaviour for our private practice colleagues (and therefore benefit *ahm* members who attend private practice). It would be appropriate to review these fees in line with the current review of the DEPs fee schedule generally. Indeed, it might be prudent to increase item limits for those patients demonstrating commitment to being involved in MI (via increased consultation limits and / or more generous benefits for diagnostic and preventive services relevant to MI) given that these patients are generally at less risk of developing dental caries following MI-based interventions. This makes such members less likely to draw benefits for restorative and surgical services in the future, provided they maintain MI-based behaviour, while providing incentive for such patients to pursue MI principles in the long term.

5. Conclusion

This pilot has demonstrated the merit and value of MI as a dental practice philosophy and its applicability to the patient base at *ahm's* practices. The pilot results demonstrate evidence that patients are delivered superior clinical outcomes in the short term and this should continue into the long term if MI is rolled out across the board. Patients and staff have demonstrated high levels of satisfaction. A reduction in services and costs per patient is indicative of reduced interventions and offers the potential to optimise resource usage for greater long-term patient benefit.

Abbreviated History of Dental Caries Management

Pre 1900 – 1st Phase of Dentistry

- Caries was seen as gangrene
- Treatment was to amputate i.e. extract the tooth

1900 – 2nd Phase of Dentistry

- Caries still seen as gangrene
- Treatment moving to systematised excavation and filling of the tooth
- The need for early detection of caries was being realised
- Radiography started to be used to assist in detection
- Dentists thought you could prevent caries if you maintained the “vital life” force so patients were encouraged to eat more fresh fruit and vegetables
- Treatment however was still considered better than the “preventive propaganda”

1950

- Caries thought to result from bacteria in the mouth decomposing food to make acid
- Early detection of caries considered to be diagnosis of the disease
- Prevention involved patients being told to brush after meals (this made no significant difference to the incidence of caries)
- Fluoride came on the scene and had a profound effect on caries

1970

- Caries thought to be plaque related – if you could keep the tooth clean you would not get decay
- Treatment included an aggressive cleaning strategy – professional cleaning emerged
- Fluoride remained as important
- Fissure sealants became part of the prevention strategy
- Early detection of lesions considered to be diagnosis
- Everyone treated the same

2000 – 3rd Phase of Dentistry

- The current understanding of caries is that it is:
 - Caused by specific bacteria in plaque
 - Easily transmissible (eg mother to infants)
 - Dependent on dietary sucrose
 - Driven by frequency of eating
 - Modified by fluoride
 - Modified by salivary flow
- Restorations are still considered as part of the treatment regime but alone are insufficient
- Treatment is about medical management – it is based on:
 - Stopping the infection occurring at all and preventing its transmission
 - Recognising that if detected early enough the state of lesions can be changed i.e. the tooth can be remineralised
 - Customised and targeted care
 - Changing the patient’s biochemistry through changing their behaviour in order to cure the disease
 - Restrained restorations

- Detection of lesions is no longer considered to be diagnosis – diagnosis involves:
 - Assessing the activity state of the patient
 - Understanding that the disease precedes the lesion and that the dentist doesn't need to wait to see holes
 - Assessing the likelihood of patients developing caries (risk assessment)

4. Why Should AHM Support MI2020

We believe that the emerging thinking on appropriate dental care is on the mark and that if minimal intervention can become pervasive in the dental profession that can only be good for the oral health of our members. We can endeavour to influence dental practice through payment regimes but a wide acceptance by dentists at the instigation of the dental community promises more significant, widespread and sustainable benefit than we can achieve through our own efforts.

Background of Minimal Intervention Dentistry

The term Minimal Intervention (MI) has been introduced to suggest that the dental profession should move away from its traditional approach to the treatment of dental caries. It is now widely accepted that caries is a chronic, infectious, multifactorial bacterial infection and cannot be treated by surgical (restorative) means alone.

In 1995 the American Dental Association described controlling the chronic disease process, promoting the maintenance of an intact natural dentition and controlling the bacteria in the disease process. The modern approach to the management of caries relies on dentists taking the role of physicians first and surgeons second.

In 2000 the World Dental Federation (FDI) published a number of Principles of Minimal Intervention Dentistry

- Remineralise early lesions
- Reduce cariogenic bacteria in order to eliminate the risk of further demineralisation and cavitation
- Minimal surgical intervention of cavitated lesions
- Repair rather than replacement of defective restorations
- Disease control.

The US National Institute of Health's 2001 Consensus Statement on Diagnosis and Management of Caries Throughout Life carried the statement, "In the development of caries treatment, dentistry has moved historically from extraction to surgical restoration. Identification of early caries lesions and treatment with non-surgical methods, including remineralisation, represent the next era in dental care."

Bader and Shugars et al in their 2003 paper wrote, "Successful application of risk-based prevention strategies for dental caries depends on two assumptions. The first is that patients who are at heightened risk will be identified, and the second is that once identified, these patients will receive appropriate preventive treatment to reduce the likelihood that disease will occur or progress."

Australia's National Oral Health Plan 2004 – 2013 has four broad themes that underpin the plan

- Recognition that oral health is an integral part of general health
- A population health approach, with a strong focus on promoting health and the prevention and early identification of oral disease
- Access to appropriate and affordable services – health promotion, prevention, early intervention and treatment – for all Australians

- Education to achieve a sufficient and appropriately skilled workforce, and communities that effectively support and promote oral health.

In an article in The Times on March 12 2005 Jane Feinmann reported on the new minimally invasive approach to oral health. She wrote "Dentistry is undergoing a gentle revolution that will consign 'drill and fill' to history ... At the International Association of Dental Research annual conference in Baltimore this week, they reported on the growing evidence that a new "minimally invasive" approach to oral health care is best – aiming for the smallest possible filling, or best of all, none at all."

Risk assessment provides a vehicle for the necessary paradigm shift in disease management so that the emphasis is on diagnosis of the disease rather than the traditional approach of detecting "holes in teeth". It further places the emphasis on clinicians behaving more as "physicians rather than surgeons". This does not mean that surgical intervention is unnecessary, but it should not be the primary focus.

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