



## Dental Practice Based Research Network

### What is eviDent?

The eviDent Foundation is a health promotion charity supporting Australia's only Dental Practice Based Research Network (DPBRN). It is an exciting initiative of the Australian Dental Association Victorian Branch Inc (ADAVB) and the Oral Health Cooperative Research Centre.

eviDent aims to encourage relationships between practitioners and academic researchers. By building research capacity to produce and use evidence, eviDent facilitates and supports dental practices to produce and disseminate evidence which can translate into practice and inform policy. eviDent research leads directly to improved treatment outcomes for patients, and addresses the connection between oral and general health.

#### eviDent membership

##### Chief Investigators

Chief Investigators are eviDent members who provide 'the intellectual, administrative and ethical leadership'<sup>1</sup> to an eviDent research project or program. It is essential that each eviDent project team is adequately supervised and supported; therefore, Chief Investigators must be full or part time academic staff members at a participating university<sup>2</sup>, experienced in clinical research and competent to undertake and lead a research project.

##### Associate Investigators

eviDent accepts Associate Investigator applications from all registered dentists and specialist practitioners working in a private practice, community health or other setting and are members of the Australian Dental Association Victorian Branch (as the single member of the of the eviDent Foundation). While eviDent may extend to other States in the future, membership is currently restricted to practitioners registered and practising in Victoria, unless the eviDent Foundation Board approves special arrangements.

#### Research Affiliates

eviDent Research Affiliates include retired dental professionals, practice managers, dental hygienists, dental therapists, dental prosthetists, oral health therapists, dental assistants and others who do not want 'hands-on' involvement with an eviDent project, but would like to contribute to eviDent research. eviDent Research Affiliates voluntarily respond to eviDent surveys and participate in retrospective studies by allowing members of eviDent project teams to attend a practice and collect relevant data.

#### Research Collaborators

eviDent Research Collaborators include retired dental professionals, practice managers, dental hygienists, dental therapists, dental prosthetists, oral health therapists, dental assistants and other professionals who are not eligible to be eviDent Associate or Chief Investigators, but who are closely involved with different aspects of eviDent projects.

<sup>1</sup> The University of Melbourne, Melbourne Research Office, Chief Investigator Responsibilities <http://www.research.unimelb.edu.au/azservices/ci>

<sup>2</sup> The University of Melbourne is the only participating university at the time of publication

**To become an eviDent member please complete an application form, available from the eviDent website: [www.evident.net.au](http://www.evident.net.au) or from the Executive Officer on (03) 8825 4603 or via email [ask@evident.net.au](mailto:ask@evident.net.au).**

## 001-Evaluation of eviDent



**Chief Investigator** – Dr Denise Bailey

**Associate Investigators** – Dr Mary Miller and Dr Tony Robertson

**Research Collaborator** – Ms Meaghan Quinn

**Research Assistant** – Ms Karen Escobar

**Support** – Australian Dental Association Victorian Branch and Oral Health CRC

The evaluation of the eviDent DPBRN and its activities is an essential and integral part of eviDent. This project aims to evaluate the eviDent network from the perspectives of practitioners, academics and the network infrastructure.

The objectives of the evaluation are to:

- clarify eviDent's important areas for evaluation;
- select the appropriate design of evaluation for those areas; and
- formulate a strategy for gathering the evidence needed and using the evaluation findings.

Defining the benefits for practitioner participation in the eviDent network was identified as a priority area for evaluation. This project will help the network devise strategies to maximise those benefits and ensure that practitioner engagement in future research projects is a positive experience.

As part of this project, eviDent Associate Investigators and other practitioners were surveyed to elicit their perceptions of the benefits and burdens of being involved in eviDent research.

The project found that practitioners reported personal, practice and societal benefits of eviDent involvement and challenges to participation were few. A series of recommendations for improvements to eviDent were made to the DPBRN Committee, and were designed to encourage greater participation by the profession.

The next stage of this project will be to continue to evaluate other aspects of the eviDent network.

## 002-A 5-year Retrospective Assay of Implant Complications in Private Practice



**Chief Investigator A** – A/Prof Roy Judge

**Chief Investigator B** – Dr Denise Bailey

**Associate Investigators** – Dr Peter Apostolopoulos, Dr Stephen Austin, Mr Arun Chandu, Dr Mehrnoosh Dastaran, Dr Robert De Poi, Mr Michael Lacy, Dr Angelos Sourial, Dr Jeremy Sternson, Dr Tim Stolz, Dr Jason Wang, Dr Simon Wylie, Dr Vivien Yeo

**Research Assistants** – Ms Karen Escobar, Ms Wendy Thomson

**Support** - Australasian Osseointegration Society (Vic), Australian Society of Periodontology (Vic), Australian Prosthodontic Society (Vic), Australian Society of Implant Dentistry

With the implant experience in Victoria well developed, this eviDent project seeks to gain information about the past experiences of practitioners that will then drive a set of evidence based guidelines for the management of implant patients.

This project's aims were to:

- describe practitioner characteristics;
- describe the demographics of patients receiving implant restorations;
- describe the baseline medical and oral health conditions of patients receiving implant supported restorations;
- describe the distribution of the different implant systems used;
- document the time and type of implant restoration;
- describe the placement/ location of implant restorations by tooth position in the arch;
- describe the type and timing of restorative and biological complications observed; and
- identify trend patterns that appear to contribute to these complications.

The project found that most complications appeared within the first year. Patient demographics showed that practitioners are treating an older seminal population than often reported in clinical trials. Their patients have a complex medical history and are taking multiple medications. Provision of single units was far greater than larger more complex restorations and the understanding of implant care needs to reflect the proportion of prescription of these. The findings will allow the development of practitioner guidelines for treatment planning, case management and complication management.

### 003-Molar Incisor Hypomineralisation



**Chief Investigator A** – E/Prof Louise Brearley Messer AM

**Chief Investigator B** – Prof David Manton

**Associate Investigators** – Dr Karen Kan, Dr Fiona Ng, Dr Kelly Oliver, Clinical A/Prof Christopher Olsen, Dr John Sheahan, Dr Margarita Silva, Dr Narisha Chawla

**Support** - Australian and New Zealand Society of Paediatric Dentistry (Vic) and eviDent Foundation

Molar-Incisor Hypomineralisation (MIH) and Molar Hypomineralisation (MH) are two related conditions affecting first permanent molars and/ or incisors. The exact causal factors are still unknown, so primary prevention is difficult. Many of these teeth provide great clinical challenges as they are sensitive, difficult to anaesthetise and restorations fail readily.

The project aims were to:

- investigate the distribution and severity of MIH/ MH in children attending four participating specialist paediatric dental practices in Melbourne;
- trial the use of the newly-developed MH Severity Index (MHSI) in these practices to assist in the early detection, diagnosis and treatment of MIH/ MH; and
- propose new clinical management protocols for affected dentitions in order to maximise oral health and improve clinical outcomes.

The project:

- provided a detailed description of six characteristics of Hypomineralisation of first permanent molars (FPMs) and permanent incisors. The condition was found to conform to a spectrum of increasing severity from MH to MIH;
- produced an information sheet about MH, available under the 'documents' tab at [www.evident.net.au](http://www.evident.net.au); and
- found that the trial of the MHSI was predictive of treatment undertaken for affected FPMs and the Index can guide clinical management of affected children.

### 004-The PREVENT Study



**Chief Investigator A** – Dr Denise Bailey

**Chief Investigator B** – Dr Margaret Stacey

**Chief Investigator C** – A/Prof Marie Pirotta

**Chief Investigator D** – A/Prof Meredith Temple-Smith

**Research Assistants** – Ms Natalie Appleby, Ms Karen Escobar and Ms Wendy Thomson

**Support** – IADR/ Colgate Community Based Research Award for Caries Prevention

Dry mouth is a pervasive problem which can lead to an increased risk of oral and general health problems such as increased levels of tooth decay, difficulties eating and difficulties wearing dentures. Many dry mouth sufferers report a decrease in their quality of life. Dry mouth is much more common in those taking certain medications and, as our population ages, the number of people taking multiple medications is rapidly increasing. General Medical Practitioners (GMPs) prescribe medications that can cause dry mouth on a daily basis and frequently come into contact with a group of people that may have dry mouth; GMPs are therefore ideally placed to give initial advice to their patients with dry mouth.

The project's aims were to:

- improve the level of knowledge of GMPs regarding the oral health risks of prescribing medications causing salivary deficiency;
- utilise GMPs as a first line for identifying those at increased risk from dental caries (and other saliva-related oral health problems); and
- equip GMPs to provide general oral health advice.

The project successfully created and used a model which helped GMPs to identify their patients at risk of dry mouth, diagnose dry mouth and implement a dry mouth management program that also included improved communication between GMPs and dental professionals.

The project developed:

- an education program to show GMPs how to identify patients at risk of oral health problems caused by dry mouth, and improve patient oral and general health outcomes through enhanced knowledge; and
- fact sheets for practitioners and patients: 'What is dry mouth?' and 'Managing dry mouth', both available under the 'documents' tab at [www.evident.net.au](http://www.evident.net.au)



## 005-Children's Dental Program



**Chief Investigator** – Prof Mike Morgan  
**Associate Investigators** – Dr Sajeev Koshy, Dr Samantha Lew and Dr Shibu Mathew  
**Research Collaborator** – Mr Tan Nguyen  
**Support** – Plenty Valley Community Health and DHSV Research & Innovations Grant

Plenty Valley Community Health (PVCH) is one of many Victorian Government dental agencies committed to community engagement and improving client access to its services. When the School Dental Services was transferred to the community health services in 2007, decisions on how to promote children's dental services to the community, how to manage demand, balance priority care between children's dental and adult dental became local decisions. It has been identified that the children most vulnerable to dental disease are the least likely to access services. A recent publication by the Department of Health (Victoria) showed that only 22.8% of the eligible population were treated in 2009-2010.

This falls significantly below the benchmark by the Australia's National Oral Health Plan 2004-2012 that all children should receive at least one course of general oral health care including appropriate oral health promotion every two years.

The project's aims were to:

- investigate the current patterns of child attendance for dental visits since Dental Health Services Victoria School Dental Services was integrated into community health services from 2007; and
- determine whether school-based dental screening retains high-needs child patients for oral health care using the existing publicly funded community health services.

The project found:

- that the targeted school dental check-up program was beneficial for increasing child dental access and retention for referred follow-up dental appointments and treatment; and
- further research is needed to improve child participation using positive consent methods and a larger sample size to affirm the findings.

## 006-Diagnosis, treatment and maintenance of periodontal patients by general dentists



**Chief Investigator A** – Prof Ivan Darby  
**Chief Investigator B** – Dr Denise Bailey  
**Associate Investigators** – Dr Bob Cvetkovic, Dr Ross Musolino, Dr Susan Wise, Dr Claudia Yung  
**Research Collaborator** – Dr Su-yan Barrow  
**Support** – PEARL DPBRN for sharing study information for a comparative study and Australian Society of Periodontology (Vic)

There are relatively few reports regarding periodontal therapies in the general dental practice setting. This project is a survey of Victorian dental practitioners to determine the criteria used to establish a periodontal diagnosis, what periodontal therapies are used and who subsequently provides periodontal therapies within general practices.

The project's aims were to determine the criteria used in general practices to:

- establish a diagnosis of health, gingivitis or mild, moderate or severe periodontitis;
- triage periodontal care of patients with periodontitis among the dental hygienist, general dentist and periodontist; and
- determine the interval of maintenance and recall of patients after active periodontal therapy.

The project:

- found that Victorian dentists who took part in this study are using the appropriate clinical parameters to diagnose periodontal disease;
- the diagnosis of periodontal disease by the practitioners that took part is generally accurate, but with a tendency to over-diagnose moderate periodontitis as severe;
- will help in understanding decision-making criteria used in practice regarding periodontal therapy; and
- aid the design of further studies looking at the effectiveness of the treatment of periodontal diseases.

## 007-Understanding the Relationship between Dental Professionalism & PP Status



**Chief Investigator A** – Dr Denise Bailey  
**Chief Investigator B** – Prof Mike Morgan  
**Chief Investigator C** – A/Prof Clare Delaney  
**Associate Investigator**—Dr Ross Musolino  
**Research Collaborator** – Mr Tan Nguyen  
**Support** – Australian Dental Association Victorian Branch

Over the last few decades there have been major environmental and contextual changes in health care, such as the proliferation of private health insurance (including dental insurance) and the emergence of a "health care marketplace". One method by which health insurers hope to contain costs and manage treatment quality is via contracted dentist schemes, commonly known as Preferred Provider Schemes, under which the dentist agrees to work in a particular manner at a pre-specified fee rate for the contracted period. In return, the funding agent promotes the service of the contracted dentist(s) to its patient members. When working under such contractual arrangements dentists become implementers of policies determined by the funding agent.

The project's aims were to:

- provide some insight into how a change in the working landscape is impacting on dental professionalism, autonomy and patient relationships; and
- explore how individual dentists are responding to and adjusting their work practices in light of their preferred provider status.

The project found:

- Preferred Provider schemes impact on dentists' decision-making autonomy and potentially influence the development of trust and rapport within the dentist-patient relationship; and
- a need to develop strategies to respond to altered work conditions.

## 008-Investigation of the Longevity of Anterior Resin Bonded Bridges



**Chief Investigator** – A/Prof Menaka Abuzar  
**Associate Investigators** – Dr John Locke, Dr Gerard Clausen  
**Research Assistants** – Ms Karen Escobar, Ms Wendy Thomson  
**Support** - eviDent Foundation

Anterior adhesive bridges were developed in the 1970s and widely promoted in the 1980s. The concept was to create a metal ceramic bridge to replace missing teeth which required minimal tooth preparation and still provide adequate retention. This was in contrast to conventional crown and bridge work which required full crown preparation on the abutment teeth.

After the initial euphoria, anterior adhesive bridges began to fail after de-bonding of the retainer on the abutment teeth. Failures would occur after only a few months in some cases, with no predictability, and the bridges were considered to be temporary short-term bridges. Numerous design and material changes were experimented with during the 1980s in an attempt to get long term retention and reliable success.

The project aims to evaluate the survival of anterior adhesive bridges (ARBs) with a specific tooth preparation design provided to a patient cohort by prosthodontists in Melbourne.

It is anticipated this project will determine the incidence and reasons for any failures/ complications, e.g. caries on abutment, periodontal on abutment.

## 009-Evaluation of the Health Promoting Practices Pilot Project



**Chief Investigator A** – A/Prof Louisa Remedios

**Chief Investigator B** – Dr Melanie Hayes

**Chief Investigator C**—Dr Matthew Hopcraft

**Research Collaborators** – Dr Jennifer O'Connor, Ms Alisha Jackson, Mr Geoff Adams

**Support** – Victorian Department of Health

The purpose of the Health Promoting Practices (HPP) pilot is to develop a voluntary health promotion framework, through which dentists and physiotherapists positively influence health behaviours of patients attending their practices.

In recent years there has been a significant shift from a practitioner led approach to healthcare to a more patient centred approach. Patients are being encouraged to take control of their own healthcare and participate in a collaborative relationship with their health care provider to ensure the best possible health outcomes. Health professionals can play a role in helping their patients to reduce the incidence of preventable diseases by providing necessary information about risk factors and healthy behaviours. Patients can take action to self-manage their health by adopting recommended habits (or health promoting practices).

The project's aims were to assess whether the implementation of the HPP pilot project contributes to positive behaviour changes:

- for practitioners in relation to the delivery of health promoting messages; and
- for patients in relation to healthy eating, physical activity, alcohol consumption and tobacco use.

The project found:

- health promotion was generally viewed positively by patients and practitioners, with both indicating that they preferred the specific health promotion advice be related to the type of practitioner involved in that discussion; and
- there are opportunities to increase practitioner confidence in delivering health promotion messages, through the provision of education and supporting resources.

## 010-Children's Dental Program: Expanded Scope



**Chief Investigator** – Prof Mike Morgan

**Associate Investigators** – Dr Sajeev Koshy, Dr Samantha Lew and Dr Shibu Mathew

**Research Collaborators** – Mr Tan Nguyen, Ms Susan McKinlay

**Support** – Plenty Valley Community Health and Peninsula Health

The targeted school-based dental check program (project 005) found that a high proportion of children have never had a dental check-up, and 74% of referred children attended their follow-up dental appointments.

It is anticipated this project will:

- build on the successes of the previous program;
- benefit the children involved through early assessment and intervention with referral pathways; and
- form the evidence base to support the broader expansion of such programs.



## 011-OHPs' knowledge and beliefs about the potential causes of oral cancer



**Chief Investigator A** – A/Prof Rodrigo Mariño  
**Chief Investigator B** – Prof Mike Morgan  
**Chief Investigator C** – Prof Michael McCullough  
**Chief Investigator D** – Dr Denise Bailey  
**Chief Investigator E** – Dr Satoru Haresaku  
**Chief Investigator F** – Ms Roisin McGrath  
**Associate Investigator** – Dr Ross Musolino  
**Research Collaborator** – Mrs Elizabeth Volpato-Coyle  
**Support** – Dentsply

Tobacco and alcohol consumption are the most common risk factors for oral cancer. Oral health practitioners should understand that a thorough oral screening examination for malignant and potentially-malignant lesions is a necessary part of their routine clinical assessment for all patients.

The project's aims were to assess oral health practitioners' (OHPs):

- ability to distinguish between risk and non-risk factors for oral cancer;
- oral cancer screening practices; and
- level of confidence in providing oral cancer-health related promotion advice.

The project found:

- there is a need for additional education and professional training for oral health professionals; and
- further training in oral cancer screening practice and patient advice-giving will be an important step in improving prevention and early detection of oral cancers.

## 012-Diet Advice in the Dental Setting



**Chief Investigator A** – Dr Melanie Hayes PhD  
**Associate Investigators** – Dr Ross Musolino, Dr Berenice Cheng  
**Support** - Alliance for a Cavity Free Future Grant, Colgate Pty Ltd

Dental practitioners agree that dietary analysis and nutritional counselling are essential for caries prevention, however, they infrequently implement these methods due to a lack of confidence and competence.

Poor diet is a significant contributor to oral disease, particularly dental caries, yet very few dental practitioners provide nutritional counselling on a regular basis, or it is often limited when provided. Dietary assessment is important because it guides dental professionals when providing nutritional counselling, allowing them to tailor their advice to suit different patients.

This project aims to improve nutritional counselling in dental practices through an online training module and determine how effective the training module is in changing attitudes, knowledge and behaviour.

It is anticipated this project will:

- have a positive impact on caries through decreased levels of caries risk attributed to diet; and
- improve confidence and competence of dental practitioners providing nutritional counselling.

### 013-Oral Cancer Risk Test: an Improved Approach to Early Oral Cancer Detection & Prevention



**Chief Investigator A** – Prof Michael McCullough

**Chief Investigator B** – Prof Spas Kolev

**Support** – Percy Baxter Charitable Trust (through Perpetual's 2015 IMPACT Philanthropy Application Program)

Oral cancer is the 8<sup>th</sup> and 13<sup>th</sup> most common cancer in the world for males and females respectively. This disease is more common in disadvantaged groups, who have higher rates of known risk factors, including smoking, drinking and low dental care access. Oral cancer is difficult to detect, remaining undiagnosed until well advanced. The prognosis is therefore often poor, with severe health and economic impacts for patients and their families.

With earlier diagnosis, treatment and prognosis is enormously improved. People at high risk of developing oral cancer will be encouraged to modify their risk behaviours, and so may never develop this disease. The Oral Cancer Risk Test (OCRT) examines for oral cancer and future disease risks. This early intervention strategy will significantly reduce oral cancer health and economic impacts.

This project aims to:

- assess the OCRT's ability to differentiate between patients who are known to have oral cancer and patients who do not; and
- detect patients with early stage oral cancer or high risk of developing this disease.

#### Do you have a project idea?

If your answer is 'yes', then the eviDent DPBRN Committee would love to hear from you—please complete a research project proposal form, available from the eviDent website [www.evident.net.au](http://www.evident.net.au) or from the Executive Officer, Meaghan Quinn on (03) 8825 4603.

