



# Making an Impact



## Oral Health Knowledge in Action

Promoting healthy mouths and healthy lives, one smile at a time, through networking and knowledge exchange between the HKU Faculty of Dentistry and the local community



**Faculty of Dentistry**  
The University of Hong Kong

Learning



Discovery



Patient Care



Engagement



## Our mission

To serve the people of Hong Kong and the region by advancing their oral health and well-being through excellence in learning, discovery, patient care, and **engagement**.



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## Dean's Welcome



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HKU Dean of Dentistry

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# Partnering to improve quality of life in Hong Kong, one smile at a time

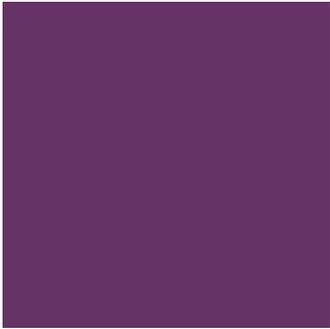
*Dear Reader*

**Oral health is recognised worldwide as a key part of overall health. However, even societies with a developed economy, like Hong Kong, show disparities in preventing and treating oral disease, particularly for special-needs and disadvantaged groups.**

Many people cannot access health care, do not have effective home routines to maintain life-long oral hygiene, and do not have healthy diets and lifestyles. Thus, tooth decay, gum diseases, tooth loss, and other preventable conditions pose a health burden to society and to families, leading to reductions in productivity, well-being, and quality of life.

As Hong Kong's only dental school, the HKU Faculty of Dentistry is committed to helping to reduce the city's burden of oral disease. We ensure our dental training and research programmes meet the needs of the public. We also conduct public education and knowledge exchange projects, some examples of which are outlined in this booklet.

Our community projects rely on collaborations with our "engagement communities", including dentists, patients, governments, civic groups, industry, businesses, charities, donors, non-government and faith-based organisations, schools, and professional organisations. We warmly welcome, and sincerely thank, such partners. Only through partnership can we, together, promote healthy mouths and healthy lives throughout Hong Kong. +



# Oral health: Window to general health

**Examining the mouth and tongue to obtain an indication of overall health has long been practised in traditional Chinese medicine. Indeed, evidence is mounting for associations between oral health and many types of health conditions, such as diabetes, heart diseases, and pregnancy outcomes.**

The 2011 United Nations Political Declaration on Noncommunicable Diseases recognised that human oral diseases have common risk factors with major chronic diseases. Accordingly, the goal of finding common approaches to prevent and manage both oral and systemic diseases has been advocated.

Furthermore, oral health contributes to a person's well-being and quality of life.

Oral health not only affects physical functions such as chewing and speaking, but it also affects psychological and social well-being, for example, because of pain, facial appearance, bad breath, altered communication, or being self-conscious of reduced functions. Inability to bite and chew properly may in turn alter or limit diet, which again affects health.

Therefore, it is extremely important for all sectors of society to cooperate and help reduce the multiple burdens related to oral disease and their treatment—especially due to the epidemics of tooth decay (dental caries) and gum disease. Dentists worldwide are now redoubling efforts to promote awareness of good oral health and the philosophy of *Prevention is better than cure.*



## Life-long habits for a healthy mouth and healthy living

**The key role of oral health in overall health and quality of life has been a major message of the World Health Organization since the publication of its recommendations for its Global Oral Health Programme 2002.**

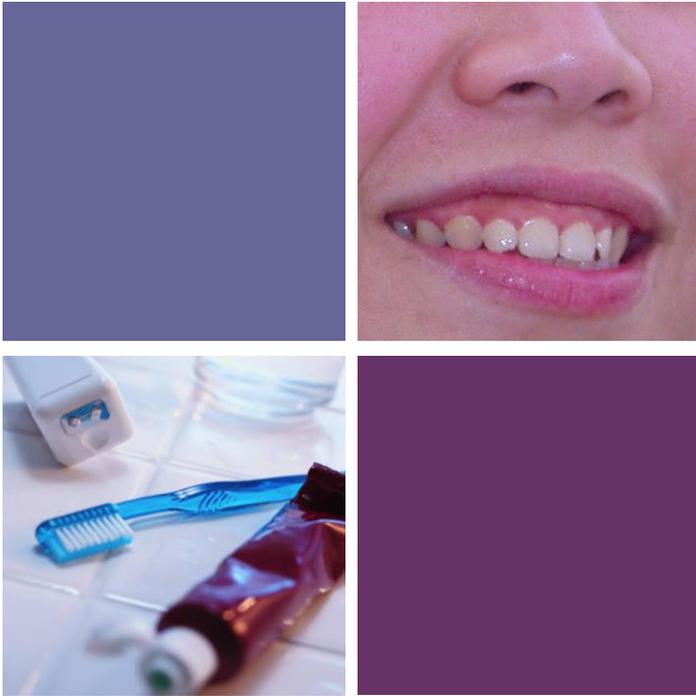
This message was reiterated in the FDI World Dental Federation’s “Vision 2020” report of 2012, together with emphases on a preventive approach to promote good oral health, involvement of all stakeholders to improve public oral health, and recognition that oral health is a basic human right.

However, a serious challenge is the existence of health disparities between developing and developed nations, and even between different populations within developed nations. Further challenges are the falling numbers of health care workers worldwide, including in the oral health care

profession, and the rapidly ageing population in many countries.

These challenges are present in Hong Kong, and strategies to address them require the concerted efforts of multiple sectors of the community, including government, NGOs, and dental professionals.

It is becoming ever important that people be empowered with the skills and knowledge to protect their own, and their family’s, oral and general health on a daily basis. There is an urgent need to promote the public’s awareness of the relationship between oral health and systemic health, the value of preventive care and self-care at home, how to adopt healthy lifestyles, and the requisite to be knowledgeable about a wide range of health matters—all starting from an early age and lasting throughout life.



## Promoting “Healthy teeth for a healthy life”

Every year, there is an opportunity for all sectors of the global community to promote oral health and increase awareness of its role in general health and quality of life.

The FDI World Dental Federation holds an annual *World Oral Health Day* every 20 March. According to its website ([www.fdiworlddental.org](http://www.fdiworlddental.org)), the aim of *World Oral Health Day* is to “encourage individuals, families, communities, and governments to take action to reduce the global burden of oral disease”. The theme in 2013 was “Healthy teeth for a healthy life”.

The HKU Faculty of Dentistry took part in *World Oral Health Day* for the first time in 2013, under the guidance of its Knowledge Exchange Unit, by holding an all-day “Oral Health Info Desk” in the lobby of the Prince Philip Dental Hospital.

In an effort to encourage the public to take care of their own oral and general health via a preventive approach, the three key messages of the Faculty campaign were (1) **Healthy eating**, (2) **Effective home oral care**, and (3) **Regular dental visits**. Staff and students were present on the day to answer the public’s enquiries and give brushing and flossing demonstrations. Oral health educational materials prepared by the Faculty, and posters and leaflets donated by the HKSAR Department of Health,

were available for the event and also during the following week.

The Faculty welcomes all sectors of the community—especially NGOs, schools and advocates for minority and special-needs groups—to take part in future public education events on *World Oral Health Day*. The rest of this booklet outlines additional examples of how the Faculty is engaging the community through HKU Knowledge Exchange activities.





# Excellence with impact

**Following the worldwide trend among research-led universities and a city-wide new policy of the HKSAR University Grants Committee, The University of Hong Kong formally introduced Knowledge Exchange (KE) in 2009 as its third mission, to complement the two traditional missions of Teaching & Learning and Research.**

In brief, the goal of KE is to involve the non-academic community, and consider the public's interests and needs, in all areas of academia. For the first 6 years of its new policy (in two periods, 2009-12 and 2012-15), the HKSAR University Grants Committee has been offering initial support to universities to actively engage in KE.

Accordingly, HKU introduced KE into its 5-year strategic development plan

for 2009-14. HKU also created a KE Working Group involving Faculty Deans or their representatives, and has supported its faculties to form KE Units and KE websites.

Additionally, to promote KE among its staff, HKU introduced multiple KE and public event reporting schemes, will be adding KE to academic staff appraisal, developed an online **Scholars Hub** (<http://hub.hku.hk>) as a public database of its professoriate and research staff, and started auditing HKU's mass media outputs.

To further encourage two-way, systematic, and sustainable community involvement at all levels (beyond traditional technology transfer and postgraduate training), HKU has been offering annual **KE Capacity Building** grants to develop

KE infrastructure. HKU has also been funding annual staff **Impact Projects** and **Student KE Projects** by competition, has created annual **KE Awards** for staff, and has organised **3-Minute-Thesis** presentation contests for research students. KE performance appraisal of faculties includes involvement in these programmes, project outcomes benefitting society, and engagement with KE partners.



## KE at HKU

**Engaging, for mutual benefit, with business, government, or the public to generate, acquire, apply, and make accessible the knowledge needed to enhance material, human, social, cultural and environmental well-being.**

# Faculty Knowledge Exchange strategy

**Knowledge Exchange (KE) at the HKU Faculty of Dentistry aims to enable and maintain dialogues between the Faculty and non-academic sectors of society for the benefit of both.**

To meet this aim, the Faculty's KE Unit was established in September 2008, as the first such unit in HKU. The KE Unit is tasked with helping staff and students maintain relations with the public, industry, government, NGOs, professionals and professional societies, alumni, schools, and mass media, as well as updating the Faculty's website and social media sites.

In 2009, the KE Unit became the Faculty's administrative link to HKU's KE Office and formed the basis of the Faculty's **KE Hub**, consisting of the following:

- *KE Unit*
- *Postgraduate Education & Continuing Dental Education section* (for dental professional development and higher dental training)
- *External Relations & Greater China Affairs section* (for donor, international, and mainland relations)
- *Education & Media Technology Unit* (for audiovisual, telecommunications, and information technology support)

The HKU Dean of Dentistry, **Prof Lakshman Samaranayake**, is Director of both the Faculty's KE Hub and KE Unit, and is also the Faculty's representative in HKU's KE

coordinating the implementation of HKU's strategic initiatives in KE. The KE Unit's Deputy-Director is **Dr Chun-hung Chu**.

Basic principles in KE underlying the Faculty's strategy are shown in the Box.

## Faculty KE: Engaging for impact

KE is **putting reliable, relevant evidence into practice** and facilitating interaction, dialogue, and collaborative engagement. It is part of an overall approach to developing a **knowledge-based economy**.

KE traditionally starts with **published research outputs** such as peer-reviewed journal articles and patents, and **communicating** them in systematic, transparent, and context-sensitive ways (including appropriate content, scheduling, and dissemination)

**to potential end-users**—often to or within collaborative networks of stakeholder groups—**for use, commercialisation, or feedback and further development**. KE includes contract research/training, consulting, technology transfer, community service, public/patient education, professional practice/development, and government and business/industry collaboration.

← *Knowledge linkage*

← *Knowledge management, integration, conversion, or operationalisation*

← *Knowledge creation/production*

← *Knowledge transfer, translation, brokering/brokerage, sharing, or mobilisation*

← *Engaging with knowledge/wisdom/discourse/learning “communities”, or “communities” or “collectives” of practice, shared practice, knowledge practice, practitioners, knowing, knowledge users, common/shared purpose, or shared mission*

← *Knowledge utilisation, uptake, application, deployment, implementation, adoption, absorption, assimilation, appropriation, transformation*



## Engage with our Faculty staff and students

There are many opportunities for community engagement with our Faculty, and interested parties are welcome to e-mail the Knowledge Exchange (KE) Unit at [dentke@hku.hk](mailto:dentke@hku.hk).

KE activities include the following:

- Media/public sharing of knowledge
- Outreach clinics and public education
- Sharing of resources, expertise, ideas, experiences, tacit know-how, and skills, through consultation, collaboration, and contract work
- Assessment of societal impacts of and future needs in research and KE

Projects can involve a wide range of aims, such as capacity building, promoting health and personal development, and advising on public policies, best practices, services, programmes, events, organisation and management strategy, decision making, innovation, intellectual property, funding, and quality of life.

KE is an extension of basic, clinical, translational, applied, practice/

management, policy, and education research. Non-researchers are included as KE audiences to promote and facilitate cross-institutional and cross-disciplinary collaboration, research communication, real-life problem-solving, and further knowledge creation.

KE is also a part of teaching and learning, as published research findings are applied to programmes or integrated

into their content. Although HKU regards KE among students mainly as extra-curricular projects providing experiential learning, the Faculty welcomes community involvement in curricular activities such as annual BDS-IV Student Community Health Projects, which may later develop into large-scale KE events. In addition, the Dental Public Health Committee (DPHC) of the HKU Dental Society regularly holds public events.

### KE opportunities with our Faculty staff and students

- **Research-based:** contract research; technology transfer; dissemination of published, peer-reviewed findings in mass and online/social media
- **Expertise-based:** conversion of clinical findings to practice guidelines; expert quotes/opinions in the mass media; legal testimonies; advisory boards; training and consulting; discussion round tables; white papers; public lectures
- **Service/Education Project-based:** Community projects under HKU Impact Project scheme, HKU Student

KE Project scheme, or via KE grants from HKSAR Government Health Care Promotion Fund or SK Yee Medical Foundation

- **Student-based:** Extracurricular internships; mentorships; career talks; DPHC exhibitions, campaigns, and visits

- **Faculty-based:** Taught postgraduate and continuing education; school/community visits, open days, oral health campaigns, outreach clinics, summer school for prospective students



# Knowledge in action

Knowledge Exchange (KE) at the HKU Faculty of Dentistry aims to improve public oral health and well-being, with measurable outcomes, through applying, sharing, and developing relevant skills and knowledge.

Our KE strategies form part of the Faculty's fourth mission of **Engagement\***, and they target multiple non-academic audiences, particularly under-served and special-needs groups. Our staff and students take part in clinical outreach, patient and public health education, health/education policy and practice recommendations, and professional training.

Some opportunities for NGO, charity, and community participation in the Faculty's KE work are outlined in the following few pages.

*\* "Engagement" also includes general and academic external relations such as publicity, branding, and marketing; fundraising and friend-raising; academic ceremonies, conferences, and events; and academic agreements, visits, and exchanges.*





# Prevention and control of tooth decay in kindergarten children



## Problem

**Early childhood caries (ECC)** is the development of tooth decay in a child before the age of 6 years. Advanced cases cause pain and infection of the tooth and possibly the rest of the body.

According to a 2002 HKSAR Government Department of Health report, more than half (51%) of the city's 5-year-olds have ECC and more than 90% of ECC cases remain untreated.

Identifying children with ECC and stopping the decay can reduce the risk of infection spreading beyond the tooth to the rest of the body. However, the HKSAR Government Department of Health's School Dental Care Service does not cover kindergartens or nurseries, and preschool children are rarely taken to private dentists.



## Solution

A Faculty outreach team developed a **Preschool Anti-caries Programme:**

- To prevent and control ECC among preschool children in kindergartens
- To increase oral health knowledge and awareness among children
- To give oral health advice to parents and training to teachers for local programme sustainability

**Research basis:** Topical application of silver diamine fluoride is safe and effective in arresting caries. Faculty research has demonstrated its effectiveness in preventing and arresting ECC in young children.

**Teaching/Learning basis:** The Faculty stresses individualised oral hygiene instructions and oral health education for patients and parents/carers. This programme began as a BDS-IV Community Health Project in 2008, and now provides student experiential learning.



## Action

**2008-10:** With help from the HKSAR Government Health Care Promotion Fund, free oral health educational services were trialled in 19 kindergartens.

**2010-12:** With funding from the SK Yee Medical Foundation and HKU KE Fund 2011-12, and educational support from Colgate-Palmolive HK Ltd, the service was expanded to about 10,000 children in 86 kindergartens and included topical application of silver diamine fluoride for children at high risk for ECC. Nearly all principals responding to a survey were satisfied or very satisfied with the Programme and said the children's, and their own, oral health awareness had improved.

**2012-14:** The clinical and educational services have been extended with funding from the Mr & Mrs Steven Lo Donation Fund. **Our team welcomes new participating kindergartens.**

# Preschool Anti-carries Programme

Team Leader: Dr Chun-hung Chu, *Clinical Associate Professor in Community and Family Dentistry*

Tel: 2859 0246; E-mail: [chchu@hku.hk](mailto:chchu@hku.hk)



## Education for children, parents, and teachers

The Programme uses a variety of lively and interactive teaching methods to increase oral health knowledge and awareness and to instil life-long oral hygiene habits among children, parents, and kindergarten teachers. Teachers take part in a training seminar, and are given dental models, posters, booklets, and leaflets to use at their school.



## Dental examination

An outreach service dentist clinically examines children after parental consent has been obtained. A written report is given to the parents, detailing the child's oral hygiene status and whether signs of ECC are present. If needed, a recommendation is given for the parents to take the child to a dentist for treatment of ECC. All parents are encouraged to make regular appointments with a dentist, until the child goes to primary school and uses the HKSAR School Dental Care Service.



## Topical fluoride application

For children whose parents have given consent, if dental decay is detected by the outreach service dentist, 38% silver diamine fluoride solution is applied topically with a disposable brush. This treatment stops the progress of decay, and it turns a coal-black colour.



## Getting feedback and monitoring oral health status

The outreach team periodically gathers programme feedback from the participating schools. With research funding and ethical approval, the team is also gathering data on the impacts and outcomes of the programme and ECC intervention, and on the general oral health status of kindergarten children in Hong Kong.

## Preschool Anti-carries Programme

### Acknowledgements



### **Preschool Anti-carries Programme Team**

*Leader:* Dr Chun-hung Chu

*Members:* Prof Edward CM Lo, Dr Xiaoli Gao, Dr Alex MH Chau, Dr Ivy Di Wu, Dr Emily Ming Jiang, Dr Markus HT Fung

### **Past/Current Participating KE Partners**

Tung Wah Group of Hospitals

Baptist Convention Hong Kong

Lutheran Church Hong Kong

Hong Kong Ling Liang Church

Po Leung Kuk

Hong Kong Federation of Youth Groups

Hong Kong Christian Service

Alliance Church Hong Kong

### **Funding and Support**

HKSAR Government Health Care Promotion Fund

SK Yee Medical Foundation

Mr & Mrs Steven Lo Donation Fund

Colgate-Palmolive Hong Kong Ltd

HKU Knowledge Exchange Fund, granted by the HKSAR University Grants Committee



# Enhancing science education in Hong Kong secondary schools



## Problem

The **traditional teaching of science** in secondary school in Hong Kong has been widely criticised. It relies heavily on the one-way, didactic teacher-centred lecturing of theory and facts to a large number of students, with an emphasis on memorisation and recall.

This approach is insufficient to prepare students for the real world as it does not challenge them to solve problems creatively, learn and apply knowledge effectively, and work collaboratively in teams.

In addition, key concepts like “bacteria” and “disease” largely depend on textbook examples rather than real-life or interactive examples that would have more relevance for the students, and which would promote first-hand knowledge creation, deeper learning, and critical thinking.



## Solution

A Faculty team developed **interactive materials and workshops** for local secondary school teachers and students to improve their science knowledge and skills. By including simple practicals and problem-based learning tutorials related to oral disease (tooth decay and gum disease), the team harnessed and improved students’ knowledge of biology and chemistry in an innovative and memorable way.

**Research basis:** Bacteria in attached communities (biofilms) on teeth cause tooth and gum diseases. The Faculty is well known for its biofilm research.

**Teaching/Learning basis:** The Faculty is a pioneer in problem-based learning in dentistry. Involvement of our students in school teaching provides them with experiential learning.



## Action

**2010-11:** A Faculty Impact Project supported by the HKU KE Fund 2010-11 offered workshops and handed out teaching materials to 50 secondary school teachers. The lessons were also observed by the HKSAR Education Bureau. Teachers’ feedback indicated a need for additional workshops for school students.

**2011-12:** A new Impact Project offered further workshops for 9 teachers and 72 students from 11 schools. More than 95% of participants said the workshops were “very good” or “excellent”, and almost all students said the workshops evoked their interest in science. A Faculty Student KE Project also taught science to 55 Form 1 and 2 students at two schools.

**2012-13:** Workshops planned for 15 schools. **The team welcomes further requests for its science workshops.**

# Secondary School Science Programme

Team Leader: Prof Edward CM Lo, *Clinical Professor in Dental Public Health*

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## Education for students and teachers

Relevant, customised teaching materials are used, consisting of posters, laboratory kits suitable for school classrooms, models, leaflets, instructions, and question sheets. The environment encourages problem-based learning, so direct answers are not given by the facilitators leading the workshop. A “trigger” problem related to oral health and probing questions are used to activate and extend existing knowledge through a self-discovery process.



## Chemistry in your mouth

Fun activities include measuring the acidity (pH) of your own saliva, as well as of popular Hong Kong drinks. Participants first make educated guesses of the values before checking against actual values. Results lead to small-group discussions of the origin of acid in the mouth and effects on tooth enamel and the contribution to tooth decay.



## Biology in your mouth

Participants also discover the micro-organisms living on their teeth by direct sampling and observation under a light-microscope after staining samples with a safe dye. Participants are asked to draw and describe what they see. Results lead to small-group discussions of what bacteria are, how they live in attached and well-organised communities on teeth as biofilms, and their effects on teeth and their role in oral disease such as tooth decay and gum disease.



## Linking science to oral health care and hygiene

Real-world relevance of the new knowledge gained in the lesson is emphasised in relation to oral health and disease, and the need for effective home oral care and regular dental check-ups. Since participants need to brush their teeth twice a day, floss once daily, have a healthy diet, and avoid snacking and sugary drinks, they will regularly apply the contents of the lesson and recall the scientific basis of oral disease, as well as the reasons for good oral care and hygiene for themselves and their families and friends.

## Secondary School Science Programme

### Acknowledgements



## Secondary School Science Programme Team

*Leader:* Prof Edward CM Lo

*Members:* Prof Li-jian Jin, Prof Lakshman Samaranayake, Dr C Jayampath Seneviratne, Dr Xiaoli Gao, Dr Susan Bridges

*Student KE Group 2012:* Ms Shirley CC Kot, Mr Chao Ji, Mr Chu-hang Leung (mentor, Dr C Jayampath Seneviratne)

*Student helpers:* Mr Chun-ming Lee, Mr Ho-cheong Choi, Ms Melody YT Leung, Mr Jason PL Wu, Mr Wai-leong Kan, Ms Jodie Szeto, Ms Rei LY Kwok

## Past/Current Participating KE Partners

Hong Kong Federation of Youth Groups

Hong Kong Association of Science and Mathematics Education

## Funding

HKU Knowledge Exchange Fund, granted by the HKSAR University Grants Committee



# Motivating patients and carers to recognise and adopt healthy lifestyles



## Problem

**Chronic “lifestyle” or non-communicable diseases**, such as those related to tobacco addiction, unhealthy diet, or physical inactivity, are a top health problem in modern societies. Globally, chronic disease is ranked as the leading cause of morbidity and mortality, constitutes two-thirds of the illness burden, and is responsible for over 60% of deaths among adults, with the World Health Organization forecasting a further increase of 17% in the next decade.

Working at the frontier of health care, clinicians shoulder a responsibility in advocating healthy lifestyles to safeguard the health of their patients and the public. Instead of relying solely on “the herb” (medicine) and “the knife” (surgery), health care providers are expected to maximise the power of “the word” (counselling) for the best clinical outcome.



## Proposed solution

**Motivational interviewing (MI)** is a person-centred collaborative counselling method. MI offers an opportunity to integrate several health disciplines in a cross-professional approach, so that common modifiable risk factors contributing to multiple chronic health conditions can be addressed.

**Research basis:** MI outperforms conventional counselling (direct persuasion and advice giving), has great potential in treating a broad range of lifestyle problems, and can be combined with other interventions. Early-phase Faculty research shows MI can elicit healthy behaviour change in a school setting.

**Teaching/Learning basis:** MI will be introduced into the undergraduate curricula of three HKU clinical programmes (Dentistry, Medicine, and Nursing) in 2013 to enhance students’ competences in health counselling.



## Action

**2011-12:** To improve the effectiveness of health interventions and enhance HKU’s undergraduate clinical curricula, a cross-professional team (in Dentistry, Medicine, Nursing, and Psychology) was formed to introduce MI into HKU’s research and teaching development.

**2012-13:** The team initiated research projects in kindergartens and secondary schools involving students, parents, and other carers. Early findings show effectiveness of MI in improving secondary school students’ self-efficacy, dietary habits, and personal hygiene practice. Of 51 twelve-year-olds, 40 (78%) showed enhanced readiness to change, of whom 66% initiated a change and 50% maintained the change.

**Our team is very keen to explore the possibility of collaborating with NGO partners to expand and deepen our MI research and community engagement.**

# Motivational Interviewing for Healthy Lifestyles

Team Leader: Dr Xiaoli Gao, *Research Assistant Professor in Dental Public Health*

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## The MI approach

Unlike conventional individual counselling, which involves a counsellor giving advice to a client, MI depends on non-judgemental, empathetic relationship-building in which the counsellor acts as a facilitator. Instead of giving direct recommendations, the counsellor encourages self-reflection to help the client discover and verbalise ideas, reasons for resistance, and commitment to behaviour change. The client then sets his or her own reachable goals.



## Research programme

Very positive feedback has been received from parents, teachers, and carers at kindergartens and schools participating in our team's research projects. Moving to the next phase, our team is incorporating more interactive motivational and decision-making tools to facilitate MI and further improve counselor-client engagement outcomes.



## Clinical programme

An HKU teaching development plan is being implemented, and an inter-professional resource bank for teaching and learning MI is being developed for the introduction of MI into the undergraduate curricula of Dentistry, Medicine, and Nursing in 2013. A cross-professional approach will allow risk factors common to multiple chronic conditions to be addressed and will improve the preparedness of graduates for holistic patient management and quality health care.



## External partnerships and knowledge exchange

Our team is very keen to collaborate with NGO partners to further develop HKU's MI research in various population subgroups; involve our students in promoting holistic healthy lifestyles using MI in community settings; exchange ideas, experiences, and good practices with health care providers and administrators; and offer MI training as continuing professional development for clinicians and non-clinicians.

## Motivational Interviewing for Healthy Lifestyles

### Acknowledgements



### Research Team

*Principle Investigator:* Dr Xiaoli Gao

*Co-Investigators:* Prof Edward CM Lo, Prof Colman McGrath, Dr Chun-hung Chu, Prof Samuel MY Ho (HKU Department of Psychology)

### Teaching Development Team

*Leader:* Dr Xiaoli Gao

*Members:* Dr Susan Bridges, Prof Edward CM Lo, Prof Colman McGrath, Dr Stanley ML Lai, Prof Sophia SC Chan (HKU Department of Nursing), Dr Dana Vackova (HKU Li Ka Shing Faculty of Medicine), Dr Janice Johnston (HKU Li Ka Shing Faculty of Medicine)

### Past/Current Participating KE Partner

Kowloon Tong Church of the Chinese Christian and Missionary Alliance

### Funding

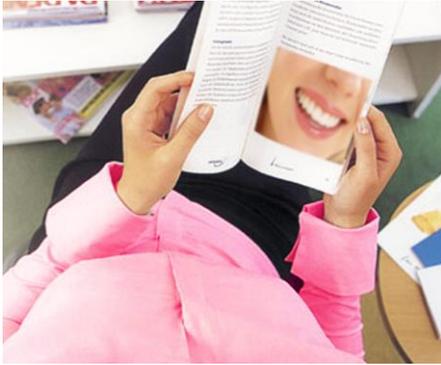
HKU Teaching Development Grant

HKU Committee on Research and Conference Grants Small Project Fund

HKSAR Research Grants Council General Research Fund



# Improving oral health literacy in the Hong Kong community



## Problem

Literacy levels can influence health because literacy affects how people engage with texts and information to (1) understand concepts about health, disease, and disease prevention; (2) communicate with their health care providers; and (3) navigate health care systems. The ability to read and understand texts on health information (including illustrations and numbers), such as leaflets and medicine labels, is an essential skill.

Being “health literate” also means that one is able to work effectively within communities and across systems to advocate for improvements in policy and provision. While health status and the ability to manage one’s health are linked to health literacy, this relationship is currently not well understood for **oral health literacy**, so the HKU Faculty of Dentistry is spearheading relevant research and knowledge exchange in Hong Kong.

## Proposed solution

A Faculty team has developed local **oral health literacy assessments**. When patients see a dentist, they or their parents complete a questionnaire. If the results can be transmitted quickly to the oral health care provider, the dentist can adapt the way he or she talks to the patient and can target areas of need for oral health education.

**Research basis:** Research in the United States has led to government policies, toolkits for patients and providers, and large-scale reading campaigns to improve children’s health literacy. Faculty research has started in Hong Kong to understand the relationship between literacy and oral health, and to inform oral health policy and practice.

**Teaching/Learning basis:** The Faculty’s clinical teaching and expertise include dentist-patient communication, public health, community dentistry, and patient and public oral health education.

## Action

**2010-12:** In research funded by the HKSAR General Research Fund and involving dentistry, literacy, and psychology experts, a Cantonese version of a word-recognition task (HKREALD-30) and an original pen-and-paper Hong Kong Oral Health Literacy Assessment Task for Paediatric Dentistry (HKOHLAT-P) were developed and tested. In an Impact Project funded by the HKU KE Fund 2010-11, the prototype for a digital version of HKOHLAT-P was developed using online gaming principles, with data archiving to allow tracking of responses and progress made.

**2012-13:** An undergraduate research study began to examine effects of digital media and social networking on secondary school students’ oral health literacy.

**Our team is keen to collaborate with NGOs to expand and deepen our local oral health literacy research and knowledge exchange agendas.**

# Improving Hong Kong's Oral Health Literacy

Team Leader: Dr Susan Bridges, *Assistant Professor in Dental Education and E-Learning*

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## Importance of oral health literacy

Oral health literacy may determine whether people understand written oral health information, how and where they get oral health knowledge, and how they understand and care for their own oral health as well as that of others, such as their children. Oral health care workers also need to gauge the oral health literacy of their patients and patients' carers, and adapt their information and communication methods appropriately.



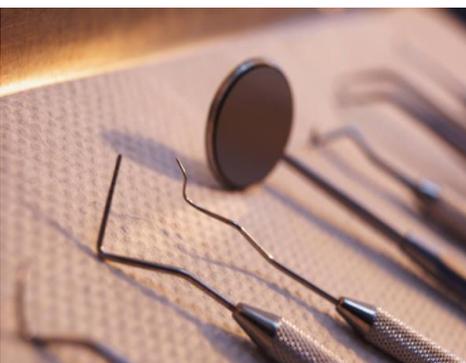
## Oral health literacy assessment

Focusing on children and their parents/carers, our team has developed and validated a Cantonese word-recognition task, as well as a pen-and-paper quiz to assess basic knowledge of paediatric oral health and oral care. A prototype digital version of the latter tool is being refined, so that users can receive instant feedback on their oral health literacy score and access built-in education materials for incorrect responses. The digital versions of the two assessment tools will be made available on the Internet.



## Instant feedback for dentists and educators

Online digital versions of oral health assessments have the potential for developing both online literacy and oral health literacy, while allowing dentists and dental educators in Hong Kong to access and track user responses and progress. Patients or their carers could then receive relevant education about basic oral health, advanced topics relevant to their oral health status, and individualised instructions on oral hygiene, dental visits and follow-ups, and use of prescribed medications.



## External partnerships and knowledge exchange

In the long term, results from the local oral health literacy assessment tools can be used to inform policy and create customised or community-wide public health education programmes and materials. Our team is very keen to collaborate with NGO partners and local dentists to further test and develop the local oral health literacy assessments in various population subgroups, and to be involved in our public health education efforts.

Improving Hong Kong's  
Oral Health Literacy

Acknowledgements



## Project Team

*Leader:* Dr Susan Bridges

*Members:* Prof Cynthia KY Yiu, Dr Gloria HM Wong, Prof Colman McGrath, Prof TKF Au (HKU Department of Psychology)

## Past/Current Participating KE Partners

Private kindergartens and secondary schools in Hong Kong

## Funding

HKU Knowledge Exchange Fund, granted by the HKSAR University Grants Committee

HKSAR Research Grants Council General Research Fund



## For more KE information

More information on KE and KE performance indicators at the HKU Faculty of Dentistry can be found online at:

<http://facdent.hku.hk/engagement/ke/index.html>, and more information on KE at HKU can be found at: <http://www.ke.hku.hk/>

Further opportunities for community participation in the Faculty's current KE projects can be found at our Facebook "Community Projects" page at [www.facebook.com/facdent](http://www.facebook.com/facdent) (Direct URL: <http://tiny.cc/30jerv>)

Details of past Faculty KE activities can be found at the Faculty webpage:

<http://facdent.hku.hk/engagement/community/index.html>

The Faculty's online Media Archive is at:

<http://facdent.hku.hk/engagement/ke/media.html>

**We will be pleased to consider any suggestions or comments; please e-mail [dentke@hku.hk](mailto:dentke@hku.hk).**



## FACULTY IMPACT PROJECTS

### 2010-11

**"Enhancing student learning of biological sciences through capacity building of secondary school science teachers"**, Prof Edward CM Lo (leader), Prof Lakshman Samaranayake, Dr CJ Seneviratne, Dr Xiaoli Gao, Dr Susan Bridges, Prof Lijian Jin

**"Making an impact: oral health literacy for community dentistry"**, Dr Susan Bridges (leader), Dr Cynthia KY Yiu, Dr Gloria HM Wong, Prof Colman McGrath, Prof TKF Au

### 2011-12

**"Oral health promotion program in young children through an evidence-based primary prevention approach"**, Dr Chun-hung Chu (leader), Prof Edward CM Lo, Ms Chun-wing Ng, Ms Gloria Liu

**"Enhancing science knowledge and skills of secondary school students using 'dental sciences' examples"**, Prof Edward CM Lo and Dr CJ Seneviratne (leaders), Prof Lakshman Samaranayake, Dr Xiaoli Gao, Dr Susan Bridges, Prof Lijian Jin

### 2012-13

**"Oral health education kit for orthodontic patients"**, Dr Ricky WK Wong (leader), Dr Yanqi Yang, Dr Alexander TH Tang

**Making an Impact: Oral Health Knowledge in Action**





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