Seeking to change an entire culture of media reporting is certainly an ambitious challenge, but that is what Professor Paul Siu Fai Yip, Director of the Hong Kong Jockey Club Centre for Suicide Research and Prevention, succeeded in doing. The impact has been nothing short of phenomenal: between 2003 and 2015, the change of media reporting has contributed to the reduction of Hong Kong’s suicide rate fell by more than 30 percent from 18.6 to 12.0 per 100,000, exceeding a target set by the World Health Organization to cut rates by 10 percent over a ten-year period.

The campaign was based on recognition of the media’s key role in affecting suicide rates, a foundation stone built on research conducted by Professor Yip and his team. They found that local media in Hong Kong reported suicides frequently and selectively, and often oversimplified the circumstances surrounding a suicide.

“Sensationalism can potentially effect the emotionally unstable,” said Professor Yip. “We needed to convince reporters with evidence that actually, you’re doing harm.”

Their research also found that strong parallels existed between the style of local media reporting on suicide and subsequent suicide rates. Prominent reporting of the suicide of a celebrity, for instance, correlated with a significant increase in suicide rates immediately afterwards, and sensationalised reports about new suicide methods, such as charcoal burning, saw increased use of the same method not only in Hong Kong but also in other parts of Asia which has accounted for more than 50,000 deaths so far.
A long-term knowledge exchange project was launched in 2014 to engage local media and to share updated and expanded recommendations and share information and resources online. The results were visible removals and reductions in problematic reporting, such as Next Media removing animations from their website that showed suicide methods – which would otherwise have been seen by more than 1.5 million viewers— and deleting information from its website about a HKU student suicide case. The intensity of stories focusing on student suicides fell sharply by 40% between September 2013 and December 2016. Over the same period, a substantial increase was seen in the number of positive stories that showed alternatives to suicide when facing stress and life difficulties in a move to balance negative reporting.

The impact of change has been global: YouTube removed animations about helium suicides that could have been accessed by billions of viewers, while Google now automatically displays suicide prevention hotline numbers when searches are made for suicide-related keywords in Hong Kong, Taiwan and Mainland China.

Professor Yip also brought media professionals on board in his ongoing campaign to prevent suicides, for example convincing Next Digital to create a prevention animation to encourage parents to increase their support to distressed children, which has been viewed 150 times.

As well as appealing to journalists’ sense of social responsibility and pointing out the impact of their work, the media was also offered support such as recommendations on how to report more appropriately, and offering access to experts on suicide for researching their stories. “Now we are friends, they ask for our advice,” Professor Yip explained.

Beyond the media, Professor Yip and his team have worked with the Fire Services Department and medical professionals to restrict the spread of helium suicides by increasing surveillance and banning helium balloons in MTR stations and warning about the dangers of helium gas. Professor Yip said the police have been very important in achieving results by doing detailed death investigations. “They facilitate our research,” he said.

The effects of the campaign are still growing with the Committee on Prevention of Student Suicides, which Professor Yip heads by government appointment, setting up a media subgroup to build on his suicide prevention work, and the Education Bureau has committed to following up on further engaging with media.

Professor Paul Siu Fai Yip and his team members, Dr Yik Wa Law and Dr Qijin Cheng, of the Hong Kong Jockey Club Centre for Suicide Research and Prevention received the University’s KE Excellence Award 2017 for the project ‘Public Health Approach to Suicide Prevention’.

Media is a double-edged sword.
It may come as a surprise to many to learn that three of the top 10 most common health conditions worldwide are closely related to bad oral hygiene. The number one spot on the authoritative report of Global Burden of Disease Study\(^1\) – which tracks diseases, conditions and injuries – is untreated tooth decay in adults. Number six is severe gum disease, also known as severe periodontitis, and number ten is untreated decay in children.

Professor Lijian Jin at the Faculty of Dentistry explained that severe periodontitis not only leads primarily to multiple tooth loss and edentulousness, it is also intimately linked to common life-threatening diseases such as diabetes, heart disease, some forms of cancer, and Alzheimer’s disease and dementia.

Inadequate mouth cleaning is one of the key problems of oral healthcare in the public community, but crucially, traditional toothbrushes were simply not up to doing a good enough job. Professor Jin and Dr Tze-Chuen Ng, an honorary associate professor at the Faculty of Dentistry and a dentist who has notably designed precision tools for space exploration, decided to make a new one – a toothbrush that features the most advanced technological design to improve the brushing effectiveness and try to resolve the weaknesses of traditional toothbrushes in one go.

The two inventors were inspired by high-speed railways in their design of the new NJ toothbrush. Professor Jin explained that one of the problems with brushing teeth less effectively is the curved shape of the dental arches and gums; and therefore, they designed the brush to curve around bends and stay on track in the same way that high-speed trains do.

“The toothbrush follows the curving line of front and back teeth, and it couples precisely over both upper and lower dental arches,” Professor Jin said. “The tracking does the work for you – it guides the toothbrush and yet the hinged head means you don’t even have to turn the toothbrush around to reach the other side of your mouth.”

\(^1\) https://en.wikipedia.org/wiki/Global_Burden_of_Disease_Study
The NJ toothbrush also specifically tackles the ‘dead corners’ – those hard-to-reach areas such as the space between teeth, sub-gumlines and the backs of retro molars which are often overlooked during brushing. Designed with precision computer mapping, the NJ toothbrush has six different types and shapes of purpose-built bristles curving around the tooth head, and each one aims at a particularly difficult-to-reach area. A unique design feature is the automatic expansion and contraction of the tooth head to make it fit closely around each tooth, regardless of size.

The HKU Technology Transfer Office has well handled and managed the patent issue. Hopefully, the NJ toothbrush could be available on the market in about 18 months.

“In the future, it will also be possible to customise the NJ toothbrush to individual needs and requirements,” Professor Jin added.
We know that air temperatures differ in different regions of the world, but we often neglect to consider the differences in water temperatures and salinity levels in our seas and oceans. Those differences matter immensely when it comes to protecting marine environments, because metals and other chemicals in the water that are damaging to both marine life and the people who consume them behave very differently in different water temperatures and saline conditions. Now, a new empirical model for testing waters has been developed by Professor Kenneth Leung of the School of Biological Sciences working with the Chinese Research Academy of Environmental Sciences. The new model will help governments set appropriate site-specific limits on discharges to safeguard marine environments and protect public health.

Variations in water temperature and salinity levels affect the toxicity levels of these chemicals and the damage they can do to marine life.

Chemicals get into the water in many ways, including through the paints used on ships’ hulls, whose ingredients are often toxic to microalgae. That can lead to damaged marine eco-systems and contaminated seafood that can make people sick. Triphenyltin or TPT, a toxic component of the organotin family that is commonly found in hull paint, has been found to have contaminated fishes in Hong Kong waters.

“Current international practice seldom considers this,” said Professor Leung.
All living creatures perform best in a set optimum temperature range – for humans, it’s 22-26 degrees Celsius – and Professor Leung set about finding the optimum range for marine life. The aim was to improve regulatory systems governing chemical use around the world. In contrast to existing international practices which only tested single species in fixed laboratory conditions and with a single chemical, he gathered data from around the world and in his lab and carried out many studies and tests on different species. To protect the entire marine ecosystem, he needed to find a way to protect the weakest species of marine life. “If you protect the weakest, you can protect them all,” he explained.

The detailed research took on global implications and evolved to predict toxicity in any part of the world at any time of the year.

Professor Leung’s findings were sent to the Environmental Protection Department of the Hong Kong government, which can use the model to set more effective Water Quality Objective targets to better protect Hong Kong's marine environment and public health.

Owing to his achievements and expertise in environmental science, Professor Kenneth Leung (first from right in the front row) was appointed as one of the 36 members of the International Scientific Advisory Committee (ISAC) of the Chinese Research Academy of Environmental Sciences (CRAES) in November 2018. CRAES commits to innovative and basic research on environmental sciences based on the national strategy of ecological civilisation, and to provide strategic scientific support for national decision making on environmental management. The main task of ISAC is to provide advices and suggestions on the strategic plan, talent cultivation, academic research and brand building for the long-term development of CRAES.
Like most governments, the Hong Kong government collects, holds and controls vast amounts of data on areas from air quality to traffic and from crime to language use. When it comes to sharing that information with the public, however, Hong Kong has lagged behind. Hong Kong currently ranks 24th on the Global Open Data Index, far behind Taiwan, which ranks first, and the UK, which is third. In a push led by Professor John Bacon-Shone, Director of the Social Sciences Research Centre, much of Hong Kong’s data is now starting to make its way into the public realm.

Professor Bacon-Shone’s Open Data Initiative Benchmarking Report highlighted Hong Kong’s poor position in the open data rankings and identified ways to improve, including by making data available in easily downloadable formats or updating information already available online. The report helped convince the Hong Kong government to overcome its historic reluctance to share information and commit to a new open data policy. About 80 government departments and bureaux published their first annual open data plans last year, and the Office of the Government Chief Information Officer has promised that more than 650 new data sets will be shared this year, all in machine readable formats.

There is enormous public benefit from these plans for making government data open. The reality is the government can never supply enough information, and the cost of making these data available is marginal.
Recognising the need to build a shared vision for change, Professor Bacon-Shone organised a conference that brought together data creators and owners, government, academics and users to share ideas on how data sharing could benefit society. Making more data available, while also ensuring that personal or sensitive data remains protected, will open up new opportunities for enterprising start-ups and businesses. Tech-savvy companies can package the data in apps to make it easily accessible for public consumption, providing both good money-making opportunities for small businesses and a valuable public service, said Professor Bacon-Shone.

“There is enormous public benefit from these plans for making government data open,” he said. “The reality is the government can never supply enough information, and the cost of making these data available is marginal.”

Cross-referencing much of the newly available data will help people to simplify and improve their daily lives in popular areas such as planning outdoor activities. Air quality data collected by the government, for example, is already available to the public, but without combining it with mapping data, it has not been specific enough to enable people to find out about the air quality in their neighbourhood or on their planned route and enable them to avoid pollution. If and when Lands Department makes all its maps freely available, many more apps will be able to help people make informed decisions.

Now the government has just reached agreement on accessing data from some licensed transport operators, the next step will be public access to exact arrival and departure times of public transport, as in London, Professor Bacon-Shone expects.
A chance spotting of some partly submerged constructions in Tai Tam Harbour led Dr Sun-wah Poon and Dr Katherine Deng of the Department of Real Estate and Construction to a series of fascinating archeological discoveries and evidence of historical engineering techniques. The discoveries, under the title “Commemorating the Centenary of Tai Tam Tuk Reservoir Dam on the Hong Kong Island – A Showcase of Interdisciplinary Archeological Evidence”, fanned community interest and awareness in Tai Tam Tuk Reservoir Dam and its history, and resulted in a string of well-attended talks, lectures and tours of the reservoir.

The Dam was completed in 1918, and at the time was the largest dam anywhere in the British Commonwealth. More than 100 years later, the Tai Tam Tuk Reservoir still plays a major part in Hong Kong’s water supply system.

The mysterious constructions turned out to be six wells, professionally termed as caissons, made of bricks and mortar. More than a century old, they are the only surviving evidence showing how ground investigation was carried out for reservoirs such as the Tai Tam Tuk reservoir. Contrary to normal practice with exploratory wells of this type, and for reasons unknown, the wells had not been filled in. They were found to have a depth of about 20 metres and had been built by hand.

The discoveries show that 120 years ago, the importance of security was taken as seriously as it is today. “They are clear evidence of the good investigation process 100 years ago,” said Dr Deng. “Their decision and conclusion is the same that we’re using currently,” noted Dr Poon.
Submerged in the reservoir Dr Poon found the remains of infrastructure works next to a tiny village dating from around 1845 once known as Tytam Took and nearby, almost covered by vegetation, the remains of the old site office and workers’ quarters, where about 400 workers once lived.

The Great Dam, The Great People

The dam is located in a beautiful setting popular with hikers, yet many had visited the site without knowing the story of the dam and its construction. As part of the dam’s centenary celebrations last year, Dr Poon and Dr Deng organised an exhibition in the HKU Main Library in February and March that showcased the team’s archeological evidence. The exhibition was extended to accommodate strong public interest and was attended by more than 1,000 visitors. The show helped the public learn more about Hong Kong’s built heritage and connect with the site’s social history, with one visitor mentioning that her father had worked in construction of the dam.

In addition to the exhibition, public lectures and guided tours at Tai Tam Tuk Reservoir were organised for professional groups, NGOs, secondary school teachers and students, and the general public.

The team’s archives, including photos, drawings, newspaper clippings, and artefacts found at Tai Tam Tuk, were also presented to the Water Supplies Department and the Antiquities and Monuments Office to enrich their exhibits of the Tai Tam Waterworks Heritage Trail.
Law is not often a topic that attracts much interest among young children, as Dr Michael Ng, Associate Professor of the Department of Professional Legal Education, learnt when trying to teach his own two young daughters. He hit on the idea of using not rules and regulations but morality stories set in everyday life to teach children how best to solve their dilemmas and problems.

The result is his 161-page book in Chinese, filled with illustrations, and called “Kids also know the law,” published by Joint Publishing, and which was nominated for the Hong Kong Book prize in 2017.

The book is designed to teach children norms and values as part of their everyday life, and morals, rather than laws, are at the heart of the book, Dr Ng explained.

“We’re always teaching rules, but the law is more about norms and values than rules,” he said. “It’s easy to impose rules, but hard to infuse norms and values.”

Dr Ng was inspired by the wish to help his daughters – who were aged 14 and 11 at the time he wrote the book – to find for themselves the best solution to the decisions they were faced with in their daily lives at school, at home.
and when playing with friends. By relating the moral dilemmas to their daily lives, he aimed to make them more thoughtful and to appreciate the importance of the rule of law.

The book is set out like a story book, with three main characters. Each chapter deals with a different moral lesson set in social life, school life or family life, and features the social media often used by kids, such as WhatsApp. The stories are adapted from well-known tales such as the Three Little Pigs, but with a different setting or ending to show potential courses of action that a child can take – for example, when the wolf comes, the pigs call the police.

The moral authority in the book is the children’s pet, a friendly cat who doubles as a lawyer and gives advice. Before writing the book, Dr Ng interviewed his children’s classmates and cousins to see what kind of things they were concerned with and what they thought the legal consequences could be, as well as finding out which fairy tales they liked best, favourite cartoon styles and deciding on the best personality for the cat.

The book has been used by teachers, who say it is a useful way of teaching law and morals to students. “It inspires people how law can be taught, and to a much younger audience than we’re used to imagining,” Dr Ng added.

The book is designed to teach children norms and values as part of their everyday life, and morals, rather than laws, are at the heart of the book.
The therapeutic value of animals to relieve stress in the young, elderly and sick has been documented by academics and medical professionals around the world. But what has not been known until relatively recently is how therapy animals can also help people who have difficulties dealing with modern society and lock themselves away in their rooms.

This phenomenon was first identified in the 1990s in Japan where it was called ‘hikikomori’ to describe acute social withdrawal. According to the Japanese government figures released in 2010, there were 700,000 individuals, with an average age of 31, living as hikikomori across the country as young people continue to drop out of school and society.

Similar cases have been found around the world, including Hong Kong where it is called ‘hidden youth’ and has the equivalent prevalence in the city as it did in Japan in the 1990s.

Based on a systematic review, Dr Paul Wong, Associate Professor at the Department of Social Work and Social Administration, estimates there are between 20,000 to 40,000 hidden youth in Hong Kong displaying social withdrawal behaviour.

In Hong Kong, a non-profit-making social service organisation has established a mentorship programme using trained animals to try to entice these young people out of their rooms and back into society in conjunction with their social workers.

More people are approaching us and this is a good sign to tell us that more people are accepting the idea that using animals in the social services are helping more people.
Dr Wong and Project Officer, Dr Rose Yu, are working as external evaluators with the Chinese Evangelical Zion Church Social Service Division to study how therapy animals, mainly trained dogs, are helping Hong Kong’s hidden youth to regain their self-belief.

“The Regain Momentum mentorship programme is a multi-component programme organised by Zion youth centre and the main target is for withdrawn youths in the community,” said Dr Yu. “As far as I know this is one of the first research studies on using animals in a therapeutic intervention in Hong Kong, so everything is very new.”

While using therapy animals is accepted in other parts of the world, Dr Wong said it’s a new social service approach in Hong Kong and he is hopeful that if trained animals can partner with social service providers then it will show that trained dogs can enhance the benefits of these programmes.

“More people are approaching us and saying we want to work with you and want to learn from you,” Dr Wong said. “This is a really good sign to tell us that more people are accepting the idea that using animals in the social services are helping more people.”

As a sign of the interest in their ongoing research, Dr Wong and his team were invited to Japan in March 2018 to deliver a presentation to the Akita government on how therapy dogs might be used to help hikikomori in the prefecture.

Watch the KE video on Dr Wong’s project: https://www.ke.hku.hk/story/video/hidden-youth
Warm congratulations are extended to Ms Rebecca Wing Chi Lee and Professor Lusina Kam Shuen Ho of the Faculty of Law, who received the Knowledge Exchange (KE) Excellence Award 2018 for their project “Introducing the Special Needs Trust to Hong Kong”.

For many years, parents of children with special needs live with an agonising worry: since their children are unable to manage their own financial affairs, what will happen to the assets the parents set aside for the children’s care and well-being once they pass on? The trust is an ideal mechanism for professional asset management, but the capital and fees involved place it beyond the means of most families.

Professor Ho and Associate Professor Lee’s research has directly led to the setting up of a special needs trust (SNT) in Hong Kong. They proposed an SNT model that saves costs by pooling the funds contributed by parents for investment.

Their suggestions were submitted to the Government in an informal policy paper in October 2015 and they received a quick response. In February 2016, the Government set up a working group to investigate the feasibility of establishing an SNT and appointed Ho to provide expert advice on the SNT’s design. Ho and Lee also collaborated with the Concern Group of Guardianship System and Financial Affairs, an NGO, to provide supporting data and convinced the Government that a government-managed SNT was both desirable and feasible.

After allocating HK$50 million to set up an SNT office in February 2018, the Government formally launched the SNT in December 2018. The SNT is able to benefit the families of some 250,000 individuals whose disability (be it intellectual disability, mental illness, or autism) renders them unable to manage their own property affairs. It also affords parents peace of mind in knowing that, upon their passing, their children’s well-being will not be affected.

In having a government act as trustee, Hong Kong’s SNT is the first of its kind in the world. On the back of its success, NGOs in South Korea invited Ho and Lee to explain the workings of the SNT to the Korean Government, which then decided in 2018 to launch its own SNT.

Watch the KE video on their project: www.ke.hku.hk/story/video/snt

The university-level KE Excellence Award was introduced in 2015-16 to recognise the significant impact that our academic staff had made to benefit society.
Interdisciplinary Quick Talks – Open Data Open Possibilities

(From left) Dr Tommy Tsan Yuk Lam, Ms Puja Kapai Paryani, Professor Victor Li, Professor John Bacon-Shone, Dr Wilson Lu, Mrs Stacy Belcher Lee

Interdisciplinary Quick Talks is a new HKU Knowledge Exchange (KE) series to promote interdisciplinarity and to share evidence-based knowledge on challenging issues from multiple perspectives with the community.

The inaugural event of this KE series, with the title ‘Open Data Open Possibilities’, was successfully held on February 15, 2019 at the Rayson Huang Theatre, The University of Hong Kong with over 200 participants from different sectors including government departments, institutions, secondary schools, and technology companies.

This event provided an opportunity for our researchers to share with the participants their views and project outcomes using open data, and discussed new ideas for interdisciplinary research and knowledge exchange that could be made possible by open data.

The following talks were delivered by our researchers at the event:

- **Opening Up Data: Facilitating Reuse of Public Information while Minimising Negative Consequences**
  Professor John Bacon-Shone, Social Sciences Research Centre and Knowledge Exchange Office

- **AI and Big Data to Advance Well-being and Society**
  Professor Victor Li, Department of Electrical and Electronic Engineering

- **Disaggregated Data and its Potential for Corrective Justice in an Age of Inequality**
  Ms Puja Kapai Paryani, Department of Law

  Dr Wilson Lu, Department of Real Estate and Construction

- **Open Genomic Data for Studying Infectious Diseases**
  Dr Tommy Tsan Yuk Lam, School of Public Health

- **The Archivist and Access: Custodian and Guide, not Gatekeeper**
  Mrs Stacy Belcher Lee, University Archives

Video on their presentations can be viewed on our website: https://www.ke.hku.hk/event/odop
The 3MT Competition is an academic competition that challenges research postgraduate students to explain their research within 3 minutes to a general audience, using only one static PowerPoint slide. The 3MT was developed by The University of Queensland, Australia in 2008. The HKU 3MT Competition has been an annual event jointly organised by the Graduate School and the Knowledge Exchange Office since 2011.

This year 17 final-year MPhil and PhD students participated in the HKU 3MT Competition held on March 7, 2019. The range of topics is again fascinating: energy future, to international suppression of Chinese piracy in South China in the 19th century, and even illuminating dark matter in the universe.

The winners are:

**Champion**
Mr Alfred Amruth  
MPhil candidate, Faculty of Science  
“Illuminating dark matter with nature’s time machine”  
(Primary Supervisor: Dr Jeremy Jin Leong Lim)

**1st Runner-up**
Ms Oi Kwan Mak  
PhD candidate, Faculty of Science  
“Secretin, a water balance in our body!”  
(Primary Supervisor: Professor Billy Kwok Chong Chow)

**2nd Runner-up**
Mr Ching-yin Nathan Kwan  
PhD candidate, Faculty of Arts  
“The International Suppression of Chinese Piracy in South China, 1841-1899”  
(Primary Supervisor: Professor John Mark Carroll)

**People’s Choice Award Winner**
Mr Chak Man Lee  
PhD candidate, Faculty of Engineering  
“Phase? The new phase for tomorrow cancer diagnosis”  
(Primary Supervisor: Dr Kevin Kin Man Tsia)

**Online People’s Choice Award Winner**
Ms Ashini Dias Mahadura  
MPhil candidate, Faculty of Science  
“Visualizing Evolution: Origin of New Species in Hong Kong”  
(Primary Supervisor: Professor Richard Mark Kingsley Saunders)

Videos on the presentations of the awardees and finalists can be viewed on our 3MT website: https://www.ke.hku.hk/hku3mt/
**KE Seminar:**
How animals could help to enhance the work in education and social services settings?

Date: April 25, 2019  
Time: 5:30 – 7pm  
Venue: KB115, 1/F, Knowles Building, HKU  
Speakers: Dr Paul Wong, Department of Social Work and Social Administration  
Miss Debbie Ngai, Hong Kong Animal Assisted Therapy Association (HKAATA)

**HKU Visualise Your Thesis Competition 2019**

Create a 60-second ePoster to explain your research!  
The Competition is open to all HKU MPhil and PhD students whose candidature have been confirmed.  
Registration Deadline: May 6, 2019

**KE Funding Exercise 2019/20: Call for Proposals**

Proposals for Impact Projects are now invited.  
Please check with your Faculty KE units (or Director in the case of non-Faculty-based units) for the deadline set by the Faculty (or non-Faculty-based unit concerned).

**Faculty KE Awards 2019**

Individual Faculties that wish to conduct an award exercise this year will call for nominations. Please note the nomination deadline set by your Faculty.
Finding Experts

The HKU Scholars Hub is the University's online expertise directory, which makes HKU researchers and their research visible. It provides an expert finder for businesses, industries, social enterprises, the public sector, and interested student applicants to find HKU experts for contract research, consultancies, and postgraduate student supervision etc.

Please visit the HKU Scholars Hub at https://hub.hku.hk/.

Tech Ready

For a complete list of HKU technologies that are currently available, please visit: https://www.tto.hku.hk

Entrepreneurship Series

Visit http://www.dreamcatchers.hku.hk for the DreamCatchers programmes

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