Certification and evaluation of health technologies and Smartphone Apps

Exercise and diet apps represent one of the largest and fastest growing sectors of the global smartphone app industry. They allow the self-management of behaviours to be incorporated into daily routines, adding value to health regimes that professionals recommend. Health Insurers also recognise the benefits of securing customer commitment to proactive personal management and monitoring of health.

In this large and diverse unregulated market, not all apps are equal. While some may deliver positive outcomes, others may be ineffective or even counterproductive due to misleading claims. There is currently no official regulation or evaluation for health apps or technologies outside a clinical setting and where failure is unlikely to lead to life-threatening consequences. User reviews, typical to all apps, are restricted to ease of use and personal efficacy experience, usually undertaken by consumers, rather than objective or scientific review by independent organisations. The same applies to those reviewed by consumer bodies and health/technology media. The difficulty with this 'superficial' approach is that underlying content methodological design may be scientifically inaccurate. Recent research showed that a significant proportion of apps available to assist clients with smoking cessation and alcohol reduction were contrary to national guidelines.

Health Professions

Although exercise and diet apps are comparatively inexpensive and ineffectiveness and impact are unlikely to be life threatening, in addition to any potential legal implications that could flow from recommending inappropriate or ineffective apps, they can dampen user motivation and reduce commitment to self improvement. This user response is also of concern to health and income protection insurers who have an interest in ensuring effective customer health self-management.

App Developers and Publishers

App developers and publishers also have an interest in improving confidence and uptake of exercise and diet apps. App developers can work independently to produce and 'sell' apps to consumers, or may be commissioned to develop a response to particular needs. In the former, app developers do not wish to compromise their products because insufficient attention to the accuracy of underlying science based content. In the latter, responsibility for validity and efficacy lies with the commissioning organisation. However, such organisations note difficulties in identifying prospective developers who may be appropriate for such commissions and who have experience and understanding of the ethical context. In both circumstances, app developers and publishers would benefit from a system that increases communication between client and developer and improved confidence in the product.

Partnered solutions

A limited number of iPhone app evaluation programs have been trialled overseas in both government and private sectors (for example, Happtique, and the UK NHS) but are recognising the practical difficulties of maintaining quality standards within formal centralised evaluation programs in such a rapidly growing and innovating market. Partnerships with stakeholders are crucial to ensure the sustainability of solutions developed and their uptake, to ensure confidence without unduly disrupting the valuable speed of innovation and improvement in this field.

The Project

QUT's Faculty of Health, in collaboration with academic colleagues in science, business and interactive design is working with professional colleagues in exercise science, diet and nutrition, app developers and not for profit organisations who commission apps for health and wellbeing, to

explore these issues through a project that combines applied research and practical partner and end-user outputs.

The overall project adopts a three stage approach:

Stage One scopes the topic, understands stakeholder needs and concerns, and explores possible models that can provide sustainable solutions for all partners. *Stage Two* will work with stakeholders to develop particular solutions that can be applied within existing operations and frameworks. These may include training, guidelines, standards and protocols and enhanced member communication approaches to share findings. The focus may broaden to explore exercise and diet mobile devices at this stage. In *Stage Three*, stakeholder and researcher teams will seek to develop new technologies, modifications and models, within a scientifically rigorous framework, that can fill gaps in existing provision and optimise the benefits that mobile and digital technological advances offer health professionals and their clients.

Stakeholder participation

The project is currently in Stage One having secured limited seed-funding (circa. $10,000) from the University. Initial scoping of the health app evaluation landscape has been undertaken and discussions with key stakeholders and peak body representatives are ongoing. These include: Exercise and Sports Science Australia (ESSA), Dieticians Association of Australia (DAA), The Digital Industry Association of Australia (AIMIA). In collaboration with these organisations, we are capturing the challenges and needs of these professionals to inform the next stage of the project.

Meetings have also been held with Telstra Health and consumer group Choice who have indicated support for the project. Consultation is ongoing with other prospective stakeholders to explore the broader environment to implement some form of app evaluation regime and to seek longer term collaborating partnerships which will facilitate development.

We are establishing a project steering committee of stakeholders to help guide the overall project and ensure that it maintains its objective to deliver solutions that can meet client needs within stakeholder practices and operations.

QUT Project team

- Professor Neil King, Assistant Dean Research, Faculty of Health (Project Leader)
- Professor David Kavanagh, Psychology and Counselling, Faculty of Health
- Professor Judy Drennan, Services Innovation Research Program, QUT Business School
- Associate Professor Leanne Hides, Psychology and Counselling, Faculty of Health
- Associate Professor Daniel Johnson, Computer Human Interaction, Science and Engineering Faculty
- Associate Professor Dian Tjondronegoro, QUT Mobile Innovation Lab, Science and Engineering Faculty
- Dr Jared Donovan, Interaction Design, Creative Industries faculty
- Dr Jennifer Seevinck, Interactive and Visual Design, Creative Industries Faculty
- Dr Stoyan Stoyanov, Psychology and Counselling, Institute of Health and Biomedical Innovation
- Dr Jenny Wilson: Faculty of Health (Project Manager)

Contact details

For further information on this project please contact

Jenny Wilson (Project Manager)	**Professor Neil King (Project Leader)**
[redacted]	[redacted]