Marie McInerney reported on the Wearable Health Technologies and CALD symposium, hosted by the Centre for Culture, Ethnicity and Health (CEH), in Melbourne on July 28th 2016 for the Croakey Conference News Service.

Croakey is a social journalism project for public health based in Australia. http://croakey.org
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1. Wearable health technologies: will their benefits (and risks) flow beyond the ‘white, worried and well’?

Activity trackers, smart watches, health apps, personal heart rate monitors. These new technologies promise to transform health, health literacy and health care.

But to date, these wearable health technologies have been largely marketed towards those who have been dubbed ‘the white, the worried and the well’.

What might they mean for culturally and linguistically diverse communities and the health workforce that supports them – and who should be involved in shaping the research around that?

These issues were explored at a symposium in Melbourne, hosted by the Centre for Culture, Ethnicity and Health (CEH), in partnership with the Research Unit in Public Cultures (RUPC) at the School of Culture and Communication at the University of Melbourne and the Better Health Channel.

The main speakers included:

• Suneel Jethani, from the University of Melbourne’s School of Culture and Communication
• Janette Gogler, Chief Nursing Information Officer, Bendigo Health
• Sean McClowry, Partner with Deloitte Digital.

The event was organised by Dr Ruth De Souza, CEH Stream Leader in Research, Policy and Evaluation, who talks about the aims of the symposium in this interview (below). During the week of the symposium, she was also guest tweeting for @WePublicHealth.
In the post below, De Souza also provides an excellent wrap of the many issues (including clinical, technical, and ethical) posed by wearable technologies for individuals, communities, the health workforce and researchers. It is republished with permission from her blog.

CEH’s documentation of the event is available at http://ceh.org.au/wearables

2. Sensing horizontality: I bought a wearable device to monitor my sleep

Ruth De Souza writes:

Are you a night owl or an early bird? Or do you fall in between? I succumbed and bought a wearable device because I thought it could be useful to track my sleep. I spend a few nights in the city every week and I notice that I feel less rested than when I am ‘home’.

It seems the right time to buy a wearable device, I am co-organising a Wearables seminar on July 28 2016 at the Centre for Culture, Ethnicity and Health. I’ve also been invited by Croakey to guest tweet on @WePublicHealth and I want to explore how the concepts of consumer participation, health literacy and cultural competence are changing with technologisation in health care. (Check out this interview with Marie McInerney from Croakey if you are interested in the seminar). I’ve also just started a course at QUT on Social media and data analytics as an entry point into beginning to understand what kinds of data are being generated and what can be done with that.

Wearable health technologies are growing in social acceptance and use, especially for people interested in fitness and health monitoring as a form of preventative medicine.
As sensors become cheaper and smaller, many kinds of health-related data that previously relied upon clinical equipment are becoming available for continuous self-monitoring by patients and consumers.

In effect, these technologies are turning the body into media, so that a health consumer can become their own 24 hour news channel focused entirely on the real-time representation of wellbeing.

Wearable technology platforms have been dominated by the English-speaking middle-classes, (‘the wealthy, worried and well’ as Michael Paasche-Orlow suggests), limiting the community benefits of enhanced participation and health. Barbara Feder Ostrov notes:

*But Fitbits aren’t particularly useful if you’re homeless, and the nutrition app won’t mean much to someone who struggles to pay for groceries. Same for emailing your doctor if you don’t have a doctor or reliable Internet access.*

The diffusion of mobile phones (that can also be used as health monitoring devices) indicates that these technologies will only expand to a wider range of users.

**What are wearables?**

Wearable devices or “wearable technology” and “wearables” refer to electronic technologies or computers that are incorporated into clothing and accessories and worn on the body. They can include smart watches, fitness trackers, head mounted displays, smart clothing and jewellery.

They do many things that mobile phones and laptop computers do, but some also have features not seen in mobile and laptop devices. Sensory and scanning features can provide biofeedback and track physiological function. There are also more invasive devices which can implanted such as micro-chips, smart tattoos, pumps.

**Why is everyone talking about wearables now?**

The world of health information is undergoing significant transformation in the digital era. New media channels such as the Internet allow access to on-demand health information outside of authoritative channels; and new technologies such as fitness trackers and wearables produce a wide range of personal health information.

Several trends have increased attention on technologies in health, including the democratising role of the internet, leading to the emergence of more intensively informed health consumers who expect more precise and individualised care; the ubiquity and mobility of network communications, allowing the immediate bidirectional transfer of information between individuals and systems; the role of social media in providing networks for sharing both personal data and health experiences; and the increasing cost of health care and the potential for technology to make health management more efficient.

**What are the benefits?**

Traditionally, much clinical interaction relies on self-reporting by consumers, which is then interpreted by researchers and published for incorporation into practice by health practitioners. Along the way, much important information is “lost in translation”.
New consumer healthcare technologies are brokering a shared informational interface between caregivers, clinicians, communities and researchers, allowing practitioners to access richer and more detailed empirical data on health consumer activity and their participation in health-seeking activities.

Consumer health technologies offer potential for care to be more equitable and patient-centred. In turn, the impacts of these technologies on health service education, planning and policy are far-reaching. More about benefits.

Could wearables enhance independence and participation?

Advances in health mean that residents of industrialised countries live longer, but with multiple, often complex, health conditions. Health technologies can expand the capabilities of the healthcare system by extending its range into the community, improving diagnostics and monitoring, and maximizing the independence and participation of individuals (Patel, Park, Bonato, Chan and Rodgers, 2012).

The United Kingdom’s National Health Service (NHS) is giving millions of patients free health apps & connected health devices in a bid to promote self-management of chronic diseases.

Wearable sensors also have diagnostic and monitoring applications, which can sense physiological, biochemical and motion changes. Monitoring could help with the diagnosis and ongoing treatment of people with neurological, cardiovascular and pulmonary diseases including seizures, hypertension, dysrhythmias, and asthma.

Home-based motion sensing might assist in falls prevention and help maximize an individual’s independence and community participation.

What are the concerns about wearables?

The technological promise also brings concerns, including the impact on the patient-provider relationship; and the appropriate use and validation of technologies. Technologies are also developed with particular service-users in mind, and rarely designed with the participation of people from structurally and culturally marginalised communities.

Despite the ubiquity and access to apps, wearables and websites, the lack of science might preclude behaviour change (e.g. no set of standards) and the “average person” could struggle to choose an app that is effective at changing health behaviour.

People are anxious about whether their health data can be used against them. Workplace surveillance and tracking employees has become a health and safety issue.

There’s concern about whether we can trust the scientific rigour of the apps we are using, for example the accuracy of the heart rate tracker of the Fitbit and concerns about security.

What impact will technologies have on health professional roles?

Health professionals will have to consider how they work with clients in the context of these technologies.

The capacity to review and share healthcare experiences is already available. Technologies will require changes in rules, business models, workflow and roles.
The advent of authoritative websites like the Better Health Channel means that health professionals may no longer be the ultimate gatekeepers of knowledge – their role might shift to being health coaches who empower clients to monitor and improve their health by using their own data.

They might have a larger role in care coordination and managing care transitions through the use of mobile health apps. They could play a greater role in research at the point of care through data gathering in research projects. They could play a greater role in evaluating the quality and appropriateness of particular apps.

Technology could also free up time to care. Nurses often spend more time collecting information than looking after patients. One study showed 60 per cent of the nurse's/midwife's time was spent collecting information and only 15 per cent caring for their patients. ePrescription systems in Sweden, the US and Denmark increased health provider productivity per prescription by over 50 per cent. eReferrals in Europe reduced the average time spent on referrals by 97 per cent.

So there is potential for the enhancement of health system design: workflow and the coordination of care. There will also need to be better support for innovation as this post from The Medical Startup notes:

> How can you innovate where your environment is slow to respond to change, and, despite best intentions, has trouble understanding the few (or many) employees who want to do more, but can’t articulate their feelings? How can you innovate when you risk being penalised or even kicked out of a specialty college that you’ve worked so hard to enter?”

Health professionals will also need data management or data analytic skills in order to best use the data wearable health technologies generate.

The data will range from public health intelligence (for example tracking outbreaks); using data as a diagnostic tool; to follow up treatment plans; to provide access to the personas, problems, goals and preferences which can then improve the care plan through tailored information and also improve engagement and activation.

Health professionals will also need to find ways to prepare patients better for their appointments so that the time they spend is better used.

**What kinds of workforce preparation will be necessary for using technologies effectively?**

The Digital Skills for Health Professionals Committee of the European Health Parliament surveyed over 200 health professionals about their experience with digital health solutions, and a large majority reported to have received no training, or insufficient training, in digital health technology.

The committee recommended continuous education of health professionals in the knowledge, use and application of digital health technology.

Curricula will need to be updated to prepare health professionals for using mobile apps/diagnostic and data monitoring tools to nurses’ repertoire of skills and competencies and larger focus on patient-centred care and consumer engagement in health promotion and maintenance activities.

Will there be new roles for ‘informaticians’ whose job is to help download apps, set it up, teach patients how to use it to make health messages more understandable?
Educators will need to consider how they teach students to use technology and integrate the use of mobile technology into learning experiences and clinical practice. They’ll need to consider how to use technology such as texts, mobile telephones, or video for health promotion and disease prevention.

They will also need an understanding of informatics and how health data are stored, transmitted, and used, as well as the use of the electronic health record in patient-centered care planning (Kennedy, Androwich, Mannone, & Mercier, 2014).

**Could benefits be realised for people from CALD backgrounds?**

Victoria is one of the most culturally diverse communities in the world, which accounts for around one-third of migrant settlement in Australia. The number of Victorians born overseas has grown by 29 per cent from 2001 to 2011—from just below 1.1 million people to 1.4 million (VARG, 2014).

The Auditor General notes in the VARG report (2014) that:

> Migrants, particularly those with low English proficiency or poor literacy in their own language, and refugees and asylum seekers are among our most vulnerable members of the community. This is because they often have complex needs, particularly in relation to health, welfare and language services. A whole-of-government approach to the broader area of multicultural affairs should improve integration, reduce duplication and better identify gaps in services.”

Evidence is growing that the greater the health literacy of an individual, the greater the likelihood of health maintenance and promotion.

Low health literacy is associated with more adverse health outcomes (people with low levels of individual health literacy are between 1.5 and 3 times more likely to experience an adverse health outcome (DeWalt et al. 2004 cited in ACSQHC 2013c).

People from refugee and migrant backgrounds may be disadvantaged in the health system because they are in the process of developing their health literacy and capital.

Access to and through health care is a significant aspect of feeling a sense of belonging and worth, so improvements in health participation will also have a significant impact on broader social inclusion. We need to explore how low health literacy/data literacy affect the use of health technology – merely having access to information in apps is no guarantee that you can use the information.

It’s going to be interesting seeing what data comes out of the Jawbone app. Having had it for two days I can see that it provides useful data about the type of sleep I’ve had. What I do with the information will be one of the questions I grapple with next.

**References**

Health Literacy and Consumer-Facing Technology: Workshop Summary
By Roundtable on Health Literacy, Board on Population Health and Public Health Practice, Institute of Medicine, National Academies of Sciences, Engineering, and Medicine.
3. Research based in the community

Marie McInerney writes:

The Centre for Culture Ethnicity and Health (CEH) in inner city Melbourne is thought to be the only Australian research centre of its kind that is based within a community health service.

And its host, the North Richmond Community Health, is in itself unique, based in the grounds of Victoria’s largest public housing estate.

It’s a diverse cultural community that has undergone dramatic demographic change in recent decades, with gentrification and the loss of local industry, which has really cut job opportunities for men particularly.

CEH’s role is to develop services and resources to support communities and organisations in cultural competence, health literacy and consumer participation.

In this video below, North Richmond Community Health and CEH Director Demos Krouskos says it’s important to have a research centre like CEH surrounded by the sorts of issues relating to inclusion and equitable access to health services that it is trying to deal with on a state and national level. He says:

We deal with these issues in the other part of our organisation, North Richmond Community Health, everyday, so it’s a great learning environment for everybody at CEH to be able to understand how to change our practice and be able to address those issues of access and inclusion."

Talking about why CEH hosted the wearables technology symposium, he says it’s instructive to know that one of the first services established in refugee camps across the world now is a mobile phone tower. He says:

It’s extraordinary how many of our clients, they might arrive in Australia with very little else, (but) they have a smart phone.

That provides us with a unique opportunity to think about how we might be innovative in a very creative way, not just in communication strategies but our ways of building relationships of trust with our communities.”
4. Bringing together the experts to shape the research agenda

Dr Danny Butt is a Research Fellow in Participatory Public Space at the Research Unit in Public Cultures at the University of Melbourne.

In the interview below, he talks about his interest in the political and policy implications of the new kinds of ‘publics’ that are being generated by devices like wearable technologies, including how they are creating communities that are not subject to the same policy controls or levers that we expect in more traditional public spaces from governments or councils or hospitals or other agencies.

Butt’s colleague Suneel Jethani, from the University of Melbourne’s School of Culture and Communication, was one of three main speakers. He is set to submit his PhD on related issues and talked at the symposium about the routes to technical innovation and markets for wearables and the problems of regulation and governance associated with the production, sharing and access of personal health data.

Butt says the symposium sought to develop a research agenda by bringing together experts from many fields together to find out, before the research begins, what are the important questions to consider across a range of issues: clinical, technical, policy, governance and community.

He says:

This is what community health is about: it’s about understanding that knowledge is no longer only held in the expert individual who reads the book: that knowledge is out there in the world.

I think this brings about an important methodological kind of question for us in the university sector: if we want to be engaged out there, where these things are happening… then that’s absolutely incumbent on us to co-design these research programs with the people who we expect to benefit from it and the people who are going to use it.”
5. Before the symposium

#wearablesCEH discussions on Twitter

@WePublicHealth · 20h
What are phones or wearables “doing to” public health? Do they have potential for improving public health outcomes? What are your concerns?

@AlisonVerhoeven · 18h
@WePublicHealth concerned about data collection via apps: how do we balance privacy protection with access to ‘health on the go’?

@AlisonVerhoeven · 9h
@WePublicHealth yes! What if my smoking, drinking and weight gain are integrated into my clinical record and penalize me somehow?

@AlisonVerhoeven · 8h
@WePublicHealth or use of a mental health app?

@WePublicHealth · 7h
@AlisonVerhoeven yes exactly! The collision of stigma and technology need further exploration. Technology dev! faster than ethically.

@billbellew · 7h
Great potential. #Privacy and #security concerns abound though securityintelligence.com/the-security-a...

@WePublicHealth
What are phones or wearables “doing to” public health? Do they have potential for improving public health outcomes? What are your concerns?

@WePublicHealth · 4h
Yes, so many conflicts of interest and diverse motives. Yet the potential benefits are remarkable too!

@UMIFNET @DrBFreeman @AdrianBauman @kieron_rooney @billbellew @WePublicHealth always need to be wary of commercial interests IMO
6. Wearable health technologies: better health for all or new ways to confuse, confound and exclude?

Marie McInerney reports:

Over the next decade, millions of us will apparently not only strap on devices like fitness trackers to monitor our exercise and diet, we will likely implant and inject them to track everything from our sleep to lung performance, the growth of tumours, and our UV exposure.

Wearable health technologies are touted as one of the next major “digital disruptions” and a major advance in preventing illness, increasing health literacy, and improving health care.

But will they be all they promise for our health and wellbeing? And will they be accessible, meaningful and appropriate for all of us?

Not on the evidence to date, which tells us that these technologies are focused on devices like the Fitbit that appeal to the ‘white, well, and worried’ and not to those who might really benefit.

A recent symposium in Melbourne aimed to shape a research agenda on wearable health technologies that puts the needs and values of culturally and linguistically diverse (CALD) communities at the centre, rather than on the sidelines as they are now.

It was hosted by Melbourne’s Centre for Culture, Ethnicity and Health (CEH), a unique research centre on the grounds of North Richmond Community Health and alongside one of the city’s biggest public housing communities.
For 40 years, the area and service have been home to refugees and other newly arrived cultural communities but now, like much other inner city public housing, it is rapidly gentrifying and has lost the manufacturing base that once provided a pathway to work and broader participation for so many.

The CEH was partnered at the event by Melbourne University’s Research Unit in Public Cultures and the Better Health Channel.

Run at speed dating pace with participants from diverse areas, the three-hour symposium aimed to be a conversation starter and to kick off a community of interest around an overarching question posed by organiser Dr Ruth De Souza:

**Do wearables reinforce structural inequalities, or do they give us a chance to challenge those structures?**

It was clear the jury is very much out on the benefits of these technologies in general, much less to CALD communities.

As a result, discussions canvassed broader concerns about data, reliability, standards, interoperability, workforce/clinician readiness, privacy, and ethics, as well as specific issues for CALD communities – from language access through to whether such highly individualised technologies can be tailored to non-Western concepts of health, wellbeing, and care.

### Digital disruption and the ‘Silicon Savannah’

Providing a market perspective, Deloitte Digital partner Sean McClowry told the symposium that wearable health technologies have had a slower take-up compared to other ‘digital disruptions’ like smart phones, with particular frustration around battery life and charging.

There have also been questions around the quality of data. It’s easy to produce lots of information – in fact we’ve seen nine times more data generated in the last two years than “in the history of humanity”, he said. “The trick is to make it meaningful.”

But he said it’s safe to assume that the accuracy and sophistication of wearables will continue to improve. (As will the risk of theft, he warned, with the “average health record” worth 10-20 times more on the black market than stolen credit card numbers).

McClowry highlighted some emerging wearable technologies including a flexible tattoo-like bio-stamp that can be embedded with sensors for heart rate, UV exposure and brain activity.

But who will they be aimed at?

Tweeting at [@WePublicHealth](https://twitter.com/WePublicHealth) during the week of the symposium, De Souza linked to an article lamenting that developers are more likely to focus on the easier, instant rewards of fad technologies (like the so-called ‘Dorothy’ shoe clips that when clicked three times will call an Uber ride home!).

That’s unfortunately at the expense, it said, of **people who could most benefit** – among them the old, the chronically ill, and the poor – and particularly if that requires navigating the more rigorous standards (and slower approval times) of the health sector.

McClowry is confident the technology will shift to other markets over time, saying we have seen that happen with the global distribution of the smart phone.
But he also pointed to where we could be looking for innovation, highlighting the development of an HIV and syphilis tester that was first piloted in Rwanda and is powered by a mobile phone or app.

He said unmet need is seeing African countries take a real “leapfrog” in new technologies, all centred around mobile phones (and leading to Kenya being dubbed “the Silicon Savannah”). As an example, the first electricity that many African households now get comes through renewable, clean energy, connected through their mobile phone.

CEH CEO Demos Krouskos also highlighted, in this interview, the ubiquity of mobile phones in refugee and migrant communities; one of the first pieces of infrastructure now installed in refugee camps is a mobile phone tower.

And thanks to participant @benomara for linking on Twitter to this project that provided mobile phone based peer support to a group of nine Sudanese women in Melbourne who had experienced trauma and difficulties associated with settlement.

**Beware the equivalent of a mood ring**

Melbourne university researcher and lecturer Suneel Jethani, who is soon to submit his PhD, said wearables technology has a whole range of advantageous applications that should make both clinicians and consumers optimistic – including in medical histories, remote patient monitoring, and producing data for clinical trials.

Other benefits are that they help link the environment to behaviour and health, help us accept certain aspects of illness and foster lifestyle change, offer greater flexibility, and they are cost effective, unobtrusive, easy to use, and can be incorporated into everyday devices.

But he titled his address ‘Curb your enthusiasm’ and counseled scepticism about what they really may deliver for health, particularly for CALD communities.

Jethani said the value of devices like Fitbits in clinical encounters is akin to taking a mood ring to show to a psychoanalyst.

He admitted he didn’t have to look far for evidence that wearables encourage cheating, saying he has an app that tracks his heart rate, and tells him what is life expectancy is going to be – “all those sorts of things you want to know at 9am when it prompts me.” He said:

> I know how to cheat and I know how to get good data out of it. I know how to avoid getting a bad data set and I know if I use my left or right hand, or sit in a different position, I'll get a different reading.”

Symposium respondent Bhargavi Battala, a media and communications student, provided similar insights, saying she had gone from not really wanting a fitness tracker to getting into challenges with friends on who could take the most steps in a day or week.

One had shaken her device to get it to notch up more ‘steps’ when she was losing the challenge. In fact, there’s at least one website, kindly pointed out by participant Chris Marmo on Twitter (@kurisu), that shows how to make results better.

Battala also observed how one day, when she’d completed her 10,000 steps task by 5.30pm, she refused to do any more. She was still feeling active but she’d done her quota so she stopped walking.
It made her wonder: how qualified are we to make decisions about the data presented to us and how much do we understand about the way the data is measured?

It was a question echoed by another participant, a sonographer, who said it seemed a “leap” to describe wearables as health technologies when they are fundamentally “very rudimentary measurement devices”.

He said an important question to consider was: “is the information being interpreted by the appropriate person, is it representing a complete picture of the diagnostic situation?”

**Pharmakon and Western models of health**

Jethani invoked the concept of pharmakon, where an object has the capacity to be both beneficial and detrimental to the same person at the same time.

One serious risk, he said, was that wearables may promote compulsive tracking of daily food consumption and exercise, or blind spots in analysing the data, that “might either repathologise or inadvertently pathologise a person with a tendency to body dysmorphic conditions.”

He showed slides featuring two quotes from users of the technology on its pros:

- *Your body usually lets you know when something is off, but it’s good to be able to give a doctor some specifics other than “I’m not feeling so good”*

...and cons:

- *The worst part was the anxiety that I felt every time I encountered instances of “poor” data, such as missed or incomplete information, and activities which are not easily recorded or even quantifiable.*

- *Of course the manufacturers and developers do not discuss what happens when their product is not operating smoothly, yet even if the application is working 100% as designed, it exerts force on the daily habits of the user in unexpected ways.*

- *Those forces can create a great deal of anxiety, leading the individual to be less spontaneous and avoid unknown or unquantifiable situations.*

Like others at the symposium, Jethani said a major issue for equitable health care is how to scale up this sort of technology from individual to community or population level, given different cultural conceptions of body, health, care, and responsibility. He said:
That’s always going to be difference between eastern and western philosophies on health and the body but also other cultural and socioeconomic determinants....”

It was an issue for others at the symposium who asked (among many other questions):

• how do we resolve that ‘Californian cultural tendency’ to disrupt everything while also being culturally sensitive and respectful of policies and standards?

• how do we bridge the gap between highly individualised, Western understandings of health and health technologies to address the needs of CALD communities?

Battala said it is surprising that the demographic “dividend” of wearables has yet to be addressed, with health technology seeming to look more “at addressing Western medicine than the alternative medicine (for example, Ayurveda, or Chinese Medicine etc).”

Jethani’s other major concern was that getting technology to cater to “under-served” – usually less lucrative communities – may end up coming with more trade-offs, particularly in terms of data ownership and privacy, and even functionality.

It’s a risk that’s hinted at in another study shared by De Souza that looked at whether employees would be willing to use a wearable device provided by their employer, and how the data gathered could be used to benefit both.

Nearly 40 per cent said they did not trust their employer with access to their personal health data but, of that group, 25 per cent would consider doing so in return for increased pay or more flexible working hours.

A valuable trial with a crucial limitation

Wearable health technologies, of course, go beyond fitness trackers and commercial gadgets.

Melbourne nursing informatic specialist Janette Gogler provided insights from a randomised control trial that looked at emerging technologies for remote patients (that is, living at home) with chronic heart failure and chronic obstructive pulmonary disease (COPD).

Under the trial, the patients, who ranged from moderately to severely unwell, took a range of physiological measurements themselves, including electrocardiography (ECG) monitoring, blood pressure, and spirometrics.

Gogler, who is now based at Eastern Health, said patients welcomed being able to know more about their conditions and actually intervened earlier with medications, noticing more quickly that their measurements weren’t good rather than that they felt unwell.

But the program also had to learn to manage expectations and be sensitive. One patient was upset when admitted to hospital for an unexpected urinary problem: he assumed the nursing team would have been monitoring it, when their focus was on his congestive heart failure.

Another, who was nearing end-of-life, asked for the machines to be removed, because he was watching his own physiological decline. “(It was) a constant reminder of his imminent death,” Gogler said.
There were other helpful lessons: it was important to avoid technical language (the project referred to ‘pages’, rather than screens) and it helped when the technology was efficient, easy to use, attractive, and safe.

But the most telling aspect, in the context of the symposium, was that the trial had to exclude patients who were not English speaking, because they would not have been able to respond to the device prompts.

Gogler said that while one device was later developed in Mandarin, she did not know whether Australia would be able to identify and respond to core languages of the many different cultures living here, and to ensure the interpretation was correct.

Another symposium respondent Mishell Hernandez agreed that access did not come by language alone. She said:

\[
\text{When we translate something, that doesn’t necessarily mean it gets through – there’s a difference between translation and interpretation.}
\]

As well as contemplating what would make her sign up to a fitness tracker or other wearable, Hernandez talked about her non-English-speaking grandmother’s experience with having a surgical procedure: even with her daughter translating, she still struggled with issues about trust. Hernandez said:

\[
\text{Whether it’s technology or people, trust is really important in health care. That’s how you get people to sign up.}
\]
You can track Croakey’s coverage of the conference here.

Wearable health technologies: better health for all or new ways to confuse, confound and exclude?

#WearablesCEH

L-R Danny Butt, Sean McClowry, Jeanette Gogler, Suneel Jethani, Ruth De Souza

Welcome to country from Colin Hunter on behalf of the Wurundjeri people of the Kulin Nations #wearablesCEH

Elder Colin Hunter with CEH CEO Demos Krouskos (right)
Wearable health technologies: better health for all or new ways to confuse, confound and exclude?

#WearablesCEH

View from a breakout group, discussing challenges and opportunities

Chris Marmo @kurisu · Jul 27
What opportunities exist for CALD communities to design technologies for themselves? #wearablesCEH

Chris Marmo @kurisu · Jul 27
If you can get technologies that work across CALD communities, it will work for everyone. #wearablesCEH

Chris Marmo @kurisu · Jul 27
In the UK, doctors prescribe apps. #wearablesCEH

Chris Marmo @kurisu · Jul 27
Lots of challenging of technical determinism and cultural absolutes in this group! <3 #wearablesCEH

You can track Croakey’s coverage of the conference here.
7. Research to look at role of community health in 21st Century wearable health technologies

Marie McInerney reports:

How can community health services build new models of care that carry forward their “distinctive ethic of care” into 21st century health technologies?

Will their clinicians be active providers of in-home care via physical or virtual channels and can ‘app’ developers be enticed into co-designing new technologies – from fitness trackers to technology to manage chronic conditions – with more marginalised communities?

These are some of the research questions to emerge from a Melbourne symposium hosted by the Centre for Culture, Ethnicity and Health (CEH) that examined issues for culturally and linguistically diverse (CALD) communities with emerging wearable health technologies.

See below for a Q&A with a number of participants on the issues and interests that arose from the event, which sought to find out what wearable technologies can offer beyond benefits for “the white, worried and well”.

Symposium organiser Dr Ruth de Souza said the event identified a number of themes requiring further research, including how to tap into the role and ethos of community health centres to enhance community resilience and collective wellbeing through new digital technologies, rather than individualising and further commercialising health care.
“We believe there is an urgent need for community health service providers to propose and build these new models of care that carry forward their distinctive ethic of care into new modes of digital engagement,” she said.

Q&A with participants

Ben O’Mara, Alcohol and Drug Foundation

1. In what capacity did you attend and why were you interested to be there?

I attended the seminar as a Science Writer from the Alcohol and Drug Foundation (ADF).

I came because I think there is often a kind of magical thinking associated with new information technology and its benefits for health. While smartphone apps, fitness trackers and other devices offer real opportunities to better understand and apply health information in daily life, there are also significant challenges in doing this effectively – as individuals, and within and across Australia’s many different communities.

2. What was a key takeaway point/issue/insight for you from the event?

There is a need to build on the evidence of what we know works and community preferences from previous health and information technology projects involving refugees and migrants from non-English speaking backgrounds.

For example, mobile phone-based peer support and interactive talks or presentations supported by written, audio visual and web-based content for employment, mental health and alcohol and drug and other information.

SBS and community radio stations working in partnership with health agencies may also be important in developing and sharing new technological approaches to health.

The thing about these kinds of projects is that they tend to practically address social conditions in which people live, such as using appropriate language and technology that is affordable and accessible and supporting their employment and education.

3. What’s one of the main questions you’d like to have answered by follow up research?

How do we best build on learning from previous work and address broader social conditions when exploring the potential of health information technology, including wearable technology?

Monique Hameed, National Training Officer, Multicultural Centre for Women’s Health

1. In what capacity did you attend and why were you interested to be there?

I work for the Multicultural Centre for Women’s Health in Collingwood as the National Training Officer. We are a national women’s health organisation committed to improving the health and wellbeing of immigrant and refugee women. I was very interested to hear how wearable technologies might be used to prevent illness, improve health care and increase access and equity for immigrant and refugee women.
I’m also interested in how these technologies might be used against marginalised groups by the state and private corporations. I liked Ruth De Souza’s point that these technologies are often marketed to the “white, well and worried” rather than other more marginalised groups.

2. What was a key takeaway point/issue/insight for you from the event?

There was so much to think about! I loved Suneel Jethani’s point about quantified & qualified information, the idea that a lot of these technologies give us the ability to quantify things and to produce data, but that we now need to ask more questions about what that data will be used for. Who owns the data and how is it used and by whom? Janette Gogler made a point about data not becoming information until it has been interpreted, so who does that and for what purpose?

For me, it was interesting to hear the corporate speak that often is associated with discussions of technology. It’s an industry that encourages economy so for me I left thinking about how these new technologies could help us challenge existing power structures.

3. What’s one of the main questions you’d like to have answered by follow up research?

I would like more research to be done on the different cultural understandings of concepts like ‘health’ and ‘empowerment’. I felt that they were interpreted in a very Western neoliberal way and wearable technologies were talked about as a highly individualised concept. More on how communities who are resource poor have used or could use these new technologies to bridge the gap in health outcomes would be great!

Dr Paul Atkinson, Academic Writing Unit, School of Media, Film and Journalism, Monash University

1. In what capacity did you attend and why were you interested to be there?

I was invited to attend by one of the organisers due to my interest in both digital media and health. I work in a Media, Film and Journalism department at Monash University and am particularly interested in how wearable technologies interact with the user’s experience and, more generally, shape, condition and organise how we see health and illness.

2. What was a key takeaway point/issue/insight for you from the event?

The general focus of consumer wearable companies is increasing functionality (functionality sells), in particular variegating the number of sensors and the speed with which data is collated. However, I think the main question for clinical practice is not merely gathering more data but working out how best to communicate the data to both clinicians and patients. I think we should be thinking about what we want from the technology rather than looking to accommodate increased functionality.

There is a push towards translation devices and this could be very useful for CALD communities. With adaptive technologies such as Google Now, there is a capacity for real time assistance in communication and this would be beneficial. Based on what I saw at the symposium, one useful approach would be to bring a communication information provider (such as Better Health) into clinical practice. The devices (such as smartphones and tablets) could provide an interface to the information provider and this could be pointed to and referenced in the consultation. If the information is bookmarked by the device, the patient could refer back to it in their own time and this would assist with comprehension and follow up visits.
3. What’s one of the main questions you’d like to have answered by followup research?

One area that I think should be researched is the when and where of data communication – what is revealed to the user and at what time? Should there be a delay in the communication of information to patients? What information should only be available to the clinician? Should the device only provide alerts rather than constant updates? These questions are crucial to clinical practice and would involve thinking about device limitation as much as functionality.

**Hope Mathumbu:** Community Engagement Officer, Centre for Culture, Ethnicity and Health

1. In what capacity did you attend and why were you interested to be there?

I attended the seminar because I work at CEH as a Community Engagement Officer in the area of sexual and reproductive health promotion. There are very few people across the world who have not been touched or affected by modern technology. As a keen Sci-Fi fan, as well as health promotion worker, I was also interested to be in a space where great minds gathered to explore the possibilities and consequences of merging health with technology and science.

2. What was a key takeaway point/issue/insight for you from the event?

Overall, because technology is such an evolving landscape and health open to various interpretations, I do not think there was a takeaway point/issue/insight from the event. I liked a question that asked for definitions of ‘wearable technology’ and ‘health.’ One of the panellists – Suneel Jethani – responded that he would include (as a wearable technology) a rubber band worn on a wrist and flicked when the feelings of bad cravings for smoking came along. By his definition, it was something that one could wear, but also use as a reminder to change behaviour/promote health, thus wearable technology. On the flip side of that, Suneel also argued and other panellists echoed, that we can then become so involved in achieving ‘good’ or ‘bad’ data that we try and ‘cheat’ these systems, because our inherent nature of wanting to be ‘good human beings’ gets in the way of objective collection and interpretation of data.

3. What’s one of the main questions you’d like to have answered by followup research?

I really liked the question that addressed wearables and their significance for collective societies, with which most people from CALD and Indigenous backgrounds identify. Overall I do think there was a less emphasis on the part that addressed CALD communities and the reason for this is because most companies in wearables operate under a capitalist, white ideology, geopolitical and socio structures. It would have been great to have representation or examples from smaller companies who had portfolios or interests in the communities we spoke about, whether in Australia or overseas. But I also understand how difficult it is to find such examples in a market that is over-represented by an almost homogenous view of what wearable technologies can achieve. One speaker, Sean McClowry, touched on this diversity briefly when he spoke about HIV testing technology in Rwanda.

I also liked the questions around ‘who owns the data, where does it go etc’ as I think it touches on key bioethical concepts that my love of Sci-Fi makes me paranoid about! Overall a great symposium – we still have a lot to consider!
James Brooks-Dowsett, *Policy & Advocacy, Education & Practice Development, Australasian Sonographers Association*

1. **In what capacity did you attend and why were you interested to be there?**

With the miniaturisation and commercialisation of technologies traditionally reserved to a medical environment, I attended as a representative of the sonography profession in Australia and New Zealand to contribute to the discussion on the use and application of these technologies now and into the future.

2. **What was a key takeaway point/issue/insight for you from the event?**

Although wearable devices have an important role in health promotion and encouraging people from all backgrounds to increase interest in and awareness of their health, there is real risk in overinflating the relevance of these technologies to medical diagnosis, monitoring and care. Most of the technologies in question are rudimentary measurement devices (for example, heart rate monitoring), so have a very narrow focus of application. Additionally, they are released to the public through a commercial model that does not provide the rigour and testing usually applied to approved medical equipment.

There is also the question around how these technologies are being used and the results interpreted. For example, ultrasound in a medical facility is provided and interpreted by a doctor or sonographer with over five years of higher education and training. This assures the technology is used appropriately and not in a way that could cause harm to the patient. Conversely, the growing commercial availability of these technologies could lead to people unintentionally harming themselves.

Finally promoting these devices as ‘health technologies’ builds a false confidence with users as to the status of their health; a risk that is exaggerated in people with poor health literacy and CALD groups. This false confidence could reasonably result in members of the public not seeking advice from medical specialists when it is appropriate due to poor understanding or over-inflated confidence in interpreting the data from these devices.

3. **What’s one of the main questions you’d like to have answered by follow-up research?**

Does owning a device such as a Fitbit encourage people to holistically improve their health or just exercise? For example, do they engage in other less healthy behaviours thinking this is balanced out by their exercise?

Does wearing these devices enhance people’s engagement with and understanding of Australian health services? And does cultural background have an influence on this?

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Dr. Elise Sullivan, *Director, Australian Academy of Clinical Leadership*

1. **In what capacity did you attend and why were you interested to be there?**

I was representing the Australian College of Nursing – I was particularly interested in how wearables could impact on nursing roles, and how nurses could use these to provide better nursing care and support to people from CALD communities.
2. What was a key takeaway point/issue/insight for you from the event?

As these technologies advance and people do have access to good quality information about their bodies, they will become less passive recipients of their care and more active participants – they know more, they want more control. This provides an opportunity for nurses to reshape their role from being the ‘do-er’ to being the ‘sense maker’, the mentor and coach, the teacher, the enabler. I think this paradigm shift will also help nurses take a more collaborative and sensitive approach to engaging with people from different backgrounds so these people are empowered and not disempowered when they enter healthcare. And I imagine some nurses will find this an easier transition than others who see this as eroding their role!

3. What’s one of the main questions you’d like to have answered by followup research?

How do these advances change the role of nursing – and what can nurses do to make the shift so they are part of progress?

8. Watch or listen to these interviews of speakers and participants at the conference

Deloitte Digital partner Sean McClowry on the market potential and risks of wearable health technologies, and why countries like Kenya, and its ‘Silicon Savannah’, may be pointing the way in terms of benefits and applications for CALD communities.

Suneel Jethani is a PhD candidate and lecturer in the school of culture and communication at Melbourne University. He talked to Croakey about how we should ‘curb our enthusiasm’ when it comes to wearable health technologies, particularly for CALD communities.
James Horton, CEO of Datanomics, talks about questions of ethics, governance and privacy around the health data collected by new technologies, but particularly, in the context of CALD communities, on the cultural overlays involved. He raises interesting questions about how different cultures perceive both privacy and different types of data in different ways.

You can also listen to this recorded interview with Janette Gogler from Eastern Health, about her presentation on a randomised control trial that looked at emerging technologies for remote patients with chronic heart failure and chronic obstructive pulmonary disease (COPD).
9. Twitter participation

Read the Twitter transcript here.

And thanks to all who participated by tweeting the news.

Croakey Conference News Service

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