Kirby turns 30

The Kirby Institute's achievements are cause for celebration as UNSW's world-leading infectious disease research centre marks its 30th anniversary, writes Melinda Ham.

THE HISTORY

Scientia Professor David Cooper, now the Kirby Institute's Director, was a specialist at St Vincent's Hospital when the HIV/AIDS pandemic loomed menacingly back in the early 1980s. More and more people kept coming to the hospital with symptoms of HIV.

"This was a completely devastating time," he says. "We started off with a couple of beds in our immunology ward and soon we just couldn't keep up. There was a lot of fear of the unknown."

In one early response, Cooper and some colleagues met key Sydney gay organisations and set up a study to enrol these men with HIV/AIDS and follow them over time. This became SAPS, the Sydney AIDS Prospective Study, one of the most influential early studies defining the natural history and immune response to HIV.

Cooper was foundation Director of the National Health and Medical Research Council's Special Unit in AIDS: Epidemiology and Clinical Research, established at UNSW in 1986, which became the Kirby Institute for infection and immunity in society in 2011 to better reflect its research focus. This name honours Michael Kirby, Australia's longest serving judge, a passionate advocate for health and human rights.

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HIV is now a chronic manageable disease, and has been since 1996 after the development of effective antiretroviral therapy.

"We've been part of a miracle of modern medicine," says Professor Sean Emery, head of the Kirby Institute's Therapeutic and Vaccine Research Program. "Previously HIV was a fatal infection and now we have individuals diagnosed and going on to near live normal lives – albeit taking a cocktail of drugs every day."

When Emery joined the Institute in 1993, most research focused on the

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efficacy of experimental antiviral medications. But as the drug regimens evolved and became more effective, the focus switched to more strategic questions that determined how the drugs could be used more effectively; should they be taken every day or episodically and how and when should they be started?

"By effectively treating infected individuals transmission to uninfected individual is reduced," Emery says. "There is a remarkable intersection; that these treatments are good for the individual but also extraordinarily effective at stemming the rate of transmission – individuals and populations benefit."

Today, the Institute's researchers are also involved as the international co-ordinating centre for HIV clinical trials in more than 300 sites in 30 countries. Other projects include trialling preventative treatment regimens on sexually-active gay men, and also the many strands of the START (Strategic Timing of AntiRetroviral Treatment) project, including liver fibrosis, pulmonary and neurology sub studies.

Scientia Professor David Cooper

EXPANDING ITS SCOPE

In the mid-1990s the Institute's academics also became involved in projects assessing the transmission rates and impact of sexually transmitted infections (STIs) and hepatitis C on the general population.

The Viral Hepatitis Clinical Research Program was formed in 2003 and now focuses on three main areas; clinical research through national and international trial networks, molecular virology research and epidemiological research using data linkage studies and mathematical modelling.

Professor Greg Dore heads the program, which particularly focuses on people who inject drugs - the key population affected by the hepatitis C virus.

The Federal government has committed $1 billion over the next five years to subsidise new treatments for hepatitis C which have a cure rate of 95 per cent, potentially making them available to the vast majority of the 230,000 Australians living with the disease.

"The Kirby Institute has been an international leader in evaluating new hepatitis C treatments among people who inject drugs," Dore says, adding that global pharmaceutical company development programs exclude people with ongoing drug use, and many settings deny access to highly curative treatments for these people.

"Thus our clinical trials continue to build the evidence of effectiveness in the most marginalised populations with hepatitis C," he says.

The huge challenge now is to move towards the elimination of hepatitis C as a major global health problem, Dore adds. "This will require continued efforts in research, public health policy development and advocacy for access for therapy for all."

To this end, the Institute also has a multi-disciplinary Viral Hepatitis Epidemiology and Prevention Program, headed by Professor Lisa Maher. It conducts public health research focused on people who inject drugs, recognising this is a diverse population both within Australia and the Asia-Pacific region.

INDIGENOUS AUSTRALIANS

From the early 1990s, researchers at the Institute became involved in Indigenous health by ensuring the collection of national HIV data

Professor Greg Dore

Professor Sean Emery

included the status of Australia's first people.

But it was not until 2007 that the Institute established the Aboriginal and Torres Strait Health Program, with the explicit mission of closing the gap between Indigenous and non-Indigenous people, focusing on sexual health and blood-borne viruses.

The Program led Australia's first national survey into the sexual health and relationships of young Aboriginal and Torres Strait Islander people (GOANNA), and also the STRIVE study, working with remote Aboriginal community clinics to support them to improve the uptake of testing and treatment of STIs among adolescents and young adults.

"Our research showed that testing in the clinics improved 30 to 40 per cent," says Scientia Professor John Kaldor, who has a long involvement with the Institute's Aboriginal health research. "That was a good start but it still needs to be much higher; we want to really help services to find ways to improve uptake. We also discovered that these remote services need ongoing support to ensure sexual health stays on the agenda."

Another project currently implemented in remote communities is TTANGO (Treat Test And Go), a world first trial. Using point-of-care technology initially created to test for tuberculosis, researchers are working with health services to implement and evaluate point-of-care tests for chlamydia and gonorrhoea across a number of clinics in remote Aboriginal communities.

"This means clinics can get quick results - most often on the same day -and provide immediate treatment right away instead of waiting weeks," Kaldor says. "Sometimes people with an infection had left the community by the time the results came back."

REGIONAL ENGAGEMENT

With more than 200 researchers in 13 research program areas, the Institute's primary functions are to co-ordinate national surveillance programs, population health and epidemiological research, and conduct clinical research and trials.

It was a natural progression for the Institute to set up research collaborations with countries in the Asia-Pacific, including Thailand, Cambodia, Indonesia and Papua New Guinea, to work with local researchers responding to epidemics in their own countries. These are often concentrated in vulnerable populations such as men who have sex with men, people who inject drugs, sex workers and transgender people.

The Institute's researchers have assisted in a wide range of projects including therapeutic trials, public health surveillance systems and training for research in these countries.

"We worked closely with the Cambodia Ministry of Health when it really

Scientia Professor John Kaldor

embraced HIV treatment, and are now assisting Indonesia where people living with HIV need more options for accessing testing and treatment. We are using observational research and interventional research to find out what works in improving access," Kaldor says.

The Institute also has had a strong collaborative research program in PNG particularly in recent years. The program

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has collected the first comprehensive information on a number of key STIs. Researchers are also involved in evaluating the same point-of-care technology used in Indigenous research to test pregnant women for curable STIs that could adversely impact their babies' birth health.

Another unique program is looking at penal cutting practices widely practiced in PNG. "Studies in Africa have definitely shown that male circumcision protects against HIV," says Kaldor. "We are trying to find out if partial cutting traditionally done in PNG is also protective, and if so why."

Reflecting on the Kirby Institute's 30-year history, Cooper says it's been a fascinating journey. "It's unusual in a medical career to see the evolution of a disease from its beginnings - to a disease that emerged as a global health catastrophe - to this point now, where medical research is bringing it under control," he says.

"I feel valued to be involved in this work and to have been able to make a difference for so many people."

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To find out more about the work of the Kirby Institute, or how you can support their endeavour to lead the research effort against blood-borne viruses and related infections in Australia and our region, please contact the UNSW Foundation on
+61 2 9385 3202 or
unswfoundation@unsw.edu.au