

Thirty minutes with David Cooper

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"I'm no Mr AIDS or anything like that. I haven't been the public face of HIV over the years. I've left that to other people."

If there is one expert in Australia the media turns to when the subject of HIV treatment advances or clinical trials is raised, it will be David Cooper.

In the 26 years he's been involved, most of it as Director of the National Centre in HIV [Epidemiology](#) [1]The branch of medical science that deals with the study of incidence and distribution and control of a disease in a population. and [Clinical](#) [2]Pertaining to or founded on observation and treatment of participants, as distinguished from theoretical or basic science. Research ([NCHECR](#) [3]National Centre in HIV Epidemiology and Clinical Research. Based at the University of NSW in Sydney, NCHECR is one of Australia's leading medical research centres and is recognised internationally as a leader in the field of research into HIV/AIDS and viral hepatitis.), he has become a central figure in Australia's often cutting-edge response to research. And over that time he has gained unparalleled respect from fellow clinicians, researchers, industry players and people with HIV.

David Cooper was there at the very beginning. Literally. In 1983 he was doing post-doctoral work at the Dana Farber Cancer Center of the Harvard Medical School in Boston in the laboratory where they discovered the cell surface markers of T-cells that were later to be crucial for understanding how HIV attacks the body. His fellow researchers were working with a network of well-known clinical immunologists, all trained at New York University, who referred gay men with Kaposi's Sarcoma to the laboratory. They were trying to understand what was causing their inverted CD4/CD8 ratios and, not knowing it was a [virus](#) [4]A small infective organism which is incapable of reproducing outside a host cell., treated them unsuccessfully with anti- CD8 antibodies.

A few months later, back at his practice at St Vincent's Hospital in Sydney, David saw his first AIDS patient – a bisexual man who presented with PCP.

'He'd had maybe six sexual partners in his lifetime,' said David. 'I had seen a number of patients before him with symptoms like swollen glands but he was my first AIDS case. All I could do was treat the PCP as we didn't understand the cause.'

'There was talk in the media of a so-called "gay plague" in the US. My colleagues in Boston and at the Center for Disease Control (CDC) kept me up with the latest developments.'

Early days of the national response

'After the virus was discovered and named in 1983 and a test for HIV developed in 1984 there was considerable pressure on the Australian government to coordinate our clinical and epidemiological response. In the absence of our own CDC, it was important that the Commonwealth set up a national body to ensure we could do our own research and surveillance.'

'There was pressure for such a centre to be set up in Melbourne - building on the expertise of Fairfield Hospital and infectious disease specialists like Professor Ian Gust, the eminent virologist, who worked there. The old Sydney- Melbourne rivalries took over and after a lot of lobbying, Neal Blewett, Federal Health Minister at the time, set up the National Centre for HIV Virology at Fairfield and NCHECR at the University of New South Wales in Sydney. I was appointed director in 1986.'

'I thought they were enlightened to entrust national surveillance work to academics, rather than to public servants, as epidemiology can be quite a politically sensitive area for government.'

'The National Centre has acted as an honest broker by helping the states and territories work together to report and inform the epidemic. We have world-class data on HIV in this country as a result. And we have punched above our weight in clinical research and trials.'

'We have contributed in a major way to the world's understanding of primary HIV infection and drug toxicity and participated in most of the important strategic trials for HIV treatments.

'We couldn't have done this without a lot of dedicated doctors, well- trained in basic science, primary and tertiary care who were trying to deal with the problem.

'What has also made things easier is an intelligent patient [cohort](#) [5]In epidemiology, a group of individuals with some characteristics in common. A cohort study is a special kind of clinical trial which looks at a treatment or treatment strategy in a cohort of people. of largely gay men who, with some help and coaching, have been able to understand our language.'

'I've had my share of critics, particularly when I advocated for the place of evidence-based medicine which was unpopular with advocates in the community. If we had done things in a slipshod way then, we wouldn't have got where we are today.

Importance of the community

'The relationships developed between clinicians, researchers and the community has been crucial to our success. To have 10% of the HIV- positive population [enrolled](#) [6]The act of signing up participants into a study. Generally this process involves evaluating a participant with respect to the eligibility criteria of the study and going through the informed consent process. in clinical research is an extraordinary achievement. It's not something you would see in breast cancer, for example, or Alzheimer's research.

'I'm confident that our reputation for good recruitment and research means Australia will continue to get access to the latest HIV and hepatitis treatments.'

So, how does David see the current treatment situation for people with HIV?

'For most positive people, life expectancy after starting treatment is now 40 years. I read this as a normal life with approximately 10 years shaved off.

'We owe it to people who have been adherent to their treatments for so long that they get that extra ten years and where possible that they are good-quality, productive years. In order to do this, we have to learn how to address the increasing rates of cancer and cardiovascular disease that are becoming a major concern as people live longer.

' The drug pipeline is going to dry up. Doctors will have to be prudent about how they approach new classes of drugs ... and certainly try to get the most out of current regimens

'There will always be a level of complexity with treating HIV. We will always require specialists and experienced GPs, particularly in high case- load practices, to do the majority of prescribing.

'I can't see how HIV treatment can be mainstreamed in the future. We will just have to work at increasing the supply of these exceptional people who can keep up with the latest developments.'

Early HIV treatment

David sees early treatment as the next strategic question that will need to be addressed.

'People aren't dying now because of immune deficiency. We have learnt from the SMART study that the virus is almost certainly contributing to the increased rates of cancers, heart disease and [liver](#) [7]A large organ, located in the upper right abdomen, which assists in digestion by metabolising carbohydrates, fats and proteins, stores vitamins and minerals, produces amino acids, bile and cholesterol, and removes toxins from the blood. disease we are seeing.

'We need to fully understand the role of treatments. We must learn whether early treatment will reduce the rate of these serious complications.'

Does he see any major breakthroughs in the science of HIV in the near future?

'I think there will be a revival of interest in eradication. We have important new drugs and targets that could reduce the [viral load](#) [8]A measurement of the quantity of HIV RNA in the blood. Viral load blood test results are expressed as the number of copies (of HIV) per milliliter of blood plasma. to extremely low levels. We have a new understanding of how we could empty the reservoirs with some novel agents and new technological approaches like [gene](#) [9]The most basic unit of genetic information. therapy, for example, with inhibitory RNA.'

Into the future

As for his personal future, David has no plans to depart the scene anytime soon. This is something which will reassure his devoted patients and his colleagues in the field.

He is involved with the WHO/[UNAIDS](#) [10]Joint United Nations Programme on HIV/AIDS. UNAIDS is the main advocate for accelerated, comprehensive and coordinated global action on the epidemic. Advisory Committee on HIV Vaccines and on a range of other critical global HIV treatment forums. With two other colleagues, he established the HIV Netherlands/Australia/Thailand (HIVNAT) Research Collaboration, based in Bangkok.

'It is important that Australia supports clinical research with our near neighbours. Australia has been slow to do this work in the past. HIVNAT has provided antiretroviral access for many people in Thailand through clinical trials done in collaboration with both the public and the private sectors. HIVNAT now has a staff of 80 and has made a difference in the lives of a significant number of positive people living there. It is an achievement I am very proud of.' There has recently been news that the National Centre will eventually transition into an Institute for Infectious Diseases and Public Health at the University of New South Wales. David sees this as an acknowledgement by the University of the merits of the work the Centre does. It would also seem that the Centre's more permanent status as an Institute will serve as an enduring tribute to his work, in particular.

'I have had an incredibly satisfying career, albeit filled with a lot of tragedy in the early days of the epidemic. It has been challenging professionally and I am pleased with some of our achievements,' concludes David, in typical humble fashion.

He has had more than a few achievements. For establishing a world- recognised research centre and ensuring HIV positive people have access to the latest treatments and clinical trials we owe him a great debt of gratitude.

Professor Jenny Hoy, Head of the HIV Unit at the Alfred Hospital in Melbourne and a colleague of David's for years, says he has played a pivotal role in ensuring that Australia has been at the cutting edge of research in clinical trials, clinical research epidemiology and basic science.

'Without David's international standing and intuitive sense of where the Australian research community should concentrate their efforts, we would not have contributed well above our weight in HIV research, nor had the latest antiretroviral drugs to offer our patients,' said Jenny.

'David has not only been tireless in his research and funding efforts for Australia, the region and globally, he has also managed to provide first-class care to his patients who speak so very highly of him. He is an amazing man.'

Links:

[1] <http://www.napwa.org.au/glossary/term/490>

[2] <http://www.napwa.org.au/glossary/term/475>

[3] <http://www.napwa.org.au/glossary/term/408>

[4] <http://www.napwa.org.au/glossary/term/125>

[5] <http://www.napwa.org.au/glossary/term/477>

[6] <http://www.napwa.org.au/glossary/term/489>

[7] <http://www.napwa.org.au/glossary/term/102>

[8] <http://www.napwa.org.au/glossary/term/416>

[9] <http://www.napwa.org.au/glossary/term/126>

[10] <http://www.napwa.org.au/glossary/term/396>