KIRBY INSTITUTE

Annual Report 2019

UNSW SYDNEY

Kirby Institute

Kirby Institute

The Kirby Institute is a world leading health research organisation working to eliminate infectious diseases, globally.

Participants of the inaugural Cooper HIV/AIDS Research Training (CHART) Program with mentors and program coordinators.

“Our overall goal at the Kirby Institute is the attainment of the human right of access to health for all.”

MESSAGE FROM OUR PATRON

The Hon. Michael Kirby AC CMG

The 2019 annual report records exceptional achievements in exceptional circumstances. The COVID-19 pandemic that has ravaged the world has demanded the attention of us all, including least the outstanding researchers at the Kirby Institute. They have quickly adapted to new public health measures. Many have embarked on completely new projects, aimed at combatting the SARS-CoV-2 virus and COVID-19 disease. I thank them for their innovation. It is reassuring that the fight against this unexpected pandemic, which began in 2019, is in such capable and committed hands, including in Australia.

Before the pandemic struck, 2019 was witness to many noteworthy accomplishments recorded in this report. The year commenced with the appointment of Professor Anthony Kelleher as the Kirby Institute’s new Director. Already a respected leader, both within the Institute and beyond, he is a globally recognised academic and scientist. He has advanced the vision established by our inaugural Director, the late David Cooper AC, whilst tackling new boundaries and facing new challenges with dedication and skill. I congratulate Professor Kelleher on a successful first year as Director. This has been especially impressive given the enormous challenges that arrived with COVID-19 pandemic.

The international D²EFT trial, a large international clinical trial designed to optimise second line HIV treatment, expanded into Guinea during the year. It marked the first time a randomised controlled trial has ever taken place in the Guinean health system. This is a great achievement to which the Kirby Institute contributed, whilst helping to enhance the capacity of Guinea’s health system and its dedicated workers facing huge responsibilities. Truly, this is a way to share Australia’s experience with the world.

The Cooper HIV/AIDS Research Training (CHART) Program was launched in 2019. CHART is training the next generation of HIV researchers for the Asia-Pacific region. The program is named in honour of David Cooper. His vision was to build up research capacity in our region. This goal is being realised. In August 2019 nine participants travelled from the Philippines, Myanmar, South Korea and Indonesia to the Kirby Institute. They were mentored by talented researchers from across the Institute. This is an initiative that is a testament to the ongoing global impact of the Institute, particularly within our home region.

The accomplishments of the Kirby Institute’s researchers have been recognised as outstanding in the year under report. Virginia Wiseman, a leading health economist, was promoted to Professor. Professor Rebecca Guy received a NSW Tall Poppy Science Award for her globally-recognised surveillance work on HIV and STIs.

The Kirby Institute’s renowned leaders in hepatitis C research and elimination, led by Professor Greg Dore, hosted a meeting with colleagues from around the world to tackle this global challenge. They exchanged experiences and the results of investigations, for the first meeting of the NHMRC-funded ASCEND Program Grant. They are working closely with people who inject drugs, in order to understand and address their health needs in ways that are at once principled and effective.

The foregoing are just a sample of the wide-ranging achievements of the Kirby Institute and its personnel in 2019. Whilst tackling new challenges, the Kirby Institute has continued its core projects of national significance – as the most respected centre of research and reporting on the ongoing challenge of the HIV pandemic in Australia. Under Anthony Kelleher’s direction, the brilliant team of researchers and professional staff will continue to meet new and unexpected health challenges head-on.

Our overall goal at the Kirby Institute is the attainment of the human right of access to health for all. Nature and society may throw new challenges and obstacles at us. However, these only make us more determined than ever to rise to each crisis. And to push forward the frontiers of knowledge using the lessons we have learned, and taught, in the context of the HIV pandemic: World class research excellence. Help to the most needy. And close engagement with all who are affected by health challenges, new and old.

“This breadth and depth of success is an unequivocal affirmation of the innovation, quality and impact of our research teams.”

MESSAGE FROM OUR DIRECTOR

Professor Anthony Kelleher

The launch of the 2019 annual report is occurring at a time when our way of living and working has shifted dramatically. The COVID-19 pandemic has had an enormous impact, but as an infectious disease research centre, I believe we have responded quickly and effectively to this challenge. I am proud of our team of dedicated and talented researchers who have adapted to these extraordinary circumstances.

It is important to reflect on what was a significant and successful year for the Kirby Institute. 2019 was my first year in the role of Kirby Institute Director, and I am grateful to everyone at the Kirby Institute and beyond who supported my transition into the role.

One of the primary tasks of the year was finalising and implementing the strategic plan; a process that commenced two years prior with extensive consultation. At the same time, our world-leading researchers continued their impactful work with excellence.

We continue to have a significant impact in our country and region, across a broad spectrum of infectious diseases. Central to this is our approach to equitable partnership with local institutions. We are proud to work alongside leading and emerging clinician researchers through our Myanmar-Australia Research Collaboration for Health (MARCH). Utilising the laboratories named in David Cooper’s honour and with academic leaders from the University of Medicine 2 (UM2) in Yangon, the collaboration has seen the development of a talented team of young Myanmar health professionals who are working to address the particular health needs of their communities.

Likewise, the Cooper HIV/AIDS Research Training (CHART) Program commenced, and we were delighted to welcome the nine emerging research leaders from four countries in our region. In addition, the Australian Research Council has funded the establishment of a Research Hub to Combat Antimicrobial Resistance in the Asia-Pacific region. Led by Professor Rebecca Guy, the Hub will focus on sexually transmissible infections as an example of the growing resistance to antibiotics. The Hub will bring together over 20 organisations from Australia and our region to address this important and growing health threat.

The Kirby Institute also enjoyed significant success through a number of Investigator, Synergy, Partnership and Program grants being funded through the highly competitive NHMRC schemes. This breadth and depth of success is an unequivocal affirmation of the innovation, quality and impact of our research teams.

Earlier in 2019, we also took pause to remember Professor David Cooper AC, our inaugural director, one year on from his tragic passing. David’s vision for accessible health is embedded in the Kirby Institute’s DNA, and we are proud to carry it forward. Through the establishment of the David Cooper Memorial Fund, we have the opportunity to award the David Cooper Postgraduate Research Scholarship in the near future. And our boardroom, named in his honour, will fittingly be a place where the seeds of new projects and approaches to health will continue to be sown.

As we have seen in 2020, infectious diseases have a truly global impact. We will continue to forge ahead, leveraging the Kirby Institute’s extensive capabilities and talent to enable effective health solutions for all.

OUR PURPOSE

Ensure no infectious disease is left unchallenged

We work to eliminate infectious diseases, globally. Focused in Australia and the Asia-Pacific region, our work improves and protects human health, wellbeing and ability to thrive.

OUR VISION

A world free of infectious disease

At the Kirby Institute, we are relentless in our pursuit of a world free of infectious disease. We do this by developing innovative prevention strategies, tests, treatments, cures, and approaches to implementing them.

OUR VALUES

Equity

We believe all people deserve equal access to high quality, accessible, and appropriate health care – no matter who they are, where they were born, or which communities they belong to.

Impact

We work with people, for people. Our research is translatable by design, meaning it is conducted in such a way as to have the strongest possible impact on real world healthcare practice and policy.

Collaboration

We work with a diverse range of partners, including affected individuals and communities, industry, medical practitioners, other research organisations and governments in Australia and abroad. This results in better informed research and more effective solutions.

Excellence

We are committed to producing research that is innovative, rigorous and reliable. Our excellence in research not only serves to inform the best possible solutions; it elevates our work to the global stage where it can transform health and save lives.

OUR APPROACH

The Kirby Institute is a world-leading health research institute at UNSW Sydney that works to eliminate infectious diseases, globally. Our specialisation is in developing health solutions to reach the most at-risk communities and by doing so, building a safer, healthier world for everyone.

Around the world, significant amounts of time, effort and money have been invested in eliminating the most harmful infectious diseases of our times. This work has resulted in incredible advances in scientific and medical research, impressive success stories, and of course, the saving of millions of human lives.

Yet despite progress to date, human beings remain fragile to the threat of infectious disease – especially new infections for which our bodies have not yet developed immunity. Urgent questions remain for old infectious diseases, while new viruses pose unknown problems. It is why we pursue our ultimate goal of a world free from infectious disease.

Infectious diseases significantly impact on human health, wellbeing and ability to thrive. And while all of us are potentially susceptible to their harms, they disproportionately affect individuals and communities who are already marginalised, particularly those who are geographically and/or socially isolated, or whose behaviours or professions are culturally stigmatised.

At the Kirby Institute, we believe all people deserve equal access to high quality, accessible health care – no matter who they are, where they were born, or which communities they belong to.

We also know that responding to infectious disease is an urgent, critical need. Just like humans, infectious diseases constantly evolve to survive their environment and to evade elimination. This knowledge drives us to be just as relentless in our search for effective treatments and cures.

The good news is we have many of the ingredients for success: a proven approach and method, teams of highly skilled, passionate people, and an inspiring legacy to propel us forward. Being part of the Faculty of Medicine at UNSW Sydney, we're well positioned to act nationally, as well as beyond our borders to positively impact the Asia-Pacific region and further abroad.

Our approach to solving the problem of infectious disease is tried and true. It successfully met the challenge of the HIV emergency in the 1980s, turning the tide of this terrible disease in just an astounding three decades, from a terminal diagnosis to a manageable chronic illness.

How do we do it? The underlying concept is surprisingly simple – just as infectious diseases work by spreading through individuals, communities and populations, our team of world class experts distribute solutions by starting with the people at the heart of the issue. Starting there – with those most at risk and/or affected by infectious disease – means that we are able to develop precision interventions for populations, i.e. the most accessible, appropriate and effective tests, treatments and cures possible for each community, and from there get them into the hands of those who need them the most.

By improving and protecting the health of the most vulnerable in our society as our highest priority – those with the highest barriers to achieving positive health outcomes – we are ultimately creating a healthier, safer world for everyone.

2019 BY THE NUMBERS

4 NHMRC
Program Grants

17 NHMRC
Project Grants

8 NHMRC
Partnership Grants

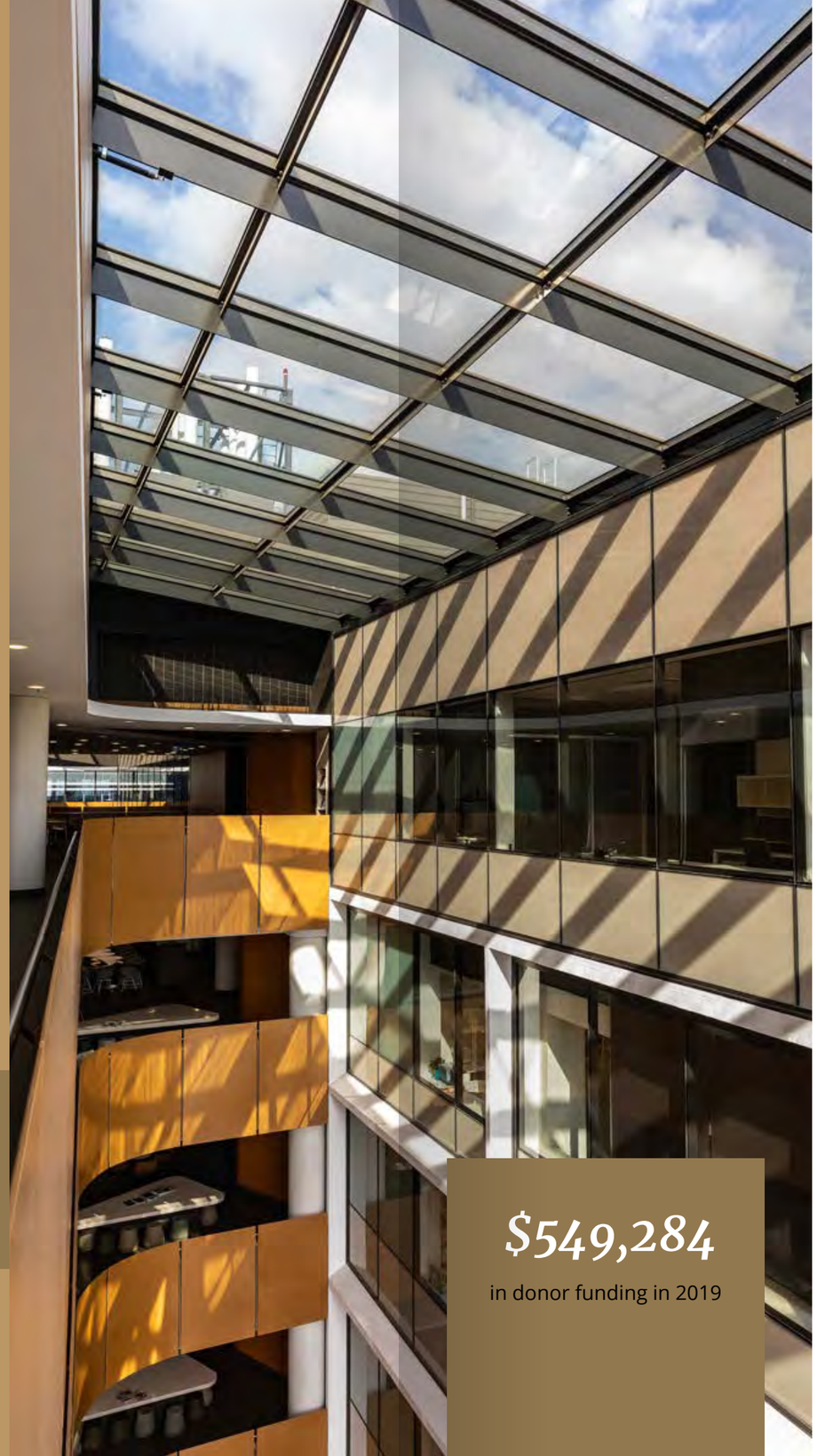
28 NHMRC
Fellowships

2 ARC Discovery
Projects

3 NHMRC Centres of
Research Excellence Grants

$35,281,285

funding from external grants
in 2019



$549,284

in donor funding in 2019

293
staff members

6
academic promotions

80
postgraduate students
in total

14
new postgraduate students
who started in 2019

20
UNSW Scientia
PhD students

45
international postgraduate
students from **25** countries

7
PhD graduations

41
Kirby Institute Seminar
Series talks held

680
collaborations in
48 countries on
6 continents

372
peer reviewed
publications in 2019

OUR ROADMAP

for a world free of infectious disease

In 2019, the Kirby Institute welcomed leading HIV researcher and clinician, Professor Anthony Kelleher as our new Director. He brings with him more than 20 years of infectious disease expertise, and a vision to take the Institute to new levels.

"Professor Kelleher was appointed through a rigorous international recruitment process," said Professor Phillips, who was the Dean of Medicine at UNSW Sydney at the time.

"Tony is an accomplished and highly respected academic and clinician in the field of immunology and HIV research, with a long career in various leadership roles across the Kirby Institute, UNSW Sydney and St Vincent's Hospital, Sydney.

"He will provide powerful leadership to carry forward the impactful and life-saving health research of the Kirby Institute."

Professor Kelleher has worked at the Kirby Institute since 2001 and been a member of its Executive team since 2005. He is Head of the Immunovirology and Pathogenesis Program, which operates out of the Kirby Institute's Glendonbrook Laboratories.

"It is a true honour to be named Director of the Kirby Institute and I am excited by the challenge of growing the impact of the Institute's research even further by working closely with its strong academic and research support teams," said Professor Kelleher.

"The Kirby Institute, its staff, collaborators, and the people and communities we serve, have been the inspirational core of my career. David Cooper, the Kirby Institute's inaugural director, was an incomparable mentor and dear friend. I could not be prouder than to carry forward the Institute's innovative and life-saving research."

In 2019, Professor Kelleher hit the ground running as director, and quickly carried forward consultations to launch the Kirby Institute's new strategic plan. The plan is designed to maximise the research capacity of the Kirby Institute to ensure the best possible outcomes for the communities impacted by the infectious diseases the Kirby Institute works on.

"The Kirby Institute is already a world-leading research centre, so it's important that our strategy builds on these strengths," he said. "We will build on and evolve our strengths and capabilities in preventing and treating infectious diseases more broadly both within Australia and overseas, using national and global strategic priorities to guide our strategic thinking. Our focus on marginalised populations is core to our research principles and our ability to provide expertise across the full spectrum of the research landscape will continue to be a key feature of the Kirby Institute's research."

Based on national and international health priorities and opportunities, the strategic plan also identifies key research areas to initiate or substantially expand, particularly those that complement the Institute's existing capabilities.

"We are well placed to respond and adapt to emerging health challenges across our spectrum of research, as is evident in how we've rapidly adapted to conduct COVID-19 research," said Professor Kelleher. "Other areas of expansion we've identified include HPV, hepatitis B, neglected topical diseases, malaria, tuberculosis, antimicrobial resistance, biosecurity, drug user and justice health, and sexual, reproductive and maternal health. These are all areas where we already have a strong foundation of research networks, and the next few years will be about building them into larger programs of research."

The plan was initiated in 2019 and will be reviewed at the end of 2023.

A FIVE-POINT PLAN TO TAKE THE KIRBY FORWARD

CONSOLIDATE

build on existing research strengths

EXPAND

extend research activities into new and related fields

COLLABORATE

sustain and develop collaborations and partnerships

TRANSLATE

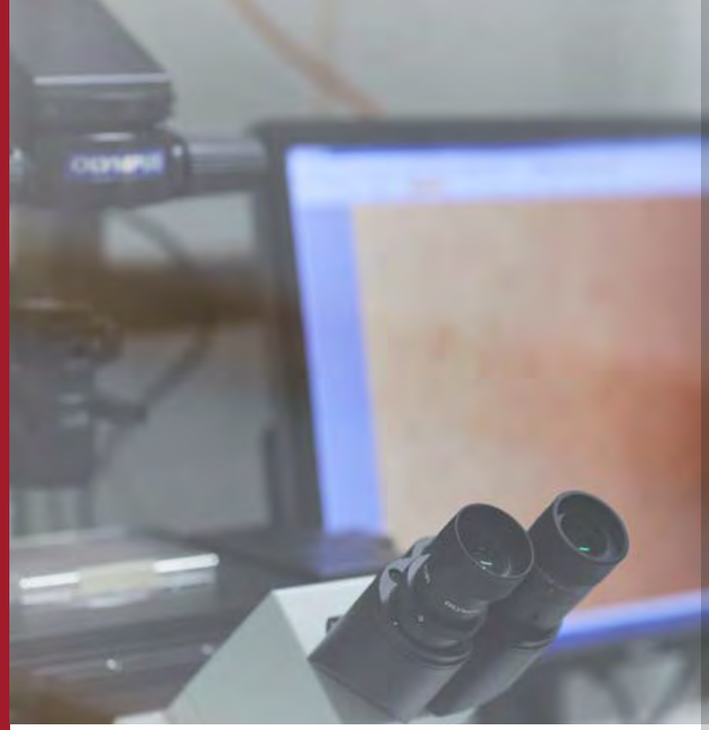
facilitate the rapid and effective application of research findings into new health system-wide innovations

SUPPORT

ensure that our organisational structure enables us to achieve and grow our research aspirations and strategy

In the final days of 2019, evidence began to emerge about a novel coronavirus. As we began to compile content for our 2019 annual report in the early months of 2020, the world was already a vastly different place. It quickly became clear that the Kirby Institute needed to dramatically transform and reorganise, so that we were in the best possible position to contribute our skills and expertise to the global fight against COVID-19. Before reading about our research achievements for 2019, these pages provide a summary of how we have rapidly adapted to COVID-19.

Professor Anthony Kelleher
Director, Kirby Institute



Associate Professor Stuart Turville examining the SARS-CoV-2 virus through the microscope, with the image portrayed on the computer screen. Image: Richard Freeman/UNSW.

Professor Raina MacIntyre is an infectious diseases expert and Professor in Global Biosecurity. She has been at the forefront of Australian media coverage of the COVID-19 pandemic.

COVID-19

The Kirby Institute has a strong track-record in designing solutions to infectious disease threats that can be scaled for maximum impact across diverse communities and populations.

In early 2020, we urgently reviewed our ongoing and planned research studies, adapting them to ensure the safety of the patients and staff involved, while maintaining the integrity of the data gathered. Concurrently, we repurposed our laboratories and adapted our clinical and public health research strategies to address critical questions in the fight against COVID-19. Our work in this area expands every day. We identified critical collaborators with complementary skills to ensure the work progressed as rapidly as possible.

Our COVID-19 research is centred around three core areas: understand, intervene, implement; and is underpinned by the principle of working with at-risk communities.

Understand

We need to know how SARS-CoV-2 works at a cellular and molecular level, how it spreads and who is most impacted by the spectrum of COVID-19 illnesses.

The Kirby Institute has a long history of highly impactful research in understanding, monitoring and predicting how infectious diseases move through individuals and communities. This understanding is critical to preventing SARS-CoV-2 (the virus that causes COVID-19) transmission and targeting treatment to the areas of greatest need.

In early 2020, our researchers set their sights on learning more about exactly how the virus is being transmitted between people, and why it makes some people very ill when they become infected, while many others have mild or even no symptoms.

In our laboratories, we examined swabs, blood and other samples from people who had been infected with SARS-CoV-2 to examine how the virus causes disease and what our bodies are doing to fight it off. In particular, we have worked with NSW Health Pathology and Lifeblood to screen plasma from recovered blood donors from across Australia for neutralising antibodies, which might underpin potential therapeutics.

In partnership with the National Centre for Immunisation Research and Surveillance and the Australian Red Cross Lifeblood, we undertook research to understand how widespread infection with SARS-CoV-2 is within the community.

Through our wide network of clinical and community collaborations, we established new cohort studies, which will help us understand how COVID-19 impacts particular populations and to discover critical information to guide clinical management of other infections or diseases, especially those that impact on the immune response such as HIV. We are rolling out these studies among people in aged care facilities, healthcare workers, people living with HIV and people who are immune suppressed. Samples from some cohorts, which will also enrol people who test negative for SARS-CoV-2, will help us understand the accuracy of antibody testing and the role of cross reactivity immunity to protection and disease progression.

Our teams of modellers are using mathematical models of COVID-19 transmission to make predictions about how COVID-19 affects different communities based on different scenarios. One project is forecasting the behaviour of COVID-19 infection in Australia's remote Aboriginal populations to understand how it might spread within and between isolated communities, and to evaluate the impact of a range of preventative strategies.

Dr Alberto Ospina Stella and Associate Professor Stuart Turville inside the Kirby Institute PC3 containment lab where they are working to grow the SARS-CoV-2 virus and determine how it responds to different treatments. Image: Richard Freeman/UNSW.

Intervene

We are developing potential treatments using antibodies, testing existing antiviral therapies to see if they are effective against COVID-19, and optimising ways to deliver successful treatments to complement the body's own immune response.

Building on our existing research strengths, we have focussed major efforts towards developing and testing potential treatments for COVID-19, which will complement the vaccine development that is being spearheaded by our collaborators.

We are currently exploring and developing antibody-based treatments for COVID-19 with researchers at the Garvan Institute of Medical Research. Antibodies are a part of a healthy human immune system. They form in response to an infection, or can be triggered or replicated by a successful vaccine or treatment. As SARS-CoV-2 is a new virus, the population does not have pre-existing protective antibodies.

These therapies have the potential to be used to stop people infected with SARS-CoV-2 from becoming severely ill, but also, as a tool to prevent infection in the first place. If a person has enough of these antibodies in their system, it could prevent SARS-CoV-2 from the latching onto cells in the body altogether.

A key part of developing any treatment or indeed vaccine for COVID-19 is to optimise the ways of delivering that treatment efficiently to the appropriate areas of the body, particularly the coverings of the airways and lungs. Building on our work on HIV and partnerships with the University of Melbourne, we are developing specialised nanoparticles that could deliver an antiviral COVID-19 gene therapy through an inhaler or puffer.

Another project will aim to rapidly develop molecular and cellular tools to help identify exactly how SARS-CoV-2 replicates in the body and to screen potential new therapies, which is critical to how we start the development of new therapies.

Implement

We are coordinating with communities on the ground and working with collaborators around the world to ensure rapid uptake of evidence-based health solutions.

As soon as our treatment options for COVID-19 pass pre-clinical testing we will utilise our existing global clinical trials networks to ensure they work to improve health in range of populations and settings. This network, called INSIGHT, spans over 100 clinical sites in more than 40 countries. We design our clinical trials collaboratively to encompass broad populations and diverse health systems, which ensures rapid and practical scale-up the moment a superior treatment option is identified.

Even with effective treatments, testing will remain a central component of any COVID-19 public health strategy for the foreseeable future. Together with Aboriginal Community Controlled Health Organisations, the International Centre for Point of Care Testing at Flinders University, the Australian government and our industry partners we have devised strategies for the implementation of testing technologies, and leveraged these technologies for rapid diagnosis of COVID-19.

These 'point-of-care tests' are being rolled out in 85 health services in remote Aboriginal communities in Australia and will ensure test results are delivered within 45 minutes. In the case of a positive test, this buys critical time to isolate patients and their contacts and test for them for COVID-19, significantly reducing the potential for the spread of the infection in these communities, and if tested negative prevents unnecessary complicated medical transfers or evacuations to distant city hospitals.

2019
RESEARCH

We fight disease by spreading solutions.

Infectious diseases work by spreading through individuals, communities and populations.

We deliver solutions the same way.

VIRAL HEPATITIS

Hepatitis impacts some of the world's most vulnerable communities, but life-saving preventions and treatments are not widely accessed. We work to ensure equitable access to hepatitis B and C prevention, treatment, and care.

This photo was taken in a residential addiction treatment centre. Alireza, middle, is a man who shared many stories about his life and his relationship with his family. His life has been dotted with episodes of domestic violence, juvenile and adult incarceration, drug use, and stigma and marginalisation. He was happy to be in a program where he felt supported and cared for, and began hepatitis C treatment. However, he stopped his treatment soon after he left the centre, and the researchers did not hear from him for months. The research team in Rafsanjan tracked him down and convinced him to come in for a hepatitis C test and restart treatment if still positive.

Dr Maryam Alavi is visiting Mohammad, who is a construction worker with advanced liver disease. He is on opioid agonist therapy and participated in the study through the public clinic where he goes daily to get methadone. Dr Alavi is speaking to his wife, who is his primary carer during hepatitis C treatment.

COMMUNITY-LED HEPATITIS C ELIMINATION IN IRAN

In Rafsanjan, Iran, Kirby Institute researchers are building a 'people for people' model for the elimination of hepatitis C, one city at a time.

The World Health Organization has set a target for global hepatitis C elimination by 2030, and in Australia we are well on the way to achieving this target.

But globally, achieving hepatitis C elimination targets will require innovative and practical strategies that can be adapted for each country, or even, as the Kirby Institute's Dr Maryam Alavi explains, from city to city.

"In Rafsanjan, we are testing a deeply community-led and community-integrated model for hepatitis C elimination," said Dr Alavi. "We are using services - like prisons, HIV clinics and opioid agonist therapy clinics that already exist in Rafsanjan - and we're tailoring them so that they can provide hepatitis C screening and treatment."

Rafsanjan has a population of approximately 200,000 people and prior to the Kirby Institute's work, had never had a program for managing hepatitis C, even though more than one in two people who inject drugs in Iran have the virus.

"There is a big gap in this city, and most cities in Iran," explained Dr Alavi. "There are good drug dependence services that provide good health information and advice, but when it comes to the next step, when people say 'how do I get tested for hepatitis C', 'how can I start treatment', they run into a brick wall. This is because these tests or treatments are completely unaffordable for the people who need them."

From the specialists to the streets

There is evidence from countries like Australia, that providing free access to curative hepatitis C direct acting antivirals leads to significant reductions in community prevalence of hepatitis C.

"A key learning from the evidence-base is that these treatments need to be promoted and administered in the community setting," said Professor Gregory Dore, who led a number of these studies and heads up the Viral Hepatitis Clinical Research Program at the Kirby Institute.

"There's no point offering hepatitis C treatments in fancy private clinics or hospitals, because most people living with this virus never come into contact with these services," he said. opioid

Based on this understanding, the intervention for the study In Rafsanjan is simple. Every person in Rafsanjan that accesses one of the existing community sites over an 18 month period will be offered a free hepatitis C test, and if their test is positive, they are immediately placed on life-saving, curative treatments – administered through the sites they are already accessing. The study is being conducted in collaboration with Tehran University of Medical Sciences.

The intervention is being rolled out across one prison, 35 public and private opioid agonist therapy clinics, four residential addiction treatment centres, a free walk-in integrated HIV and HCV clinic, and a mobile outreach service.

"We will compare hepatitis C prevalence, diagnosis and treatment uptake in Rafsanjan at the start of the trial, and then at one year after the intervention has been running," said Professor Dore. "We expect to see significant reductions in the community prevalence of hepatitis C over this time, which will provide both an Iran-based model, and an evidence base for broader access to hepatitis C treatment access across the country."

Microfinance for microelimination

While the intervention is relatively simple, the biggest challenge for hepatitis C elimination in a country like Iran is how to fund the costs of treatment and care. Drug user health is rarely prioritised by governments in high-income countries, let alone in resource poor settings, and Iran has unique challenges in importing diagnostics and medicines due to trade sanctions.

"It wasn't enough to have an innovative research idea, we needed an innovative way to pay for it," said Dr Alavi. "At the core, what we're trying to do with this study is improve the health of the people in one city; Rafsanjan. And so, we thought to ask the people of the city if they wanted to invest in this, and remarkably, they did."

Small and large businesses throughout Rafsanjan have pulled together and contributed the A$275,000 needed to run the study. This includes large companies and charities, and small single person businesses, like Shayan Kav's business, who manufactures locks and other parts for cars.

"It is incredible to see the community response and ownership of this research," said Dr Alavi. "The people of this city are a community, they are united, and now they are co-designers in what might be the world's first microfinancing project for the elimination of hepatitis C."

Dr Maryam Alavi meeting with senior management of the study team at the Rafsanjan University of Medical Sciences.

To reach people who experience homelessness, the research team needed to set up Rafsanjan's first mobile outreach service. The team visited different places where people gathered to use drugs, to meet with the community and talk about project, and hear their input about the service that was being designed for roll-out. In one of these visits, Dr Maryam Alavi met a participant who had finished his treatment in prison and needed to attend the clinic for his treatment response test. He had lost his referral letter, so Dr Alavi organised a new one and is explaining the details for him.

Not just a cure, a second chance

Hepatitis C can make people very ill, and in many cases is fatal, unless treatment is accessed. But the impact of hepatitis C infection is far more complex than just the disease. There is immense stigma associated with the infection and the drug use that often goes along with it. People living with hepatitis C in are in cycles of disadvantage, made worse by discrimination and poverty.

“When you look at the whole spectrum of what these marginalised communities need in a country like Iran, their needs go well beyond hepatitis C. It goes beyond what we are doing for them,” said Dr Alavi. “But curing their hepatitis C is an initial step. A lot of these people have almost given up, but this small change inspires them to think that they have hope to do something different with their lives.”

From Rafsanjan to Iran

Rather than ‘scale-up’ which is a commonly used term in public health for when an intervention proves effective at a small scale, Dr Alavi refers to this model as one of ‘scale out’.

“The model is community driven, so we can’t just cut and paste it onto another city. But if we follow the same principles of working with local communities and services in building an intervention from the ground up, then we have a model that is scalable through adaptation,” she said.

> ***“Australia is a world leader in hepatitis C prevention and treatment. To be able to bring these lessons back to the people in the country where I was born is an incredible professional experience.”***

DR BEHZAD HAJARIZADEH

Dr Behzad Hajarizadeh is a Senior Lecturer at the Kirby Institute, and has been working as a clinician and researcher in the field of liver diseases. He is leading a number of key projects on viral hepatitis at the Kirby Institute.

“I am leading a research project that monitors and evaluates the uptake of new hepatitis C treatments called direct-acting antivirals. This involves liaising with people in all Australian states and territories, working with people living with hepatitis C and understanding patterns of prescribing across different doctor specialities," he said.

"This is extremely rewarding work. We’re finding high levels of treatment uptake, which means people are living longer, healthier lives. We’re also identifying gaps in access to treatment, and strategies to address them.”

RESEARCH HIGHLIGHTS

HEPATITIS C DECLINES AMONG PEOPLE WHO INJECT DRUGS

The Australian Needle and Syringe Program Survey Report is produced each year by the Kirby Institute, and it monitors the prevalence of HIV and hepatitis C among people who inject drugs in Australia. This year's report showed that hepatitis C has declined by a staggering 60% since new hepatitis C cures were made available through the Pharmaceutical Benefits Scheme (PBS) in 2016.

"People who inject drugs are the major population at risk of hepatitis C in Australia, and thanks to forward-thinking and inclusive leadership from the Federal Government, people are able to access the cures at a low cost through the PBS," said Dr Jenny Iversen from the Kirby Institute's Viral Hepatitis Epidemiology and Prevention Program, and the lead author of the report.

A MODEL FOR HEPATITIS C ELIMINATION IN AUSTRALIAN PRISONS

It is estimated almost one in five of all people in Australian prisons have chronic hepatitis C infection. We now have treatments that cure hepatitis C in most people. Prisons are a venue with ongoing transmission of hepatitis C, so it is essential that we identify the best strategies both for prevention of infection and for the roll out of these new treatments in the complex prison environments.

In 2019, researchers from the Kirby Institute's Viral Immunology Systems Program developed a mathematical model to understand how improved access to antiviral treatment and harm reduction services would impact on hepatitis C transmissions and the burden of chronic hepatitis C in NSW prisons. They found that a moderate increase in access to treatment in the prison system, alongside improved access to harm reduction services, would make hepatitis C elimination possible in Australian prisons by 2030.

"As the prison sector is increasingly recognised to be key to national elimination efforts, these findings will inform our national strategy, and support Australia to become one of the first countries in the world to eliminate hepatitis C," said Professor Andrew Lloyd, Head of the Viral Immunology Systems Program.

In 2019, the Kirby Institute in collaboration with the National Drug and Alcohol Research Centre (NDARC), hosted the first meeting of the new ASCEND Program Grant, an innovative new partnership designed to address issues of drug dependence and hepatitis C in unison.

Attended by global leaders in the hepatitis C elimination effort, researchers presented on a range of different studies and treatment models undertaken in the USA, UK, Iran, and Australia, to compare the effectiveness of different strategies across a range of contexts.

Above: Dr Natasha Martin (University of Bristol) **Left:** Professor Jason Grebely (Kirby Institute) **Below, left to right:** Professor Andrew Lloyd (Kirby Institute), Professor Louisa Degenhardt (NDARC), Professor Gregory Dore (Kirby Institute), Professor Michael Farrell (NDARC).

HIV

We have made major contributions to the health and lives of people impacted by HIV. We continue to work to prevent HIV transmission and to improve health outcomes for people living with HIV, in Australia and globally.

Hannah Law and Melanie Mach, higher degree research students from our Immunovirology and Pathogenesis Program, working in the Kirby Institute's Glendonbrook Laboratories.

Associate Professor Stuart Turville and his team in the Kirby Institute's Glendonbrook Laboratories.

IN SEARCH OF AN HIV CURE

Gene therapy is a technique that manipulates genes to prevent or treat disease, instead of using medication or surgery. It could be especially useful for illnesses that have no other cure, and so is being explored by Kirby Institute researchers as part of the global quest for an HIV cure. The research is based on the idea of recalibrating the "nuts and bolts" of the HIV virus in a safe and effective way to genetically modify immune cells in various ways to enable a cure for HIV.

"The aim is to turn the virus against itself," said Associate Professor Stuart Turville, who is leading the research in the Kirby Institute's Glendonbrook Laboratories. "We will use the virus, but we need to reprogram it, so that it's not only safe, but is full of genetic materials that are programmed to attack the virus."

Associate Professor Turville has been working on gene therapy for HIV since joining the Kirby Institute in 2011. In collaboration with Dr Geoff Symonds at CSL, the Kirby Institute is one of only a few centres world-wide leveraging the power of gene therapy and gene editing technologies to target the virus in the body.

The work conducted during this time has proven promising, and this year, the Federal Minister for Health Greg Hunt announced a more than $800,000 funding boost from the National Health and Medical Research Council (NHMRC), who administer the majority of government health research funding.

"This grant is now applying the culmination of over eight years of work at the bench to design a gene delivery platform for our immune system," said Associate Professor Turville.

In applying this work, he says the researchers are aiming firstly to permanently protect immune cells from future infection. The second aim is to arm the immune system to seek and destroy what remains of the HIV reservoir.

"Unlike existing therapies using drugs, our approach is to use gene therapy to enable a living therapeutic that will dynamically respond over time," said Associate Professor Turville. "We are hopeful that this innovative approach will unlock some of unknown elements of HIV and ultimately lead to an effective cure."

The D²EFT Team with colleagues in Guinea.

EXPANDING CLINICAL TRIALS RESEARCH INTO GUINEA

A major capacity building initiative is underway in Guinea, where Kirby Institute researchers are working for the first time as part of the international D²EFT trial – a randomised controlled trial covering 14 countries on three continents, seeking the most effective second-line HIV treatment for those who fail first-line therapy.

A team from the Therapeutic and Vaccine Research Program travelled to Conakry, Guinea to open the new Guinean D²EFT arm at Donka National Hospital, and it is believed to be the first randomised controlled trial ever conducted in the Guinean health system.

Globally, there are almost 38 million people living with HIV, most of whom are in low-income countries. When the initial HIV treatment offered to them will not keep their infection in check, an alternate, 'second-line', HIV treatment is required. D²EFT is designed to find the best simplified treatment for these people by testing a novel combination of antiretroviral drugs (dolutegravir and ritonavir boosted darunavir).

The benefits of the simplified treatment being tested are multi-faceted: the medication itself would be formulated as a single pill with fewer side effects, and the need for specialised tests for HIV gene drug resistance would be avoided, simplifying health care supply chains whilst also reducing the cost of the medication. It would also allow nurses and assistants to prescribe second-line treatment (as they do initial treatment), which would further enhance accessibility to medications, especially in resource-limited settings.

Kirby Institute's Associate Professor Mark Polizzotto is leading the project, along with Dr Emmanuelle Papot, Ms Simone Jacoby and Ms Cate Carey, while Professor Mohamed Cissé, Director of Donka National Hospital's HIV program is providing local leadership. Together, they are coordinating the Guinean arm of D²EFT whilst helping to build the capacity of Guinea's clinical research workforce to conduct these types of trials in the future.

"With the support of national and international agencies, this very dedicated Guinean team has overcome many challenges to build an amazing comprehensive and accessible organisation for the management of HIV-infected patients," said Dr Papot, who has had a long connection with Guinea and co-led the expansion of D²EFT into the country.

Associate Professor Polizzotto agreed, and said, "The involvement of Guinea, and the many other countries in this trial, enables us to test this treatment and the way it is administered in a range of settings. Diversity is critical in setting international treatment guidelines, to ensure they save millions of lives."

RESEARCH HIGHLIGHTS

HIV DIAGNOSES IN AUSTRALIA DROP TO LOWEST NUMBER IN 18 YEARS

Australia continues to lead the world in HIV prevention and in 2018 recorded the lowest number of HIV diagnoses since 2001, according to the Kirby Institute's National HIV Quarterly Report, a new report which provides a timely quarterly summary of the numbers of newly diagnosed cases of HIV notified to the National HIV Registry.

Last year, there were 835 HIV diagnoses across the country, which represents a decline of 23% over five years. The decline is largely due to reductions in the number of HIV diagnoses that are reported as attributable to sex between men.

FROM CLINIC TO HAUS DUR: RETHINKING HIV TESTING IN PNG

Kirby Institute researchers Associate Professor Angela Kelly-Hanku, who has a joint appointment with the PNG Institute of Medical Research, and Dr Stephen Bell outlined a series of recommendations to roll out a community HIV testing program successfully in PNG. Trained peer outreach workers will be upskilled to conduct HIV counselling and testing among sex workers, men who have sex with men and transgender women in Port Moresby and other regions of PNG. Unique cultural considerations are at the centre of recommendations, considered alongside the logistics of rolling out community-based testing from financial, workforce and resourcing perspectives.

The recommendations provide a blueprint to roll out a program that would drastically improve HIV testing in PNG.

HOW GAY MEN WHO USE DRUGS ARE PROTECTING THEMSELVES FROM HIV

Kirby Institute researchers Dr Mohamed Hammoud and Associate Professor Garrett Prestage have found that over 80% gay and bisexual men who use crystal methamphetamine during condomless anal intercourse (a practice known as chemsex) are using biomedical HIV prevention strategies including PrEP, the HIV prevention drug, and TasP (Treatment as Prevention) when engaging in condomless anal intercourse compared to those who do not use crystal methamphetamine.

Men who did not use crystal methamphetamine were more likely to engage in condomless anal intercourse without the protection of PrEP. This is a massive shift from just a few years ago, when use of crystal methamphetamine in the context of chemsex was considered a high-risk indicator for HIV among gay and bisexual men.

DR BENJAMIN BAVINTON

Dr Benjamin Bavinton was the recipient of the prestigious 2019 Aileen Plant Memorial Prize in Infectious Diseases Epidemiology. The prize is awarded annually for a first author paper by an Australian researcher, published in the previous calendar year in a peer-reviewed medical journal in the area of infectious diseases epidemiology. Dr Bavinton received the award for his paper communicating the results of the internationally recognised Opposites Attract study, which showed that the risk of HIV transmission is effectively zero when the positive partner is on antiretroviral therapy and has a suppressed viral load.

SEXUAL HEALTH AND SEXUALLY TRANSMISSIBLE INFECTIONS

STIs like chlamydia, gonorrhoea and syphilis can cause major health issues, including infertility and adverse pregnancy outcomes, and they pose a public health threat to us all. We search for open, non-discriminatory, and evidence-based strategies to prevent their spread.

This digitally colorised photomicrograph depicts what was viewed while examining this dark field preparation, of a blood sample extracted from a syphilis patient, which included these *Treponema pallidum* bacterial spirochetes. Image: Susan Lindsley/CDC. phil.cdc.gov/Details.aspx?pid=1248

This image is from a stock photo library featuring trans and non-binary models that go beyond the clichés. The Gender Spectrum Collection were taken by Zackary Drucker. genderphotos.vice.com

AUSTRALIA'S FIRST SURVEY OF TRANS AND GENDER DIVERSE SEXUAL HEALTH

In close collaboration with community advocates, clinicians, and researchers from across Australia, the Kirby Institute has conducted the first national survey of sexual health among transgender ('trans') and gender diverse people. This is the largest study of trans and gender diverse people to have been conducted to date in Australia.

Sex and romance are crucial aspects of most people's lives, and yet little is known about how these are expressed and experienced by trans and gender diverse people.

"Research with trans and gender diverse populations internationally has highlighted the need for specific attention to the sexual health and wellbeing of these populations," said Mr Teddy Cook who is an Adjunct Lecturer at the Kirby Institute and Manager, Trans & Gender Health Equity for ACON. "This can only be achieved through the meaningful inclusion of our experiences to inform the design of the services we access."

Prior to 2019, there had been limited research examining the sexual health experiences and needs of this highly diverse population.

"We assembled a fantastically diverse group of researchers, community advocates and clinicians to design the largest study of trans and gender diverse people to have been conducted in Australia to date," said Mr Cook. "The Kirby Institute is a world-renowned infectious disease centre that prioritises the health of diverse populations, and was the perfect academic home for this important community research."

The online survey collected data from more than 1,600 participants, who were asked questions about topics related to their sexual health and wellbeing, including dating, sex, sexual health care, sexual violence and coercion, pleasure, relationship satisfaction and marriage.

The findings were launched at the Australasian Sexual Health Conference in Perth in September this year, generating significant media interest, and launching a national discussion about trans health.

> ***"Providers of sexual health care need to better understand the broad spectrum of gender diversity, and must not make assumptions about their patients' genders, bodies, sexual orientations or sexual partners."***
>
> **MR TEDDY COOK**
> **ADJUNCT LECTURER, KIRBY INSTITUTE AND MANAGER, TRANS & GENDER HEALTH EQUITY, ACON**

The Kirby Institute's Professor John Kaldor is a senior researcher involved in the Trans and Gender Diverse Health Survey. He said that this research was an was important area of expansion for the Kirby Institute. "For too long, the views of trans and gender diverse people have been excluded from major health collection surveys. This report goes some way to the correct the imbalance. There is still a lot more work to do to ensure truly equal access to high-quality health care for this population, and we are committed to continuing this work in collaboration with our close community partners."

This research is funded though the Australian National Health and Medical Research Council.

THE FINDINGS

High rates of sexual assault

More than half of trans and gender diverse people who participated in the survey had ever experienced sexual violence or coercion, a rate that is four times higher than the general Australian population. Further, less than half of people who experienced sexual violence or coercion reported it to someone or otherwise sought help.

Marginalisation accessing sexual health care

Trans and gender diverse people reported experiencing very high rates of marginalisation when accessing care related to sexual health. "Less than half of our participants said they'd experienced inclusive and respectful care for sexual health. Importantly, less positive experiences in care were associated with lower testing rates for sexually transmissible infections amongst sexually active participants," said Mr Cook. "Providers of sexual health care need to better understand the broad spectrum of gender diversity, and must not make assumptions about their patients' genders, bodies, sexual orientations or sexual partners."

HIV and STIs

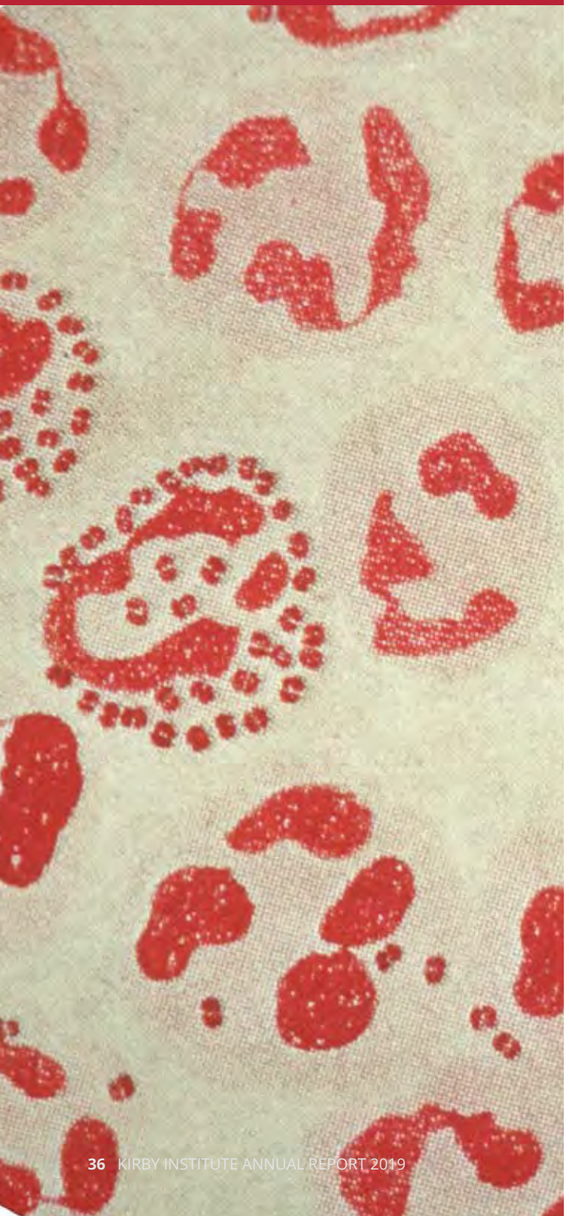
The survey also revealed a number of practices that place trans and gender diverse people at risk for HIV and other sexually transmissible infections. "Only half of our participants reported having a recent sexual health screen and the majority reported inconsistent condom use with casual partners. These factors, along with poor experiences in care related to sexual health, can heighten vulnerability to HIV and other STIs," said Mr Cook.

Resilience

While some of the survey results are deeply concerning, the survey also revealed that many trans and gender diverse people lead happy sexual and romantic lives.

"Trans and gender diverse people engage in a wide range of sexual practices, we get married and divorced, look for sex and love online and offline, and form partnerships with people of all genders. In this way, we are quite like the rest of Australia," says Shoshana Rosenberg, another study investigator who co-presented the findings in Perth. "Australia's sexual health policies, guidelines and services require a lot of work to improve health in this domain. Sexual health is a key factor in our overall health and wellbeing, which is why it is great that, for the first time, we have data to guide this important work."

This illustration depicts a photomicrograph of a Gram stained urethral discharge specimen, which revealed numbers of intracellular, *Neisseria gonorrhoeae* bacteria, in a case of acute gonorrhoeae. Image: CDC. phil.cdc.gov/Details.aspx?pid=2108



GO GO GONORRHOEA!

The Kirby Institute has partnered with Griffith University's Institute for Glycomics to conduct a world-first trial for a promising gonorrhoea vaccine.

The $2.7 million study will test whether a meningococcal B vaccine protects against gonorrhoea in gay and bisexual men.

"Australia has already seen its first cases of multi-drug resistant gonorrhoea. This vaccine is the best chance we've had to control gonorrhoea," said Professor Basil Donovan, who is head of the Sexual Health Program and is leading the trial at the Kirby Institute along with Professor Andrew Grulich. Professor Donovan says it is essential to bring gonorrhoea under control in the coming years before resistance to antibiotics renders the condition untreatable.

The bacteria that causes gonorrhoea and meningococcal B disease are very similar, and observational data indicates that a meningococcal vaccine may protect against gonorrhoea. The researchers will study whether gay and bisexual men at high risk of contracting gonorrhoea, who receive a meningococcal B vaccine, have fewer new cases of gonorrhoea compared to those who do not receive the vaccine.

Once known as "the clap" gonorrhoea is a sexually transmissible infection caused by the Neisseria gonorrhoeae bacteria which can infect the throat, anus, urethra, cervix and eyes – risking pain, infertility, blindness, and spread to internal organs. The inflammation caused by gonorrhoea is known to promote the transmission of HIV.

DR LOUISE CAUSER

This year, Dr Louise Causer was awarded the Frank Fenner Early Career Fellowship. The award recognises Dr Causer as the highest ranked applicant from the NHMRC Biomedical or Public Health Early Career Fellowship category whose research focus is in an area of international public health application.

Dr Causer's work focuses on evaluations of point-of-care diagnostics for STIs, in particular chlamydia and gonorrhoea. She is a co-investigator on the NHMRC-funded TTANGO (and TTANGO2) "Test, Treat and Go" trial, which is implementing STI point-of-care testing in remote and regional Australia. Point-of-care testing enables people to do a test, receive their results, and if needed, begin treatment, all in the one visit, removing prohibitive barriers such as geographical distance to a health clinic.

"During this fellowship, I'm looking forward to developing a research portfolio that will maximise the benefits of new diagnostic technologies and strategies like rapid point-of-care testing for STIs," said Dr Causer.

HPV

Human papillomavirus, or HPV, is an infection that can lead to cancers including cervical cancer and anal cancer. We work to evaluate and improve vaccination and screening programs designed to eliminate HPV before it progresses into cancer.

Cells with HPV infection morphology, without large hyperchromatisms or nuclear irregularities. Image: Manuel Medina/Flickr. flic.kr/p/mCF7Gt

WHAT IS HPV AND WHY IS AUSTRALIA A WORLD LEADER IN HPV PREVENTION?

There are over 140 types of human papillomavirus (HPV). Some are relatively harmless, whist others can lead to a range of health issues, including genital warts and cancer.

Australia has long been at the cutting edge of cervical screening and HPV vaccination and has some of the lowest rates of HPV-related illness in the world. For over a decade, Kirby Institute researchers have been involved in monitoring and evaluating Australia's National HPV Vaccination Strategy that is aimed at reducing and eventually eliminating cancer-causing HPV infections, and are applying the lessons learned in Australia to address HPV-associated health issues internationally.

The National HPV Vaccination Program is a centrepiece of Australia's HPV prevention efforts. Introduced in 2007, the highly effective HPV vaccine was first offered to Australian girls aged 12–13 years through state-run school-based vaccination programs, along with a highly successful two-year catch-up program for women aged up to 26 years in the community. In 2013, boys aged 12–13 years were also added to the program. This made Australia the first country in the world to introduce a national HPV vaccination program, as well as gender neutral HPV vaccination.

PROVIDING CRITICAL INSIGHTS TO INFORM AUSTRALIA'S HPV STRATEGY

Research teams from the Kirby Institute have been evaluating the effectiveness of the National HPV Vaccination Program by tracking changes in rates of HPV infection and genital warts, both of which are early indicators of vaccine impact and effectiveness.

Professor Basil Donovan leads the Australian Government's Genital Warts Surveillance Network with the support of Seqirus, and is working on an 11-year follow-up study of the impact of HPV vaccination on genital warts in Australian heterosexuals in collaboration with a national network of sexual health clinics. Further analyses that are underway include the impact of vaccination among gay and bisexual men, and migrants and travellers.

"Australia's HPV Vaccination Program has led to remarkable and globally unprecedented reductions in genital warts for both women and men," said Professor Donovan. "Australia's catch-up program with young women in the community between 2007 and 2009 is predicted to reap benefits for the prevention of cervical cancer for at least 50 years. It's been so rewarding to see how the national effort has led to the success of Australia's vaccination program. But we need to make sure that these gains are maintained."

Dr Dorothy Machalek, a public health epidemiologist, has been working in the field of cervical cancer and HPV research for 10 years. Having completed her PhD at the Kirby Institute, she worked at the Royal Women's Hospital in Melbourne, and returned this year as a Senior Research Fellow. Dr Machalek leads the Commonwealth Department of Health-funded National HPV Monitoring Program (called IMPACT) that is evaluating the long-term impact of HPV vaccination on HPV infections.

"Surveillance aims to track the prevalence of HPV infection, both vaccine types and non-vaccine types in Australia. The purpose is to make sure the National HPV Vaccination Program is doing what it is supposed to do in preventing infection", explained Dr Machalek. "This has been critical to the success of Australia's program, and will ensure that populations at higher risk of HPV-related disease are being protected."

Screening for HPV infection is another critical element to the Australia's HPV prevention strategies. Australia's National Cervical Cancer Screening Program has been operating since 1991, and has been highly successful in reducing the incidence and death from invasive cervical cancer. Until recently, the program involved two-yearly screening starting at the age of 18 years with a 'Pap' test which looked for potentially cancerous cell changes on the cervix caused by HPV. The program was totally overhauled recently and now is based on a five-yearly test called the Cervical Screening Test, that looks for HPV itself, starting at the age of 25 years. The Cervical Screening Test is more effective than the Pap test at detecting underlying high-grade disease and cancer, because it screens for HPV rather than the resulting changes in the cervical cells down the track.

Dr Machalek has also been involved in the monitoring and evaluation of the new screening program. "The Australian cervical screening program has undergone a major paradigm shift, but early observations show that it is performing as expected," she said. "The community can feel reassured that Australia has a world class cervical cancer screening program that is based on up-to-date scientific evidence and best practice."

Professor Andrew Grulich is leading a team of Kirby Institute researchers who are working to better understand how HPV leads to anal cancer, with the aim of informing guidelines for screening of gay and bisexual men, to detect anal cancer precursors caused by HPV before they become cancerous. Gay and bisexual men are at particular risk of anal cancer – especially individuals living with HIV. Kirby Institute researchers also work with our extensive clinical networks to deliver state-of-the-art training to general practitioners in the latest anal cancer screening techniques.

Professor Andrew Vallely and Dr Steven Badman joined delegates and representatives from PNG, Vanuatu, Solomon Islands, Federated States of Micronesia, Fiji and Samoa for a workshop in Suva, Fiji in December 2019 that led to a joint call towards the elimination of cervical cancer in the Pacific.

Expanding HPV elimination efforts into our region

Papua New Guinea (PNG) has among the highest rates of cervical cancer globally, with an estimated 1,500 deaths per year. Like most low- and middle-income countries, PNG was unable to establish Pap test screening on a large scale. The development of new point-of-care testing methods for HPV, based on self-collected vaginal specimens, provides a new model that the Kirby Institute has been evaluating in PNG to detect women at greatest risk of cervical pre-cancer and offer them same-day curative treatment to prevent the development of cancer.

Kirby Institute researchers, led by Professor Andrew Vallely, are working with the PNG Institute of Medical Research to roll out an expanded point-of-care testing program that detects the specific strains of HPV that can develop into cervical cancer.

"Our research on HPV prevention has really started to make a difference for low- and middle-income countries where cervical cancer caused by HPV remains one of the leading causes of fatal cancer," said Professor John Kaldor, who was an investigator in the earliest epidemiological studies showing that HPV caused cervical cancer, and has maintained a strong involvement in Australia's surveillance efforts for HPV.

Further afield, Professor Kaldor and Dr Machalek are leading a world-first project that is measuring the impact of one and two-dose HPV vaccine schedules in South Africa, in partnership with the University of the Witwatersrand, with funding from NHMRC and the Bill and Melinda Gates Foundation. Using Australia's highly successful surveillance approach for measuring the prevalence of HPV infection at a population level, the project is evaluating the impact of 2-dose and 1-dose vaccination schedules in South African adolescent girls. Findings will inform the population impact of the HPV vaccine in a country with extreme socioeconomic diversity and high incidence of HIV infection, and will have the potential to greatly accelerate vaccine uptake in the region if single-dose vaccination is proven to be effective.

"No one should be dying from this preventable and treatable viral infection," said Dr Machalek. "Now that we've been running these programs for over a decade in Australia, we have robust evidence demonstrating that they work. We have a real opportunity to share the knowledge and learnings from our approach to HPV prevention and elimination with colleagues around the world, and I'm extremely proud to be a part of this work."

WORKING TO PREVENT ANAL CANCER

The Kirby Institute is leading the way in HPV-associated anal cancer research, having conducted the SPANC study, led by Professor Andrew Grulich, that investigated the natural history of anal cancer precursors in HIV positive men who have sex with men to aid in the development of screening programs. The SPACE study, which is led by Associate Professor Mark Polizzotto, is evaluating whether pomalidomide is successful in treating anal cancer precursors.

Now, thanks to generous ongoing funding from The Glendonbrook Foundation, the Kirby Institute has been hosting a series of workshops training general practitioners in techniques to improve screening for anal cancer, including a procedure now called Digital Ano-Rectal Examination (DARE) which includes a thorough anal canal examination to detect pre-cancerous lesions.

DR CARMELLA LAW

Dr Carmella Law holds a conjoint appointment with the Kirby Institute and St Vincent's Hospital, Sydney, and is leading the general practitioner training for the early detection of anal cancer precursors.

Dr Law is one of only a handful of clinicians nationwide who are trained in High Resolution Anoscopy (HRA), a procedure which diagnoses early anal cancers; essentially the equivalent of colposcopy but involving the anal canal.

Using her expertise in HRA, she has developed this innovative workshop that provides both theoretical and hands-on training in DARE.

EMGERGING INFECTIONS

In order to stay ahead of the next pandemic, we need to be able to predict and plan for future threats and challenges. We do this by analysing and modelling epidemics, and by developing and testing equipment and interventions that prevent the spread of disease.

Colorised scanning electron micrograph of an apoptotic cell (blue) infected with SARS-COV-2 virus particles (red), isolated from a patient sample. Image captured at the NIAID Integrated Research Facility (IRF) in Fort Detrick, Maryland. Image: NIAID. flic.kr/p/2iG1YKp

Above: Associate Professor David Heslop and Professor Raina MacIntyre at UNSW Sydney.
Right: Speakers at the Pacific Eclipse event.

PANDEMIC PREPAREDNESS

Although unknown to the world, COVID-19 had emerged and was beginning to spread in December 2019. At the same time, the Kirby Institute coordinated a global pandemic exorcise in the United States attended by over 200 invited key government and non-government stakeholders across different sectors from the USA, UK, Canada, Australia, New Zealand the Indo-Pacific region.

Despite being eradicated 40 years ago, smallpox can be synthetically reproduced in a lab with new technology. If it reappeared, would we be equipped to manage it, or would it spell disaster for the global population? This hypothetical scenario unfolded in 'Pacific Eclipse', an immersive tabletop exercise and simulation of a multi-threat bioterrorism disaster. The exercise was held in the US on 9 December, the 40-year anniversary of smallpox eradication. It was designed by the Kirby Institute's Professor Raina MacIntyre, Associate Professor David Heslop from the School of Public Health and Community Medicine at UNSW Sydney, PLuS Alliance partner Associate Professor Brian Gerber from Arizona State University, with assistance from the US Indo-Pacific Command in Hawaii.

The exercise took place across three sites in the USA: Washington, Phoenix, and Honolulu. It was an immersive experience designed to allow participants to move through an unfolding bioterrorism scenario, to make decisions using live polling, and consider choices in difficult situations. It covered critical issues that bear particular relevance to COVID-19 (which spreads in a remarkably similar way to smallpox), such as travel bans, infected ships and mass transport vehicles, contact tracing, testing, vaccination, law and order, and critical infrastructure. They also looked at the political impact of the 2020 election in the US on pandemic control.

> *"In a crisis such as this, it is important to be aware of preparedness within a range of sectors, and to navigate local and global priorities in order to avoid disaster."*
>
> **PROFESSOR RAINA MACINTYRE**
> **PROGRAM HEAD, BIOSECURITY PROGRAM, KIRBY INSTITUTE; PROFESSOR OF GLOBAL BIOSECURITY; AND NHMRC PRINCIPAL RESEARCH FELLOW**

"This exercise was designed to test the response of local and global systems, at all levels of government and non-government sectors," explained Professor MacIntyre. "In a crisis such as this, it is important to be aware of preparedness within a range of sectors, and to navigate local and global priorities in order to avoid disaster. We predicted many issues that arose during the COVID-19 pandemic, including travel bans, lockdowns, mask shortages, civil unrest, international tensions, protests and cascading failures of response."

Today, the risk of bioterrorism is increasing due to advances in synthetic biology and genetic engineering. Technological capability for serial attacks and multi-threat environments is also on the rise, with formerly siloed areas of security, such as biosecurity and cybersecurity, converging over time.

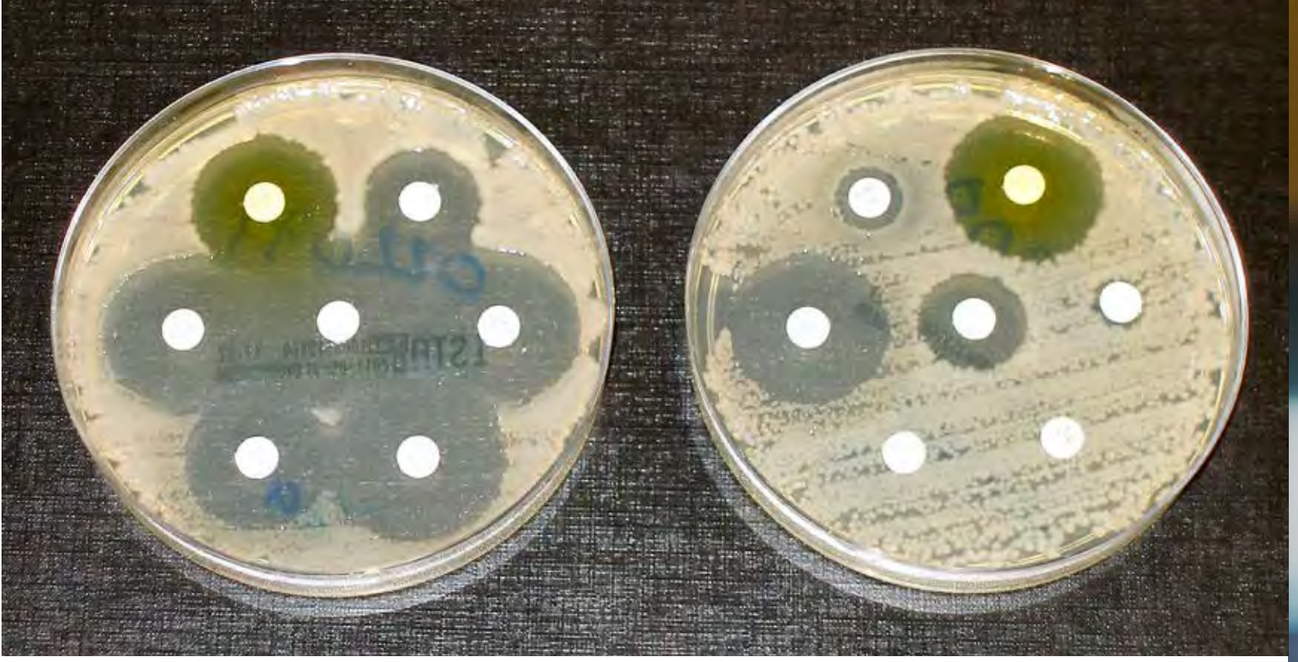
Pacific Eclipse was underpinned by mathematical modelling research, to provide realistic epidemic outcomes under different scenarios and resulting from different decisions and resource allocation. The exercise was attended by representatives across defence, health, law enforcement and other government and non-government agencies including the WHO, US Centers for Disease Control, US military, FBI, London Metropolitan Police, Defence Science Technology Laboratories UK, and several state and international agencies.

Associate Professor Heslop said that this was a terrific opportunity for international security leaders to converge on an issue of increasing importance. "The fact that this meeting was attended by delegates from a range of sectors and nations, who navigated the exercise simultaneously, meant that we were able to deliver a multi-disciplinary simulation of such an event," he said. "It provides a good insight into how well our collective systems are prepared, and importantly, where we can do better in working across different sectors such as health, defence and police."

The exercise was hosted via the PLuS Alliance, a global alliance between three leading universities – Arizona State University, King's College London, and UNSW Sydney – to solve global challenges around health, social justice, sustainability, technology and innovation. Associate Professor Brian Gerber at Arizona State noted the faculty partnerships created through the PLuS Alliance in part made this exercise possible. "An enormously complex problem like a global disease outbreak requires a coordinated global response. The diversity of disciplinary expertise among PLuS faculty who work together on projects related to global security helps advance thinking about these kinds of issues. This exercise was a good illustration of faculty from the three universities collaborating on an important effort."

A NOTE FROM PROFESSOR RAINA MACINTYRE:

On October 21st 2020, one of the key speakers at Pacific Eclipse, Dr J Michael Lane, passed away in Atlanta. He had been the director of smallpox eradication at the US Centers for Disease Control, and to have his expertise in the room was a privilege and one which enabled his vast knowledge to be shared with people involved in the COVID-19 response today. Many of those who participated in Pacific Eclipse have commented that it helped inform their response to the current pandemic.



Antibiotic resistance tests: Bacteria are streaked on dishes with white disks, each impregnated with a different antibiotic. Clear rings, such as those on the left, show that bacteria have not grown—indicating that these bacteria are not resistant. The bacteria on the right are fully resistant to all but two of the seven antibiotics tested. By Dr Graham Beards at en.wikipedia, CC BY-SA 4.0, commons.wikimedia.org/w/index.php?curid=25206097

RESEARCH HUB TO COMBAT ANTIMICROBIAL RESISTANCE

As part of its Industrial Transformation Research Hubs initiative, the Australian Research Council has awarded almost $5 million to the Research Hub to Combat Antimicrobial Resistance, supplemented with an additional $3.8 million from biotech company SpeeDx and other partner organisations. Led by Professor Rebecca Guy, the Hub will take on the challenge of antimicrobial resistance for Australia through a world-first partnership between industry, researchers and end users.

Antimicrobial resistance is a growing problem globally. Bacteria, viruses, and some parasites are increasingly becoming resistant to antibiotics, antivirals and antimalarials, posing a serious threat to human health. Antibiotic overuse combined with an inadequate pipeline for diagnostic technologies and new drugs has led to this development.

The Hub will focus on sexually transmitted microorganisms, which is a critical area of concern in Australia and our region, as an example of the wider problem of antimicrobial resistance.

"By nature, antimicrobial resistance is an inherently shifting and multi-faceted 21st century problem, requiring high-level interdisciplinary collaboration," said Professor Guy. "We are excited to work with colleagues from over 16 organisations to tackle this issue."

The Hub aims to connect the many complex facets of antimicrobial resistance, to provide a highly integrated diagnostic and pharmaceutical solutions to the problem of antimicrobial resistance under the umbrella of antimicrobial stewardship. By doing so, the Hub will establish Australian industry as global leaders.

"We plan to develop new molecular diagnostic technologies and improve the processes for identifying potential new antibiotics," Professor Guy said. "By securing connections across disciplines working to tackle antimicrobial resistance solutions, we hope to maximise the value of investment in this area."

The ARC Industrial Transformation Research Hubs scheme aims to engage Australia's best researchers on issues facing industrial economies and training the future workforce. The scheme supports collaborative research activity between industry and the Australian higher education sector.

PROFESSOR REBECCA GUY

Professor Rebecca Guy is Head of the Kirby Institute's Surveillance, Evaluation and Research Program. She is leading the Research Hub to Combat Antimicrobial Resistance, funded by the Australian Research Council.

"By nature, antimicrobial resistance is an inherently shifting and multi-faceted 21st century problem, requiring high-level interdisciplinary collaboration," said Professor Guy. "We are excited to work with colleagues from so many organisations to tackle this issue."

OUR INTERNATIONAL REACH

We collaborate with organisations around the globe, creating solutions to global health challenges and driving our collective research success into the future.

Our global collaborations by the numbers

Argentina	14	France	7	Mexico	3	South Korea	1
Australia	364	Germany	15	Myanmar	4	Spain	1
Belgium	4	Guinea	1	Netherlands	5	Sri Lanka	1
Brazil	3	India	7	New Zealand	12	Sweden	2
Cambodia	1	Indonesia	32	Nigeria	2	Switzerland	14
Canada	21	Iran	2	Norway	2	Taiwan	1
Chile	1	Israel	2	Philippines	2	Thailand	18
China	8	Italy	1	PNG	22	Timor-Leste	1
Colombia	1	Japan	2	Portugal	2	UK	23
Denmark	4	Kenya	1	Singapore	1	USA	48
Ethiopia	3	Malaysia	7	Solomon Islands	1	Vietnam	3
Fiji	1	Mali	1	South Africa	7	Zimbabwe	1

The INSIGHT (the International Network of Strategic Initiatives in Global HIV Trials) was established over 20 years ago in response to the HIV pandemic, and has since conducted pivotal trials in HIV and other viral infections including influenza. It was conceived by colleagues at five universities along with the U.S. National Institutes of Health. The Kirby Institute conducts a number of important studies through the INSIGHT network, which brings together study sites in low, middle, and high-income countries, and resources them effectively to find treatments that will save lives.

680
global collaborations

The Therapeutics Research, Education, and AIDS Training in Asia (TREAT Asia) HIV cohorts consist of adult (TAHOD and TAHOD-LITE) and paediatric (TApHOD) observational cohorts with 21 adult and 19 paediatric participating sites across Asia.

The longitudinal cohorts aim to evaluate the impact of HIV disease, co-infections, and treatement management on clinical outcomes among people living with HIV in the Asia-Pacific. Project management and co-ordination are conducted at the TREAT Asia headquarter in Bangkok, Thailand. The Kirby Institute is proud to aggregate and analyse data for TREAT Asia.

The Papua New Guinea Institute of Medical Research (PNGIMR) is an internationally recognised leader in biomedical, social sciences and public health research. The Kirby Institute and PNGIMR have been close research partners for over a decade, particularly in the areas of HIV and sexual and reproductive health.

The Kerti Praja Foundation (YKP) in Bali, Indonesia conducts research, provides community outreach and comprehensive health care for local communities in Bali, with a particular focus on female sex workers, men who have sex with men, transgender populations and people who inject drugs. The Kirby Institute has longstanding collaborations with YKP, and we are currently partnering on a HIV test implementation research project, and on the SeKSI Study, which provided the first detailed sexual behavioural data from men who have sex with men and transgender people in Bali.

364
collaborations in Australia

AUSTRALIAN COLLABORATIONS

We work with a diverse range of partners across Australia, including communities, governments, health care professionals, other research organisations, and industry.

Our national collaborations by the numbers

ACT	**23**
Canberra	23
NSW	**181**
Bourke	1
Broken Hill	1
Bungendore	1
Coffs Harbour	4
Dubbo	1
Forster	1
Gosford	2
Goulburn	1
Grafton	2
Griffith	1
Hunter	1
Illawarra/Shoalhaven	1
Kempsey	2
Lightning Ridge	1
Lismore	2
Lithgow	1
Narooma	1
Newcastle	7
Nowra	1
Orange	2
Port Kembla/Nowra	1
Port Macquarie/Kempsey	1
Queanbeyan	1
Shoalhaven	1
Sydney	133
Tamworth	1
Taree	1
Tweed Heads	1
Wagga Wagga	3
Wollongong	4
NT	**14**
Darwin	9
Alice Springs	5
QLD	**36**
Brisbane	18
Cairns	8
Gold Coast	2
Ipswich	1
Mackay	1
Mount Isa	1
Palm Island	1
Sunshine Coast	1
Townsville	3
SA	**21**
Adelaide	21
TAS	**8**
Devonport	1
Hobart	6
Launceston	1
VIC	**57**
Bendigo	1
Geelong	2
Melbourne	54
WA	**24**
Albany	1
Broome	3
Bunbury	1
Perth	19

To help train the next generation of Aboriginal community outreach workers, the Kirby Institute contributes to the Aboriginal Population Health Traineeship Initiative (APHTI). Facilitated by the Ministry of Health based at Murrumbidgee Local Health District (MLHD) Public Health Unit in Wiradjuri Country, the APHTI is a three-year long training program comprising part-time study towards a Master of Public Health and a series of placements in the public health unit at MLHD.

The Australian Hepatitis C Elimination Program is part of a partnership detailed in a memorandum of understanding between the Kirby Institute and Burnet Institute and aims to eliminate the burden of hepatitis C in Australia by 2026. This year, the two institutes published the first national report on progress towards the elimination of hepatitis C virus in Australia that showed that Australia has made great strides towards hepatitis C elimination, but many are still missing out.

The NSW HIV Strategy is a forward-thinking, best-practice strategy that has been developed and implemented through a close partnership between the Kirby Institute, NSW Health, and ACON, an LGBTQI+ health promotion organisation. This important collaboration between government, community and the research field was featured in a UNAIDS report titled "Communities at the Centre", and demonstrates how effective cross-sector partnerships can successfully address pressing health challenges.

GLOBAL HEALTH

Our health solutions target global problems and have global impact. We use best practice research methods, adapted to meet urgent health needs in our region.

Qualitative interviews being conducted with community members in Fiji to explore experiences and perceptions of scabies and impetigo, and community attitudes towards mass drug administration.

TACKLING NEGLECTED TROPICAL DISEASES IN OUR REGION

Neglected tropical diseases (NTDs) are communicable diseases that are prevalent in 149 tropical and subtropical countries, affecting more than one billion people and costing developing economies billions of dollars every year. At particular risk are remote and rural communities, with inadequate sanitation, limited access to health services and living in close contact with domestic animals and livestock, so preventative measures and treatment delivery need to be tailored to their specific circumstances.

There are 20 diseases that the World Health Organization has designated as NTDs, and the Kirby Institute has an expanding program of research into some of these diseases, to meet the urgent health needs within our region. Our NTD research group is conducting research on intestinal worms, trachoma, lymphatic filariasis and scabies in several locations in our region, including Australia, Fiji, Nauru, Solomon Islands, Timor-Leste, and Vietnam.

Intestinal worm control in Vietnam

Soil-transmitted helminths, more commonly known as 'intestinal worms', are the most prevalent NTD globally. They are transmitted by worm eggs and larvae present in human faeces, which can contaminate soil in areas where sanitation is poor. People with long-term worm infestation have a higher risk of a range of health problems, including anaemia, malnutrition, and poor growth.

In endemic areas, control of worm infections is undertaken predominantly through regular treatment programs, usually targeted at school-aged children. These programs are usually implemented through schools, with the medications being dispensed by teachers.

Associate Professor Susanna Vaz Nery and Dr Clare Dyer are collaborating with a large international team, including the Vietnam Ministry of Health, in leading a large trial in Vietnam, the first of its kind in the region, in an effort to improve control of intestinal worms. The study is aiming to determine whether scaled-up community-wide treatment is better than targeted school-based treatment.

Top left: Teacher explains intestinal worms treatment to children at school in Vietnam. **Bottom left:** Associate Professor Susana Vaz Nery with research team members and local collaborators during an engagement visit for the CoDe-STH study in Vietnam. **Above:** Dr Lucia Romani with community engagement team in Solomon Islands.

Through their study, over 120,000 doses of anti-worm drugs will be delivered at schools and communities in Dak Lak Province.

Associate Professfor Vaz Nery said currently, there is a lack of evidence from field-based research to support community-wide treatment programs. This study will contribute to filling this evidence gap and either confirm or refute the predictions from mathematical models about the effectiveness of a community-based approach. "We have a real opportunity to inform global policy and improve control of intestinal worm infections, to maximise the benefits for the communities where these infections are endemic," she said.

The research is a collaboration with the Tay Nguyen University (Vietnam), the Ministries of Health and Education in Vietnam, as well as the Erasmus MC Rotterdam (Netherlands), the Imperial College (United Kingdom), the University of Melbourne, Curtin University and the Australian National University.

Mass drug administration in the Pacific to control scabies and impetigo

Scabies, caused by tiny mites, is a debilitating skin condition leading to severe itching. If untreated it can lead to serious bacterial infections, not only of the skin but also of internal organ systems including the kidney and heart. It affects an estimated 200 million people worldwide.

Alongside other researchers and the Fiji Ministry of Health, the Kirby Institute co-led a world-first trial of mass drug administration in Fiji, which found that one round of ivermectin, an oral antiparasitic treatment, reduced the prevalence of scabies by 94 per cent one year after the intervention. The success of the trial in Fiji led to it being extended to the Solomon Islands, where ivermectin was offered together with azithromycin (an antibiotic used to control the blinding disease trachoma) to reduce the prevalence of both scabies and associated skin infection. Mass drug administration involves offering the medication, which has few side effects, to the entire population, regardless of whether or not they had the infection, to interrupt transmission.

"Mass drug administration has been used to successfully control other important parasitic and bacterial diseases around the world – we have shown it can be used for scabies too, and that its effect is long-lasting," said Dr Lucia Romani, the Kirby Institute lead on these projects.

The Solomon Islands arm of the trial was, at the time, the largest ever mass treatment conducted for the control of scabies and saw a reduction of almost 90 per cent in cases a year after treatment. Cases of impetigo decreased by 74 per cent.

The research is a collaboration between the Murdoch Children's Research Institute (MCRI), the Kirby Institute, the Solomon Islands Ministry of Health and Medical Services, and the London School of Hygiene and Tropical Medicine.

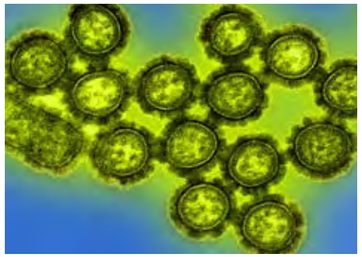
RESEARCH HIGHLIGHTS

COLLABORATION TO ELIMINATE SCABIES

$10 million has been awarded to a collaboration aimed at eliminating scabies through an initiative to be known as the World Scabies Program.

Dr Lucia Romani and Professor John Kaldor are in the leadership group of this collaboration. They have been working with ministries of health in Fiji and the Solomon Islands over more than a decade on projects to eliminate scabies. The projects have adopted the disease control strategy of mass drug administration, which involves treating an entire population for scabies at the same time, regardless of whether or not individuals have the infection. The studies showed that by treating the entire population, scabies infection reduced by up to 90%, providing the evidence base for future elimination projects.

The funds come from the Macquarie Group's 50th anniversary philanthropic commitment to address social need.



UNCOVERING GAPS IN OUR UNDERSTANDING OF INFLUENZA THERAPIES

A major international clinical trial conducted by researchers at the Kirby Institute at UNSW Sydney in collaboration with global partners in the INSIGHT network discovered that a treatment that was long assumed to improve the health of people with severe influenza infections, in fact, provides no clear clinical benefit. The results of the trial were published in *The Lancet Respiratory* and revealed crucial gaps in our understanding of immunotherapies to treat influenza.

"For one hundred years, the theory that immunoglobulin therapy was effective in treating influenza had not been properly tested. Now this rigorous randomised trial has shown it does not improve outcomes for people with the most common form of influenza," said Associate Professor Mark Polizzotto, Head of the Therapeutic and Vaccine Research Program at the Kirby Institute was the lead Australian author on the paper.

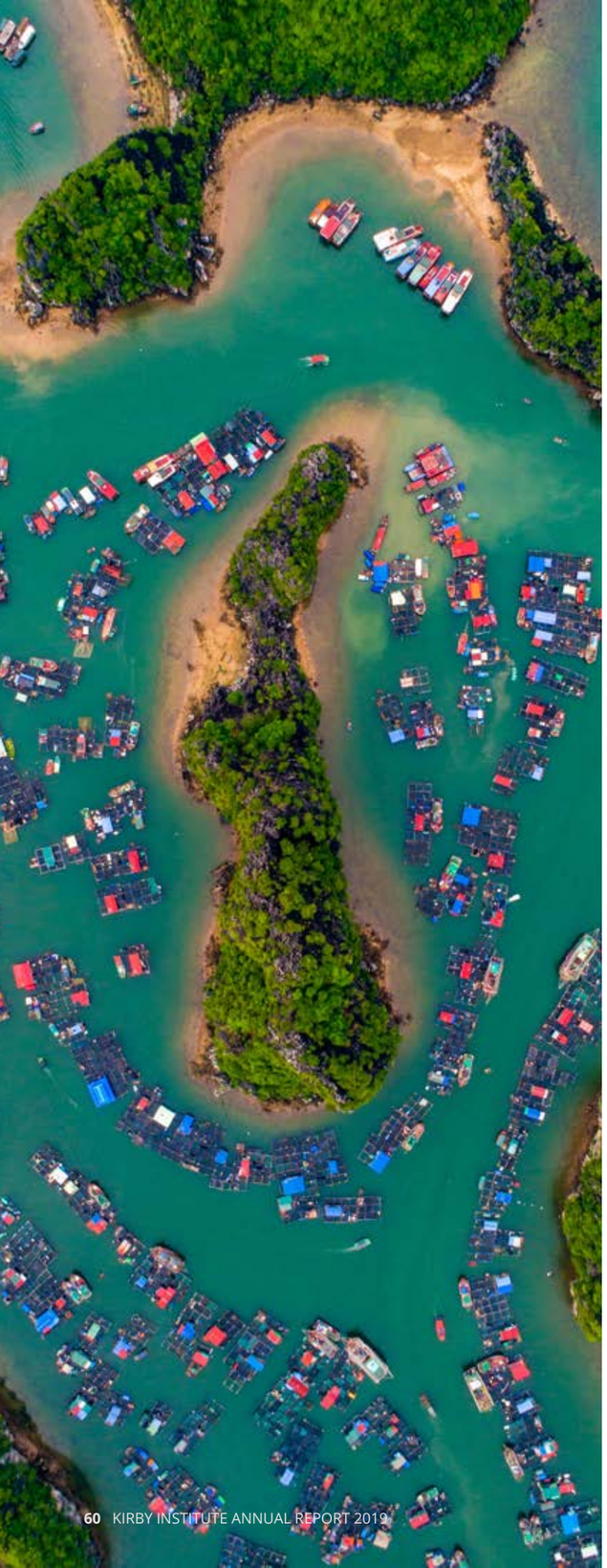
COLLABORATING FOR A NEW MALARIA TREATMENT

The Kirby Institute's Infection Analytics Program continues to uncover new information to inform the global response to malaria. In 2019, the team published a paper in PLoS Pathogens which found that even when a host is immune to malaria (because of a previous infection), parasites which reside inside red blood cells most of the time, are able essentially 'hide' and avoid being eliminate by the host. The immune responses seem to be able to attack the parasite only for the short time that it is 'outside' the red blood cell.

In 2019, the team also forged a new industry partnership through Medicines for Malaria Venture (MMV). MMV, a leading product development partnership, is playing a central role in the international effort to develop new antimalarial drugs. The Kirby Institute is working closely with MMV and their industry partners to design and analyse experimental data on the effectiveness of new antimalarial drugs, with the aim to better inform and accelerate the selection of promising candidate drugs for further development.

DR LUCIA ROMANI

Dr Lucia Romani was named as a finalist for the Griffith University Discovery Award, by Research Australia, Australia's peak advocacy body for health and medical research.
The Award honours early career researchers whose work has demonstrated its importance or impact on health outcomes. Dr Romani received the honour for her work leading the world's first comparative trial to show mass drug administration of ivermectin for scabies control produced far superior results than topical medication, with vast long-term improvements for residents in Fiji where scabies is a major health issue.



MAXIMISING IMPACT: HEALTH ECONOMICS AND HEALTH SYSTEMS RESEARCH

Much of the Kirby Institute's research is concerned with the best way to deliver a specific infectious disease treatment or preventative program to a range of populations and communities. But an expanding area of Kirby work is asking the pertinent question: how can we best allocate resources to ensure value for money from spending on infectious diseases?

Professor Virginia Wiseman leads health economics and health systems research at the Kirby Institute and runs UNSW's Health Economics Research Network, a growing program of health economics based at the university.

"The bottom line is that health resources are limited. There are not, and never will be, enough resources to satisfy all needs completely and trade-offs have to be made in regard to where to invest and where not to." she said. "Now, more than ever, the increasing pressure on scarce resources means that all investments in health will come under closer scrutiny."

Economic thinking also fuels health sector reform in many of the low- and middle-income countries where the Kirby Institute works.

"We have just received funding to conduct a trial and economic evaluation of a continuous quality improvement intervention to support HIV and syphilis testing in pregnancy in Indonesia, a country with high rates of antenatal care, but extremely low rates of antenatal screening and treatment for HIV and syphilis," said Professor Wiseman. Indonesia is committed to eliminating mother-to-child-transmission of HIV and syphilis but needs evidence of cost-effective and affordable solutions to meet this goal.

Professor Virginia Wiseman and the PINTAR team in Indonesia.

But health economists are not solely preoccupied with issues of efficiency. With collaborators from the University of Indonesia and the London School of Hygiene and Tropical Medicine, our health economists are using quantitative approaches such as financing and benefit incidence analysis to evaluate how equitable health financing systems in the Asia-Pacific are. This feeds into national and global monitoring of progress towards Universal Health Coverage. Professor Wiseman and her team are also exploring how to address major public health challenges such as Antimicrobial Resistance by engaging with the private sector. Her study evaluating cost-effective interventions to improve antibiotic dispensing by private drug sellers in Indonesia (the PINTAR study) is a good example of this.

"As the global population grows, and resources become more and more limited, the need for health economics and health systems research will only increase. But there is reason to be optimistic," said Professor Wiseman.

"Thanks to schemes such as UNSW's Scientia program, we have six PhD students in health economics and modelling who will help to build capacity in Australia, Indonesia, China, the Philippines and Papua New Guinea."

"We have to get the best out of health care spending. If health economics had a mantra, that would probably be it. Now more than ever we must do our best to fulfil this duty."

> ***"The bottom line is that health resources are limited. There are not, and never will be, enough resources to satisfy all needs completely and trade-offs have to be made in regard to where to invest and where not to."***
>
> **PROFESSOR VIRGINIA WISEMAN**
> **PROFESSOR, SURVEILLANCE EVALUATION AND RESEARCH PROGRAM, KIRBY INSTITUTE**

ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH

Some of our most important work starts at home. We work in close collaboration with Aboriginal and Torres Strait Islander health services on solutions for key health issues.

Image contains artwork commissioned by the Kirby Institute that reflects the culture and representation of Aboriginal and Torres Strait Islander sexual health issues, by proud Kamilaroi and Jerrinja woman, Jasmine Sarin.

Many infectious diseases impact Aboriginal and Torres Strait Islander peoples at higher rates than non-Indigenous Australians, particularly in rural and remote communities, where people experience systemic, structural challenges accessing services. Across the full spectrum of research disciplines at the Kirby Institute, our researchers work alongside Aboriginal and Torres Strait Islander community-controlled health organisations and government agencies that service Aboriginal communities to identify, develop and evaluate culturally appropriate interventions to prevent and treat infectious disease.

The photo above is of Griffith Aboriginal Medical Service, an Aboriginal Community Controlled Health Service located on Jondaryan Avenue in Griffith, New South Wales.

TALKING ABOUT SEXUAL HEALTH

Sexual health can be difficult to talk about and prioritise for anyone. But for many young Aboriginal people there are additional barriers of stigma, shame and inadequate access to and inappropriate design of health services which can make it even more complex to get the right care.

In recognition of local community skills, knowledge and expertise, Kirby Institute researchers are working with Aboriginal young people to enhance the design of sexual health services and programs.

"Aboriginal youth are the experts on their own lives and experiences," says Dr Stephen Bell, who is coordinating the project at the Kirby Institute. "Our research approach uses group activities, interviews and research translation workshops to engage young people as leaders in the design of better sexual health support centred around their lived experiences and standpoints."

Throughout the entire research journey Aboriginal young people are at the centre of process. They identify what is working and what isn't, and highlight aspects of services and outreach programs that can be adapted to enhance their use of these services.

The project, called Talking Story, has been underway since 2018, and this year, Kirby Institute researchers have been working with young people in the field to better understand their experiences with sexual health.

Bobby Whybrow (right) and Kate Whitford (left) have spent time on Wiradjuri Country working with local Aboriginal young people and sexual health services as part of the Talking Story project. The qualitative phase of the project, which involves in-depth conversations with the young people about their experiences and insights, will be completed in 2021.

Dr Bell says that this qualitative approach is crucial to ensuring that young people themselves are at the centre of developing programs and services that meet their needs and improve health. "Qualitative research with Aboriginal young people is based on having in-depth conversations to understand young people's own perspectives on their lives and experiences, and what can best improve the support they receive for sexual health issues,"said Dr Bell.

As well as understanding the experiences of young people, the project is also facilitating extensive training of Aboriginal health service providers and outreach officers to engage with their communities and peers on this important aspect of health.

Mr Bobby Whybrow, a Wiradjuri man who works at the Murrumbidgee Local Health District, took part in an 'Introduction to Qualitative Methods' course at the Kirby Institute in February 2019, and has since been undertaking research with Aboriginal young people across Wiradjuri Country to explore their understandings and experiences of sexual health. Building on his 15 years' experience working in Aboriginal health, justice, education and arts in NSW and Victoria with a heavy focus on sexual health, harm reduction and public health practice, Mr Whybrow says that this project has been an opportunity to hone his skills and interests working with Aboriginal young people.

"The training at the Kirby Institute was a great opportunity to work with the Kirby's qualitative researchers, as well as connect with other Aboriginal health and peer workers across the country," he said.

Importantly, Mr Whybrow said the project has also helped build bridges between Aboriginal young people, researchers and service providers.

"For many Aboriginal young people, especially in rural and remote communities, it can be challenging to discuss sexual health, let alone visit a sexual health clinic. But I think it helps when they're able to speak to someone they can identify with. Through our conversations, we've been able to identify some strategies that could work for regional young Aboriginal people to seek the services available to them if they experience symptoms, or if they have any questions or concerns about sexual health in its broadest sense, to enhance their wellbeing."

WORKING WITH LGBTQ YOUTH

Kirby Institute researchers are undertaking a new project to identify the needs of young sexually and gender diverse Aboriginal people aged 16–24 years around sexual health services and promotion in metropolitan and regional Australia.

Through confidential conversations, the researchers will identify how services might better meet the needs of Aboriginal LGBTQ young people, regardless of whether or not they are currently having sex, to ultimately support happier relationships and sexual experiences.

2019 PUBLICATIONS

Abayasingam A, Leung P, Eltahla A, Bull RA, Luciani F, Grebely J, Dore GJ, Applegate T, Page K, Bruneau J, Cox AL, Kim AY, Schinkel J, Shoukry NH, Lauer GM, Maher L, Hellard M, Prins M, Lloyd A, Rodrigo C. Genomic characterization of hepatitis C virus transmitted founder variants with deep sequencing. *Infection, Genetics and Evolution*, *71*, 36–41. doi:10.1016/j.meegid.2019.02.032

Adam DC. Report on the 2018 Acute Flaccid Myelitis Outbreaks in the USA. *Global Biosecurity*, *1*(1), 129–129. doi:10.31646/gbio.21

Adam DC, Scotch M, Macintyre CR. Phylodynamics of influenza A/H1N1pdm09 in India reveals circulation patterns and increased selection for clade 6b residues and other high mortality mutants. *Viruses*, *11*(9), 791. doi:10.3390/v11090791

Ahlenstiel CL, Turville SG. Delivery of gene therapy to resting immune cells for an HIV cure. *Current Opinion in HIV and AIDS*, *14*(2), 129–136. doi:10.1097/COH.0000000000000531

Ahn MY, Jiamsakul A, Khusuwan S, Khol V, Pham TT, Chaiwarith R, Avihingsanon A, Kumarasamy N, Wong WW, Kiertiburanakul S, Pujari S, Nguyen KV, Lee MP, Kamarulzaman A, Zhang F, Ditangco R, Merati TP, Yunihastuti E, Ng OT, Sim BLH, Tanuma J, Ratanasuwan W, Ross J, Choi JY. The influence of age-associated comorbidities on responses to combination antiretroviral therapy in older people living with HIV. *Journal of the International AIDS Society*, *22*(2). doi:10.1002/jia2.25228

Akter J, Khoury DS, Aogo R, Lansink LIM, SheelaNair A, Thomas BS, Laohamonthonkul P, Pernold CPS, Dixon MWA, Soon MSF, Fogg LG, Engel JA, Elliott T, Sebina I, James KR, Cromer D, Davenport MP, Haque A. Plasmodium-specific antibodies block in vivo parasite growth without clearing infected red blood cells. *PLoS Pathogens*, *15*(2). doi:10.1371/journal.ppat.1007599

Alavi M, Law MG, Dore GJ. Reply to: "Pitfalls in measuring temporal trends for late diagnosis of viral hepatitis". *Journal of Hepatology*, *71*(6), 1254–1255. doi:10.1016/j.jhep.2019.07.011Alavi M, Law MG, Valerio H, Grebely J, Amin J, Hajarizadeh B, Selvey C, George J, Dore GJ. Declining hepatitis C virus-related liver disease burden in the direct-acting antiviral therapy era in New South Wales, Australia. *Journal of Hepatology*, *71*(2), 281–288. doi:10.1016/j.jhep.2019.04.014

Alavi M, Poustchi H, Merat S, Kaveh-ei S, Rahimi-Movaghar A, Shadloo B, Hajarizadeh B, Grebely J, Dore GJ, Malekzadeh R. An intervention to improve HCV testing, linkage to care, and treatment among people who use drugs in Tehran, Iran: The ENHANCE study. *International Journal of Drug Policy*, *72*, 99–105. doi:10.1016/j.drugpo.2019.07.002

Albalawi O, Chowdhury NZ, Wand H, Allnutt S, Greenberg D, Adily A, Kariminia A, Schofield P, Sara G, Hanson S, O'Driscoll C, Butler T. Court diversion for those with psychosis and its impact on re-offending rates: results from a longitudinal data-linkage study. *BJPsych Open*, *5*(1). doi:10.1192/bjo.2018.71

Armstrong J, Adam D, Kunasekaran M, MacIntyre R, Nand D, Heslop D. Themes and correlations of participant experience and evaluation of an interactive bioterrorism release exercise – a mixed methods study. *Global Biosecurity*, *1*(2), 1–8. doi:10.31646/gbio.20

Artenie AA, Cunningham EB, Dore GJ, Conway B, Dalgard O, Powis J, Bruggmann P, Hellard M, Cooper C, Read P, Feld JJ, Hajarizadeh B, Amin J, Lacombe K, Stedman C, Litwin AH, Marks P, Matthews GV, Quiene S, Erratt A, Bruneau J, Grebely J. Patterns of Drug and Alcohol Use and Injection Equipment Sharing Among People With Recent Injecting Drug Use or Receiving Opioid Agonist Treatment During and Following Hepatitis C Virus Treatment With Direct-acting Antiviral Therapies: An International Study. *Clinical Infectious Diseases*, *70*(11), 2369–2376. doi:10.1093/cid/ciz633

Asante AD, Ir P, Jacobs B, Supon L, Liverani M, Hayen A, Jan S, Wiseman V. Who benefits from healthcare spending in Cambodia? Evidence for a universal health coverage policy. *Health Policy and Planning*, *34*, i4–i13. doi:10.1093/heapol/czz011

Asante AD, Jacobs B, Wiseman V. Transforming health systems financing in Lower Mekong: Making sure the poor are not left behind. *Health Policy and Planning*, *34*, i1–i3. doi:10.1093/heapol/czz098

Atefi D, McIver R, Bourne C. Missed opportunities for HIV pre-exposure prophylaxis during a rapid scale-up program at Sydney Sexual Health Centre. *Sexual Health*, *16*(6), 591–592. doi:10.1071/SH19032

Aw JYH, Clarke NE, McCarthy JS, Traub RJ, Amaral S, Huque MH, Andrews RM, Gray DJ, Clements ACA, Vaz Nery S. Giardia duodenalis infection in the context of a community-based deworming and water, sanitation and hygiene trial in Timor-Leste. *Parasites and Vectors*, *12*(1). doi:10.1186/s13071-019-3752-9

Badman S. Remote login software and other innovations to enhance scale-up of point-of-care HPV testing in high-burden, low-income settings. *Journal of Virus Eradication*, *5*(Suppl 1), 4–5. doi:10.1016/S2055-6640(20)30064-9

Bagaev DV, Vroomans RMA, Samir J, Stervbo U, Rius C, Dolton G, Greenshields-Watson A, Attaf M, Egorov ES, Zvyagin IV, Babel N, Cole DK, Godkin AJ, Sewell AK, Kesmir C, Chudakov DM, Luciani F, Shugay M. VDJdb in 2019: database extension, new analysis infrastructure and a T-cell receptor motif compendium. *Nucleic Acids Research*, *48*(D1), D1057–D1062. doi:10.1093/nar/gkz874

Baisley KJ, Seeley J, Siedner MJ, Koole K, Matthews P, Tanser F, Bärnighausen T, Smit T, Gareta D, Dlamini S, Herbst K, Yapa HM, Iwuji CC, Kim HY, Pillay D, Shahmanesh M. Findings from home-based HIV testing and facilitated linkage after scale-up of test and treat in rural South Africa: young people still missing. *HIV Medicine*, *20*(10), 704–708. doi:10.1111/hiv.12787

Bajis S, Grebely J, Cooper L, Smith J, Owen G, Chudleigh A, Hajarizadeh B, Martinello M, Adey S, Read P, Gilliver R, Applegate T, Treloar C, Maher L, Dore GJ. Hepatitis C virus testing, liver disease assessment and direct-acting antiviral treatment uptake and outcomes in a service for people who are homeless in Sydney, Australia: The LiveRLife homelessness study. *Journal of Viral Hepatitis*, *26*(8), 969–979. doi:10.1111/jvh.13112

Bajis S, Grebely J, Hajarizadeh B, Applegate T, Marshall AD, Ellen Harrod M, Byrne J, Bath N, Read P, Edwards M, Gorton C, Hayllar J, Cock V, Peterson S, Thomson C, Weltman M, Jefferies M, Wood W, Haber P, Ezard N, Martinello M, Maher L, Dore GJ, Peolim L, How-Chow D, Telenta J, Harvey P, Jones S, Dunlop A, Treloar C, Samuel Y, Poeder F, Crawford S, Baxter A, Keats J, Mowat Y, Silk D, Micallef M, Tamaddoni M, Marks P, Lamoury F, Jayasinghe I, Reid H, Cunningham EB, Bartlett S, Jacka B, Erratt A, Jauncey M, Collie P, Lam T, Gilliver R, Hazelwood S, Houlihan N, Burns C, Lewis R, Morris D, Donohue K, Carthew A, Horasak N, Cherry R, Shin S, Peterson D, Sellwood T, McKeown W, Pritchard-Jones J, Smyth F, Adey S, Clark K. Hepatitis C virus testing, liver disease assessment and treatment uptake among people who inject drugs pre- and post-universal access to direct-acting antiviral treatment in Australia: The LiveRLife study. *Journal of Viral Hepatitis*, *27*(3), 281–293. doi:10.1111/jvh.13233

Bao Y, Larney S, Peacock A, Colledge S, Grebely J, Hickman M, Degenhardt L, Leung J. Prevalence of HIV, HCV and HBV infection and sociodemographic characteristics of people who inject drugs in China: A systematic review and meta-analysis. *International Journal of Drug Policy*, *70*, 87–93. doi:10.1016/j.drugpo.2019.05.005

Barnes CE, MacIntyre CR. Risk modelling the mortality impact of antimicrobial resistance in secondary pneumococcal pneumonia infections during the 2009 influenza pandemic. *International Journal of Infectious Diseases*, *85*, 1–6. doi:10.1016/j.ijid.2019.05.005

Bartlett AW, Lumbiganon P, Jamal Mohamed TA, Lapphra K, Muktiarti D, Du QT, Hansudewechakul R, Ly PS, Truong KH, Van Nguyen L, Puthanakit T, Sudjaritruk T, Chokephaibulkit K, Do VC, Kumarasamy N, Nik Yusoff NK, Kurniati N, Fong MS, Wati DK, Nallusamy R, Sohn AH, Kariminia A. Dual Analysis of Loss to Follow-up for Perinatally HIV-Infected Adolescents Receiving Combination Antiretroviral Therapy in Asia. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *82*(5), 431–438. doi:10.1097/QAI.0000000000002184

Bartlett AW, Lumbiganon P, Kurniati N, Sudjaritruk T, Mohamed TJ, Hansudewechakul R, Ly PS, Truong KH, Puthanakit T, Nguyen LV, Chokephaibulkit K, Do VC, Kumarasamy N, Nik Yusoff NK, Fong MS, Watu DK, Nallusamy R, Sohn AH, Law MG, Khol V, Tucker J, Chandrasekaran E, Wati DK, Vedaswari D, Ramajaya IB, Muktiarti D, Lim M, Daut F, Mohamad P, Drawis MR, Chan KC, Sirisanthana V, Aurpibul L, Ounchanum P, Denjanta S, Kongphonoi A, Kosalaraksa P, Tharnprisan P, Udomphanit T, Jourdain G, Anugulruengkit S, Jantarabenjakul W, Nadsasarn R, Lapphra K, Phongsamart W, Sricharoenchai S, Du QT, Nguyen CH, Ha TM, An VT, Khu DTK, Pham AN, Nguyen LT, Le ON, Ross JL, Sethaputra C, Kariminia A. Use and Outcomes of Antiretroviral Monotherapy and Treatment Interruption in Adolescents With Perinatal HIV Infection in Asia. *Journal of Adolescent Health*, *65*(5), 651–659. doi:10.1016/j.jadohealth.2019.05.025

Bartlett SR, Applegate TL, Jacka BP, Martinello M, Lamoury FMJ, Danta M, Bradshaw D, Shaw D, Lloyd AR, Hellard M, Dore GJ, Matthews GV, Grebely J. A latent class approach to identify multi-risk profiles associated with phylogenetic clustering of recent hepatitis C virus infection in Australia and New Zealand from 2004 to 2015. *Journal of the International AIDS Society*, *22*(2). doi:10.1002/jia2.25222

Bartlett SR, Yu A, Chapinal N, Rossi C, Butt Z, Wong S, Darvishian M, Gilbert M, Wong J, Binka M, Alvarez M, Tyndall M, Krajden M, Janjua NZ. The population level care cascade for hepatitis C in British Columbia, Canada as of 2018: Impact of direct acting antivirals. *Liver International*, *39*(12), 2261–2272. doi:10.1111/liv.14227

Bavinton BR, Prestage GP, Jin F, Phanuphak N, Grinsztejn B, Fairley CK, Baker D, Hoy J, Templeton DJ, Tee BK, Kelleher A, Grulich AE. Strategies used by gay male HIV serodiscordant couples to reduce the risk of HIV transmission from anal intercourse in three countries. *Journal of the International AIDS Society*, *22*(4). doi:10.1002/jia2.25277

Bavinton BR, Rodger AJ. Undetectable viral load and HIV transmission dynamics on an individual and population level: Where next in the global HIV response? *Current Opinion in Infectious Diseases*, *33*(1), 20–27. doi:10.1097/QCO.0000000000000613

Beilharz JE, Paterson M, Fatt S, Wilson C, Burton A, Cvejic E, Lloyd A, Vollmer-Conna U. The impact of childhood trauma on psychosocial functioning and physical health in a non-clinical community sample of young adults. *Australian and New Zealand Journal of Psychiatry*, *54*(2), 185–194. doi:10.1177/0004867419881206

Bell SL, Tabe T, Bell S. Seeking a disability lens within climate change migration discourses, policies and practices. *Disability and Society*, *35*(4), 682–687. doi:10.1080/09687599.2019.1655856

Bertram KM, Tong O, Royle C, Turville SG, Nasr N, Cunningham AL, Harman AN. Manipulation of mononuclear phagocytes by HIV: Implications for early transmission events. *Frontiers in Immunology*, *10*. doi:10.3389/fimmu.2019.02263

Bhattacharjee S, Joshi R, Chughtai AA, Macintyre CR. Graphene Modified Multifunctional Personal Protective Clothing. *Advanced Materials Interfaces*, *6*(21), 1900622. doi:10.1002/admi.201900622

Bijker R, Jiamsakul A, Uy E, Kumarasamy N, Ditango R, Chaiwarith R, Wong WW, Avihingsanon A, Sun LP, Yunihastuti E, Pujari S, Do CD, Merati TP, Kantipong P, Nguyen KV, Kamarulzaman A, Zhang F, Lee MP, Choi JY, Tanuma J, Ng OT, Sim BLH, Ross J, Kiertiburanakul S, Ly PS, Ditangco R, Cuong DD, Sohn AH, Law MG. Cardiovascular disease-related mortality and factors associated with cardiovascular events in the TREAT Asia HIV Observational Database (TAHOD). *HIV Medicine*, *20*(3), 183–191. doi:10.1111/hiv.12687

Bijker R, Kumarasamy N, Kiertiburanakul S, Pujari S, Lam W, Chaiwarith R, Wong WW, Kamarulzaman A, Kantipong P, Avihingsanon A, Nguyen KV, Tanuma J, Ng OT, Sim BLH, Merati TP, Choi JY, Ditangco R, Yunihastuti E, Sun LP, Do CD, Ross J, Law M. Cardiovascular disease incidence projections in the TREAT Asia HIV Observational Database (TAHOD). *Antiviral Therapy*, *24*(4), 271–279. doi:10.3851/IMP3298

Bijker R, Kumarasamy N, Kiertiburanakul S, Pujari S, Sun LP, Ng OT, Lee MP, Choi JY, Nguyen KV, Chan YJ, Merati TP, Do CD, Ross J, Law M, Ly PS, Khol V, Li PCK, Lam W, Chan YT, Saghayam S, Ezhilarasi C, Joshi K, Gaikwad S, Chitalikar A, Wirawan DN, Yuliana F, Lim PL, Lee LS, Ferdous Z, Na S, Kim JM, Wong WW, Ku WW, Wu PC, Ngo AV, Nguyen LT, Bui HV, Nguyen DTH, Nguyen DT, Sohn AH, Ross JL, Petersen B, Jiamsakul A, Rupasinghe D, Law MG. Diabetes, mortality and glucose monitoring rates in the TREAT Asia HIV Observational Database Low Intensity Transfer (TAHOD-LITE) study. *HIV Medicine*, *20*(9), 615–623. doi:10.1111/hiv.12779

Blackshaw LCD, Chow EPF, Varma R, Healey L, Templeton DJ, Basu A, Turner D, Medland NA, Rix S, Fairley CK, Chen MY. Characteristics of recently arrived Asian men who have sex with men diagnosed with HIV through sexual health services in Melbourne and Sydney. *Australian and New Zealand Journal of Public Health*, *43*(5), 424–428. doi:10.1111/1753-6405.12926

Boettiger DC. Long-Acting Opioid Use Reporting. *Clinical Infectious Diseases*, *71*(5), 1355. doi:10.1093/cid/ciz1135

Boettiger DC, Salazar-Vizcaya L, Dore GJ, Gray RT, Law MG, Callander D, Lea T, Rauch A, Matthews GV. Can Australia Reach the World Health Organization Hepatitis C Elimination Goal by 2025 among Human Immunodeficiency Virus-positive Gay and Bisexual Men? *Clinical Infectious Diseases*, *70*(1), 106–113. doi:10.1093/cid/ciz164

Boyd MA, Boffito M, Castagna A, Estrada V. Rapid initiation of antiretroviral therapy at HIV diagnosis: definition, process, knowledge gaps. *HIV Medicine*, *20*, 3–11. doi:10.1111/hiv.12708

Brasher NA, Eltahla AA, Underwood A, Boo I, Rizzetto S, Walker MR, Rodrigo C, Luciani F, Maher L, Drummer HE, Tedla N, Lloyd AR, Bull RA. B cell immunodominance in primary hepatitis C virus infection. *Journal of Hepatology*, *72*(4), 670–679. doi:10.1016/j.jhep.2019.11.011

Brener L, Murphy DA, Ellard J, Cama E, Fraser N, Murray J. Knowledge, attitudes and practices related to hepatitis C among gay and bisexual men in the era of direct-acting antivirals: implications for treatment and prevention. *Culture, Health and Sexuality*, *22*(5), 551–567.080/13691058.2019.1615125

Bretaña NA, Gray RR, Cunningham EB, Betz-Stablein B, Ribeiro R, Graw F, Luciani F, Lloyd AR. Combined treatment and prevention strategies for hepatitis C virus elimination in the prisons in

New South Wales: a modelling study. *Addiction*, *115*(5), 901–913. doi:10.1111/add.14830

Brookfield S, Fitzgerald L, Selvey L, Maher L. Turning points, identity, and social capital: A meta-ethnography of methamphetamine recovery. *International Journal of Drug Policy*, *67*, 79–90. doi:10.1016/j.drugpo.2019.02.002

Brown A, Welzel TM, Conway B, Negro F, Bräu N, Grebely J, Puoti M, Aghemo A, Kleine H, Pugatch D, Mensa FJ, Chen YJ, Lei Y, Lawitz E, Asselah T. Adherence to pan-genotypic glecaprevir/pibrentasvir and efficacy in HCV-infected patients: A pooled analysis of clinical trials. *Liver International*, *40*(4), 778–786. doi:10.1111/liv.14266

Bulsara SM, Begley K, Smith DE, Chan DJ, Furner V, Coote KV, Hennessy RM, Alperstein DM, Price A, Smith M, Wyson A, Wand H. The development of an HIV-specific complexity rating scale. *International Journal of STD and AIDS*, *30*(13), 1265–1274. doi:10.1177/0956462419868359

Burns JE, Stirrup OT, Dunn D, Runcie-Unger I, Milinkovic A, Candfield S, Lukha H, Severn A, Waters L, Edwards S, Gilson R, Pett SL. No overall change in the rate of weight gain after switching to an integrase-inhibitor in virologically suppressed adults with HIV. *AIDS*, *34*(1), 109–114. doi:10.1097/QAD.0000000000002379

Callander D, Cook T, Read P, Hellard ME, Fairley CK, Kaldor JM, Vlahakis E, Pollack A, Bourne C, Russell DB, Guy RJ, Donovan B. Sexually transmissible infections among transgender men and women attending Australian sexual health clinics. *Medical Journal of Australia*, *211*(9), 406–411. doi:10.5694/mja2.50322

Carter A, Ford JV, Luetke M, Fu TC, Townes A, Hensel DJ, Dodge B, Herbenick D. "Fulfilling His Needs, Not Mine": Reasons for Not Talking About Painful Sex and Associations with Lack of Pleasure in a Nationally Representative Sample of Women in the United States. *Journal of Sexual Medicine*, *16*(12), 1953–1965. doi:10.1016/j.jsxm.2019.08.016

Carter A, Greene S, Money D, Sanchez M, Webster K, Nicholson V, Brotto LA, Hankins C, Kestler M, Pick N, Salters K, Proulx-Boucher K, O'Brien N, Patterson S, de Pokomandy A, Loutfy M, Kaida A, Abdul-Noor R, Anema A, Angel J, Bakombo DM, Barry F, Bauer G, Beaver K, Boucher M, Boucoiran I, Brophy J, Burchell A, Cardinal C, Cioppa L, Conway T, Côté J, Cotnam J, d'Ambrumenil C, Dayle J, Ding E, Dubuc D, Duddy J, Fernet M, Fraleigh A, Frank P, Gagnier B, Gagnon M, Gahagan J, Gasingirwa C, Gataric N, Gormley R, Groleau D, Guerlotté C, Hart T, Hawa R, Heer E, Hogg RS, Howard T, Islam S, Jean-Gilles J, Jefferis H, Jones E, Kaushic C, Kazemi M, Kiboyogo M, Klein M, Kronfli N, Kwaramba G, Lacasse G, Lacombe-Duncan A, Lee M, Lee R, Li J, Lima V, Lloyd-Smith E, Logie C, Maan E, Martel-Lafrenière V, Martin C, Masching R, Massie L, Medjuck M, Ménard B, Miller CL, Mitchell J, Mondragon G, Monteith K, Muchenje M, Mukandamutsa F, Ndung'u M, O'Brien K, Ogilvie G, Ogunnaike-Cooke S, Otis J, Parry R, Paul A, Peltier D, Pierre A, Powis J, Quan C, Rana J, Roth E, Rouleau D. Love with HIV: A Latent Class Analysis of Sexual and Intimate Relationship Experiences Among Women Living with HIV in Canada. *Archives of Sexual Behavior: an interdisciplinary research journal*, (), –. doi:10.1007/s10508-019-1418-5

Castillo-Mancilla JR, Phillips AN, Neaton JD, Neuhaus J, Sharma S, Baker JV, Collins S, Mannheimer S, Pett S, Touzeau-Römer V, Polizzotto MN, Lundgren JD, Gardner EM. Incomplete ART adherence is associated with higher inflammation in individuals who achieved virologic suppression in the START study. *Journal of the International AIDS Society*, *22*(6). doi:10.1002/jia2.25297

Catlett B, Carrera A, Starr M, Applegate TL, Lowe P, Philip Cunningham H, Grebely J. Performance evaluation of the Hologic Aptima HCV Quant Dx assay for detection of HCV RNA from dried blood spots. *Journal of Clinical Virology*, *112*, 40–44. doi:10.1016/j.jcv.2019.01.010

Catlett B, Lamoury FMJ, Bajis S, Hajarizadeh B, Martinez D, Mowat Y, Cunningham PH, Jacka BP, Cloherty GA, Marks P, Dore GJ, Grebely J, Applegate TL. Evaluation of a hepatitis C virus core antigen assay from venepuncture and dried blood spot collected samples: A cohort study. *Journal of Viral Hepatitis*, *26*(12), 1423–1430. doi:10.1111/jvh.13196

Charon J, Grigg MJ, Eden JS, Piera KA, Rana H, William T, Rose K, Davenport MP, Anstey NM, Holmes EC. Novel RNA viruses associated with Plasmodium vivax in human malaria and Leucocytozoon parasites in avian disease. *PLoS Pathogens*, *15*(12). doi:10.1371/journal.ppat.1008216

Chen MY, McNulty A, Avery A, Whiley D, Tabrizi SN, Hardy D, Das AF, Nenninger A, Fairley CK, Hocking JS, Bradshaw CS, Donovan B, Howden BP, Oldach D. Solithromycin versus ceftriaxone plus azithromycin for the treatment of uncomplicated genital gonorrhoea (SOLITAIRE-U): a randomised phase 3 non-inferiority trial. *Lancet Infectious Diseases*, *19*(8), 833–842. doi:10.1016/S1473-3099(19)30116-1

Chen W, Connor S, Gunathilake M. Men at risk of gonococcal urethritis: A case-control study in a Darwin sexual health clinic. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-4625-8

Chen X, Chughtai AA, MacIntyre CR. Recalibration of the Grunow–Finke Assessment Tool to Improve Performance in Detecting Unnatural Epidemics. *Risk Analysis: an international journal*, *39*(7), 1465–1475. doi:10.1111/risa.13255

Chow EPF, Grulich AE, Fairley CK. Epidemiology and prevention of sexually transmitted infections in men who have sex with men at risk of HIV. *Lancet HIV*, *6*(6), e396–e405. doi:10.1016/S2352-3018(19)30043-8

Chow EPF, Tabrizi SN, Fairley CK, Wigan R, Machalek DA, Regan DG, Hocking JS, Garland SM, Cornall AM, Atchison S, Bradshaw CS, McNulty A, Owen L, Marshall L, Russell DB, Kaldor JM, Chen MY. Prevalence of human papillomavirus in teenage heterosexual males following the implementation of female and male school-based vaccination in Australia: 2014–2017. *Vaccine*, *37*(46), 6907–6914. doi:10.1016/j.vaccine.2019.09.052

Chowdhury NZ, Albalawi O, Wand H, Adily A, Kariminia A, Allnutt S, Sara G, Dean K, Lappin J, O'Driscoll C, Grant L, Schofield PW, Greenberg D, Butler T. First diagnosis of psychosis in the prison: results from a data-linkage study. *BJPsych Open*, *5*(6). doi:10.1192/bjo.2019.74

Chronister KJ, Lothian R, Gilliver R, Kearley J, Read P. Feasibility and acceptability of adherence support for direct acting antiviral therapy for hepatitis C in a low-threshold primary health-care opioid agonist treatment program. *Drug and Alcohol Review*, *38*(2), 185–189. doi:10.1111/dar.12903

Chughtai AA, Stelzer-Braid S, Rawlinson W, Pontivivo G, Wang Q, Pan Y, Zhang D, Zhang Y, Li L, MacIntyre CR. Contamination by respiratory viruses on outer surface of medical masks used by hospital healthcare workers. *BMC Infectious Diseases*, *19*(491). doi:10.1186/s12879-019-4109-x

Cina M, Baumann L, Egli-Gany D, Halbeisen FS, Ali H, Scott P, Low N. Mycoplasma genitalium incidence, persistence, concordance between partners and progression: Systematic review and meta-analysis. *Sexually Transmitted Infections*, *95*(5), 328–335. doi:10.1136/sextrans-2018-053823

Clarke NE, Doi SAR, Wangdi K, Chen Y, Clements ACA, Nery SV. Efficacy of anthelminthic drugs and drug combinations against soil-transmitted helminths: A systematic review and network meta-analysis. *Clinical Infectious Diseases*, *68*(1), 96–105. doi:10.1093/cid/ciy423

Clarke NE, Ng-Nguyen D, Traub RJ, Clements ACA, Halton K, Anderson RM, Gray DJ, Coffeng LE, Kaldor JM, Vaz Nery S. A cluster-randomised controlled trial comparing school and community-based deworming for soil transmitted helminth control in school-age children: The CoDe-STH trial protocol. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-4449-6

Coles T, Simpson P, Saulo D, Kaldor J, Richards A, Levy M, Wake C, Siddall DA, Harrod ME, Kariminia A, Butler T. Trends in hepatitis B prevalence and associated risk factors among Indigenous and non-Indigenous prison entrants in Australia, 2004 to 2013. *Australian and New Zealand Journal of Public Health*, *43*(3), 236–240. doi:10.1111/1753-6405.12870

Colledge S, Larney S, Peacock A, Leung J, Hickman M, Grebely J, Farrell M, Degenhardt L. Depression, post-traumatic stress disorder, suicidality and self-harm among people who inject drugs: A systematic review and meta-analysis. *Drug and Alcohol Dependence*, *207*. doi:10.1016/j.drugalcdep.2019.107793

Colledge S, Peacock A, Leung J, Larney S, Grebely J, Hickman M, Cunningham E, Trickey A, Stone J, Vickerman P, Degenhardt L. The prevalence of non-fatal overdose among people who inject drugs: A multi-stage systematic review and meta-analysis. *International Journal of Drug Policy*, *73*, 172–184. doi:10.1016/j.drugpo.2019.07.030

Comninos NB, Garton L, Guy R, Callander D, Fairley CK, Grulich AE, Donovan B, Goddard SL, Rutherford A, Templeton DJ. Increases in pharyngeal Neisseria gonorrhoeae positivity in men who have sex with men, 2011-2015: observational study. *Sexually Transmitted Infections*, *96*(6), 432–435. doi:10.1136/sextrans-2019-054107

Comninos NB, Rix SE, Varma R, McNulty AM. Diagnosing lymphogranuloma venereum: two men taking HIV pre-exposure prophylaxis presenting with genital ulcer disease. *International Journal of STD and AIDS*, *30*(14), 1446–1449. doi:10.1177/0956462419878049

Cornelisse VJ, Williamson D, Zhang L, Chen MY, Bradshaw C, Hocking JS, Hoy J, Howden BP, Chow EPF, Fairley CK. Evidence for a new paradigm of gonorrhoea transmission: Cross-sectional analysis of Neisseria gonorrhoeae infections by anatomical site in both partners in 60 male couples. *Sexually Transmitted Infections*, *95*(6), 437–442. doi:10.1136/sextrans-2018-053803

Costantino V, Trent M, MacIntyre CR. Modelling of optimal timing for influenza vaccination as a function of intraseasonal waning of immunity and vaccine coverage. *Vaccine*, *37*(44), 6768–6775. doi:10.1016/j.vaccine.2019.08.069

Coupland H, White B, Bates A, Park JN, Iversen J, Maher L. Engaging people who inject drugs in hepatitis C virus testing and prevention through community-based outreach, in Sydney, Australia. *Drug and Alcohol Review*, *38*(2), 177–184. doi:10.1111/dar.12895

Cribb DM, Clarke NE, Doi SAR, Nery SV. Differential impact of mass and targeted praziquantel delivery on schistosomiasis control in school-aged children: A systematic review and meta-analysis. *PLoS Neglected Tropical Diseases*, *13*(10). doi:10.1371/journal.pntd.0007808

Cunningham EB, Hajarizadeh B, Amin J, Litwin AH, Gane E, Cooper C, Lacombe K, Hellard M, Read P, Powis J, Dalgard O, Bruneau J, Matthews GV, Feld JJ, Dillon JF, Shaw D, Bruggmann P, Conway B, Fraser C, Marks P, Dore GJ, Grebely J. Adherence to once-daily and twice-daily direct acting antiviral therapy for hepatitis C infection among people with recent injection drug use or current opioid agonist therapy. *Clinical Infectious Diseases*. doi:10.1093/cid/ciz1089

Cvejic E, Li H, Hickie IB, Wakefield D, Lloyd AR, Vollmer-Conna U. Contribution of individual psychological and psychosocial factors to symptom severity and time-to-recovery after naturally-occurring acute infective illness: The Dubbo Infection Outcomes Study (DIOS). *Brain, Behavior, and Immunity*, *82*, 76–83. doi:10.1016/j.bbi.2019.07.034

Cvejic E, Poynten IM, Kelly PJ, Jin F, Howard K, Grulich AE, Templeton DJ, Hillman RJ, Law C, Roberts JM, McCaffery K. Psychological and utility-based quality of life impact of screening test results for anal precancerous lesions in gay and bisexual men: Baseline findings from the Study of the Prevention of Anal Cancer. *Sexually Transmitted Infections*, *96*(3), 177–183. doi:10.1136/sextrans-2019-054098

Davey RT, Fernández-Cruz E, Markowitz N, Pett S, Babiker AG, Wentworth D, Khurana S, Engen N, Gordin F, Jain MK, Kan V, Polizzotto MN, Riska P, Ruxrungtham K, Temesgen Z, Lundgren J, Beigel JH, Lane HC, Neaton JD, Butts J, Denning E, DuChene A, Krum E, Harrison M, Meger S, Peterson R, Quan K, Shaughnessy M, Thompson G, Vock D, Metcalf J, Dewar R, Rehman T, Natarajan V, McConnell R, Flowers E, Smith K, Hoover M, Coyle EM, Munroe D, Aagaard B, Pearson M, Cursley A, Webb H, Hudson F, Russell C, Sy A, Purvis C, Jackson B, Collaco-Moraes Y, Carey D, Robson R, Sánchez A, Finley E, Conwell D, Losso MH, Gambardella L, Abela C, Lopez P, Alonso H, Touloumi G, Gioukari V, Anagnostou O, Avihingsanon A, Pussadee K, Ubolyam S, Omotosho B, Solórzano C, Petersen T, Vysyaraju K, Rizza SA, Whitaker JA, Nahra R, Baxter J, Coburn P, Gardner EM, Scott JA, Faber L, Pastor E, Makohon L, MacArthur RA, Hillman LM, Farrough MJ, Polenakovik HM, Clark LA, Colon RJ, Kunisaki KM, DeConcini M, Johnson SA, Wolfe CR, Mkumba L, Carbonneau JY, Morris A, Fitzpatrick ME, Kessinger CJ, Salata RA, Arters KA, Tasi CM, Panos RJ, Lach LA. Anti-influenza hyperimmune intravenous immunoglobulin for adults with influenza A or B infection (FLU-IVIG): a double-blind, randomised, placebo-controlled trial. *The Lancet Respiratory Medicine*, *7*(11), 951–963. doi:10.1016/S2213-2600(19)30253-X

David H, MacIntyre R. Germ line genome editing and the emerging struggle for supremacy in the Chemical, Biological and Radiological (CBR) balance of power. *Global Biosecurity*, *1*(1), 169–173. doi:10.31646/gbio.18

Davidson F, Heffernan E, Hamilton B, Greenberg D, Butler T, Burgess P. Benchmarking Australian mental health court liaison services–results from the first national study. *Journal of Forensic Psychiatry and Psychology*, *30*(5), 729–743. doi:10.1080/14789949.2019.1646788

Davies SC, Shapiro J, Comninos NB, Templeton DJ. Lymphogranuloma venereum presenting as penile ulcer in two HIV-negative gay men. *International Journal of STD and AIDS*, *30*(5), 515–518. doi:10.1177/0956462418821579

Day E, Broder T, Bruneau J, Cruse S, Dickie M, Fish S, Grillon C, Luhmann N, Mason K, McLean E, Trooskin S, Treloar C, Grebely J. Priorities and recommended actions for how researchers, practitioners, policy makers, and the affected community can work together to improve access to hepatitis C care for people who use drugs. *International Journal of Drug Policy*, *66*, 87–93. doi:10.1016/j.drugpo.2019.01.012

de Visser R, Richters J, Rissel C, Grulich A, Simpson J, Rodrigues D, Lopes D. Romantic Jealousy: A Test of Social Cognitive and Evolutionary Models in A Population-Representative Sample of Adults. *Journal of Sex Research*, *57*(4), 498–507. doi:10.1080/00224499.2019.1613482

Degenhardt L, Grebely J, Stone J, Hickman M, Vickerman P, Marshall BDL, Bruneau J, Altice FL, Henderson G, Rahimi-Movaghar A, Larney S. Global patterns of opioid use and dependence: harms to populations, interventions, and future action. *The Lancet*, *394*(10208), 1560–1579. doi:10.1016/S0140-6736(19)32229-9

Deleage C, Immonen TT, Fennessey CM, Reynaldi A, Reid C, Newman L, Lipkey L, Schlub TE, Camus C, O'Brien S, Smedley J, Conway JM, Del Prete GQ, Davenport MP, Lifson JD, Estes JD, Keele BF. Defining early SIV replication and dissemination dynamics following vaginal transmission. *Science Advances*, *5*(5). doi:10.1126/sciadv.aav7116

Dharan NJ, Radovich T, Che S, Petoumenos K, Juneja P, Law M, Huang R, McManus H, Polizzotto MN, Guy R, Cronin P, Cooper DA, Gray RT. Comorbidity Medications Are Dispensed to More People Receiving Antiretroviral Therapy for HIV Compared with the General Population in Australia. *AIDS Research and Human Retroviruses*, *36*(4), 291–296. doi:10.1089/aid.2019.0117

Dharan NJ, Radovich T, Che S, Petoumenos K, Juneja P, Law M, Huang R, McManus H, Polizzotto MN, Guy R, Cronin P, Cooper DA, Gray RT. HIV treatment regimens and adherence to national guidelines in Australia: An analysis of dispensing data from the Australian pharmaceutical benefits scheme. *BMC Public Health*, *19*(13). doi:10.1186/s12889-018-6325-5

Di Giallonardo F, Pinto AN, Keen P, Shaik A, Carrera A, Salem H, Telfer B, Cooper C, Price K, Selvey C, Holden J, Bachmann N, Lee FJ, Dwyer DE, Duchêne S, Holmes EC, Grulich AE, Kelleher AD. Limited sustained local transmission of HIV-1 CRF01_AE in New South Wales, Australia. *Viruses*, *11*(5), 482–. doi:10.3390/v11050482

Dietze P, Jauncey M, Salmon A, Mohebbi M, Latimer J, van Beek I, McGrath C, Kerr D. Effect of Intranasal vs Intramuscular Naloxone on Opioid Overdose: A Randomized Clinical Trial. *JAMA Network Open*, *2*(11), e1914977. doi:10.1001/jamanetworkopen.2019.14977

Dinh K, Worth H, Haire B. Buddhist evaluation: Applying a Buddhist world view to the Most Significant Change Technique. *Evaluation: international journal of theory, research and practice*, *25*(4), 477–495. doi:10.1177/1356389019841654

Dinh K, Worth H, Haire B, Hong KT. Confucian Evaluation: Reframing Contribution Analysis Using a Confucian Lens. *American Journal of Evaluation*, *40*(4), 562–574. doi:10.1177/1098214018813008

Dore GJ. HCV reinfection as a positive indication of high-risk population treatment access. *Journal of Viral Hepatitis*, *26*(5), 516–518. doi:10.1111/jvh.13092

Dore GJ, Feld JJ, Thompson A, Martinello M, Muir AJ, Agarwal K, Müllhaupt B, Wedemeyer H, Lacombe K, Matthews GV, Schultz M, Klein M, Hezode C, Mercade GE, Kho D, Petoumenos K, Marks P, Tatsch F, Dos Santos AGP, Gane E. Simplified monitoring for hepatitis C virus treatment with glecaprevir plus pibrentasvir, a randomised non-inferiority trial. *Journal of Hepatology*, *72*(3), 431–440. doi:10.1016/j.jhep.2019.10.010

Drak D, Barratt H, Templeton DJ, O'Connor CC, Gracey DM. Renal function and risk factors for renal disease for patients receiving HIV preexposure prophylaxis at an inner metropolitan health service. *PLoS One*, *14*(1), e0210106. doi:10.1371/journal.pone.0210106

Du Toit SHJ, Withall A, O'Loughlin K, Ninaus N, Lovarini M, Snoyman P, Butler T, Forsyth K, Surr CA. Best care options for older prisoners with dementia: A scoping review. *International Psychogeriatrics*, *31*(8), 1081–1097. doi:10.1017/S1041610219000681

Dyda A, Karki S, Kong M, Gidding HF, Kaldor JM, McIntyre P, Banks E, MacIntyre CR, Liu B. Influenza vaccination coverage in a population-based cohort of Australian-born Aboriginal and non-Indigenous older adults. *Communicable Diseases Intelligence*, *43*. doi:10.33321/cdi.2019.43.30

Ekenberg C, Tang MH, Zucco AG, Murray DD, Macpherson CR, Hu X, Sherman BT, Losso MH, Wood R, Paredes R, Molina JM, Helleberg M, Jina N, Kityo CM, Florence E, Polizzotto MN, Neaton JD, Lane HC, Lundgren JD. Association between Single-Nucleotide Polymorphisms in HLA Alleles and Human Immunodeficiency Virus Type 1 Viral Load in Demographically Diverse, Antiretroviral Therapy-Naive Participants from the Strategic Timing of AntiRetroviral Treatment Trial. *Journal of Infectious Diseases*, *220*(8), 1325–1334. doi:10.1093/infdis/jiz294

Ekeroma A, Dyer R, Palafox N, Maoate K, Skeen J, Foliaki S, Vallely AJ, Fong J, Hibma M, Mola G, Reichhardt M, Taulung L, Aho G, Fakakovikaetau T, Watters D, Toliman PJ, Buenconsejo-Lum L, Sarfati D. Cancer management in the Pacific region: a report on innovation and good practice. *The Lancet Oncology*, *20*(9), e493–e502. doi:10.1016/S1470-2045(19)30414-0

Elliott SR, Betts S, Hobbs K, Wand H, Rumbold AR, Ward J, Johnson DR. Analysis of diagnostic data for sexually transmissible infections in South Australian Aboriginal Community Controlled Health Services (2008-16). *Sexual Health*, *16*(6), 566–573. doi:10.1071/SH18189

Engelman D, Cantey PT, Marks M, Solomon AW, Chang AY, Chosidow O, Enbiale W, Engels D, Hay RJ, Hendrickx D, Hotez PJ, Kaldor JM, Kama M, Mackenzie CD, McCarthy JS, Martin DL, Mengistu B, Maurer T, Negussu N, Romani L, Sokana O, Whitfeld MJ, Fuller LC, Steer AC. The public health control of scabies: priorities for research and action. *The Lancet*, *394*(10192), 81–92. doi:10.1016/S0140-6736(19)31136-5

Fan S, Yang Z, Hou F, Yu M, Luo Z, Liao M, Gong Y, Meng X, Cai Y, Zou H. HIV and syphilis and sexual risk behaviours among men who have sex with men attending university in China: A systematic review and meta-analysis. *Sexual Health*, *16*(6), 554–565. doi:10.1071/SH18231

Fatt SJ, Beilharz JE, Joubert M, Wilson C, Lloyd AR, Vollmer-Conna U, Cvejic E. Parasympathetic activity is reduced during slow-wave sleep, but not resting wakefulness, in patients with chronic fatigue syndrome. *The Journal of Clinical Sleep Medicine*, *16*(1), 19–28. doi:10.5664/JCSM.8114

Fatt SJ, Cvejic E, Lloyd AR, Vollmer-Conna U, Beilharz JE. The Invisible Burden of Chronic Fatigue in the Community: a Narrative Review. *Current Rheumatology Reports*, *21*(2), 5. doi:10.1007/s11926-019-0804-2

Feeney L, Poynten M, Jin FJ, Cooper C, Templeton DJ, O'Dwyer MR, Grulich A, Hillman RJ. Awareness and knowledge of anal cancer in a community-recruited sample of HIV-negative and HIV-positive gay and bisexual men. *Sexual Health*, *16*(3), 240–246. doi:10.1071/SH18219

Feng Q, Zhou A, Zou H, Ingle S, May MT, Cai W, Cheng CY, Yang Z, Tang J. Quadruple versus triple combination antiretroviral therapies for treatment naive people with HIV: Systematic review and meta-analysis of randomised controlled trials. *BMJ: British Medical Journal*, *366*. doi:10.1136/bmj.l4179

Folayan MO, Haire B, Noseda V. Pre-Exposure Prophylaxis for Mitigating Risk of HIV Transmission During HIV Cure–Related Clinical Trials With a Treatment Interruption. *Journal of Infectious Diseases*, *2019*(220). doi:10.1093/infdis/jiz263

Ford BK, Kong M, Ward JS, Hocking JS, Fairley CK, Donovan B, Lorch R, Spark S, Law M, Kaldor J, Guy R. Incomplete recording of Indigenous identification status under-estimates the prevalence of Indigenous population attending Australian general practices: A cross sectional study. *BMC Health Services Research*, *19*(1). doi:10.1186/s12913-019-4393-6

Fortier E, Artenie AA, Zang G, Jutras-Aswad D, Roy É, Grebely J, Bruneau J. Short and sporadic injecting cessation episodes as predictors of incident hepatitis C virus infection: findings from a cohort study of people who inject drugs in Montréal, Canada. *Addiction*, *114*(8), 1495–1503. doi:10.1111/add.14632

Fortier E, Sylvestre MP, Artenie AA, Minoyan N, Jutras-Aswad D, Roy É, Grebely J, Bruneau J. Associations between housing stability and injecting frequency fluctuations: findings from a cohort of people who inject drugs in Montréal, Canada. *Drug and Alcohol Dependence*, *206*. doi:10.1016/j.drugalcdep.2019.107744

Geddes L, Iversen J, Wand H, Esmaeili A, Tsui J, Hellard M, Dore G, Grebely J, Dietze P, Bruneau J, Prins M, Morris MD, Shoukry NH, Lloyd AR, Kim AY, Lauer G, Cox AL, Page K, Maher L. Sex Discrepancies in the Protective Effect of Opioid Agonist Therapy on Incident Hepatitis C Infection. *Clinical Infectious Diseases*, *70*(1), 123–131. doi:10.1093/cid/ciz162

Gerstl B, Sullivan E, Koch J, Wand H, Ives A, Mitchell R, Hamad N, Anazodo A. Reproductive outcomes following a stem cell transplant for a haematological malignancy in female cancer survivors: a systematic review and meta-analysis. *Supportive Care in Cancer*, *27*(12), 4451–4460. doi:10.1007/s00520-019-05020-8Gerstl B, Sullivan E, Vallejo M, Koch J, Johnson M, Wand H, Webber K, Ives A, Anazodo A. Reproductive outcomes following treatment for a gynecological cancer diagnosis: a systematic review. *Journal of Cancer Survivorship*, *13*(2), 269–281. doi:10.1007/s11764-019-00749-x

Ghazi L, Baker JV, Sharma S, Jain MK, Palfreeman A, Necsoi C, Murray DD, Neaton JD, Drawz PE. Role of inflammatory biomarkers in the prevalence and incidence of hypertension among HIV-positive participants in the START trial. *American Journal of Hypertension*, *33*(1), 43–52. doi:10.1093/ajh/hpz132

Giles ML, Macphail A, Bell C, Bradshaw CS, Furner V, Gunathilake M, John M, Krishnaswamy S, Martin SJ, Ooi C, Owen L, Russell D, Street A, Post JJ. A national study of the clinical management of HIV-positive women in Australia: What are the successes and where are the gaps? *Sexual Health*, *16*(3), 282–288. doi:10.1071/SH18070

Giles ML, MacPhail A, Bell C, Bradshaw CS, Furner V, Gunathilake M, John M, Krishnaswamy S, Martin SJ, Ooi C, Owen L, Russell D, Street A, Post JJ. The barriers to linkage and retention in care for women living with HIV in an high income setting where they comprise a minority group. *AIDS Care: psychological and socio-medical aspects of AIDS-HIV*, *31*(6), 730–736. doi:10.1080/09540121.2019.1576843

Goddard SL, Poynten IM, Petoumenous K, Jin F, Hillman RJ, Law C, Roberts JM, Fairley CK, Garland SM, Grulich AE, Templeton DJ. Prevalence, incidence and predictors of anal Chlamydia trachomatis, anal Neisseria gonorrhoeae and syphilis among older gay and bisexual men in the longitudinal Study for the Prevention of Anal Cancer (SPANC). *Sexually Transmitted Infections*, *95*(7), 477–483. doi:10.1136/sextrans-2019-054011

Goller JL, Fairley CK, De Livera AM, Chen MY, Bradshaw CS, Chow EPF, Guy R, Hocking JS. Trends in diagnosis of pelvic inflammatory disease in an Australian sexual health clinic, 2002-16: Before and after clinical audit feedback. *Sexual Health*, *16*(3), 247–253. doi:10.1071/SH18119

Gormley R, Lin SY, Carter A, Nicholson V, Webster K, Martin RE, Milloy MJ, Pick N, Howard T, Wang L, de Pokomandy A, Loutfy M, Kaida A, Abdul-Noor R, Anema A, Angel J, Bakombo DM, Barry F, Bauer G, Beaver K, Boucher M, Boucoiran I, Brophy J, Brotto L, Burchell A, Cardinal C, Carter A, Cioppa L, Conway T, Côté J, Cotnam J, d'Ambrumenil C, Dayle J, Ding E, Dubuc D, Duddy J, Fernet M, Fraleigh A, Frank P, Gagnier B, Gagnon M, Gahagan J, Gasingirwa C, Gataric N, Greene S, Groleau D, Guerlotté C, Hart T, Hankins C, Hawa R, Heer E, Hogg RS, Islam S, Jean-Gilles J, Jefferis H, Jones E, Kaushic C, Kazemi M, Kestler M, Kiboyogo M, Klein M, Kronfli N, Kwaramba G, Lacasse G, Lacombe-Duncan A, Lee M, Lee R, Li J, Lima V, Lloyd-Smith E, Logie C, Maan E, Martel-Lafrenière V, Martin C, Masching R, Massie L, Medjuck M, Ménard B, Miller CL, Mitchell J, Mondragon G, Money D, Monteith K, Muchenje M, Mukandamutsa F, Ndung'u M, O'Brien K, O'Brien N, Ogilvie G, Ogunnaike-Cooke S, Otis J, Parry R, Patterson S, Paul A, Peltier D, Pierre A. Social Determinants of Health and Retention in HIV Care Among Recently Incarcerated Women Living with HIV in Canada. *AIDS and Behavior*, *24*(4), 1212–1225. doi:10.1007/s10461-019-02666-7

Grant JS, Stafylis C, Celum C, Grennan T, Haire B, Kaldor J, Luetkemeyer AF, Saunders JM, Molina J-M, Klausner JD. Doxycycline prophylaxis for bacterial sexually transmitted infections. *Clinical Infectious Diseases*, *70*(6), 1247–1253. doi:10.1093/cid/ciz866

Gray RT, Callander D, Hocking JS, McGregor S, McManus H, Dyda A, Moreira C, Braat S, Hengel B, Ward J, Wilson DP, Donovan B, Kaldor JM, Guy RJ. Population-level diagnosis and care cascade for chlamydia in Australia. *Sexually Transmitted Infections*, *96*(2), 131–136. doi:10.1136/sextrans-2018-053801

Grebely J, Dore GJ, Alami NN, Conway B, Dillon JF, Gschwantler M, Felizarta F, Hézode C, Tomasiewicz K, Fredrick LM, Dumas EO, Mensa FJ. Safety and efficacy of glecaprevir/pibrentasvir in patients with chronic hepatitis C genotypes 1–6 receiving opioid substitution therapy. *International Journal of Drug Policy*, *66*, 73–79. doi:10.1016/j.drugpo.2019.01.011

Grebely J, Hajarizadeh B, Lazarus JV, Bruneau J, Treloar C. Elimination of hepatitis C virus infection among people who use drugs: Ensuring equitable access to prevention, treatment, and care for all. *International Journal of Drug Policy*, *72*, 1–10. doi:10.1016/j.drugpo.2019.07.016

Grebely J, Larney S, Peacock A, Colledge S, Leung J, Hickman M, Vickerman P, Blach S, Cunningham EB, Dumchev K, Lynskey M, Stone J, Trickey A, Razavi H, Mattick RP, Farrell M, Dore GJ, Degenhardt L. Global, regional, and country-level estimates of hepatitis C infection among people who have recently injected drugs. *Addiction*, *114*(1), 150–166. doi:10.1111/add.14393

Gunaratnam P, Heywood AE, McGregor S, Jamil MS, McManus H, Mao L, Lobo R, Brown G, Hellard M, Marukutira T, Bretaña NA, Lang C, Medland N, Bavinton B, Grulich A, Guy R. HIV diagnoses in migrant populations in Australia—A changing epidemiology. *PLoS One*, *14*(2). doi:10.1371/journal.pone.0212268

Gunaratnam P, Schierhout G, Brands J, Maher L, Bailie R, Ward J, Guy R, Rumbold A, Ryder N, Fairley CK, Donovan B, Moore L, Kaldor J, Bell S. Qualitative perspectives on the sustainability of sexual health continuous quality improvement in clinics serving remote Aboriginal communities in Australia. *BMJ Open*, *9*(5). doi:10.1136/bmjopen-2018-026679

Gupta S, Ramsay P, Mola G, McGeechan K, Bolnga J, Kelly-Hanku A, Black KI. Impact of the contraceptive implant on maternal and neonatal morbidity and mortality in rural Papua New Guinea: a retrospective observational cohort study. *Contraception*, *100*(1), 42–47. doi:10.1016/j.contraception.2019.03.042

Guthridge I, Smith S, Horne P, Hanson J. Increasing prevalence of methicillin-resistant Staphylococcus aureus in remote Australian communities: implications for patients and clinicians. *Pathology*, *51*(4), 428–431. doi:10.1016/j.pathol.2018.11.015

Hajarizadeh B, Cunningham EB, Valerio H, Martinello M, Law M, Janjua NZ, Midgard H, Dalgard O, Dillon J, Hickman M, Bruneau J, Dore GJ, Grebely J. Hepatitis C reinfection after successful antiviral treatment among people who inject drugs: A meta-analysis. *Journal of Hepatology*, *72*(4), 643–657. doi:10.1016/j.jhep.2019.11.012

Hakim AJ, Badman SG, Weikum D, Amos A, Willie B, Narokobi R, Gabuzzi J, Pekon S, Kupul M, Hou

P, Aeno H, Neo Boli R, Nembari J, Ase S, Kaldor JM, Vallely AJ, Kelly-Hanku A. Considerable distance to reach 90-90-90 targets among female sex workers, men who have sex with men and transgender women in Port Moresby, Papua New Guinea: Findings from a cross-sectional respondent-driven sampling survey. *Sexually Transmitted Infections*, *96*(2), 143–150. doi:10.1136/sextrans-2019-053961

Hakim AJ, Coy K, Badman SG, Willie B, Narokobi R, Gabuzzi J, Pekon S, Kupul M, Hou P, Aeno H, Boli RN, Nembari J, Ase S, Amos A, Dala N, Weikum D, Callens S, Kaldor JM, Vallely AJ, Kelly-Hanku A. One size does not fit all: HIV prevalence and correlates of risk for men who have sex with men, transgender women in multiple cities in Papua New Guinea. *BMC Public Health*, *19*(1). doi:10.1186/s12889-019-6942-7

Hammoud MA, Jin F, Maher L, Bourne A, Haire B, Saxton P, Vaccher S, Lea T, Degenhardt L, Prestage G. Biomedical HIV Protection Among Gay and Bisexual Men Who Use Crystal Methamphetamine. *AIDS and Behavior*, *24*(5), 1400–1413. doi:10.1007/s10461-019-02739-7

Hammoud MA, Vaccher S, Jin F, Bourne A, Maher L, Holt M, Bavinton BR, Haire B, Degenhardt L, Grulich A, Prestage GP. HIV pre-exposure prophylaxis (PrEP) uptake among gay and bisexual men in Australia and factors associated with the non-use of PrEP among eligible men. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *81*(3), 1–1. doi:10.1097/qai.0000000000002047

Han WM, Jiamsakul A, Kiertiburanakul S, Ng OT, Sim BLH, Sun LP, Van Nguyen K, Choi JY, Lee MP, Wong WW, Kamarulzaman A, Kumarasamy N, Zhang F, Tanuma J, Do CD, Chaiwarith R, Merati TP, Yunihastuti E, Pujari S, Ditangco R, Khusuwan S, Ross J, Avihingsanon A. Diabetes mellitus burden among people living with HIV from the Asia-Pacific region. *Journal of the International AIDS Society*, *22*(1). doi:10.1002/jia2.25236

Han WM, Jiamsakul A, Kiertiburanakul S, Ross J, Avihingsanon A. Response to Screening of diabetes mellitus among people living with HIV – a comment on "Diabetes mellitus burden among people living with HIV from the Asia-Pacific region" (Han et al. 2019). *Journal of the International AIDS Society*, *22*(6). doi:10.1002/jia2.25334

Hanson J, Smith S. High rates of premature and potentially preventable death among patients surviving melioidosis in Tropical Australia. *American Journal of Tropical Medicine and Hygiene*, *101*(2), 328–331. doi:10.4269/ajtmh.19-0375

Hatleberg CI, Ryom L, Kamara D, De Wit S, Law M, Phillips A, Reiss P, D'Arminio Monforte A, Mocroft A, Pradier C, Kirk O, Kovari H, Bonnet F, El-Sadr W, Lundgren JD, Sabin C. Predictors of Ischemic and Hemorrhagic Strokes Among People Living With HIV: The D:A:D International Prospective Multicohort Study. *EClinicalMedicine*, *13*, 91–100. doi:10.1016/j.eclinm.2019.07.008

He S, Lockart I, Alavi M, Danta M, Hajarizadeh B, Dore GJ. Systematic review with meta-analysis: effectiveness of direct-acting antiviral treatment for hepatitis C in patients with hepatocellular carcinoma. *Alimentary Pharmacology and Therapeutics*, *51*(1), 34–52. doi:10.1111/apt.15598

He WQ, Duong MC, Gidding H, MacLachlan J, Wood J, Kaldor JM, Liu B. Trends in chronic hepatitis B prevalence in Australian women by country of birth, 2000 to 2016. *Journal of Viral Hepatitis*, *27*(1), 74–80. doi:10.1111/jvh.13202

Hempenstall AJ, Smith S, Stanton D, Hanson J. Melioidosis in the torres Strait Islands, Australia: Exquisite interplay between pathogen, host, and environment. *American Journal of Tropical Medicine and Hygiene*, *100*(3), 517–521. doi:10.4269/ajtmh.18-0806

Hill AO, Bavinton BR, Armstrong G. Prevalence and correlates of lifetime and recent HIV testing among men who have sex with men (MSM) who use mobile geo-social networking applications in Greater Tokyo. *PLoS One*, *14*(1), e0209933. doi:10.1371/journal.pone.0209933

Hoad VC, Guy RJ, Seed CR, Harley R. Tattoos, blood-borne viruses and blood donors: a blood donor cohort and risk assessment. *Vox Sanguinis: International Journal of Transfusion Medicine*, *114*(7), 687–693. doi:10.1111/vox.12832

Houghton R, Knight V, Clifton B, Varma R. Early initiation of antiretroviral therapy (ART): From point-of-care test to ART at a peer-led community-based testing site in Sydney. *Sexual Health*, *16*(1), 94–95. doi:10.1071/SH18094

Huang R, Liu N, Nicdao MA, Mikaheal M, Baldacchino T, Albeos A, Petoumenos K, Sud K, Kim J. Emotion sharing in remote patient monitoring of patients with chronic kidney disease. *Journal of the American Medical Informatics Association*, *27*(2), 185–193. doi:10.1093/jamia/ocz183

Immonen TT, Camus C, Reid C, Fennessey CM, Del Prete GQ, Davenport MP, Lifson JD, Keele BF. Genetically barcoded SIV reveals the emergence of escape mutations in multiple viral lineages during immune escape. *Proceedings of the National Academy of Sciences of USA*, *117*(1), 494–502. doi:10.1073/pnas.1914967117

Ir P, Jacobs B, Asante AD, Liverani M, Jan S, Chhim S, Wiseman V. Exploring the determinants of distress health financing in Cambodia. *Health Policy and Planning*, *34*, i26–i37. doi:10.1093/heapol/czz006

Jacka B, Kemp R, Degenhardt L, Peacock A, Clare P, Bruno R, Dev A, Sotade O, Larance B. Trends in methamphetamine and opioid use among clients of needle-syringe programs in Queensland, Australia: 2007–2015. *Drug and Alcohol Review*, *38*(2), 159–168. doi:10.1111/dar.12908

Jacka B, Larney S, Degenhardt L, Janjua N, Høj S, Krajden M, Grebely J, Bruneau J. Prevalence of injecting drug use and coverage of interventions to prevent HIV and hepatitis C virus infection among people who inject drugs in Canada. *American Journal of Public Health*, *110*(1), 45–50. doi:10.2105/AJPH.2019.305379

Jayasundara P, Regan DG, Seib KL, Jayasundara D, Wood JG. Modelling the in-host dynamics of Neisseria gonorrhoeae infection. *Pathogens and Disease*, *77*(1). doi:10.1093/femspd/ftz008

Jesson J, Schomaker M, Malasteste K, Wati DK, Kariminia A, Sylla M, Kouadio K, Sawry S, Mubiana-Mbewe M, Ayaya S, Vreeman R, McGowan CC, Yotebieng M, Leroy V, Davies MA. Stunting and growth velocity of adolescents with perinatally acquired HIV: differential evolution for males and females. A multiregional analysis from the IeDEA global paediatric collaboration. *Journal of the International AIDS Society*, *22*(11). doi:10.1002/jia2.25412

Jiamsakul A, Kiertiburanakul S, Ng OT, Chaiwarith R, Wong W, Ditangco R, Nguyen KV, Avihingsanon A, Pujari S, Do CD, Lee MP, Ly PS, Yunihastuti E, Kumarasamy N, Kamarulzaman A, Tanuma J, Zhang F, Choi JY, Kantipong P, Sim BLH, Ross J, Law M, Merati TP, Ly PS, Khol V, Zhang FJ, Zhao HX, Han N, Lee MP, Li PCK, Lam W, Chan YT, Kumarasamy N, Saghayam S, Ezhilarasi C, Pujari S, Joshi K, Gaikwad S, Chitalikar A, Sangle S, Mave V, Marbaniang I, Merati TP, Wirawan DN, Yuliana F, Imran D, Widhani A, Tanuma J, Oka S, Nishijima T, Choi JY, Na S, Kim JM, Sim BLH, Gani YM, Rudi NB, Kamarulzaman A, Syed Omar SF, Ponnampalavanar S, Azwa I, Ditangco R, Pasayan MK, Mationg ML, Wong WW, Ku WW, Wu PC, Ng OT, Lim PL, Lee LS, Ferdous Z, vihingsanon A, Gatechompol S, Phanuphak P, Phadungphon C, Kiertiburanakul S, Phuphuakrat A, Chumla L, Sanmeema N, Chaiwarith R, Sirisanthana T, Kotarathititum W, Praparattanapan J, Khusuwan S, Nguyen KV, Bui HV, Nguyen DTH, Nguyen DT, Do CD, Ngo AV, Nguyen LT, Sohn AH, Ross L, Petersen B, Law MG, Rupasinghe D. Long-term loss to follow-up in the TREAT Asia HIV Observational Database (TAHOD). *HIV Medicine*, *20*(7), 439–449. doi:10.1111/hiv.12734

Jin F, Vajdic CM, Law M, Amin J, Van Leeuwen M, McGregor S, Poynten IM, Templeton DJ, Grulich AE. Incidence and time trends of anal cancer among people living with HIV in Australia. *AIDS*, *33*(8), 1361–1368. doi:10.1097/QAD.0000000000002218

Johnson LF, Anderegg N, Zaniewski E, Eaton JW, Rebeiro PF, Carriquiry G, Nash D, Yotebieng M, Ekouevi DK, Holmes CB, Choi JY, Jiamsakul A, Bakoyannis G, Althoff KN, Sohn AH, Yiannoutsos C, Egger M. Global variations in mortality in adults after initiating antiretroviral treatment: An updated analysis of the International epidemiology Databases to Evaluate AIDS cohort collaboration. *AIDS*, *33*, S283–S294. doi:10.1097/QAD.0000000000002358

Johnston I, Williams M, Butler T, Kinner SA. Justice targets in Closing the Gap: let's get them right. *Australian and New Zealand Journal of Public Health*, *43*(3), 201–203. doi:10.1111/1753-6405.12896

Joshi A, Sparks R, McHugh J, Karimi S, Paris C, MacIntyre CR. Harnessing Tweets for Early Detection of an Acute Disease Event. *Epidemiology*, *31*(1), 90–97. doi:10.1097/EDE.0000000000001133

Jung IY, Rupasinghe D, Woolley I, O'Connor CC, Giles M, Azwa RISR, Choi JY. Trends in mortality among ART-treated HIV-infected adults in the Asia-Pacific region between 1999 and 2017: results from the TREAT Asia HIV Observational Database (TAHOD) and Australian HIV Observational Database (AHOD) of IeDEA Asia-Pacific. *Journal of the International AIDS Society*, *22*(1). doi:10.1002/jia2.25219

Juno JA, Wragg KM, Kristensen AB, Lee WS, Selva KJ, Van Der Sluis RM, Kelleher AD, Bavinton BR, Grulich AE, Lewin SR, Kent SJ, Parsons MS. Modulation of the CCR5 Receptor/Ligand Axis by Seminal Plasma and the Utility of in Vitro versus in Vivo Models. *Journal of Virology*, *93*(11). doi:10.1128/JVI.00242-19

Kaida A, Carter A, Nicholson V, Lemay J, O'Brien N, Greene S, Tharao W, Proulx-Boucher K, Gormley R, Benoit A, Bernier M, Thomas-Pavanel J, Lewis J, de Pokomandy A, Loutfy M. Hiring, training, and supporting Peer Research Associates: Operationalizing community-based research principles within epidemiological studies by, with, and for women living with HIV. *Harm Reduction Journal*, *16*(1), 47 doi:10.1186/s12954-019-0309-3

Kaldor JM, Steer A. Azithromycin to Reduce Childhood Mortality. *Clinical Infectious Diseases*, *70*(4), 581–582. doi:10.1093/cid/ciz272

Karystianis G, Adily A, Schofield PW, Greenberg D, Jorm L, Nenadic G, Butler T. Automated analysis of domestic violence police reports to explore abuse types and victim injuries: Text mining study. *Journal of Medical Internet Research*, *21*(3). doi:10.2196/13067

Karystianis G, Florez-Vargas O, Butler T, Nenadic G. A rule-based approach to identify patient eligibility criteria for clinical trials from narrative longitudinal records. *JAMIA Open*, *2*(4), 521–527. doi:10.1093/jamiaopen/ooz041

Keck ZY, Pierce BG, Lau P, Lu J, Wang Y, Underwood A, Bull RA, Prentoe J, Velázquez-Moctezuma R, Walker MR, Luciani F, Guest JD, Fauvelle C, Baumert TF, Bukh J, Lloyd AR, Foung SKH. Broadly neutralizing antibodies from an individual that naturally cleared multiple hepatitis c virus infections uncover molecular determinants for E2 targeting and vaccine design. *PLoS Pathogens*, *15*(5). doi:10.1371/journal.ppat.1007772

Keen P, Jamil M, Callander D, Conway DP, McNulty A, Davies SC, Couldwell DC, Smith DE, Holt M, Vaccher SJ, Gray J, Cunningham P, Prestage G, Guy R. Rapid HIV testing increases testing frequency among gay and bisexual men: a controlled before–after study. *Sexual Health*, *16*(2), 172–179. doi:10.1071/sh18161

Kelly-Hanku A, Bell S, Ase S, Boli-Neo R, Vallely AJ, Badman SG, Nightingale CE, Wapling J. Developing a culturally appropriate illustrated tool for the self-collection of anorectal specimens for the testing of sexually transmitted infections: Lessons from Papua New Guinea. *BMC Public Health*, *19*(1). doi:10.1186/s12889-019-6506-x

Kelly-Hanku A, Newland J, Aggleton P, Ase S, Aeno H, Fiya V, Vallely L, Toliman P, Mola G, Kaldor J, Vallely A. HPV vaccination in Papua New Guinea to prevent cervical cancer in women: Gender, sexual morality, outsiders and the de-feminization of the HPV vaccine. *Papillomavirus Research*, *8*, 100171. doi:10.1016/j.pvr.2019.100171

Kelly-Hanku A, Newland J, Aggleton P, Ase S, Fiya V, Aeno H, Vallely L, Mola G, Kaldor J, Vallely A. Health communication messaging about HPV vaccine in Papua New Guinea. *Health Education Journal*, *78*(8), 946–957. doi:10.1177/0017896919856657

Kent SJ, Davenport MP. Moving the HIV vaccine field forward: concepts of protective immunity. *Lancet HIV*, *6*(6), e406–e410. doi:10.1016/S2352-3018(19)30134-1

Kerr PJ, Eden JS, Di Giallonardo F, Peacock D, Liu J, Strive T, Read AF, Holmes EC. Punctuated evolution of myxoma virus: Rapid and disjunct evolution of a recent viral lineage in Australia. *Journal of Virology*, *93*(8). doi:10.1128/JVI.01994-18

Kerr SJ, Puthanakit T, Malee KM, Thongpibul K, Ly PS, Sophonphan J, Suwanlerk T, Kosalaraksa P, Ounchanum P, Aurpibul L, Kanjanavanit S, Ngampiyaskul C, Chettra K, Robbins R, Paul R, Ananworanich J, Mellins CA. Increased Risk of Executive Function and Emotional Behavioral Problems among Virologically Well-Controlled Perinatally HIV-Infected Adolescents in Thailand and Cambodia. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *82*(3), 297–304. doi:10.1097/QAI.0000000000002132

Khanal S, Fennessey CM, O'Brien SP, Thorpe A, Reid C, Immonen TT, Smith R, Bess JW, Swanstrom AE, Del Prete GQ, Davenport MP, Okoye AA, Picker LJ, Lifson JD, Keele BF. In vivo validation of the viral barcoding of simian immunodeficiency virus SIVmac239 and the development of new barcoded SIV and subtype B and C simian-human immunodeficiency viruses. *Journal of Virology*, *94*(1). doi:10.1128/JVI.01420-19

Khanna M, Jackson RJ, Alcantara S, Amarasena TH, Li Z, Kelleher AD, Kent SJ, Ranasinghe C. Mucosal and systemic SIV-specific cytotoxic CD4+ T cell hierarchy in protection following intranasal/intramuscular recombinant pox-viral vaccination of pigtail macaques. *Scientific Reports*, *9*(1). doi:10.1038/s41598-019-41506-5

Kim KW, Horton JL, Pang CNI, Jain K, Leung P, Isaacs SR, Bull RA, Luciani F, Wilkins MR, Catteau J, Lipkin WI, Rawlinson WD, Briese T, Craig ME. Higher abundance of enterovirus A species in the gut of children with islet autoimmunity. *Scientific Reports*, *9*(1749). doi:10.1038/s41598-018-38368-8

Kirby P, Smith S, Ward L, Hanson J, Currie BJ. Clinical utility of platelet count as a prognostic marker for melioidosis. *American Journal of Tropical Medicine and Hygiene*, *100*(5), 1085–1087. doi:10.4269/ajtmh.18-0698

Kirwan A, Curtis M, Dietze P, Aitken C, Woods E, Walker S, Kinner S, Ogloff J, Butler T, Stoové M. The Prison and Transition Health (PATH) Cohort Study: Study Protocol and Baseline Characteristics of a Cohort of Men with a History of Injecting Drug Use Leaving Prison in Australia. *Journal of Urban Health*, *96*(3), 400–410. doi:10.1007/s11524-019-00353-5

Knight V, Guy R, McNulty A, Wand H. Effect of an express testing service for gay and bisexual men on HIV testing frequency in Sydney, Australia: A cohort study. *Sexual Health*, *16*(2), 124–132. doi:10.1071/SH18083

Koh C, Audsley MD, Di Giallonardo F, Kerton EJ, Young PR, Holmes EC, McGraw EA. Sustained Wolbachia-mediated blocking of dengue virus isolates following serial passage in Aedes aegypti cell culture. *Virus Evolution*, *5*(1). doi:10.1093/ve/vez012

Kotevski DP, Lam M, Selvey CE, Templeton DJ, Donovan LG, Sheppeard V. Epidemiology of lymphogranuloma venereum in New South Wales, 2006-2015. *Communicable Diseases Intelligence*, *43*. doi:10.33321/cdi.2019.43.54

Koutsakos M, Illing PT, Nguyen THO, Mifsud NA, Crawford JC, Rizzetto S, Eltahla AA, Clemens EB, Sant S, Chua BY, Wong CY, Allen EK, Teng D, Dash P, Boyd DF, Grzelak L, Zeng W, Hurt AC, Barr I, Rockman S, Jackson DC, Kotsimbos TC, Cheng AC, Richards M, Westall GP, Loudovaris T, Mannering SI, Elliott M, Tangye SG, Wakim LM, Rossjohn J, Vijaykrishna D, Luciani F, Thomas PG, Gras S, Purcell AW, Kedzierska K. Human CD8+ T cell cross-reactivity across influenza A, B and C viruses. *Nature Immunology*, *20*(5), 613–625. doi:10.1038/s41590-019-0320-6

Ku SWW, Jiamsakul A, Joshi K, Pasayan MKU, Widhani A, Chaiwarith R, Kiertiburanakul S, Avihingsanon A, Ly PS, Kumarasamy N, Do CD, Merati TP, Nguyen KV, Kamarulzaman A, Zhang F, Lee MP, Choi JY, Tanuma J, Khusuwan S, Sim BLH, Ng OT, Ratanasuwan W, Ross J, Wong WW, Ly PS, Khol V, Zhang FJ, Zhao HX, Han N, Lee MP, Li PCK, Lam W, Chan YT, Saghayam S, Ezhilarasi C, Pujari S, Joshi K, Gaikwad S, Chitalikar A, Sangle S, Mave V, Marbaniang I, Wirawan DN, Yuliana F, Yunihastuti E, Imran D, Tanuma J, Oka S, Nishijima T, Choi JY, Na S, Kim JM, Sim BLH, Gani YM, Rudi NB, Kamarulzaman A, Syed Omar SF, Ponnampalavanar S, Azwa I, Ditangco R, Mationg ML, Wong WW, Ku SWW, Wu PC, Ng OT, Lim PL, Lee LS, Ferdous Z, vihingsanon A, Gatechompol S, Phanuphak P, Phadungphon C, Kiertiburanakul S, Phuphuakrat A, Chumla L, Sanmeema N, Chaiwarith R, Sirisanthana T, Kotarathititum W, Praparattanapan J, Kantipong P, Kambua P, Ratanasuwan W, Sriondee R, Nguyen KV, Bui HV, Nguyen DTH, Nguyen DT, Do CD, Ngo AV, Nguyen LT, Sohn AH, Ross JL, Petersen B, Cooper DA, Law MG. Cotrimoxazole prophylaxis decreases tuberculosis risk among Asian patients with HIV. *Journal of the International AIDS Society*, *22*(3). doi:10.1002/jia2.25264

Kulkarni SV, Narain JP, Gupta S, Dhariwal AC, Singh SK, Macintyre CR. Influenza a (H1N1) in India: Changing epidemiology and its implications. *National Medical Journal of India*, *32*(2), 107–108. doi:10.4103/0970-258X.253355

Kunasekaran MP, Chen X, Costantino V, Chughtai AA, MacIntyre CR. Evidence for residual immunity to smallpox after vaccination and implications for re-emergence. *Military Medicine: international journal of AMSUS*, *184*(44176), e668–e679. doi:10.1093/milmed/usz181

Kwon JA, Iversen J, Law M, Dolan K, Wand H, Maher L. Estimating the number of people who inject drugs and syringe coverage in Australia, 2005–2016. *Drug and Alcohol Dependence*, *197*, 108–114. doi:10.1016/j.drugalcdep.2018.11.033

Laaksonen MA, Arriaga ME, Canfell K, MacInnis RJ, Byles JE, Banks E, Shaw JE, Mitchell P, Giles GG, Magliano DJ, Gill TK, Klaes E, Velentzis LS, Hirani V, Cumming RG, Vajdic CM. The preventable burden of endometrial and ovarian cancers in Australia: A pooled cohort study. *Gynecologic Oncology*, *153*(3), 580–588. doi:10.1016/j.ygyno.2019.03.102

Laaksonen MA, Webster AC, McCaughan GW, Keogh AM, Grulich AE, Vajdic CM.Longitudinal immunosuppression data can minimize misclassification bias in solid organ transplantation cohorts. *Clinical Transplantation*, 33(2). doi:10.1111/ctr.13470

Lampe FC, Rodger AJ, Burman W, Grulich A, Friedland G, Sadr WE, Neaton J, Corbelli GM, Emery S, Molina JM, Orkin C, Gatell J, Gerstoft J, Ruxrungtham K, Barbosa De Souza M, Phillips AN. Impact of early antiretroviral treatment on sexual behaviour: A randomised comparison. *AIDS*, *33*(15), 2337–2350. doi:10.1097/QAD.0000000000002359

Larance B, Degenhardt L, Grebely J, Nielsen S, Bruno R, Dietze P, Lancaster K, Larney S, Santo T, Shanahan M, Memedovic S, Ali R, Farrell M. Perceptions of extended-release buprenorphine injections for opioid use disorder among people who regularly use opioids in Australia. *Addiction*, *115*(7), 1295–1305. doi:10.1111/add.14941

Lau D, Walsh JC, Peng W, Shah VB, Turville S, Jacques DA, Böcking T. Fluorescence Biosensor for Real-Time Interaction Dynamics of Host Proteins with HIV-1 Capsid Tubes. *ACS Applied Materials and Interfaces*, *11*(38), 34586–34594. doi:10.1021/acsami.9b08521

Lazuardi E, Newman CE, Anintya I, Rowe E, Wirawan DN, Wisaksana R, Subronto YW, Kusmayanti NA, Iskandar S, Kaldor J, Bell S. Increasing HIV treatment access, uptake and use among men who have sex with men in urban Indonesia: Evidence from a qualitative study in three cities. *Health Policy and Planning*, *35*(1), 16–25. doi:10.1093/heapol/czz128

Lazuardi E, Newman CE, Tasya IA, Rowe E, Wirawan DN, Wisaksana R, Subronto YW, Kaldor J, Kusmayanti NA, Iskandar S, Bell S. Understanding the social influences on engaging key populations with HIV prevention: A qualitative study with men who have sex with men in three Indonesian cities. *AIDS Education and Prevention: an interdisciplinary journal*, *31*(3), 206–223. doi:10.1521/aeap.2019.31.3.206

Le LVN, O'Connor S, Tran TH, Maher L, Kaldor J, Sabin K, Tran HV, Tran QD, Ho VAT, Nguyen TA. High hepatitis C virus infection among female sex workers in Viet Nam: strong correlation with HIV and injection drug use. *Western Pacific Surveillance and Response Journal*, *10*(3), 9–18. doi:10.5365/wpsar.2019.10.1.002

Lea T, Hammoud M, Bourne A, Maher L, Jin F, Haire B, Bath N, Grierson J, Prestage G. Attitudes and Perceived Social Norms toward Drug Use among Gay and Bisexual Men in Australia. *Substance Use and Misuse*, *54*(6), 944–954. doi:10.1080/10826084.2018.1552302

Lee A, Simpson P, Haire B. The binding practices of transgender and gender-diverse adults in Sydney, Australia. *Culture, Health and Sexuality*, *21*(9), 969–984. doi:10.1080/13691058.2018.1529335

Lee E, Mao L, Bavinton B, Prestage G, Holt M. Which Gay and Bisexual Men Attend Community-Based HIV Testing Services in Australia? An Analysis of Cross-Sectional National Behavioural Surveillance Data. *AIDS and Behavior*, *24*(2), 387–394. doi:10.1007/s10461-019-02435-6

Lee JY, Page K, Stein E, Evans JL, Sokunny M, Maly P, Sophal C, Ngak S, Maher L, Carrico AW. Who's that SMARTgirl? Reaching Cambodian Female Entertainment and Sex Workers with HIV Prevention Services. *AIDS and Behavior*, *24*(3), 738–745. doi:10.1007/s10461-019-02532-6

Lemos M, Fançony C, Moura S, Mirante C, Sousa PD, Barros H, Nery S, Brito M. Integrated community-based intervention for urinary schistosomiasis and soil-transmitted helminthiasis in children from Caxito, Angola. *International Health*, *12*(2), 86–94. doi:10.1093/inthealth/ihz055

Leung J, Peacock A, Colledge S, Grebely J, Cunningham EB, Hickman M, Vickerman P, Stone J, Trickey A, Dumchev K, Lynskey M, Hines L, Griffiths P, Mattick RP, Degenhardt L, Larney S. A Global Meta-analysis of the Prevalence of HIV, Hepatitis C Virus, and Hepatitis B Virus among People Who Inject Drugs - Do Gender-Based Differences Vary by Country-Level Indicators? *Journal of Infectious Diseases*, *220*(1), 78–90. doi:10.1093/infdis/jiz058

Li P, Yuan T, Fitzpatrick T, Smith K, Zhao J, Wu G, Ouyang L, Wang Y, Zhang K, Zhou Y, Li M, Chen D, Li L, Cai W, Cai Y, Zou H. Association between rectal douching and HIV and other sexually transmitted infections among men who have sex with men: A systematic review and meta-analysis. *Sexually Transmitted Infections*, *95*(6), 428–436. doi:10.1136/sextrans-2019-053964

Lim MSC, Cooper S, Lewis L, Albury K, Chung KSK, Bateson D, Kang M, Skinner SR. Prospective mixed methods study of online and offline social networks and the development of sexual agency in adolescence: The Social Networks and Agency Project (SNAP) protocol. *BMJ Open*, *9*(5). doi:10.1136/bmjopen-2018-024329

Lintzeris N, Monds LA, Bravo M, Read P, Harrod ME, Gilliver R, Wood W, Nielsen S, Dietze PM, Lenton S, Shanahan M, Jauncey M, Jefferies M, Hazelwood S, Dunlop AJ, Greenaway M, Haber P, Ezard N, Malcom A. Designing, implementing and evaluating the overdose response with take-home naloxone model of care: An evaluation of client outcomes and perspectives. *Drug and Alcohol Review*, *39*(1), 55–65. doi:10.1111/dar.13015

Liu BC, He WQ, Newall AT, Quinn HE, Bartlett M, Hayen A, Sheppeard V, Rose N, Macintyre CR, Mcintyre P. Effectiveness of Acellular Pertussis Vaccine in Older Adults: Nested Matched Case-control Study. *Clinical Infectious Diseases*, *71*(2), 340–350. doi:10.1093/cid/ciz821

Liu J, Hill BJ, Darko S, Song K, Quigley MF, Asher TE, Morita Y, Greenaway HY, Venturi V, Douek DC, Davenport MP, Price DA, Roederer M. The peripheral differentiation of human natural killer T cells. *Immunology and Cell Biology*, *97*(6), 586–596. doi:10.1111/imcb.12248

Lodi S, Phillips A, Lundgren J, Logan R, Sharma S, Cole SR, Babiker A, Law M, Chu H, Byrne D, Horban A, Sterne JAC, Porter K, Sabin C, Costagliola D, Abgrall S, Gill J, Touloumi G, Pacheco AG, Van Sighem A, Reiss P, Bucher HC, Montoliu Giménez A, Jarrin I, Wittkop L, Meyer L, Perez-Hoyos S, Justice A, Neaton JD, Hernán MA. Effect Estimates in Randomized Trials and Observational Studies: Comparing Apples with Apples. *American Journal of Epidemiology*, *188*(8), 1569–1577. doi:10.1093/aje/kwz100

Lorch R, Bourne C, Burton L, Lewis L, Brown K, Bateson D, Knight V, Ooi C, Hoffman N, MacKson J, Bower H, Stewart M, Moll N, Micallef J, Mooney-Somers J, Donovan B, Kaldor J, Guy R. ADOPTing a new method of partner management for genital chlamydia in New South Wales: Findings from a pilot implementation program of patient-delivered partner therapy. *Sexual Health*, *16*(4), 332–339. doi:10.1071/SH18169

Lu Y, Ke W, Yang L, Wang Z, Lv P, Gu J, Hao C, Li J, Cai Y, Gu M, Liu H, Chen W, Zhang X, Wang L, Liu Y, Yang B, Zou H, Zheng H. Clinical prediction and diagnosis of neurosyphilis in HIV-negative patients: A case-control study. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-4582-2

Luo G, Sun X, Li M, Liu T, Hu G, He Y, Mao L, Yan L, Xie L, Zou H, Luo X. Cervical human papillomavirus among women in Guangdong, China 2008-2017: Implication for screening and vaccination. *Journal of Medical Virology*, *91*(10), 1856–1865. doi:10.1002/jmv.25520

MacGibbon J, Broady T, Drysdale K, Bavinton B, Lee E, Mao L, Prestage G, Holt M. Gay Men's Relationship Agreements in the Era of Pre-exposure Prophylaxis: An Analysis of Australian Behavioural Surveillance Data. *AIDS and Behavior*, *24*, 1389–1399. doi:10.1007/s10461-019-02737-9

MacGibbon J, Minichiello V, Prestage G, Bell S, Cox C, Donovan B, Callander D. How Male Sex Workers and Their Clients Shifted from Reluctance About HIV Pre-exposure Prophylaxis to Advocating for Its Use: A Longitudinal Mixed Methods Study. *AIDS and Behavior*, *24*(3), 782–790. doi:10.1007/s10461-019-02618-1

MacIntyre CR, Costantino V, Kunasekaran MP. Health system capacity in Sydney, Australia in the event of a biological attack with smallpox. *PLoS One*, *14*(6). doi:10.1371/journal.pone.0217704

MacIntyre CR, Das A, Chen X, de Silva C, Doolan C. Evidence of long-distance aerial convection of variola virus and implications for disease control. *Viruses*, *12*(1). doi:10.3390/v12010033

MacIntyre CR, Ridda I, Trent MJ, McIntyre P. Persistence of immunity to conjugate and polysaccharide pneumococcal vaccines in frail, hospitalised older adults in long-term follow up. *Vaccine*, *37*(35), 5016–5024. doi:10.1016/j.vaccine.2019.07.005

MacIntyre CR, Shaw PJ, Mackie FE, Boros C, Marshall H, Seale H, Kennedy SE, Moa A, Chughtai AA, Trent M, O'Loughlin EV, Stormon M. Long term follow up of persistence of immunity following quadrivalent Human Papillomavirus (HPV) vaccine in immunocompromised children. *Vaccine*, *37*(37), 5630–5636. doi:10.1016/j.vaccine.2019.07.072

MacIntyre R, Heslop D, Nand D, Schramm C, Butel M, Rawlinson W, Baker M, Kiedrzynski T, Nelson C, Fotualii L, Yeo K, Elsgaard J, Fonua L, Lane M. Exercise Mataika: White Paper on response to a smallpox bioterrorism release in the Pacific. *Global Biosecurity*, *1*(1), 91. doi:10.31646/gbio.10

MacIntyre R, Valentina C, Biswajit M, Devina N, Mohana Priya K, David H. Epidemic size, duration and vaccine stockpiling following a large-scale attack with smallpox. *Global Biosecurity*, *1*(1), 74–81. doi:10.31646/gbio.13

Maher L, Neale J. Adding quality to quantity in randomized controlled trials of addiction prevention and treatment: a new framework to facilitate the integration of qualitative research. *Addiction*, *114*(12), 2257–2266. doi:10.1111/add.14777

Marks M, McVernon J, Engelman D, Kaldor J, Steer A. Insights from mathematical modelling on the proposed WHO 2030 goals for scabies. *Gates Open Research*, *3*, 1542. doi:10.12688/gatesopenres.13064.1

Marks M, Romani L, Sokana O, Neko L, Harrington R, Nasi T, Wand H, Whitfeld MJ, Engelman D, Solomon AW, Kaldor JM, Steer AC. Prevalence of Scabies and Impetigo 3 Years After Mass Drug Administration With Ivermectin and Azithromycin. *Clinical Infectious Diseases*, *70*(8), 1591–1595. doi:10.1093/cid/ciz444

Marquez CL, Lau D, Walsh J, Faysal KMR, Parker MW, Turville SG, Bocking T. Fluorescence Microscopy Assay to Measure HIV-1 Capsid Uncoating Kinetics in vitro. *Bio-protocol*, *9*(13). doi:10.21769/BioProtoc.3297

Marshall AD, Madden A, Treloar C. Enhancing engagement in hepatitis C care among people who inject drugs. *Addiction*, *114*(12), 2104–2106. doi:10.1111/add.14698

Martinello M, Matthews GV. Management of acute HCV in the era of direct-acting antivirals: implications for elimination. *Lancet Gastroenterology and Hepatology*, *4*(4), 256–257. doi:10.1016/S2468-1253(19)30001-9

Martinello M, Orkin C, Cooke G, Bhagani S, Gane E, Kulasegaram R, Shaw D, Tu E, Petoumenos K, Marks P, Grebely J, Dore GJ, Nelson M, Matthews GV. Short-Duration Pan-Genotypic Therapy With Glecaprevir/Pibrentasvir for 6 Weeks Among People With Recent Hepatitis C Viral Infection. *Hepatology*, *72*(1), 7–18. doi:10.1002/hep.31003

Martinello M, Yee J, Bartlett SR, Read P, Baker D, Post JJ, Finlayson R, Bloch M, Doyle J, Shaw D, Hellard M, Petoumenos K, Lin L, Marks P,

Applegate T, Dore GJ, Matthews GV, CEASE study team. Moving towards hepatitis C micro-elimination among people living with HIV in Australia: the CEASE study. *Clinical Infectious Diseases*, *71*(6), 1502–1510. doi:10.1093/cid/ciz985

Masavuli MG, Wijesundara DK, Underwood A, Christiansen D, Earnest-Silveira L, Bull R, Torresi J, Gowans EJ, Grubor-Bauk B. A hepatitis C virus DNA vaccine encoding a secreted, oligomerized form of envelope proteins is highly immunogenic and elicits neutralizing antibodies in vaccinated mice. *Frontiers in Immunology*, *10*, 1145. doi:10.3389/fimmu.2019.01145

Mathenjwa T, Kim HY, Zuma T, Shahmanesh M, Seeley J, Matthews P, Wyke S, McGrath N, Sartorius B, Yapa HM, Adeagbo O, Blandford A, Dobra A, Baërnighausen T, Tanser F. Home-based intervention to test and start (HITS) protocol: A cluster-randomized controlled trial to reduce HIV-related mortality in men and HIV incidence in women through increased coverage of HIV treatment. *BMC Public Health*, *19*(1). doi:10.1186/s12889-019-7277-0

McCrary JM, Goldstein D, Sandler CX, Barry BK, Marthick M, Timmins HC, Li T, Horvath L, Grimison P, Park SB. Exercise-based rehabilitation for cancer survivors with chemotherapy-induced peripheral neuropathy. *Supportive Care in Cancer*, *27*(10), 3849–3857. doi:10.1007/s00520-019-04680-w

McManus H, Callander D, Donovan B, Russell DB, O'Connor CC, Davies SC, Lewis DA, Hellard ME, Chen MY, Petoumenos K, Varma R, Cogle A, Boyd MA, Grulich A, Pollard J, Medland N, Fairley CK, Guy RJ. Early initiation of antiretroviral therapy for people newly diagnosed with HIV infection in Australia: trends and predictors, 2004–2015. *Medical Journal of Australia*, *210*(6), 269–275. doi:10.5694/mja2.50006

Medland NA, Chibo D, Chow EPF, Guy RJ, Fairley CK. Is differential access to prevention distorting HIV epidemiology in Australia? *Lancet HIV*, *6*(8), e492. doi:10.1016/S2352-3018(19)30225-5

Mekonnen ZA, Grubor-Bauk B, English K, Leung P, Masavuli MG, Shrestha AC, Bertolino P, Bowen DG, Lloyd AR, Gowans EJ, Wijesundara DK. Single-Dose Vaccination with a Hepatotropic Adeno-associated Virus Efficiently Localizes T Cell Immunity in the Liver with the Potential To Confer Rapid Protection against Hepatitis C Virus. *Journal of Virology*, *93*(19). doi:10.1128/JVI.00202-19

Mekonnen ZA, Grubor-Bauk B, Masavuli MG, Shrestha AC, Ranasinghe C, Bull RA, Lloyd AR, Gowans EJ, Wijesundara DK. Toward DNA-based T-cell mediated vaccines to target HIV-1 and hepatitis C virus: Approaches to elicit localized immunity for protection. *Frontiers in Cellular and Infection Microbiology*, *9*(APR). doi:10.3389/fcimb.2019.00091

Mgbako O, Park SH, Callander D, Brinker DA, Kuhner C, Carrico AW, Rendina HJ, Duncan DT. Transactional sex, condomless anal sex, and HIV risk among men who have sex with men. *International Journal of STD and AIDS*, *30*(8), 795–801. doi:10.1177/0956462418823411

Mitchell E, Bennett LR. Pressure and Persuasion: Young Fijian Women's Experiences of Sexual and Reproductive Coercion in Romantic Relationships. *Violence Against Women*, *26*(Dec-13), 1555–1573. doi:10.1177/1077801219882505

Mitchell E, Bennett LR. Young women's perceptions and experiences of sexual risk in Suva, Fiji. *Culture, Health and Sexuality*, *22*(5), 504–519. doi:10.1080/13691058.2019.1614669

Mitchell E, Kelly-Hanku A, Mek A, Nake Trumb R, Persson A, Worth H, Bell SA. Caring Masculinities in the Context of HIV Serodiscordant Relationships in Papua New Guinea. *Men and Masculinities*. doi:10.1177/1097184X19889659

Moa A, Muscatello D, Chughtai A, Chen X, Raina MacIntyre C. Flucast: A real-time tool to predict severity of an influenza season. *Journal of Medical Internet Research*, *5*(3). doi:10.2196/11780

Moa A, Trent M, Menzies R. Severity of the 2019 influenza season in Australia- a comparison between 2017 and 2019 H3N2 influenza seasons. *Global Biosecurity*, *1*(3). doi:10.31646/gbio.47

Moa AM, Adam DC, MacIntyre CR. Inter-seasonality of influenza in Australia. *Influenza and Other Respiratory Viruses*, *13*(5), 459–464. doi:10.1111/irv.12642

Moradi G, Hajarizadeh B, Rahmani K, Mohamadi-Bolbanabad A, Darvishi S, Zareie B, Zavareh FA, Sharafi H, Alavian SM, Ramazani R, Eftekhar M, Radfar SR, Piroozi B, Gouya MM. Drug use and risk behaviour profile, and the prevalence of HIV, hepatitis C and hepatitis B among people with methamphetamine use in Iran. *International Journal of Drug Policy*, *73*, 129–134. doi:10.1016/j.drugpo.2019.09.018

Morris EBJ, Mindel A, Wodak AD. Benefits From Being Systematic When Evaluating Circumcision for the Paediatric Patient. *Journal of Paediatrics and Child Health*, *55*(1), 117–118. doi:10.1111/jpc.14311

Morris MD, Andrew E, Tan JY, Maher L, Hoff C, Darbes L, Page K. Injecting-related trust, cooperation, intimacy, and power as key factors influencing risk perception among drug injecting partnerships. *PLoS One*, *14*(5). doi:10.1371/journal.pone.0217811

Moso MA, Anderson JL, Adikari S, Gray LR, Khoury G, Chang JJ, Jacobson JC, Ellett AM, Cheng WJ, Saleh S, Zaunders JJ, Purcell DFJ, Cameron PU, Churchill MJ, Lewin SR, Lu HK. HIV latency can be established in proliferating and nonproliferating resting CD4+ T cells in vitro: Implications for latency reversal. *AIDS*, *33*(2), 199–201. doi:10.1097/QAD.0000000000002075

Myint NPST, Zaw TT, Sain K, Waiyan S, Danta M, Cooper D, Aung NM, Kyi MM, Hanson J. Sequential Helicobacter pylori eradication therapy in Myanmar; a randomized clinical trial of efficacy and tolerability. *Journal of Gastroenterology and Hepatology*, *35*(4), 617–623. doi:10.1111/jgh.14942

Nery SV, Traub RJ, McCarthy JS, Clarke NE, Amaral S, Llewellyn S, Weking E, Richardson A, Campbell SJ, Gray DJ, Vallely AJ, Williams GM, Andrews RM, Clements ACA. Wash for worms: A cluster-randomized controlled trial of the impact of a community integrated water, sanitation, and hygiene and deworming intervention on soil-transmitted helminth infections. *American Journal of Tropical Medicine and Hygiene*, *100*(3), 750–761. doi:10.4269/ajtmh.18-0705

Nikolay B, Salje H, Hossain MJ, Khan AKMD, Sazzad HMS, Rahman M, Daszak P, Stroher U, Pulliam JRC, Kilpatrick AM, Nichol ST, Klena JD, Sultana S, Afroj S, Luby SP, Cauchemez S, Gurley ES. Transmission of nipah virus - 14 years of investigations in Bangladesh. *New England Journal of Medicine*, *380*(19), 1804–1814. doi:10.1056/NEJMoa1805376

Nofz L, Koppen J, De Alwis N, Smith S, Hanson J. The microbiology of ear cultures in a high-burden setting in tropical Australia: Implications for clinicians. *Clinical Otolaryngology*, *44*(6), 1195–1200. doi:10.1111/coa.13451

Nunez CA, Morris A, Teutsch SM, McGregor S, Brotherton J, Novakovic D, Rawlinson W, Jones CA, Thorley BR, Elliott EJ. Australian Paediatric Surveillance Unit Annual Report 2018. *Communicable Diseases Intelligence*, *43*. doi:10.33321/cdi.2019.43.53

Olmstead AD, Montoya V, Chui CK, Dong W, Joy JB, Tai V, Poon AFY, Nguyen T, Brumme CJ, Martinello M, Matthews GV, Richard Harrigan P, Dore GJ, Applegate TL, Grebely J, Howe AYM. A systematic, deep sequencing-based methodology for identification of mixed-genotype hepatitis C virus infections. *Infection, Genetics and Evolution*, *69*(), 76–84. doi:10.1016/j.meegid.2019.01.016

Ong JJ, Walker S, Grulich A, Hoy J, Read TRH, Bradshaw C, Chen M, Garland SM, Cornall A, Hillman R, Templeton DJ, Hocking J, Eu B, Tee BK, Chow EPF, Fairley CK. Incidence, Clearance, and Persistence of Anal Human Papillomavirus in Men Who Have Sex With Men Living With Human Immunodeficiency Virus: Implications for Human Papillomavirus Vaccination. *Sexually Transmitted Diseases*, *46*(4), 229–233. doi:10.1097/OLQ.0000000000000958

Osti MH, Sokana O, Phelan S, Marks M, Whitfeld MJ, Gorae C, Kaldor JM, Steer AC, Engelman D. Prevalence of scabies and impetigo in the Solomon Islands: a school survey. *BMC Infectious Diseases*, *19*(1), 803. doi:10.1186/s12879-019-4382-8

Overton K, Clegg J, Pekin F, Wood J, McGrath C, Lloyd A, Post JJ. Outcomes of a nurse-led model of care for hepatitis C assessment and treatment with direct-acting antivirals in the custodial setting. *International Journal of Drug Policy*, *72*, 123–128. doi:10.1016/j.drugpo.2019.02.013

Page K, Carrico AW, Stein E, Evans J, Sokunny M, Maly P, Sophal C, Neak Y, Ngak S, McCulloch C, Maher L. Cluster randomized stepped-wedge trial of a multi-level HIV prevention intervention to decrease amphetamine-type stimulants and sexual risk in Cambodian female entertainment and sex workers. *Drug and Alcohol Dependence*, *196*, 21–30. doi:10.1016/j.drugalcdep.2018.11.029

Paltridge M, Smith S, Traves A, McDermott R, Fang X, Blake C, Milligan B, D'Addona A, Hanson J. Rapid progress toward elimination of strongyloidiasis in North Queensland, Tropical Australia, 2000-2018. *American Journal of Tropical Medicine and Hygiene*, *102*(2), 339–345. doi:10.4269/ajtmh.19-0490

Papaluca T, Hellard ME, Thompson AJV, Lloyd AR. Scale-up of hepatitis C treatment in prisons is key to national elimination. *Medical Journal of Australia*, *210*(9), 391–3930. doi:10.5694/mja2.50140

Papaluca T, McDonald L, Craigie A, Gibson A, Desmond P, Wong D, Winter R, Scott N, Howell J, Doyle J, Pedrana A, Lloyd A, Stoove M, Hellard M, Iser D, Thompson A. Outcomes of treatment for hepatitis C in prisoners using a nurse-led, statewide model of care. *Journal of Hepatology*, *70*(5), 839–846. doi:10.1016/j.jhep.2019.01.012

Patterson S, Nicholson V, Milloy MJ, Ogilvie G, Hogg RS, Carter A, Li T, Ding E, Sereda P, Greene S, de Pokomandy A, Loutfy M, Kaida A. Awareness and Understanding of HIV Non-disclosure Case Law and the Role of Healthcare Providers in Discussions About the Criminalization of HIV Non-disclosure Among Women Living with HIV in Canada. *AIDS and Behavior*, *24*(1), 95–113. doi:10.1007/s10461-019-02463-2

Peterson I, Ntsui N, Jambo K, Kelly C, Huwa J, Afran L, Tatuene JK, Pett S, Romain Henrion MY, Van Oosterhout J, Heyderman RS, Mwandumba H, Benjamin LA, Angus B, Connor M, Dwivedi R, Haddow L, Heikinheimo-Connell T, Joekes E, Kandoole V, Nyrienda M, Malisita K, Mallewa J, Soliman EZ, Solomon T. Evaluating the reactivation of herpesviruses and inflammation as cardiovascular and cerebrovascular risk factors in antiretroviral therapy initiators in an African HIV-infected population (RHICCA): A protocol for a longitudinal cohort study. *BMJ Open*, *9*(9). doi:10.1136/bmjopen-2018-025576

Pettit S, Simpson P, Jones J, Williams M, Islam MM, Parkinson A, Calabria B, Butler T. Holistic primary health care for Aboriginal and Torres Strait Islander prisoners: exploring the role of Aboriginal Community Controlled Health Organisations. *Australian and New Zealand Journal of Public Health*, *43*(6), 538–543. doi:10.1111/1753-6405.12941

Phanuphak N, Teeraananchai S, Hansudewechakul R, Gatechompol S, Chokephaibulkit K, Dang HLD, Tran DNH, Achalapong J, Teeratakulpisarn N, Chalermchockcharoenkit A, Thamkhantho M, Pankam T, Singtoroj T, Termrungruanglert W, Chaithongwongwatthana S, Kerr SJ, Sohn AH. Incidence and persistence of high-risk anogenital human papillomavirus infection among female youth with and without perinatally acquired HIV infection: a 3-year observational cohort study. *Clinical Infectious Diseases*. doi:10.1093/cid/ciz1143

Phetsouphanh C, Aldridge D, Marchi E, Munier CML, Meyerowitz J, Murray L, Van Vuuren C, Goedhals D, Fidler S, Kelleher A, Klenerman P, Frater J. Maintenance of functional CD57+ cytolytic CD4+ T cells in HIV+ elite controllers. *Frontiers in Immunology*, *10*(AUG). doi:10.3389/fimmu.2019.01844

Philpot SP, Bavinton BR, Prestage G, Grierson J, Ellard J, Duncan D. Exploring Diversity in HIV Research in the Sexual Partnerships of Australian Gay and Bisexual Men. *Archives of Sexual Behavior: an interdisciplinary research journal*, *49*(6), 2069–2080. doi:10.1007/s10508-019-01540-w

Pineda-Antunez C, Martinez-Silva G, Cerecero-Garcia D, Alexander L, Cameron DB, Chiwevu C, Dandona L, Obure CD, Forsythe S, Nguyen VT, Settumba S, Tchuenche M, Van Minh H, Kahn JG, Gomez G, Sweeney S, Vassall A, Bollinger L, Levin C, Bautista-Arredondo S. Meta-analysis of average costs of HIV testing and counselling and voluntary medical male circumcision across thirteen countries. *African Journal of AIDS Research*, *18*(4), 341–349. doi:10.2989/16085906.2019.1679850

Pinkevych M, Fennessey CM, Cromer D, Reid C, Trubey CM, Lifson JD, Keele BF, Davenport MP. Predictors of SIV recrudescence following antiretroviral treatment interruption. *eLife*, *8*, e49022. doi:10.7554/eLife.49022

Plummer EL, Vodstrcil LA, Fairley CK, Tabrizi SN, Garland SM, Law MG, Hocking JS, Fethers KA, Bulach DM, Murray GL, Bradshaw CS. Sexual practices have a significant impact on the vaginal microbiota of women who have sex with women. *Scientific Reports*, *9*(1). doi:10.1038/s41598-019-55929-7

Pollack A, Varma R. Adenovirus-associated paraphimosis. *International Journal of STD and AIDS*, *30*(8), 825–827. doi:10.1177/0956462419842448

Prestage G, Maher L, Grulich A, Bourne A, Hammoud M, Vaccher S, Bavinton B, Holt M, Jin F. Brief Report: Changes in Behavior after PrEP Initiation among Australian Gay and Bisexual Men. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *81*(1), 52–56. doi:10.1097/QAI.0000000000001976

Quadeer AA, Louie RHY, McKay MR. Identifying immunologically-vulnerable regions of the HCV E2 glycoprotein and broadly neutralizing antibodies that target them. *Nature Communications*, *10*(1). doi:10.1038/s41467-019-09819-1

Raj SM, Chughtai AA, Sharma A, Tan TC, MacIntyre CR. Cost-benefit analysis of a national influenza vaccination program in preventing hospitalisation costs in Australian adults aged 50–64 years old. *Vaccine*, *37*(40), 5979–5985. doi:10.1016/j.vaccine.2019.08.028

Ramjee G, Sartorius B, Morris N, Wand H, Reddy T, Yssel JD, Tanser F. A decade of sustained geographic spread of HIV infections among women in Durban, South Africa. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-4080-6

Read P, Chronister KJ, Kostovski C, Harrod ME, Salmon A, Jauncey M. Perceptions of people who inject drugs towards HIV pre-exposure

prophylaxis in Australia. *Sexual Health*, *16*(4), 383–388. doi:10.1071/SH18228

Read P, Gilliver R, Kearley J, Lothian R, Cunningham EB, Chronister KJ, Dore GJ. Treatment adherence and support for people who inject drugs taking direct-acting antiviral therapy for hepatitis C infection. *Journal of Viral Hepatitis*, *26*(11), 1301–1310. doi:10.1111/jvh.13175

Read SA, Obeid S, Ahlenstiel C, Ahlenstiel G. The Role of Zinc in Antiviral Immunity. *Advances in Nutrition*, *10*(4), 696–710. doi:10.1093/advances/nmz013

Reekie J, Donovan B, Guy R, Hocking JS, Kaldor JM, Mak D, Preen D, Ward J, Liu B. Risk of Ectopic Pregnancy and Tubal Infertility Following Gonorrhea and Chlamydia Infections. *Clinical Infectious Diseases*, *69*(9), 1621–1623. doi:10.1093/cid/ciz145

Regan DG, Hui BB, Guy RJ, Donovan B, Hocking JS, Law MG. Supplemental Trichomonas vaginalis testing is required to maintain control following a transition from Pap smear to HPV DNA testing for cervical screening: A mathematical modelling study. *Sexually Transmitted Infections*, *96*(1), 76–78. doi:10.1136/sextrans-2018-053845

Reilly R, McKetin R, Wand H, Butt J, Smout M, Ezard N, Conigrave K, Clark Y, Quinn B, Treloar C, Gray D, Dunlop A, Roe Y, Ward J. A web-based therapeutic program (We Can Do This) for reducing methamphetamine use and increasing help-seeking among aboriginal and torres strait islander people: Protocol for a randomized wait-list controlled trial. *Journal of Medical Internet Research*, *8*(7). doi:10.2196/14084

Revill PA, Chisari FV, Block JM, Dandri M, Gehring AJ, Guo H, Hu J, Kramvis A, Lampertico P, Janssen HLA, Levrero M, Li W, Liang TJ, Lim SG, Lu F, Penicaud MC, Tavis JE, Thimme R, Arbuthnot P, Boonstra A, Chang KM, Chen PJ, Glebe D, Guidotti LG, Fellay J, Ferrari C, Jansen L, Lau DTY, Lok AS, Maini MK, Mason W, Matthews G, Paraskevis D, Petersen J, Rehermann B, Shin EC, Thompson A, van Bömmel F, Wang FS, Watashi K, Yang HC, Yuan Z, Yuen MF, Block T, Miller V, Protzer U, Bréchot C, Locarnini S, Peters MG, Schinazi RF, Zoulim F. A global scientific strategy to cure hepatitis B. *Lancet Gastroenterology and Hepatology*, *4*(7), 545–558. doi:10.1016/S2468-1253(19)30119-0

Reynaldi A, Dent AE, Schlub TE, Ogolla S, Rochford R, Davenport MP. Interaction between maternally derived antibodies and heterogeneity in exposure combined to determine time-to-first Plasmodium falciparum infection in Kenyan infants. *Malaria Journal*, *18*(1). doi:10.1186/s12936-019-2657-6

Reynaldi A, Smith NL, Schlub TE, Tabilas C, Venturi V, Rudd BD, Davenport MP. Fate mapping reveals the age structure of the peripheral T cell compartment. *Proceedings of the National Academy of Sciences of USA*, *116*(10), 3974–3981. doi:10.1073/pnas.1811634116

Rhodes JW, Tong O, Harman AN, Turville SG. Human dendritic cell subsets, ontogeny, and impact on HIV infection. *Frontiers in Immunology*, *10*(MAY). doi:10.3389/fimmu.2019.01088

Robards F, Kang M, Luscombe G, Sanci L, Steinbeck K, Jan S, Hawke C, Kong M, Usherwood T. Predictors of young people's healthcare access in the digital age. *Australian and New Zealand Journal of Public Health*, *43*(6), 582–588. doi:10.1111/1753-6405.12936

Robards F, Kang M, Steinbeck K, Hawke C, Jan S, Sanci L, Liew YY, Kong M, Usherwood T. Health care equity and access for marginalised young people: A longitudinal qualitative study exploring health system navigation in Australia. *International Journal for Equity in Health*, *18*(1). doi:10.1186/s12939-019-0941-2

Robertson C, Lin A, Smith G, Yeung A, Strauss P, Nicholas J, Davis E, Jones T, Gibson L, Richters J, Bock MD. The Impact of Externally Worn Diabetes Technology on Sexual Behavior and Activity, Body Image, and Anxiety in Type 1 Diabetes. *Journal of Diabetes Science and Technology*, *14*(2), 303–308. doi:10.1177/1932296819870541

Rodrigo C, Luciani F. Dynamic interactions between RNA viruses and human hosts unravelled by a decade of next generation sequencing. *Biochimica et Biophysica Acta - General Subjects*, *1863*(2), 511–519. doi:10.1016/j.bbagen.2018.12.003

Romani L, Marks M, Sokana O, Nasi T, Kamoriki B, Cordell B, Wand H, Whitfeld MJ, Engelman D, Solomon AW, Kaldor JM, Steer AC. Efficacy of mass drug administration with ivermectin for control of scabies and impetigo, with coadministration of azithromycin: a single-arm community intervention trial. *Lancet Infectious Diseases*, *19*(5), 510–518. doi:10.1016/S1473-3099(18)30790-4

Rupasinghe D, Kiertiburanakul S, Kamarulzaman A, Zhang F, Kumarasamy N, Chaiwarith R, Merati TP, Do CD, Khusuwan S, Avihingsanon A, Lee MP, Ly PS, Yunihastuti E, Nguyen KV, Ditangco R, Chan YJ, Pujari S, Ng OT, Choi JY, Sim BLH, Tanuma J, Sangle S, Ross J, Law M. Early mortality after late initiation of antiretroviral therapy in the TREAT Asia HIV Observational Database (TAHOD) of the International Epidemiologic Databases to Evaluate AIDS (IeDEA) Asia-Pacific. *HIV Medicine*, *21*(6), 397–402. doi:10.1111/hiv.12836

Ryom L, Dilling Lundgren J, Reiss P, Kirk O, Law M, Ross M, Morlat P, Andreas Fux C, Fontas E, De Wit S, D'Arminio Monforte A, El-Sadr W, Phillips A, Ingrid Hatleberg C, Sabin C, Mocroft A. Use of Contemporary Protease Inhibitors and Risk of Incident Chronic Kidney Disease in Persons with Human Immunodeficiency Virus: The Data Collection on Adverse Events of Anti-HIV Drugs (D:A:D) Study. *Journal of Infectious Diseases*, *220*(10), 1629–1634. doi:10.1093/infdis/jiz369

Ryom L, Lundgren JD, Law M, Kirk O, El-Sadr W, Bonnet F, Weber R, Fontas E, Monforte ADA, Phillips A, Reiss P, De Wit S, Hatleberg CI, Sabin C, Mocroft A. Serious clinical events in HIV-positive persons with chronic kidney disease. *AIDS*, *33*(14), 2173–2188. doi:10.1097/QAD.0000000000002331

Safreed-Harmon K, Blach S, Aleman S, Bollerup S, Cooke G, Dalgard O, Dillon JF, Dore GJ, Duberg AS, Grebely J, Boe Kielland K, Midgard H, Porter K, Razavi H, Tyndall M, Weis N, Lazarus JV. The Consensus Hepatitis C Cascade of Care: Standardized Reporting to Monitor Progress Toward Elimination. *Clinical Infectious Diseases*, *69*(12), 2218–2227. doi:10.1093/cid/ciz714

Sam-Agudu NA, Folayan MO, Haire BG. Program implementation gaps and ethical issues in the prevention of HIV infection among infants, children, and adolescents in sub-Saharan Africa. *Pediatric Research*, *87*(2), 406–413. doi:10.1038/s41390-019-0645-8

Saweri OPM, Batura N, Adawiyah RA, Causer L, Pomat W, Vallely A, Wiseman V. Cost and cost-effectiveness of point-of-care testing and treatment for sexually transmitted and genital infections in pregnancy in low-income and middle-income countries: A systematic review protocol. *BMJ Open*, *9*(11). doi:10.1136/bmjopen-2019-029945

Sazzad HMS, Luby SP, Sejvar J, Rahman M, Gurley ES, Hill V, Murphy JL, Roy S, Cope JR, Ali IKM. A case of primary amebic meningoencephalitis caused by Naegleria fowleri in Bangladesh. *Parasitology Research*, *119*(1), 339–344. doi:10.1007/s00436-019-06463-y

Schierhout G, McGregor S, Gessain A, Einsiedel L, Martinello M, Kaldor J. Association between HTLV-1 infection and adverse health outcomes: a systematic review and meta-analysis of epidemiological studies. *Lancet Infectious Diseases*, *20*(1), 133–143. doi:10.1016/S1473-3099(19)30402-5

Schofield PW, Xu A, Simpson P, Greenberg D, Lee J, Knight L, Butler T. Pharmacotherapy to reduce violent offending? Offenders might be interested. *Australian and New Zealand Journal of Psychiatry*, *53*(7), 697–698. doi:10.1177/0004867419835937

Selfridge M, Cunningham EB, Milne R, Drost A, Barnett T, Lundgren K, Guarasci K, Grebely J, Fraser C. Direct-acting antiviral treatment for hepatitis C, reinfection and mortality among people attending an inner-city community health centre in Victoria, Canada. *International Journal of Drug Policy*, *72*(0), 106–113. doi:10.1016/j.drugpo.2019.03.001

Selva KJ, Bavinton BR, Grulich AE, Pazgier M, Kelleher AD, Kent SJ, Parsons MS. Impact of HIV-1 viremia or sexually transmitted infection on semen-derived anti-HIV-1 antibodies and the immunosuppressive capacity of seminal plasma. *European Journal of Immunology*, *49*(12), 2255–2258. doi:10.1002/eji.201848055

Selvey LA, McCausland K, Lobo R, Bates J, Donovan B, Hallett J. A snapshot of male sex worker health and wellbeing in Western Australia. *Sexual Health*, *16*(3), 233–239. doi:10.1071/SH18166

Sereti I, Gulick RM, Krishnan S, Migueles SA, Palfreeman A, Touzeau-Römer V, Belloso WH, Emery S, Law MG. ART in HIV-Positive Persons with Low Pretreatment Viremia: Results from the START Trial. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *81*(4), 456–462. doi:10.1097/QAI.0000000000002052

Settumba SN, Shanahan M, Butler T, Schofield P, Lafferty L, Simpson P, Chambers G. Developing Attributes and Attribute-Levels for a Discrete-Choice Experiment: An Example for Interventions of Impulsive Violent Offenders. *Applied Health Economics and Health Policy*, *17*(5), 683–705. doi:10.1007/s40258-019-00484-5

Settumba SN, Shanahan M, Chambers GM, Schofield P, Butler T. Assessing societal and offender perspectives on the value of offender healthcare: A stated preference research protocol. *BMJ Open*, *9*(3). doi:10.1136/bmjopen-2018-024899

Sharkawy RE, Bayoumi A, Metwally M, Mangia A, Berg T, Romero-Gomez M, Abate ML, Irving WL, Sheridan D, Dore GJ, Spengler U, Lampertico P, Bugianesi E, Weltman M, Mollison L, Cheng W, Riordan S, Santoro R, Gallego-Durán R, Fischer J, Nattermann J, D'Ambrosio R, McLeod D, Powell E, latchoumanin O, Thabet K, Najim MAM, Douglas MW, Liddle C, Qiao L, George J, Eslam M, White R, Rojas A, Bassendine M, Rosso C, Mezzabotta L, Leung R, Malik B, Matthews G, Grebely J, Fragomeli V, Jonsson JR. A variant in the MICA gene is associated with liver fibrosis progression in chronic hepatitis C through TGF-β1 dependent mechanisms. *Scientific Reports*, *9*(1439). doi:10.1038/s41598-018-35736-2

Sharma S, Schlusser KE, De La Torre P, Tambussi G, Draenert R, Pinto AN, Metcalf JA, Neaton JD, Laeyendecker O. The benefit of immediate compared with deferred antiretroviral therapy on CD4+ cell count recovery in early HIV infection. *AIDS*, *33*(8), 1335–1344. doi:10.1097/QAD.0000000000002219

Sharpe L, Turner J, Fardell JE, Thewes B, Smith AB, Gilchrist J, Beith J, Girgis A, Tesson S, Day S, Grunewald K, Butow P, Bell M, Beatty L, Bennett B, Brebach R, Brock C, Butler S, Byrne D, Diggens J, Fairclough A, Faulkner T, Ftanou M, Grier M, Hill G, Jones T, Kirsten L, McConaghey S, McKinnon S, Mihalopoulos C, Mireskandari S, Musiello T, Penhale J, Pollard A, Rangganadhan A, Scealy M, Scott M, Shih S, Teoh M, Tiller K, Watt P. Psychological intervention (ConquerFear) for treating fear of cancer recurrence: mediators and moderators of treatment efficacy. *Journal of Cancer Survivorship*, *13*(5), 695–702. doi:10.1007/s11764-019-00788-4

Shilling H, Murray G, Brotherton JML, Hawkes D, Saville M, Sivertsen T, Chambers I, Roberts J, Farnsworth A, Garland SM, Hocking JS, Kaldor J, Guy R, Atchison S, Costa AM, Molano M, Machalek DA. Monitoring human papillomavirus prevalence among young Australian women undergoing routine chlamydia screening. *Vaccine*, *38*(5), 1186–1193. doi:10.1016/j.vaccine.2019.11.019

Shokoohi M, Bauer GR, Kaida A, Logie CH, Carter A, Lacombe-Duncan A, Loutfy M, Abdul-Noor R, Anema A, Angel J, Baril JG, Barry F, Beaver K, Becker D, Benoit A, Brophy J, Brotto L, Burchell A, Cardinal C, Carlson A, Cescon A, Cioppa L, Cohen J, Colley G, Conway T, Cooper C, Cotnam J, Cousineau J, Dayle J, Desbiens M, Dubinsky H, Dubuc D, Duddy J, Gagnier B, Gahagan J, Gasingirwa C, Gataric N, Greene S, Hart T, Hankins C, Hogg B, Howard T, Islam S, Jones E, Kaushic C, Keating A, Kennedy L, Kestler M, Kiboyogo M, Klein M, Kwaramba G, Langlois A, Lee M, Lee R, Leonard L, Lewis J, Lima V, Lloyd-Smith E, Logie C, Margolese S, Martin C, Masching R, Massie L, Medjuck M, Ménard B, Miller C, Money D, Muchenje M, Mwalwanda M, Ndung'u M, Nicholson V, Nzikwikiza I, O'Brien K, O'Brien N, Ogilvie G, Ogunnaike-Cooke S, Otis J, Palmer A, Patterson S, Peltier D, Persad Y, Pick N, Pierre A, Powis J, Proulx-Boucher K, Quan C, Raboud J, Rachlis A, Ralph E, Rawson S, Roth E, Rouleau D, Rourke S, Rueda S, Saavedra M, Salters K, Sanchez M, Sandre R, Sas J, Sereda P. A Latent Class Analysis of the Social Determinants of Health Impacting Heavy Alcohol Consumption Among Women Living with HIV in Canada: The Canadian HIV Women's Sexual and Reproductive Health Cohort Study. *AIDS and Behavior*, *23*(12), 3226–3236. doi:10.1007/s10461-019-02454-3

Shokoohi M, Karamouzian M, Bauer GR, Sharifi H, Hosseini Hooshyar S, Mirzazadeh A. Drug use patterns and associated factors among female sex workers in Iran. *Addictive Behaviors*, *90*, 40–47. doi:10.1016/j.addbeh.2018.09.037

Siefried KJ, Kerr S, Richardson R, Mao L, Rule J, McAllister J, De Wit J, Carr A. Socioeconomic and psychosocial factors are associated with poor treatment outcomes in Australian adults living with HIV: A case-control study. *Sexual Health*, *16*(6), 548–553. doi:10.1071/SH18138

Simpson P, Simpson M, Adily A, Grant L, Butler T. Prison cell spatial density and infectious and communicable diseases: a systematic review. *BMJ Open*, *9*(7). doi:10.1136/bmjopen-2018-026806

Simpson PL, Hardiman D, Butler T. Understanding the over-representation of lesbian or bisexual women in the Australian prisoner population. *Current Issues in Criminal Justice*, *31*(3), 365–377. doi:10.1080/10345329.2019.1668339

Singer R, Zwi K, Menzies R. Predictors of in-hospital mortality in aboriginal children admitted to a tertiary paediatric hospital. *International Journal of Environmental Research and Public Health*, *16*(11). doi:10.3390/ijerph16111893

Singh B, Spence RR, Sandler CX, Tanner J, Hayes SC. Feasibility and effect of a physical activity counselling session with or without provision of an activity tracker on maintenance of physical activity in women with breast cancer — A randomised controlled trial. *Journal of Science and Medicine in Sport*, *23*(3), 283–290. doi:10.1016/j.jsams.2019.09.019

Singh M, Al-Eryani G, Carswell S, Ferguson JM, Blackburn J, Barton K, Roden D, Luciani F, Giang Phan T, Junankar S, Jackson K, Goodnow CC, Smith MA, Swarbrick A. High-throughput targeted long-read single cell sequencing reveals the clonal and transcriptional landscape of lymphocytes. *Nature Communications*, *10*(1). doi:10.1038/s41467-019-11049-4

Smith S, Hanson J. Images in clinical tropical medicine successful treatment of localized

cutaneous melioidosis with oral antibiotic therapy alone. *American Journal of Tropical Medicine and Hygiene*, *100*(5), 1039–1040. doi:10.4269/ajtmh.18-0940

Smith S, Kennedy BJ, Dermedgoglou A, Poulgrain SS, Paavola MP, Minto TL, Luc M, Liu YH, Hanson J. A simple score to predict severe leptospirosis. *PLoS Neglected Tropical Diseases*, *13*(2). doi:10.1371/journal.pntd.0007205

Smith S, Liu YH, Carter A, Kennedy BJ, Dermedgoglou A, Poulgrain SS, Paavola MP, Minto TL, Luc M, Hanson J. Severe leptospirosis in tropical Australia: Optimising intensive care unit management to reduce mortality. *PLoS Neglected Tropical Diseases*, *13*(12), e0007929. doi:10.1371/journal.pntd.0007929

Sonido MT, Hwang YI, Trollor JN, Arnold SRC. The Mental Well-Being of Informal Carers of Adults on the Autism Spectrum: a Systematic Review. *Review Journal of Autism and Developmental Disorders*, *7*(1), 63–77. doi:10.1007/s40489-019-00177-8

Southwell M, Shelly S, Macdonald V, Verster A, Maher L. Transforming lives and empowering communities: Evidence, harm reduction and a holistic approach to people who use drugs. *Current Opinion in HIV and AIDS*, *14*(5), 409–414. doi:10.1097/COH.0000000000000566

Stelzer-Braid S, Wynn M, Chatoor R, Scotch M, Ramachandran V, Teoh HL, Farrar MA, Sampaio H, Andrews PI, Craig ME, MacIntyre CR, Varadhan H, Kesson A, Britton PN, Newcombe J, Rawlinson WD. Next generation sequencing of human enterovirus strains from an outbreak of enterovirus A71 shows applicability to outbreak investigations. *Journal of Clinical Virology*, *122*. doi:10.1016/j.jcv.2019.104216

Stevens J, Trimboli A, Samios P, Steele N, Welch S, Thompson P, Halvorsen C, Kerr S. A sustainable method to reduce postoperative oxycodone discharge prescribing in a metropolitan tertiary referral hospital. *Anaesthesia*, *74*(3), 292–299. doi:10.1111/anae.14570

Stewart AGA, Smith S, Binotto E, McBride WJH, Hanson J. The epidemiology and clinical features of rickettsial diseases in North Queensland, Australia: Implications for patient identification and management. *PLoS Neglected Tropical Diseases*, *13*(7). doi:10.1371/journal.pntd.0007583

Stracke K, Clarke N, Awburn CV, Nery SV, Khieu V, Traub RJ, Jex AR. Development and validation of a multiplexed-tandem qPCR tool for diagnostics of human soil-transmitted helminth infections. *PLoS Neglected Tropical Diseases*, *13*(6). doi:10.1371/journal.pntd.0007363

Strong C, Yu YF, Zou H, Ku WW, Lee CW, Ko NY. Sexual network and detection of anogenital human papillomavirus in a community cohort of men who have sex with men in Taiwan. *PLoS One*, *14*(5). doi:10.1371/journal.pone.0216784

Strong C, Zou H, Ko NY, Liang YL, Ku WW, Lee CW. Prevalence and risk factors of anogenital human papillomavirus infection in a community sample of men who have sex with men in Taiwan: Baseline findings from a cohort study. *Sexually Transmitted Infections*, *96*(1), 62–66. doi:10.1136/sextrans-2018-053629

Stuart RM, Kelly SL, Kerr CC, Martin-Hughes R, Wilson DP. The influence of constraints on the efficient allocation of resources for HIV prevention. *AIDS*, *33*(12), 1949–1950. doi:10.1097/QAD.0000000000002267

Stuart RM, Kelly SL, Martin-Hughes R, Wilson DP. Potential health gains in West and Central Africa through savings from lower cost HIV treatment. *AIDS*, *34*(3), 439–446. doi:10.1097/QAD.0000000000002419

Su S, Fairley CK, Mao L, Medland NA, Jing J, Cheng F, Zhang L. Estimates of the national trend of drugs use during 2000–2030 in China: A population-based mathematical model. *Addictive Behaviors*, *93*(), 65–71. doi:10.1016/j.addbeh.2019.01.022

Sudjaritruk T, Boettiger DC, Nguyen LV, Mohamed TJ, Wati DK, Bunupuradah T, Hansudewechakul R, Ly PS, Lumbiganon P, Nallusamy RA, Fong MS, Chokephaibulkit K, Nik Yusoff NK, Truong KH, Do VC, Sohn AH, Sirisanthana V, Tucker J, Kumarasamy N, Chandrasekaran E, Vedaswari D, Ramajaya IB, Kurniati N, Muktiarti D, Lim M, Daut F, Mohamad P, Drawis MR, Chan KC, Aurpibul L, Ounchanum P, Denjanta S, Kongphonoi A, Kosalaraksa P, Tharnprisan P, Udomphanit T, Jourdain G, Puthanakit T, Anugulruengkit S, Jantarabenjakul W, Nadsasarn R, Lapphra K, Phongsamart W, Sricharoenchai S, Du QT, Nguyen CH, Ha TM, An VT, Khu DTK, Pham AN, Nguyen LT, Le ON, Chi H, Ross JL, Suwanlerk T, Law MG, Kariminia A. Impact of the frequency of plasma viral load monitoring on treatment outcomes among children with perinatally acquired HIV. *Journal of the International AIDS Society*, *22*(6). doi:10.1002/jia2.25312

Sullivan EA, Kendall S, Chang S, Baldry E, Zeki R, Gilles M, Wilson M, Butler T, Levy M, Wayland S, Cullen P, Jones J, Sherwood J. Aboriginal mothers in prison in Australia: a study of social, emotional and physical wellbeing. *Australian and New Zealand Journal of Public Health*, *43*(3), 241–247. doi:10.1111/1753-6405.12892

Sweeney S, Ward Z, Platt L, Guinness L, Hickman M, Hope V, Maher L, Iversen J, Hutchinson SJ, Smith J, Ayres R, Hainey I, Vickerman P. Evaluating the cost-effectiveness of existing needle and syringe programmes in preventing hepatitis C transmission in people who inject drugs. *Addiction*, *114*(3), 560–570. doi:10.1111/add.14519

Tan HY, Lai E, Kunasekaran M, Chughtai AA, Trent M, Poulos CJ, MacIntyre CR. Prevalence and predictors of influenza vaccination among residents of long-term care facilities. *Vaccine*, *37*(43), 6329–6335. doi:10.1016/j.vaccine.2019.09.021

Teeraananchai S, Puthanakit T, Kerr SJ, Chaivooth S, Kiertiburanakul S, Chokephaibulkit K, Bhakeecheep S, Teeraratkul A, Law M, Ruxrungtham K. Attrition and treatment outcomes among adolescents and youths living with HIV in the Thai National AIDS Program. *Journal of Virus Eradication*, *5*(1), 33–40. doi:10.1016/S2055-6640(20)30276-4

Thean LJ, Engelman D, Kaldor J, Steer AC. Scabies: New opportunities for management and population control. *The Pediatric Infectious Disease Journal*, *38*(2), 211–213. doi:10.1097/INF.0000000000002211

Toliman PJ, Phillips S, de Jong S, O'Neill T, Tan G, Brotherton JML, Saville M, Kaldor JM, Vallely AJ, Tabrizi SN. Evaluation of p16/Ki-67 dual-stain cytology performed on self-collected vaginal and clinician-collected cervical specimens for the detection of cervical pre-cancer. *Clinical Microbiology and Infection*, *26*(6), 748–752. doi:10.1016/j.cmi.2019.10.020

Traeger MW, Cornelisse VJ, Asselin J, Price B, Roth NJ, Willcox J, Tee BK, Fairley CK, Chang CC, Armishaw J, Vujovic O, Penn M, Cundill P, Forgan-Smith G, Gall J, Pickett C, Lal L, Mak A, Spelman TD, Nguyen L, Murphy DA, Ryan KE, El-Hayek C, West M, Ruth S, Batrouney C, Lockwood JT, Hoy JF, Hellard ME, Stoové MA, Wright EJ. Association of HIV Preexposure Prophylaxis With Incidence of Sexually Transmitted Infections Among Individuals at High Risk of HIV Infection. *JAMA: Journal of the American Medical Association*, *321*(14), 1380–1390. doi:10.1001/jama.2019.2947

Trent MJ, Zhang EJ, Chughtai AA, MacIntyre CR. Parental opinions towards the "No Jab, No Pay" policy in Australia. *Vaccine*, *37*(36), 5250–5256. doi:10.1016/j.vaccine.2019.07.066

Trickey A, Fraser H, Lim AG, Peacock A, Colledge S, Walker JG, Leung J, Grebely J, Larney S, Martin NK, Hickman M, Degenhardt L, May MT, Vickerman P. The contribution of injection drug use to hepatitis C virus transmission globally, regionally, and at country level: a modelling study. *Lancet Gastroenterology and Hepatology*, *4*(6), 435–444. doi:10.1016/S2468-1253(19)30085-8

Trickey A, Fraser H, Lim AG, Walker JG, Peacock A, Colledge S, Leung J, Grebely J, Larney S, Martin NK, Degenhardt L, Hickman M, May MT, Vickerman P. Modelling the potential prevention benefits of a treat-all hepatitis C treatment strategy at global, regional and country levels: A modelling study. *Journal of Viral Hepatitis*, *26*(12), 1388–1403. doi:10.1111/jvh.13187

Tumwine C, Aggleton P, Bell S. Accessing HIV treatment and care services in fishing communities around Lake Victoria in Uganda: mobility and transport challenges. *African Journal of AIDS Research*, *18*(3), 205–214. doi:10.2989/16085906.2019.1648306

Turner D, Drak D, O'Connor CC, Templeton DJ, Gracey DM. Renal function change after switching tenofovir disoproxil fumarate for tenofovir alafenamide in the HIV-positive patients of a metropolitan sexual health service. *AIDS Research and Therapy*, *16*(1). doi:10.1186/s12981-019-0256-9

Vallely A, Tollman P. Health service delivery models for scaling use of point-of-care HPV 'test and treat' strategies in high-burden, low-income settings. *Journal of Virus Eradication*, *5*, 1–3.

Vallely AJ, Pomat WS, Homer C, Guy R, Luchters S, Mola GDL, Kariwiga G, Vallely LM, Wiseman V, Morgan C, Wand H, Rogerson SJ, Tabrizi SN, Whiley DM, Low N, Peeling R, Siba P, Riddell M, Laman M, Bolnga J, Robinson LJ, Morewaya J, Badman SG, Batura N, Kelly-Hanku A, Toliman PJ, Peter W, Babona D, Peach E, Garland SM, Kaldor JM. Point-of-care testing and treatment of sexually transmitted infections to improve birth outcomes in high-burden, low-income settings: Study protocol for a cluster randomized crossover trial (the wantaim trial, papua new guinea) [version 2; peer review: 1 approved, 1 approved with reservations]. *Wellcome Open Research*, *4*. doi:10.12688/wellcomeopenres.15173.1

Vallely LM, Emori R, Gouda H, Phuanukoonnon S, Homer CSE, Vallely AJ. Women's knowledge of maternal danger signs during pregnancy: Findings from a cross-sectional survey in Papua New Guinea. *Midwifery*, *72*(), 7–13. doi:10.1016/j.midw.2019.02.001

van der Linden N, van Gool K, Gardner K, Dickinson H, Agostino J, Regan DG, Dowden M, Viney R. A systematic review of scabies transmission models and data to evaluate the cost-effectiveness of scabies interventions. *PLoS Neglected Tropical Diseases*, *13*(3), e0007182. doi:10.1371/journal.pntd.0007182

Van Gemert C, Dimech W, Stoove M, Guy R, Howell J, Bowden S, Nicholson S, Pendle S, Donovan B, Hellard M, El-Hayek C, Callandar D, Asselin J, Moreira C, Smith LW, Nguyen L, Thomas G. Tracking the uptake of outcomes of hepatitis B virus testing using laboratory data in Victoria, 2011-16: A population-level cohort study. *Sexual Health*, *16*(4), 358–366. doi:10.1071/SH18102

Van Gemert C, Guy R, Stoove M, Dimech W, El-Hayek C, Asselin J, Moreira C, Nguyen L, Callander D, Boyle D, Donovan B, Hellard M. Pathology laboratory surveillance in the Australian collaboration for coordinated enhanced sentinel surveillance of sexually transmitted infections and blood-borne viruses: Protocol for a cohort study. *Journal of Medical Internet Research*, *21*(8). doi:10.2196/13625

Van Zoest RA, Law M, Sabin CA, Vaartjes I, Van Der Valk M, Arends JE, Reiss P, Wit FW. Predictive Performance of Cardiovascular Disease Risk Prediction Algorithms in People Living With HIV. *JAIDS: Journal of Acquired Immune Deficiency Syndromes*, *81*(5), 562–571. doi:10.1097/QAI.0000000000002069

Vaz Nery S, Clarke NE, Richardson A, Traub R, McCarthy JS, Gray DJ, Vallely AJ, Williams GM, Andrews RM, Campbell SJ, Clements ACA. Risk factors for infection with soil-transmitted helminths during an integrated community level water, sanitation, and hygiene and deworming intervention in Timor-Leste. *International Journal for Parasitology*, *49*(5), 389–396. doi:10.1016/j.ijpara.2018.12.006

Vaz Nery S, Pickering AJ, Abate E, Asmare A, Barrett L, Benjamin-Chung J, Bundy DAP, Clasen T, Clements ACA, Colford JM, Ercumen A, Crowley S, Cumming O, Freeman MC, Haque R, Mengistu B, Oswald WE, Pullan RL, Oliveira RG, Einterz Owen K, Walson JL, Youya A, Brooker SJ. The role of water, sanitation and hygiene interventions in reducing soil-transmitted helminths: Interpreting the evidence and identifying next steps. *Parasites and Vectors*, *12*(1). doi:10.1186/s13071-019-3532-6

Velentzis LS, Smith MA, Simms KT, Lew JB, Hall M, Hughes S, Yuill S, Killen J, Keane A, Butler K, Darlington-Brown J, Hui H, Brotherton JML, Skinner R, Brand A, Roeske L, Heley S, Carter J, Bateson D, Frazer I, Garland SM, Guy R, Hammond I, Grogan P, Arbyn M, Castle PE, Saville M, Armstrong BK, Canfell K. Pathways to a cancer-free future: A protocol for modelled evaluations to maximize the future impact of interventions on cervical cancer in Australia. *Gynecologic Oncology*, *152*(3), 465–471. doi:10.1016/j.ygyno.2018.12.019

Viney K, Amaral S, Baptista Marques E, Siroka A, Lopes C, Vaz Nery S. Four of five tuberculosis patients experience catastrophic costs related to TB diagnosis and care in Timor-Leste. *International Journal of Tuberculosis and Lung Disease*, *23*(11), 1191–1197. doi:10.5588/ijtld.18.0765

Vodstrcil LA, Plummer ME, Fairley CK, Tachedjian G, Law MG, Hocking JS, Worthington MK, Grant MM, Okoko N, Bradshaw CS. Combined oral contraceptive pill-exposure alone does not reduce the risk of bacterial vaginosis recurrence in a pilot randomised controlled trial. *Scientific Reports*, *9*(1), 3555. doi:10.1038/s41598-019-39879-8

Vreeman RC, Scanlon ML, Tu W, Slaven JE, McAteer CI, Kerr SJ, Bunupuradah T, Chanthaburanum S, Technau KG, Nyandiko WM. Validation of a self-report adherence measurement tool among a multinational cohort of children living with HIV in Kenya, South Africa and Thailand. *Journal of the International AIDS Society*, *22*(5). doi:10.1002/jia2.25304

Walker MR, Leung P, Eltahla AA, Underwood A, Abayasingam A, Brasher NA, Li H, Wu BR, Maher L, Luciani F, Lloyd AR, Bull RA. Clearance of hepatitis C virus is associated with early and potent but narrowly-directed, Envelope-specific antibodies. *Scientific Reports*, *9*(1), 13300. doi:10.1038/s41598-019-49454-w

Wand H, Morris N, Dassaye R, Reddy T, Ramjee G. Correlates of Sexually Transmitted Infections Among South African Women Using Individual- and Community-Level Factors: Results from Generalized Additive Mixed Models. *Archives of Sexual Behavior: an interdisciplinary research journal*, *49*(6), 1875–1886. doi:10.1007/s10508-018-1315-3

Wand H, Reddy T. Population-level impact of information sources on HIV testing uptake in South Africa: gender and age disparities. *International Journal of STD and AIDS*, *30*(8), 756–764. doi:10.1177/0956462419840859

Wand H, Reddy T, Ramjee G. Investigating spatial disparities in high-risk women and HIV infections using generalized additive models: Results from a cohort of South African women. *Spatial and Spatio-temporal Epidemiology*, *30*. doi:10.1016/j.sste.2019.100283

Wang SS, Kotecha RS, Bernard A, Blyth CC, McMullan BJ, Cann MP, Yeoh DK, Bartlett AW, Ryan AL, Moore AS, Bryant PA, Clark J, Haeusler GM. Invasive fungal infections in children with acute lymphoblastic leukaemia: Results from four Australian centres, 2003-2013. *Pediatric Blood and Cancer*, *66*(10). doi:10.1002/pbc.27915

Wangdi K, Kasturiaratchi K, Nery SV, Lau CL, Gray DJ, Clements ACA. Diversity of infectious aetiologies of acute undifferentiated febrile illnesses in south and Southeast Asia: A systematic review. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-4185-y

Ward J, Guy RJ, Rumbold AR, McGregor S, Wand H, McManus H, Dyda A, Garton L, Hengel B, Silver BJ, Taylor-Thomson D, Knox J, Donovan B, Law M, Maher L, Fairley CK, Skov S, Ryder N, Moore E, Mein J, Reeve C, Ah Chee D, Boffa J, Kaldor JM. Strategies to improve control of sexually transmissible infections in remote Australian Aboriginal communities: a stepped-wedge, cluster-randomised trial. *The Lancet Global Health*, *7*(11), e1553–e1563. doi:10.1016/S2214-109X(19)30411-5

Wei L, Chen L, Zhang H, Yang Z, Zou H, Yuan T, Xiao Y, Liu S, Tan W, Xie W, Liu L, Cheng J, Zhao J. Use of gay app and the associated HIV/syphilis risk among non-commercial men who have sex with men in Shenzhen, China: A serial cross-sectional study. *Sexually Transmitted Infections*, *95*(7), 496–504. doi:10.1136/sextrans-2018-053902

Weikum D, Kelly-Hanku AP, Hou P, Kupul M, Amos-Kuma A, Badman SG, Dala N, Coy KC, Kaldor JM, Vallely AJ, Hakim AJ. Kuantim mi tu ("Count me too"): Using multiple methods to estimate the number of female sex workers, men who have sex with men, and transgender women in papua new Guinea in 2016 and 2017. *Journal of Medical Internet Research*, *21*(3). doi:10.2196/11285

White SL, Rawlinson W, Boan P, Sheppeard V, Wong G, Waller K, Opdam H, Kaldor J, Fink M, Verran D, Webster A, Wyburn K, Grayson L, Glanville A, Cross N, Irish A, Coates T, Griffin A, Snell G, Alexander SI, Campbell S, Chadban S, Macdonald P, Manley P, Mehakovic E, Ramachandran V, Mitchell A, Ison M. Infectious disease transmission in solid organ transplantation: Donor evaluation, recipient risk, and outcomes of transmission. *Transplantation Direct*, *5*(1). doi:10.1097/TXD.0000000000000852

Whitford K, Callander D, Smith LW, Guy R, Kong M, Ward J, Donovan B, McManus H, Bell S, McGregor S, Menon A, Russell D, O'Connor CC, ACCESS collaboration. Two Distinct Gonorrhea Trends and Risk Factors Among Women in Australia. *Sexually Transmitted Diseases*, *47*(1), 34–40. doi:10.1097/olq.0000000000001086

Wiseman V, Lagarde M, Kovacs R, Wulandari LPL, Powell-Jackson T, King J, Goodman C, Hanson K, Miller R, Xu D, Liverani M, Yeung S, Hompashe D, Khan M, Burger R, Christian CS, Blaauw D. Using unannounced standardised patients to obtain data on quality of care in low-income and middle-income countries: Key challenges and opportunities. *BMJ Global Health*, *4*(5). doi:10.1136/bmjgh-2019-001908

Wu BR, Eltahla AA, Keoshkerian E, Walker MR, Underwood A, Brasher NA, Agapiou D, Lloyd AR, Bull RA. A method for detecting hepatitis C envelope specific memory B cells from multiple genotypes using cocktail E2 tetramers. *Journal of Immunological Methods*, *472*, 65–74. doi:10.1016/j.jim.2019.06.016

Wu D, Tang W, Lu H, Zhang TP, Cao B, Ong JJ, Lee A, Liu C, Huang W, Fu R, Li K, Pan SW, Zhang Y, Fu H, Wei C, Tucker JD. Leading by Example: Web-Based Sexual Health Influencers Among Men Who Have Sex With Men Have Higher HIV and Syphilis Testing Rates in China. *Journal of Medical Internet research*, *21*(1). doi:10.2196/10171

Wu Y, Ghaly S, Kerr S, Jackson B, Hanigan K, Martins D, Krishnaprasad K, Mountifield RE, Whiteman DC, Bampton PA, Gearry RB, Radford-Smith GL, Lawrance IC. Level of UV Exposure, Skin Type, and Age Are More Important than Thiopurine Use for Keratinocyte Carcinoma Development in IBD Patients. *Digestive Diseases and Sciences*, *65*(4), 1172–1179. doi:10.1007/s10620-019-05818-w

Wulandari LPL, Ruddick A, Guy R, Kaldor J. "Self-testing sounds more private, rather than going to the clinic and everybody will find out": Facilitators and barriers regarding HIV testing among men who purchase sex in Bali, Indonesia. *PLoS Neglected Tropical Diseases*, *14*(4), e0214987. doi:10.1371/journal.pone.0214987

Wyman Engen N, Huppler Hullsiek K, Belloso WH, Finley E, Hudson F, Denning E, Carey C, Pearson M, Kagan J. A randomized evaluation of on-site monitoring nested in a multinational randomized trial. *Clinical Trials*, *17*(1), 3–14. doi:10.1177/1740774519881616

Xu Y, Ollerton MT, Connick E. Follicular T-cell subsets in HIV infection: recent advances in pathogenesis research. *Current Opinion in HIV and AIDS*, *14*(2), 71–76. doi:10.1097/COH.0000000000000525

Yang F, Janamnuaysook R, Boyd MA, Phanuphak N, Tucker JD. Key populations and power: people-centred social innovation in Asian HIV services. *Lancet HIV*, *7*(1), e69–e74. doi:10.1016/S2352-3018(19)30347-9

Yap L, Simpson P, Richters J, Donovan B, Grant L, Butler T. Disclosing sexuality: Gay and bisexual men's experiences of coming out, forced out, going back in and staying out of the 'closet' in prison. *Culture, Health and Sexuality*. doi:10.1080/13691058.2019.1668963

Yuan T, Fitzpatrick T, Ko NY, Cai Y, Chen Y, Zhao J, Li L, Xu J, Gu J, Li J, Hao C, Yang Z, Cai W, Cheng CY, Luo Z, Zhang K, Wu G, Meng X, Grulich AE, Hao Y, Zou H. Circumcision to prevent HIV and other sexually transmitted infections in men who have sex with men: a systematic review and meta-analysis of global data. *The Lancet Global Health*, *7*(4), e436–e447. doi:10.1016/S2214-109X(18)30567-9

Zaunders J, Dyer WB, Churchill M, Munier CML, Cunningham PH, Suzuki K, McBride K, Hey-Nguyen W, Koelsch K, Wang B, Hiener B, Palmer S, Gorry PR, Bailey M, Xu Y, Danta M, Seddiki N, Cooper DA, Saksena NK, Sullivan JS, Riminton S, Learmont J, Kelleher AD. Possible clearance of transfusion-acquired nef/LTR-deleted attenuated HIV-1 infection by an elite controller with CCR5 Δ32 heterozygous and HLA-B57 genotype. *Journal of Virus Eradication*, *5*(2), 73–83.

Zhang EJ, Chughtai AA, Heywood A, MacIntyre CR. Influence of political and medical leaders on parental perception of vaccination: A cross-sectional survey in Australia. *BMJ Open*, *9*, e025866. doi:10.1136/bmjopen-2018-025866

Zhang L, Zou H, Zhao Y, Hu C, Atanda A, Qin X, Jia P, Jiang Y, Qi Z. Association between blood circulating Vitamin D and colorectal cancer risk in Asian countries: a systematic review and dose-response meta-analysis. *BMJ Open*, *9*(12). doi:10.1136/bmjopen-2019-030513

Zhang Y, Tang S, Li K, Tso LS, Bayus BL, Glidden D, Yang B, Zheng H, Wei C, Tucker J, Tang W. Quantitative evaluation of an innovation contest to enhance a sexual health campaign in China. *BMC Infectious Diseases*, *19*(1). doi:10.1186/s12879-019-3746-4

Professor Andrew Grulich (top left), Professor Jason Grebely (top right) and Associate Professor Garrett Prestage (bottom) were recognised as Australia's leaders in their research fields – Sex & Sexuality, Gastroenterology & Hepatology, and AIDS & HIV respectively – by *The Australian*'s 2019 special report on Research.

The report analyses papers published in the top 20 journals in more than 250 fields of research across the past five years and identifies the authors (and institutions) that have the most citations of their papers in these journals.

One of the Kirby Institute researchers involved in the program as both a lecturer and mentor is Dr Stefanie Vaccher, who recently completed her PhD on adherence to HIV pre-exposure prophylaxis (PrEP), a highly effective HIV prevention strategy. "This was the first stats lecture I have given since my PhD was accepted earlier this year, and it was a fantastic experience for me personally being able to share some of the knowledge that I have been fortunate to acquire, and put into play, through completing my thesis," said Dr Vaccher. "I'm so proud to be involved in this program, and grateful for the opportunity to work with such an impressive group of people from our wider region."

DAVID COOPER HIV/AIDS RESEARCH TRAINING PROGRAM

An innovative new training program run by the Kirby Institute will enhance HIV research capacity in the Asia Pacific region.

In March this year, the Kirby Institute launched a new research capacity building initiative – called the Cooper HIV/AIDS Research Training (CHART) Program.

With the support of an unconditional grant from ViiV Healthcare, the Kirby Institute has developed a hands-on program that will develop the skills of HIV researchers in the Asia-Pacific region.

The CHART Program was a vision of the Institute's late director, Professor David Cooper, who passed away in March 2018, to build on 10 years' experience of the Kirby Institute's research training programs in countries of the Asia-Pacific region. "David was passionate about capacity building initiatives in our region; not only to upskill researchers, but to ensure they are able to translate their newly acquired skills into active contributions to research and policy development in their own countries," says Associate Professor Kathy Petoumenos, who is the course director for the CHART Program.

Across two weeks in August, we were delighted to host the first eight participants of the program. The participants travelled from Indonesia, Myanmar, Philippines and South Korea and were selected in a competitive application process. Using the skills learnt through the twelve-month program, they will be equipped prepare research reports for national policy makers, as well as manuscripts for publication in peer-reviewed medical journals.

"This is an excellent opportunity for Kirby Institute researchers to share their expertise and experience with colleagues from across the Asia-Pacific region. Participants will leave with new skills and knowledge that will drive HIV research and policy in their home countries," said Professor Anthony Kelleher, Director of the Kirby Institute. "This program exemplifies a core Kirby Institute value: to share knowledge and build capacity with the aim of allowing communities to develop their own solutions to infectious disease challenges."

Professor John Kaldor, head of the Public Health Interventions Research Program at the Kirby Institute says that it is important to engage and collaborate with other countries in our region, especially those where HIV is still epidemic, and that building the capacity of the local workforce is critical.

"Each country has its own unique set of challenges when it comes to tackling HIV, and no one is more aware of these than the people on the ground," he said. "I don't think it's our role to tell other countries what will work for them, but rather to share our knowledge and experiences about how to do the most relevant research, so that they are equipped and empowered with tools to implement change in their own way. Having met this first round of participants, I'm excited to see how they will shape healthier futures for their communities."

The CHART Program is supported by an unconditional education grant from ViiV Healthcare. The Kirby Institute is a global partner of the Structured Operational Research Training Initiative (SORT IT), coordinated by TDR, the Special Programme for Research and Training in Tropical Diseases, hosted at the World Health Organization.

CHART
David Cooper
HIV/AIDS Research
Training Program

Patrick Castillo Eustaquio, one of the CHART participants from the Philippines, has continued to progress his research career with some remarkable achievements. His oral poster, "Key population-led, community-based test-and-treat approach to address the gaps in the HIV care cascade among men who have sex with men and transgender-women in the Philippines: A retrospective cohort analysis", was accepted into the AIDS2020 Virtual Conference which took place in July 2020. He was also offered Master of Public Health admission at two UK universities, with recommendations from Kirby Institute researchers he met through CHART. "This program has really changed my life," he said. Patrick will be enrolling at Imperial College, London in 2020.

> ***"This is an excellent opportunity for Kirby Institute researchers to share their expertise and experience with colleagues from across the Asia-Pacific region. Participants will leave with new skills and knowledge that will drive HIV research and policy in their home countries."***
>
> **PROFESSOR ANTHONY KELLEHER**
> **DIRECTOR, KIRBY INSTITUTE**

2019 EXTERNAL FUNDING

National Health and Medical Research Council (NHMRC)

Program grants	AUD$
Addressing the major challenges in HIV vaccine and cure research	1,246,008
Discovery and translation of interventions to control sexually transmitted infections and their consequences	1,338,372
Improving the health of people with problematic drug use: hepatitis C and drug dependence	844,554
Pathological and therapeutic antibody production	53,228

Development grants	
Development and validation of a latent tuberculosis diagnostic	128,596

Project grants	
Aboriginal and non-aboriginal women perpetrators of violence: a trial of a prison-based intervention (Beyond Violence)	99,412
A randomised controlled trial of azithromycin versus doxycycline for the treatment of rectal chlamydia infection in men who have sex with men	29,877
A randomised trial to compare dolutegravir+darunavir/r versus recommended standard of care antiretroviral regimens in patients with HIV infection who have failed recommended first line therapy	554,740
Developing youth-centred health promotion strategies to prevent and mitigate the adverse health impacts of adolescent pregnancy in PNG	249,114
Modelling the impact of strategies to control gonorrhoea and minimise the threat of antimicrobial resistance in remote indigenous and other high risk populations	123,098
New strategies to increase testing and treatment for endemic sexually transmitted infections in remote Aboriginal communities	18,130
Point-of-care HPV DNA testing for cervical cancer screening in high-burden, low-resource settings	44,906
Resolving human immunodeficiency virus (HIV) transmission	219,277
Risk factors for long-term chronic disease events in HIV-positive persons: the D:A:D cohort study	214,015
Risk of hepatitis C reinfection among people with current injecting drug use following successful HCV treatment (SHARP-P and SHARP-C)	454,424
SCALE-C: Strategies for hepatitis C testing and treatment in Aboriginal communities that lead to elimination	506,749
School versus community-based albendazole deworming for control of soil transmitted helminths in school-age children in the Philippines	523,163
Solving delivery of gene therapy for control of human immunodeficiency virus infection	255,839
TB control in an endemic setting: socio-cultural knowledge to design context-specific public health promotion, solutions and actions in PNG	538,627
The sexual health and attitudes of Australian prisoners	476,928
The third Australian study of health and relationships (ASHR3): a nationally representative sexual health survey	186,899
Use of molecular resistance assays to provide alternative oral treatment strategies for gonorrhoea in Indigenous and other high-risk populations; a randomised cluster trial	52,933

Partnership grants	
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV	318,699
Enhancing treatment of hepatitis C in opioid substitution settings II (ETHOS II)	124,378
Identifying and addressing gaps in Australia's adolescent HPV vaccination program	82,772
Implementation of an integrated model of chlamydia case management in general practice	5,000
Protecting the blood supply against infectious disease by strengthening the evidence base that guides donor selection and screening policy	362,520
Surveillance and treatment of prisoners with hepatitis C (SToP-C)	198,110
The HIV prevention revolution: measuring outcomes and maximising effectiveness	171,002
Uptake, sustainability and impact of scaling up point-of-care testing for sexually transmissible infections in remote and regional Aboriginal communities (TTANGO 2)	66,390

Centres of Clinical Research Excellence	
Centre for Research Excellence in Cervical Cancer Control (C4)	22,440
Integrated Systems for Epidemic Response (ISER)	384,049
The Australian Centre for the Control and Elimination of Neglected Tropical Diseases	463,655

European Union Collaborative Research Grants	
European AIDS vaccine initiative 2020	50,000

Fellowships	
Dr Benjamin Bavinton (Early Career Fellowship)	82,950
Dr David Boettiger (Early Career Fellowship)	127,950
Prof Tony Butler (Principal Research Fellowship)	174,433
Dr Louise Causer (Early Career Fellowship)	90,450
Prof Miles Davenport (Senior Research Fellowship)	145,607
Prof Basil Donovan (Practitioner Fellowship)	118,810
Scientia Prof Gregory Dore (Practitioner Fellowship)	118,810
Prof Jason Grebely (Career Development Fellowship)	122,663
Prof Andrew Grulich (Principal Research Fellowship)	159,433
Prof Rebecca Guy (Senior Research Fellowship)	160,607
Dr Bridget Haire (Early Career Fellowship)	82,950

	AUD$
Dr Behzad Hajarizadeh (Early Career Fellowship)	82,950
Scientia Prof John Kaldor (Senior Principal Research Fellowship)	180,319
Dr David Khoury (Early Career Fellowship)	82,950
Prof Matthew Law (Principal Research Fellowship)	159,433
Prof Andrew Lloyd (Practitioner Fellowship)	128,565
Prof Raina MacIntyre (Principal Research Fellowship)	159,433
Prof Lisa Maher (Senior Research Fellowship)	131,783
Dr Marianne Martinello (Early Career Fellowship)	48,975
A/Prof Gail Matthews (Career Development Fellowship)	122,664
Dr Nicholas Medland (Early Career Fellowship)	90,450
A/Prof Mark Polizzotto (Early Career Fellowship)	90,450
Dr Lucia Romani (Early Career Fellowship)	82,950
Prof Andrew Vallely (Career Development Fellowship)	122,663
Dr Lisa Vallely (Early Career Fellowship)	82,950
A/Prof Vanessa Venturi (Career Development Fellowship)	122,662
Prof Virginia Wiseman (Career Development Fellowship)	122,663
Dr. Huachan Zou (Early Career Fellowship)	27,650
Postgraduate Scholarships	
Dillon Adam	29,849
Nila Dharan	43,341

Australian Research Council (ARC)

Discovery projects	
An interdisciplinary approach to host-pathogen interactions in infection	156,578
Understanding global biomedical technologies in local realities	144,932

Australian Governments

Federal Department of Health	
Australian collaboration for co-ordinated enhanced sentinel surveillance (ACCESS)	537,507
Enhanced response to addressing sexually transmissible infections (and blood borne viruses) in Indigenous populations	60,066
Extended genital warts surveillance network	122,000
Modelling of optimal use of the national medical stockpile in the event of an attack with anthrax	136,364
National hepatitis C data collection project – REACH-C	219,690
Research activities for blood borne virus and sexually transmissible infections	483,000
Services to operate the National Trachoma Surveillance and Reporting Unit 2018–2021	300,000
Surveillance activities	1,072,728
NSW Ministry of Health	
Enhancing treatment of hepatitis C in opioid substitution settings II (ETHOS II)	150,000
EPIC-NSW: extended PrEP implementation in communities in NSW	89,160
Identifying and addressing gaps in Australia's adolescent HPV vaccination program	30,000
The HIV prevention revolution: measuring outcomes and maximising effectiveness	288,000
The NSW prevention research support	499,800
The NSW research program for HIV, STIs and viral hepatitis	187,500
Other Government Departments	
ACT arm of EPIC-NSW (ACT Health)	7,848
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (ACT Health Directorate)	3,225
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (Department of Health, Northern Territory)	9,635
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (Department for Health and Wellbeing, SA Health)	14,877
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (Department of Health and Human Services, Tasmania)	1,629
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (Department of Health and Human Services, Victoria)	188,111
Developing and implementing systems to optimise treatment, care and support among people diagnosed with HIV (Department of Health, Western Australia)	19,171
Engagement of professional services to assist with the development and delivery of a Mental Health Deconfliction Minimal Viable Product ("MVP") using artificial intelligence principles	54,716
Evaluation of the electronic monitoring of domestic violence offenders program (NSW Department of Justice)	49,994
"Filling in the gaps" – using a big data approach and text mining to enrich COPS data to inform prevention strategies in domestic and family violence (Australian Institute of Criminology)	15,958
Future Research Leadership Fellowship – Associate Professor Mark Polizzotto (Cancer Institute NSW)	120,000
HIV (PrEP) Implementation (WA Health)	80,143
Identifying and addressing gaps in Australia's adolescent HPV vaccination program (WA Health)	25,000

	AUD$
Improving the dispensing of antibiotics by private drug sellers in Indonesia (DFAT)	525,000
National HIV seroconversion study (QLD Health)	9,389
Reducing impulsivity in repeat violent offenders using a selective serotonin reuptake inhibitor (NSW Department of Justice)	2,790,000
Reporting framework and surveillance report for stis and BBVs in the ACT (ACT Health)	65,997

National Institutes of Health, USA

A randomised study of interferon-free treatment for recently acquired hepatitis C in people who inject drugs and people with HIV coinfection (REACT)	1,519,176
Anti-influenza hyperimmune intravenous immunoglobulin (FLU-IVIG) international	102,240
Asia-Pacific HIV research collaboration: cancer studies (subcontract with American Foundation for AIDS Research)	115,943
Ecology of African highland malaria (subcontract with University of California)	74,063
INSIGHT – FLU 002 & FLU 003 (subcontract with University of Minnesota)	638,481
Mechanisms limiting neonatal immunity (subcontract with Cornell University)	65,765
START study (subcontract with University of Minnesota)	571,717
TREAT Asia HIV Observational Database (subcontract with American Foundation for AIDS Research)	348,494
TREAT Asia pediatric HIV observational database (TApHOD) (subcontract with American Foundation for AIDS Research)	291,127
Immunological strategies to modulate SIV rebound following ART interruption	143,319

Other grants and contracts

Australian	
The impact of improving hepatitis C treatment on hepatocellular carcinoma (Cancer Council NSW)	145,812

International	
CanHepC trainee competition (Candadian Network on Heptatitis C)	84,939
Conduct scoping literature reviews on HTLV-1 infection, covering the areas of epidemiology, health impact and clinical and public health responses	95,662
Comparing qPCR and microscopy for the diagnosis of soil-transmitted helminth infections in the context of a large-scale deworming trial (Royal Society of Tropical Medicine and Hygiene)	8,912
D²EFT study (UNITAID)	3,942,510
Making health financing work for the poor: an evaluation of equity in health systems financing in Indonesia (London School of Hygiene and Tropical Medicine)	126,877
Modelling analysis on the potential impact of PrEP in Indonesia (World Health Organization)	16,075
Point-of-care testing and treatment of sexually transmitted infections to improve pregnancy outcomes in resource-limited, high-burden settings (PNG Institute of Medical Research)	297,800
To conduct a systematic review of current literature to estimate the frequency of HCV infection among HIV-positive and HIV-negative men who have sex with men (MSM) globally	21,826

Pharmaceutical industry

	AUD$
AbbVie Pty Ltd	1,430,294
Celgene International II Srl	813,400
Gilead Science Inc (USA)	73,991
Gilead Science Pty Ltd	262,084
Janssen-Cilag Pty Ltd	-
Leidos Biomedical Research, Inc.	486,439
Merck Sharp & Dohme	175,021
Sanofi Pasteur	87,216
Seqirus Australia Pty Ltd	162,763
ViiV Healthcare UK Ltd	1,016,059
TOTAL	**35,281,285**
DONATIONS	**549,284**

It is through the valued support of our funders that the Kirby Institute is able to conduct the leading-edge research that is improving health outcomes in Australia and beyond.

REMEMBERING PROFESSOR DAVID COOPER AC

To mark the one-year anniversary of the passing of Professor David Cooper AC, inaugural Director of the Kirby Institute and world-renowned immunology expert, the David Cooper Memorial Fund was launched to honour David's legacy and support the continuation of his great work.

Friends, colleagues and followers of David's career joined his family to fill out the Berg Family Foundation Seminar Room to celebrate David's life. In honour of David's memory, in addition to launching the David Cooper Memorial Fund, UNSW Sydney and the Kirby Institute officially renamed the Kirby Institute Boardroom to the David Cooper Boardroom in commemoration of the world-renowned academic.

Referring to Professor Cooper as "one of UNSW's greatest", UNSW Chancellor David Gonski recalled meeting him at a dinner party almost 30 years ago. After learning of David's brilliant work, passion to save lives and advance medical research, Gonski shared that he left the party a changed man, ready to commit himself passionately to contributing to society through his own philanthropy.

David Cooper Memorial Fund launch and naming of the David Cooper Boardroom.
Left to right: Professor Anthony Kelleher, Professor Ian Jacobs, Mrs Dorrie Cooper, Ms Bec Cooper, Ms Illana Cooper and Chancellor David Gonski.

Gonski described David as "a quiet, humble man who managed to drive through enormous change and advancement in his area of medicine." His enduring legacy is a commitment to achieve the widespread prevention, treatment and cure of infectious diseases, and David firmly advocated health as a fundamental human right in all of his endeavours.

David passed away in March 2018, and later that year he was posthumously made Companion in the General Division of the Order of Australia (AC), for his service to medicine in the area of HIV/AIDS research.

Addressing the room, Professor Ian Jacobs, UNSW President and Vice-Chancellor, vowed to continue Professor Cooper's great work at UNSW, officially launching the new David Cooper Memorial Fund, through which the public may support the Kirby Institute in continuing on the path laid out by Professor Cooper.

David's wife, Dorrie Cooper, expressed her gratitude to those who attended in honour of her late husband, as well as her belief in Professor Anthony Kelleher as David's successor, stating "David's work is left in good hands."

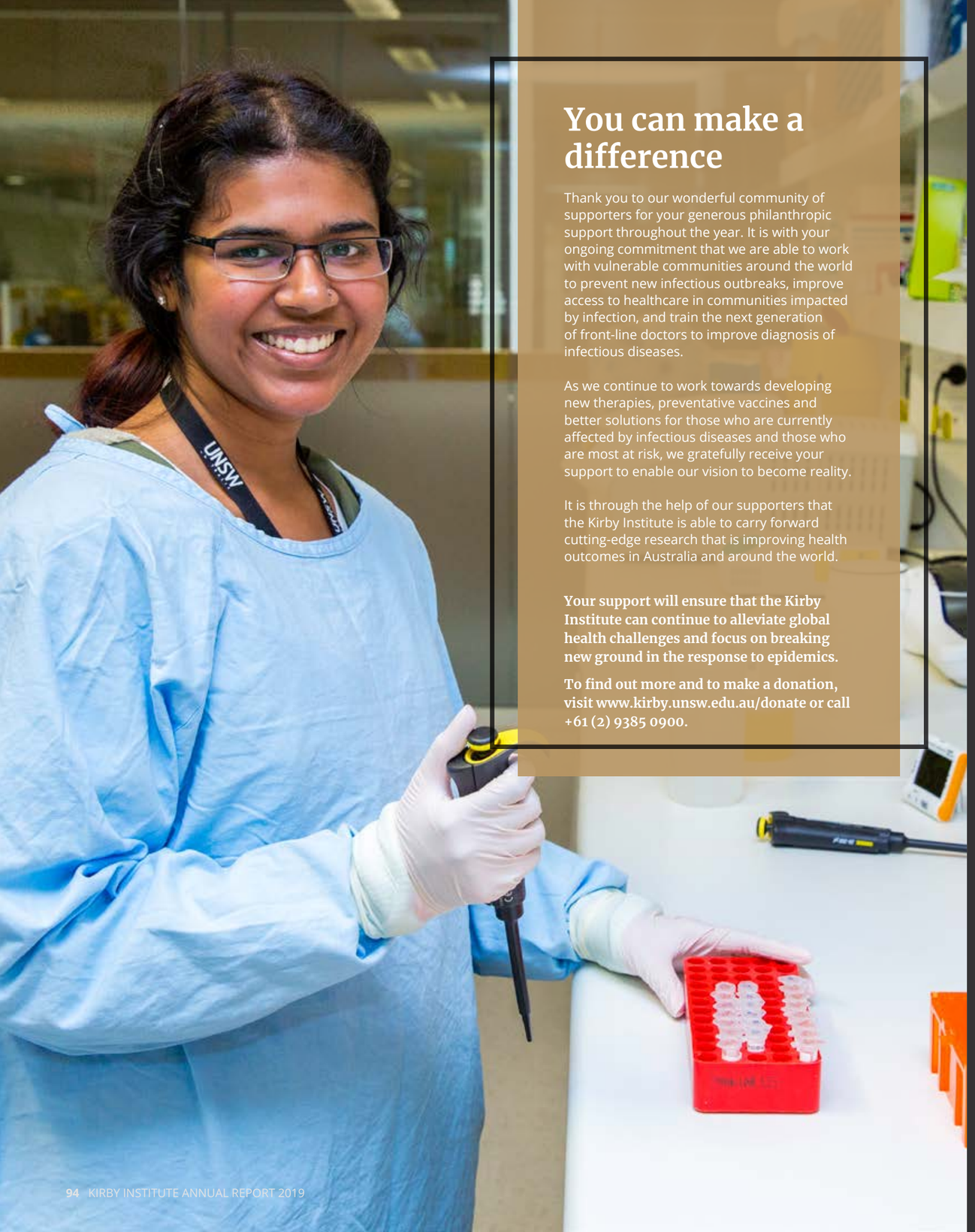
"What Professor Cooper has done for humanity, at a global scale, cannot be overstated. Today, the impacts of his work are directly benefiting many hundreds of thousands of people. And his legacy will continue, ensuring that future generations are safeguarded, as far as possible, against HIV and other infectious diseases," said Professor Jacobs.

The launching of the David Cooper Memorial Fund reinforced the commitment of the Kirby Institute to carry on David's work with immense dedication, honour and pride.

The evening ended with the group gathering on the balcony of the new David Cooper Boardroom, looking back towards the city. Gonski commented that this was the perfect room to name to honour David Cooper, as he was an altruistic man who always looked outwards.

In keeping with David's memory, the David Cooper Memorial Fund will be seeking to continue to advance important infectious disease research for communities who are most at risk. With a priority to support scholarships and fellowships, your support of the David Cooper Memorial fund will enable promising young minds to follow David's footsteps in championing health and making a difference in communities at home and abroad.

> *"What Professor Cooper has done for humanity, at a global scale, cannot be overstated. Today, the impacts of his work are directly benefiting many hundreds of thousands of people. And his legacy will continue, ensuring that future generations are safeguarded, as far as possible, against HIV and other infectious diseases."*
>
> **PROFESSOR IAN JACOBS**
> **UNSW PRESIDENT AND VICE-CHANCELLOR**



You can make a difference

Thank you to our wonderful community of supporters for your generous philanthropic support throughout the year. It is with your ongoing commitment that we are able to work with vulnerable communities around the world to prevent new infectious outbreaks, improve access to healthcare in communities impacted by infection, and train the next generation of front-line doctors to improve diagnosis of infectious diseases.

As we continue to work towards developing new therapies, preventative vaccines and better solutions for those who are currently affected by infectious diseases and those who are most at risk, we gratefully receive your support to enable our vision to become reality.

It is through the help of our supporters that the Kirby Institute is able to carry forward cutting-edge research that is improving health outcomes in Australia and around the world.

Your support will ensure that the Kirby Institute can continue to alleviate global health challenges and focus on breaking new ground in the response to epidemics.

To find out more and to make a donation, visit www.kirby.unsw.edu.au/donate or call +61 (2) 9385 0900.

Editors

Lucienne Bamford & Estelle Jones

Design & layout

Elaine Lee

Photography

Bec Lewis, BL Imaging, blimaging.com.au
Conor Ashleigh, conorashleigh.com

With special thanks to:

Anthony Kelleher
Michael Kirby
Janette Button
Daren Draganic
Eilis Duggan
Renecia Lowe
Lisa Patane
Vicky Sawatt
Kate Whitford

Kirby Institute
Level 6, Wallace Wurth Building
UNSW Sydney NSW 2052

T: +61 (2) 9385 0900
F: +61 (2) 9385 0920
E: recpt@kirby.unsw.edu.au

KIRBY.UNSW.EDU.AU
THEKIRBYINSTITUTE
@KIRBYINSTITUTE


PANEL: ACCESS TO NEEDLE SYRINGE PROGRAMS FOR PEOPLE WHO ARE INCARCERATED AS A HUMAN RIGHT
Assistant Commissioner Luke Grant
Mr Stuart Loveday
Ms Colette McGrath
Adam (community member)
Professor Andrew Lloyd AM
Ms Annie Madden AO
Associate Professor Kate Seear
Facilitator: Scientia Professor Carla Treloar