

Viruses in May 2017

Diagnostics, Gastroenteritis, Respiratory and Global
11-13 May 2017



Viruses in May



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Thursday 11 – Saturday 13 May
The Carrington Hotel, Katoomba



We would like to thank all our participants, and our sponsors:



The Diagnostic Specialist





Who is this?



Thursday – Principles & Diagnostics

- Kerry Chant
 - Epidemic response
- Bill Rawlinson
 - Phylogeny
 - Pathogenesis
 - ZIKV



Thursday

- Phillip Cunningham
 - HIV DBS
 - Get your pregnancy and your HIV
- Greg James
 - Importance of experienced staff
 - “If anything comes back it must be soaked in hypochlorite”
 - Just after asked to speak at ViM17 two children became pregnant
 - “I don’t have much faith in CE marked tests”



Thursday

- Vitali Sintchenko

- A lot of you are early adopters
- I will try not to mention too many bacteria
- Power of unbiased pathogen discovery using NGS
- Francisella from ring tail possums
- Only one bacteriology graph in my talk – “Farm to fork”
- The majority of reads are discarded – which makes you sad

- Cameron Webb

- “We’re not going to solve the problem by going around tipping out buckets of water in people’s backyards”
- Mosquito control – pesticides resistance, genetically modified sterile males with promise in Brazil, use of insect specific parasites (Wolbachia), new insect specific viruses
- Cryptic habitats



Thursday

- David Speers

- Arboviruses Alpha, Flavi, Bunya
- Laboratory diagnosis difficult
- Serological cross reactivity
- Treatment symptomatic as no antivirals



- Mary Moran

- What was changing things was Ebola – how much would the funding be in 2017 from \$130m during outbreak,
- Total funding for neglected diseases is \$3.2 billion
- HIV in children ~50 pa in USA, ~13 million in subsaharan Africa
- <5% of pts with XDR TB get treatment in developing countries
- 19 year old with XDR TB in hospital for 3 years



Friday – Gastroenteritis

- Chris McIver

- Importance of other viruses in noro negative patients
- Sapovirus common in some populations - Japan

- Rowena Bull

- Rotavirus less frequent since vaccine
- IP 2 dys, fever in 30% with rota
- Rota protein coat enables virus stability
- Rotarix effectiveness 57-84%, RotaTeq effectiveness 45-90% -> decline in US rotavirus positive tests by 75%
- Norovirus highly efficient pathogen and evolved to infect groundwater leading to berry infections
- “particularly at weddings” “My favourite (contamination) is the biscuit tin”



Friday

- Nigel Crawford

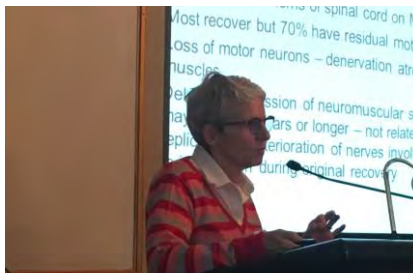
- I'm not a virologist or lab scientist
- Experiences in high risk groups, and importance of vaccine immunogenicity (HPV high) and patient therapy
- Zostavax national campaign 11/16 for 70-79 year olds, 19400 pfu per 0.65ml dose (~14 fold infants varicella vaccine)

- Cheryl Jones

- “my favourite topic which is viral infections of the brain”
- Encephalitis age influences on aetiology, Australian MVE, WNV related Kunjin Bat lyssavirus, Hendra
- Pathogenesis via direct infection, infection triggered autoimmune mediated encephalitis (HSV, NMDAR), immunogenetic susceptibility to infection,

- Alison Kesson

- Enteroviruses often asymptomatic
- HPeV multiple genotypes, hot angry babies



Friday – Respiratory

- Nusrat Homaira

- Importance of RSV in hospital environments
- Respiratory viruses of less acknowledged importance may cause severe disease

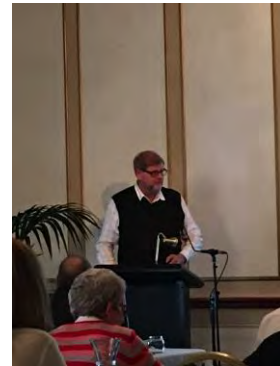


- Jen Kok

- New RSV agents reaching phase 3/release in some trials
- Lack of efficacy, difficulty of use, and expense of existing licensed agents
- RBV, Palivizumab

- Robert Booy

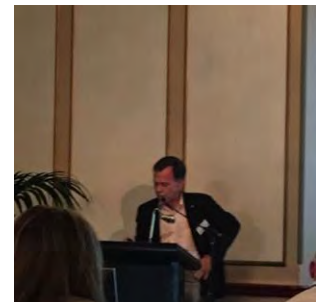
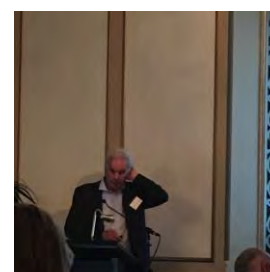
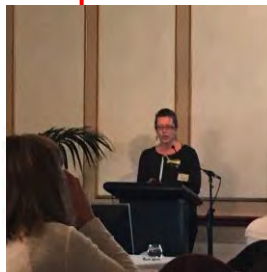
- Zoster vaccine for >70 year olds
- Increased dose (14X) cf to childhood vaccine
- Influenza vaccine efficacy improved by increased dose, adjuvanted vaccine, mucosal approaches
- Vaccine effectiveness falls by ~10% per month



Friday



- **Stuart Hamilton**
 - Importance of novel antiviral development for existing and emerging viruses
 - siRNA when free are problematic, hence delivery vehicle important such as with viral vectors, targeted nanoparticles liposomal complex
- **Dorothy Machalek**
 - Cervical cancer 14th most common cancer in women
 - HPV role in cervical, oropharyngeal, anal, vulval, vaginal, penile
 - HPV 16,18 highest oncogenic potential
 - Gardasil 9 valent HPV 6,11,16,18,31,33,45,62,58 – two dose
- **Tony Cunningham**
 - Explained he had arrived after renegotiating his 457 visa
 - Importance of HSV control by CD4 and CD8 T cells
 - Activity stimulated by adjuvants dMPL (lipid A), QS21 (Saponin)
 - HSV2 gD/dMPL vaccine 58% protective against HSV1 genital herpes
 - Zoster vaccine efficacy in >60 years 51%
 - Zoster gE with DMPO + QS21
- **Andrew Lloyd**
 - All the easy vaccines are made, problems with rapidly mutating RNA viruses
 - WHO global elimination target for HCV- 90% incident reduction by 2030
 - Nice guy in prison kept injecting, 4 episodes of HCV infection



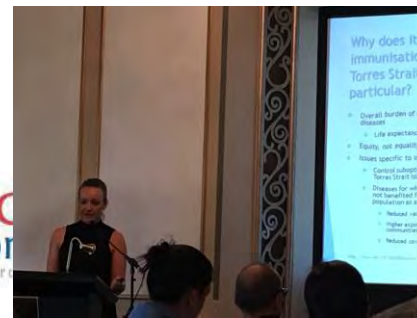
Saturday – Global Health



- Mike Catton
 - “we did some freezer archeology”
 - WHO measles – Australia as a passive recipient of D4/D8 genotypes
 - WHO Polio eradication initiative began 1988, 1 and 2 eradicated, 3 not yet formally eradicated. “surveillance for something that isn’t there”
 - More influenza data sequence and metadata
 - Hepatitis B global planning baby steps
- Raina Mcintyre
 - Viruses particularly good for modelling
 - Increased frequency of epidemics, clustering in last decade
 - Lower R_0 easier to control/eradicate.
 - R_0 in Katoomba lower than R_0 in Sydney
 - Measles epidemics in the Netherlands 53% coverage
- Emma Goeman
 - HAV vaccination resulted in 93% decline notification
 - No HAV in 2016
 - HBV 3.9% vs 0.9%, declining
 - Influenza medical message



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Saturday



- Jane Davies

- ATSI 3% of population 9.3% of HBV
- Universal vaccination 1988
- CHARM 204 pts, all Subgenotype C4 serotype ayw3
- We couldn't have a presentation about the NT without a crocodile

- Mariyalawuy Sarah Bukulatjpi

- Going to Darwin like going to another country for Yolngu
- App resource in Yolngu matha language "Only your blood can tell the true story"
- Cancer "Its like a silent killer I can drop dead any time so I take my tablets and pray"

- Janine Barrett

- Bat lyssavirus



Our prime purpose in this life is to help others. And if you can't help them, at least don't hurt them.

And if you can't avoid hurting them, at least be Batman



And if you can't be Batman, at least be a good butler



Talks on the website in ~2 weeks

Bus to the Airport leaving from in front of Carrington at 2 PM.
Please see Rachel



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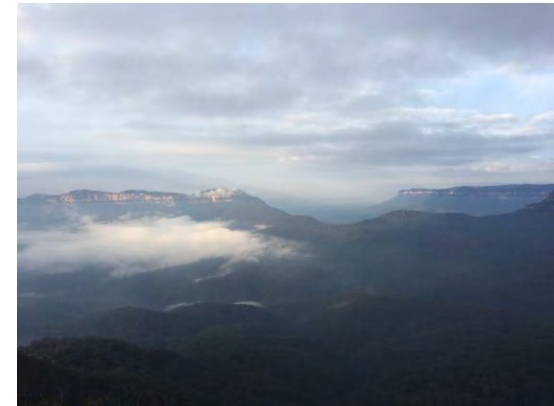
Early May 2018

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2011



2007



2004



2012



2008



2013



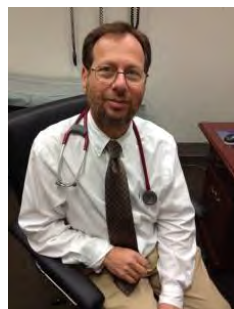
2009



2014



2005
2006



2015



2010

2016



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