e-TB Nurses of Aus

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Newsletter No. 1 - 2013

Given it is already March and is far too late for Happy New Year wishes, we hope that 2013 is shaping up for a better year and that the drought, fires and floods are now behind us for awhile.

With the New Year comes many changes and perhaps resolutions to find a more fulfilling and meaningful job or not at all, less stress, better work-life balance, more flexible hours, different environment and everything else we dream of. There are several TB nurses on the move, if not already, then within the next month. Some have even returned to work when they said they were retiring!! In my 22 years of TB nursing, I have never before seen so many TB positions advertised at the same time - so check out page 3 if you fancy a sea or desert change and are interested in transferring your skills and knowledge to another part of the continent!

There is an interesting variety of articles in this edition so hopefully you will find it a great read. Annmaree's article on the Centre of Research Excellence has created just a bit more passion in me to crank up the nursing research within my own arena. We also have a few reports from various states so one can keep up with what is happening.

As Queensland TB Control Centre is in the midst of transitioning to Metro South Hospital and Health Service, our website will be soon defunct and we will appear within other websites. I will provide the address in the next edition. Therefore, the newsletters will now only appear on the Australian Respiratory Council (ARC) website to whom we are very grateful for sharing their cyberspace.

Enjoy.....and until next time, look after each other

Annmaree Nicholls (co-editor) and Carmel Cochrane (Editor)

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State TB Services Internet sites:

VIC: http://www.health.vic.gov.au/ideas/bluebook

ACT: http://www.health.act.gov.au/c/health?a=da&did=10009573&pid=1207892937

SA: http://www.rah.sa.gov.au/thoracic/about/

WA: http://www.health.wa.gov.au/services/detail.cfm?Unit_ID=519

NSW: http://www.health.nsw.gov.au/publichealth/infectious/tb/index.asp

NT: http://www.health.nt.gov.au/Centre_for_Disease_Control/Tuberculosis_and_Leprosy/index.aspx

TAS: http://www.dhhs.tas.gov.au

QLD: http://www.health.qld.gov.au/qtbcc/

Upcoming Conferences

ICN 25th Quadrennial Congress: *Equity and Access to Health Care*, **18-23 May 2013, Melbourne Convention and Exhibition Centre Melbourne, Australia**

IUATLD 4th Asia Pacific **Conference 2013**: Hanoi, **Vietnam** - April 10-13, **2013**

44th Union World Conference on Lung Health, 30 Oct – 3 Nov 2013, Paris, France

Australasian TB conference, 27 – 29 Nov 2013 at Hilton Hotel Auckland

Northern Territory Government. CNC TB Control Alice Springs
http://www.simplyhired.com.au/a/jobs/list/q-clinical+nurse+consultant+tuberculosis+unit

Western Sydney Local Health District. Parramatta Chest Clinic, TB coordinator CNC position:
CNC2/Area TB Coordinator position is on Mercury from 26/2 - 16/3/13 Position number 105918.
For information please contact Deborah Baverstock, Nursing Unit Manager,
Parramatta Chest Clinic Jeffery House, 162 Marsden Street Parramatta 2150
Ph:98433113 Fax: 98433116 Mob:0409664904 Deborah.baverstock@swahs.health.nsw.gov.au
Western Sydney Local Health District.
Also on website:
http://www.simplyhired.com.au/a/jobs/list/q-clinical+nurse+consultant+tuberculosis+unit

Watch this space for:

- Several positions to be advertised for Brisbane soon &
- TB Coordinator for Southern NSW and Murrumbidgee Local Health Districts

Change of contact numbers for Brisbane TB Centre

The Queensland Tuberculosis Control Centre in Brisbane will soon be known as the **Metro South Clinical TB Service** as we transition under the umbrella of Metro South. We remain in the same building on the Princess Alexandra Hospital campus. For further information, please see the Brisbane Report in this edition.

As part of the transition, we have updated the telephone system and therefore our numbers have changed as of 4 Mar 2013. Our website is being updated to reflect these changes. Our work stations are currently being swapped around to accommodate more project staff so I will provide more specific nursing numbers next edition. The main telephone numbers you will need are:

Main enquiries no. **07 3176 4141**
Primary fax number **07 3176 4194**

NSW 2012 TB Conference Summary

The New South Wales 2012 TB Conference was held over two days on the 1st and 2nd of November 2012. One hundred and fifteen delegates were registered for the conference, representing seven states and territories, a range of national government and non-government organisations, as well as international attendees from New Zealand and Papua New Guinea. The conference program included 16 presentations covering a range of current issues in TB control, as well as two open forum sessions allowing attendees to discuss key challenges in their jurisdictional programs and the development of a national approach to training and development for TB nurses. The conference was enjoyed by all and feedback highlighted a strong interest in undertaking operational research amongst TB nurses.

Chris Lowbridge, Epidemiologist, Tuberculosis & Vector Borne Diseases, Health Protection NSW

Changing of the guards in NSW & ACT: Moving on, Moving In

Staff changes within NSW Health TB Program
Kerrie Shaw has returned to NSW Health taking up a role as the TB Coordinator for South Eastern Sydney Local Health District.

Western Sydney Local Health District is recruiting into the role of TB Coordinator CNC 2. Further information relating to the position can be found on:
https://nswhealth.erecruit.com.au/ViewPosition.aspx?Id=105918

Amanda Christensen, NSW TB Program Manager is taking a year's leave from the 21st March to take up the position of Executive Director with the Australian Respiratory Council. Amanda will be focusing on setting up the 2015 IUATLD Asia Pacific Regional TB Conference to be held in Sydney and expanding educational activities within the region. Amanda is keen to have input from Australian TB Nurses to the conference program and nursing working groups and will keep everyone up to date with conference planning and activities.

Chris Lowbridge will be taking up the role as A/TB Program Manager. Chris will be known to many people as he has worked as the NSW TB Program Epidemiologist for the past year.

Natalie Woodbridge, CNC of Respiratory and Sleep Medicine Outpatients Department at The Canberra Hospital (alias TB coordinator ACT) has called it a day and is moving on to work for the AFP (yes that is the Australian Federal Police). She will be working as a nurse and we believe there are no guns involved! Her replacement is…….. Annmaree Nicholls…… C'mon down Annmaree! Yes, it's all very exciting and sad at the same time; after 29 years, Annmaree is leaving her role as TB Coordinator for Southern NSW and Murrumbidgee Local Health Districts of NSW Health and will commence in her new role in ACT Health at the end of March 2013.

The TB A team from the ACT:
Annmaree Nicholls,
A/ Professor Mark Hurwitz,
Natalie Woodbridge (soon to be an AFP member) and
Michelle Hine

Melissa Carroll, ex-PHN from the Victorian TB Control Program, has moved to sunny but saturated Brisbane and has begun her studying Medicine at University of Queensland. In her spare time, she is maintaining her TB skills by working 1 day a week with the Qld TB Control Centre. We are so very grateful for Mel's assistance and knowledge as we currently struggle with a 40% nursing shortfall whilst staffing for the transition of our service is awaiting finalisation.

Report from the Queensland Tuberculosis Control Centre, Brisbane: Soon to be known as Metro South Clinical TB Service (MSCTB)

By: Carmel Cochrane – Nursing Director
Currently Queensland TB Control Centre, Brisbane, Qld

After months of uncertainty related to the future direction of our service, the Queensland TB Control Centre will remain in its current geographical location in Brisbane but transition into the Metro South Hospital and Health Service (HHS) covering a number of HHSs in south-east Queensland by 30 June 2013. Therefore as our business will change from a statewide responsibility to a more localised clinical focus, our name will also change to **Metro South Clinical TB Service (MSCTB).**

The unit is working towards transitioning the nurse-lead, medically supported unit into the Infection Management stream of the Division of Medicine of Metro South Hospital and Health Services. At this stage the unit will retain all existing clinical positions but unfortunately have to shed 50% of administrative positions. In order for this to occur, we are expediting the implementation of several Information and Communication Technology systems and tools to improve efficiencies (of which we have been awaiting for years):

- new phone system installed: new main numbers on website & page 2 of this newsletter
- working towards rolling out an adapted version of the WHO TB database
- a new appointment system to be implemented
- new nursing structure to be considered
- redesigning and streamlining our clinical practices e.g. results management, data duplication, telehealth medicine for patients as well as staff training and TST re-accreditation and
- re-engineering longstanding manual processes of our patient health records whilst awaiting electronic records

The statewide coordination, data management and training components of our former unit are being transferred to the Department of Health (TB Statewide) who will be the "sorting house" and be responsible for coordinating statewide activities, convening the expert TB working group, fielding enquiries, data management, reporting and analysis and the web. The Centre for Health Related Infection Surveillance and Prevention (CHRISP) headed by a Director (Ms Dolly Olesen) who has a distinguished nursing background and who now has been gifted with TB in her portfolio, has been managing the transition of the TB unit to Metro South whilst gathering the TB team for the system management component in Department of Health. Ms J'Belle Foster has just been appointed to the Clinical Nurse Consultant newly created position of CHRISP/TB Statewide, Leona Burke a senior epidemiologist who just happens to have a previous background in TB nursing in Brisbane and two data management positions. J'Belle commenced on 4 March 2013 and after the initial orientation to the Department of Health will work with the staff at MSCTB for a few months to learn of the functions and tasks. After much initial trauma of our unit closing in late 2012, we now very much look forward to beginning a new chapter in the history of the TB unit in Brisbane.

Do any clinics complete psychiatric assessment on MDRTB patient's pre-treatment commencement? Please share your experiences and return email to the editors. There may even be a prize for the first response!!!

A volunteer experience in Dili, East Timor

By: Helen Tindall - Public Health Nurse (TB Control)
Centre for Disease Control - Health Protection Division, Department of Health, Alice Springs, NT

In October 2012 I travelled to East Timor to volunteer for three weeks at Bairo Pite Clinic (BPC) in Dili. BPC provides free health care to those in need and is the most visited health clinic in East Timor, with over 530 people attending the clinic per day (with a single doctor reviewing patients, coordinating clinic and overseeing the various programs). People travel from all corners of the nation to seek medical attention here and a number of primary health care programs are coordinated from the clinic including a very busy TB unit. This is a very brief synopsis of my experience from a TB program perspective only.

It took me an hour to travel from Darwin to Dili, but I could have travelled to another planet, the differences were so vast. As I sat outside the clinic on my first morning, amongst the waiting crowds I observed an emaciated man sitting against the wall with his knees tucked under his chin, struggling to breathe, his whole rib cage recessing with every inspiration. I was tempted to diagnose him on-sight with all-consuming pulmonary tuberculosis. I then sat in on the morning clinic, and in my first two hours, witnessed seven people (including this man) diagnosed with probable tuberculosis.

The TB section of the clinic consists of two ward rooms with eight and ten hospital beds, and a TB laboratory next to them, where Ziehl-Neelsen staining of sputum specimens is undertaken daily, on specimens ordered for both inpatients and outpatients.


TB laboratory (left);


TB wards (next door to TB Lab and above)

Basic hand washing

Most sputum specimens are not cultured (specimens have to be sent outside East Timor for culturing, and this is only done after treatment failure with persisting smear positivity). There is also a GeneXpert machine in use, for PCR and Rifampicin resistance testing. This is reserved for smear positive specimens, or smear negative specimens where TB confirmation would be useful, e.g. sputum with haemoptysis; or cases of TB treatment failure.

Issues working at Bairo Pite Clinic included an extreme shortage of even the most basic supplies such as gloves, masks, medications and dressings. The above photograph of one of the few hand washing basins at the clinic shows how basic the utilities are. Taps and water outlets are damaged, and liquid soap is watered down so much that it does not lather up.

CXR is only ordered for those in which clinical confirmation would be useful, and patients travel to the radiology department at Guido Valadares Nacional Hospital, approx 2kms away, if CXR required.

The clinic have a coordinated DOTS program, run by competent local health staff with specific training, who provide treatment to >900 people per month, including approx 50 children <5 years old.

There is also a TB sanatorium at a fishing village 20 minutes' drive west of Dili, where I observed approx 20 people at any one time, living together in a pretty setting behind locked gates, awaiting sputum clearance.

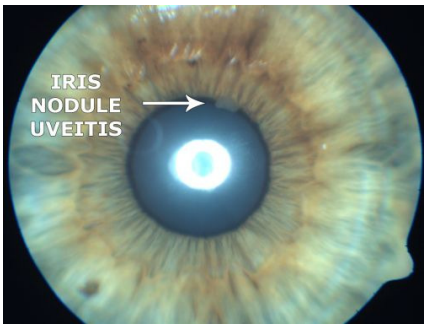
WHO estimates the TB prevalence rate in 2011 for East Timor to be 701 per 100,000 (http://www.who.int/countries/tls/en/). Other health, economic and education statistics include 54% of infants with chronic malnutrition – the world's third highest child malnutrition rate. BPC have a malnutrition program including inpatient area for severely malnourished infants and a World Food Program distribution centre providing fortified cereal to malnourished outpatients. More than 40% of Timorese live in absolute poverty (less than US$1.25 per day) - 80% are unemployed. Many of those employed are in the informal labour market, e.g. fishing, weaving, even selling stones along the foreshore and therefore not protected by the new National Labour Code which has implemented a minimum wage (US$115/month) as well as other employee rights. All statistics I could find online or in discussion with local staff reflect a population surviving in extreme poverty, which was certainly my observation during my time in Dili.

In my time at BPC, the TB beds were usually full with constantly rotating admissions and discharges of people with either confirmed or suspected tuberculosis. TB cases I encountered included: a 56yo man with ten years of weight loss and cough; a young man with overwhelming disseminated TB; a 27yo woman reporting chronic cough who weighed 24kg; a number of cases of TB uveitis; a 60yo woman with total right pleural effusion; an 11yo girl with left hemiparesis, disconjugate gaze and drooping left eyelid following TB meningitis and smear positive TB otitis media.

The most interesting clinical case for me, due to the diagnostic delay and resulting debilitation, was the presentation of a 32yo woman (alias "Maria"), from a village in Lospalos District, to the east of East Timor, and her 11yo daughter (alias "Julia"). Maria reported an 11 year history of extensive, itching lesions over her face. She had a scar on her right clavicle suggestive of previous Scrofuloderma. She was well nourished at 48kg, but reported some weight loss and night sweats. She reported no current or previous respiratory symptoms. Some right sided sub-maxillary lymphadenopathy was palpable. Julia presented to the clinic with her mother wearing dark sunglasses, with a chronic, purulent discharge oozing from both eyes for three years. Upon removal of her sunglasses, she had signs of photophobia, and was unable to open her eyes more than narrowly and briefly. She was well nourished at 30kg, and reported no weight loss, fevers, night sweats or cough. She also had palpable right sided sub-maxillary lymphadenopathy.

The doctor immediately diagnosed Maria on clinical grounds, with Lupus Vulgaris (TB of the skin caused by haematological spread from a primary source elsewhere, occurring in people with moderate immunity such that healing occurs in one area, whilst the lesions extend in another). She also had probable previous Scrofuloderma (TB of the skin caused by contiguous spread from an underlying focus - in this case, a probable supra-clavicular lymphadenopathy). Julia was also diagnosed immediately, with probable TB conjunctivitis, contracted by direct contact with the lesions on her mother's face over many years.

Sputums were not taken because neither had respiratory symptoms. Point of Care HIV and Malaria tests were negative. Both were commenced on standard TB treatment immediately, and admitted for observation. Within 48 hours Maria reported that her facial itching had ceased. Within 72 hours Julia,



who had not attended school for three years due to the vision impairment caused by her conjunctivitis, removed her sunglasses and began playing in the sun. Once able to open her eyes, it was noted that she had phlyctenular kerato-conjunctivitis, inflammation of the conjunctiva and cornea caused by microbes, which has specific clinical features and may result in scarring and vision loss after healing. TB Uveitis was also diagnosed, as the edges of her pupils had visible nodules, as per the photograph below. Upon discharge one week later, her visual acuity was 36/3 (left) and 12/3 (right), with probable permanent damage caused by the uveitis. No specialist follow up was available for this.

I spent some time talking to Maria via a Tetun translator. She and her husband are subsistence farmers, growing corn and other vegetables, which they use to feed themselves, and also sell locally. Maria's husband is a carpenter, but this work is casual and irregular. Julia is the eldest of four children, two of whom had stayed home with their father, while the youngest (3yo) had travelled to Dili with Maria and was staying with extended family whilst Maria and Julia were hospitalised. No other family had any signs or symptoms of TB. The only contact tracing undertaken is to ask this question, and recommend medical review for anyone reporting symptoms.

Maria and Julia had visited many clinicians and healers over years, including at two sub-district hospitals, looking for a diagnosis/cure. In 2010 they spent a week as in-patients, where Julia was given unknown tablets and unknown eye drops, neither of which had helped. Maria had been given a number of different creams over the years, none of which helped, and some of which had exacerbated the itching.

Traditional style homes in Lospalos are thatched, elevated huts like the photograph on the left below. However, Maria reported living in a small concrete, ground-level home. My observations in Dili were that those with a better standard of living have concrete style homes, such as the one on right below, while many live in thatched-roof, mud-floor, bamboo huts without running water or sanitation.

The journey from their home in Lospalos District to Dili (approximately 250km) cost $8 each on a bus which took approximately 5 hours. They stayed with family in Dili, and attended a private clinic first, who were unable to help, but advised them to attend BPC.

This case highlighted the issue of diagnosing a relatively rare form of a common illness in high prevalent settings, with limited education and resources. The rapid improvement once correct treatment had commenced, after so many years of unexplained suffering, with permanent damage related directly to the delayed diagnosis, was at once astounding and devastating.

Report from TB Control Section, Victorian Department of Health

By: Simone Bittmann, PHN Victorian TB Control Program

Lynne Brown is back as the Manager of the TB Control Section at the Victorian Department of Health. It must have been very difficult coming back after 7 months of leave but we are all happy to have Lynne back!

Melissa Carroll has left us for the greener pastures of Queensland to continue her education. Good luck with your studies Melissa, (and we hope your dog is OK!)

Elissa Giddings is on maternity leave, she has had another beautiful baby girl.

Smoke plume from the recent bushfires didn't stop Lucy on a trip to eastern Victoria to visit patients and follow up their contacts. At times during the 4 hour drive through bushfire affected country, the sky was obscured by the vast amount of smoke as this photo from Lucy's car shows:

Refugee Health Network of Australia website

http://www.refugeehealthaustralia.org/

Submitted by Carmel Cochrane, Nursing Director Queensland TB Control Centre, Brisbane

RHeaNA
Refugee Health Network of Australia

What is RHeaNA?

The Refugee Health Network of Australia (RHeaNA) is a network of health and community professionals who share an interest and/or expertise in refugee health. The Network draws members from every Australian State and Territory. RHeaNA was formed in 2009 in recognition that the health needs of people of refugee backgrounds are complex, and cut across all disciplines of medicine. The Network has a multidisciplinary focus and includes clinicians (medical practitioners, nurses and mental health workers), policy experts, health service managers and researchers. Many RHeaNA members work in primary health care, however, the Network draws on the expertise of specialists in the field of mental health, infectious disease, paediatrics and public health. For more information about RHeaNA see: C. Phillips, M. M. Smith, M. Kay and S. Casey (2011). The Refugee Health Network of Australia: towards national collaboration on health care for refugees. Medical Journal of Australia, August, 195(4) 185:186.

RHeaNA aims to:

- inform and support quality holistic health care for refugees in Australia
- provide informed advice on current and emerging issues in refugee health in Australia; including to policy-makers at Commonwealth and State/Territory level
- support the exchange of information between providers of refugee health care across Australia and other relevant stakeholders,
- develop a national research agenda for refugee health, promote and facilitate research in this field and help disseminate research findings.

Membership

RHeaNA is a voluntary organisation. Membership is free and open to any person who is involved in refugee health in Australia and who is supportive of the objectives of the Network. Membership is subject to the approval of the RHeaNA Reference Group.

Benefits of membership

- the opportunity to help shape policy and service provision to improve the health of refugees
- collegiate support and skill-sharing opportunities
- an electronic mailing list to discuss issues and disseminate information
- support for research that relates to the health of refugees
- the opportunity to join RHeaNA's Working Groups
- the opportunity to engage with local refugee health stakeholders and Networks in your State/Territory

To join please fill out this online membership form. Once your membership is approved, you will receive correspondence from the appointed RHeaNA representative in your state or territory.

RHeaNA contact in your State/Territory:

ACT: act@refugeehealthaustralia.org
New South Wales: nsw@refugeehealthaustralia.org
Northern Territory: nt@refugeehealthaustralia.org
Queensland: queensland@refugeehealthaustralia.org
South Australia: sa@refugeehealthaustralia.org
Tasmania: tasmania@refugeehealthaustralia.org
Victoria: victoria@refugeehealthaustralia.org
Western Australia: wa@refugeehealthnetwork.org

Staff Member Profile

By: Simone Bittmann, PHN, Victorian TB Control Program

Introducing our new public health nurse, **Nompilo Moyo**. Nompilo joined the TB Control Section at the Victorian Department of Health in January this year. He wrote about his work history;

"I completed my training in Zimbabwe and was registered as a general nurse in 2000. I worked as an infectious disease nurse at a mental health hospital in Zimbabwe. In 2003 I completed a diploma of psychiatric and mental health nursing. In 2005 I completed a bachelor nursing education degree and became a tutor at Ingutsheni School of nursing in Zimbabwe.
In 2007 I migrated to Australia and worked in acute mental health units at Latrobe Regional Hospital and Southern Health until 2011. I also worked as a quality coordinator at Southern Health. I completed a master of public health and a master of health administration in 2011. I then worked as a nurse educator at TAFE colleges in Melbourne from January 2012 to January 2013. I enjoy researching about public health topics."

Publications:
The safety of nurses during the restraining of aggressive patients in an acute psychiatric unit
http://www.ajan.com.au/ajan_29.3.html

The Centre of Research Excellence (CRE) for Tuberculosis Control

By: Annmaree Nichols, TB Coordinator for Southern NSW & Murrumbidgee Local Health Districts

The centre of TB management is where you currently work but in an attempt to add to the global research of TB a group of likeminded people applied and received a NHMRC grant to fund; **The Centre of Research Excellence (CRE) for Tuberculosis Control: Discovery to Public Health Practice and Policy.** The overall aim of the Australian TB CRE is to facilitate research, research training, translation and collaboration in the field of TB control. The CRE comprises of multi institutional collaboration. Media release; http://www.centenarynews.org.au/containment-of-tb/#more-638

On Nov 27th 2012, the CRE hosted a symposium on:
"What's new in latent TB infection? Controversies in diagnosis and treatment". Speaker Prof Dick Menzies. Montreal Chest Clinic and McGill University Montreal, Canada.
So off I went. What did I learn? Well like all good symposium I left with more questions. The title should have given me a hint…..controversies.

- What is the likely hood someone with LTBI will develop TB?
- How helpful is an IGRA (interferon-gamma release assays) or a TST in predicting the likelihood of someone developing TB?
- What does QFT (QuantiFERON-TB gold in tube) conversion and reversion mean?
- Should we do serial QFT testing? Can we rely on the results?
- Are QFT incubation times crucial in getting a dependable result?

Isoniazid (INH) has been the mainstay of treatment of LTBI since it was discovered. Currently the recommendation is 9mths daily self-administered INH (in Canada and USA). If completed, 9mths therapy is believed to have more than 90% efficacy in preventing progression to TB disease. INH unfortunately can cause severe adverse events none more serious then hepatotoxicity and possible death. While risk factors for this complication are known allowing for better selection of patients for IPT (INH preventative therapy), hepatotoxicity still occurs. Close follow up is required and adds to the complexity of treatment. The length of treatment, reluctance of patients to complete (for many reasons) and reluctance of prescribers to prescribe INH has led to many preventable cases of TB disease to continue to occur. This has resulted in many trials and research in attempt to find shorter, safer and cheaper alternatives. Prof Menzies presented some of the current research outcomes of some of the new regimes. My conclusion was we are still some way off from finding this magic regime.
I recommend you locate and read; Lobue,P and Menzies D. Treatment of latent Tuberculosis infection: An update. *Respirology* (2010) **15**, 603-622

So controversies in treatment covered, what about diagnosis? How do we diagnosis LTBI?
In Australia the current recommendation is TST but we know that IGRAS such as QFT offer logistical advantages over TST and many studies demonstrate comparable sensitivity and improved specificity in

BCG vaccinated individuals. "However"….code for controversy. IRGRAs like TST are a surrogate marker for M.Tuberculosis infection, measuring a cellular immune response to recent or remote sensitisation, neither assay can distinguish between latent and active TB. Neither have prognostic value for determining if a person will progress to active TB as they do not capture information about when infection occurred and how infection was fully, partly or not eliminated by the host. Interferon-y may not be a sufficient biomarker as antigen specific interferon-y response is elicited in almost all stages of the response by the host to M. tuberculosis. Therefore what is needed is more research to identify more predicative biomarkers to improve testing for LTBI. (Rangaka MX, Wilkinson KA, Glynn JR, Ling D, Menzies D, Mwansa-Kambafwile M, Fielding K, Wilkinson RJ and Madukar P. Predictive value of interferon-y release assays for incident active tuberculosis: a systematic review and meta-analysis. *Lancet Infect Dis* (2012) **12,** 45-55)

What of serial QFT testing such in health care workers?
Of most interest Prof Menzies spoke of the research into serial testing that suggests there are problems with the use of serial QFT. It remains unclear if conversion rates represent true transmission and what do reversions in the absence of treatment mean. Many studies have shown that IGRAs are dynamic tests with large within-subject variability. One explanation could be false positives while others are false negatives. QFT itself cannot cause boosting. Maybe QFT is associated with variables reflecting cumulative exposure and this is in contrast with some suggestions that IGRAs are better associated with recent exposure and that TST is a better marker of cumulative exposure. It is also unclear if QFT reversions are a sign of natural clearing of the infection or an artefact associated with cut-off values. There was also a concern in variations due to processing of blood for QFTs. Variations in incubation times even when following manufactures recommended timeframes produced very drastically different results within subjects and within laboratories. In summary he advised against the use of IGRAs for serial testing. (Zwerling A, Benedetti A, Cojocariu M, McIntosh F, Pietrangelo F, Behr M, Schwartzman K, Menzies D and Pai m. Repeat IGRA testing in Canadian Health workers: conversions or unexplained variability? *PloS ONE.* (2013) 8(1):e54748)

My overall impression; for all we know there is a lot we don't. Biomarkers are the future of TB research and ultimately management. INH is still the most effective LTBI drug. The TST while not a gold standard test has a long history of data supporting its interpretation and while IGRAs offer certain logistical advantages they are not where we need them to be yet.

TB Research / Projects of Interest received to date

TOPIC	AUTHOR / LEAD	Collaboration
Quality-assurance review of data over a 3 year period using QuantiFERON TB-Gold test by the Victorian TB team as an adjunct for the diagnosis of latent TB infection in contacts	Karen Goebel, PHN Victoria	
Is there a need for TB screening of HCWs in low prevalence country	Carmel Cochrane, Brisbane	
Development of a national database for TB brochures/fact sheets and consents: Handed over to the Department of Health to follow-up through NTAC i.e. Remove from this table	Carmel Cochrane, Brisbane	A. Nichols
Assessment of nurse-led TB-related assessment clinics	Carmel Cochrane, Brisbane	A. Nichols
Outcomes of molecular epidemiological typing for Qld notified cases 2002- 2011: Handed over to the Department of Health i.e. remove from this table	Carmel Cochrane, Brisbane	CHRISP/TB
Development of a standardized National TB Nursing Training Package	National working group be developed	C. Cochrane ?Others
TB models of Care across Australia: a descriptive analysis	Annemaree Nichols	?Others interested
DOTs Programs: nurses understanding of DOTs, delivery of DOTs	Annemaree Nichols	C. Cochrane ?Others

Case Study of Patient with MDRTB

Summary of a case study prepared by **Lee Whylie A/Area TB Coordinator** for Northern Sydney LHD and presented by Lee and Jillian Smith at a NSW TB Nurses clinical teleconference meeting.

MDRTB is defined as bacteria that are identified invitro as resistant to at least isoniazid and rifampicin. Globally 3.7% (2.1%-5.2%) of new cases and 20% (13%-26%) of previously treated cases are estimated to have MDRTB (p42 Global TB report 2012, WHO). In Australia in 2011, 2.1% (12%-3.6%) of TB cases were identified as MDRTB. MDRTB medications are less effective, more toxic and more expensive and there may also be issues with supplies. Management is complex, prolonged and requires close monitoring and thorough documentation. Public rights verses individual rights is more amplified in MDRTB. Infection control problems with isolation and hospitalisation need to be addressed. Contact tracing and prophylaxis issues are debated. The patient needs education and support.

Case Summary:

- 49 year old male, COB: Zimbabwe. Has lived in South Africa. Moved to Australia in 2000.
- Married 2 children 11yrs and 14yrs.
- Ex-smoker having recently quit.
- **July 2011** CXR for obstructive sleep apnoea finds a cavitating lesion, left upper lobe.
- CT scan shows opacity and a number of satellite lesions.
- Asymptomatic for TB. HIV negative.
- Lung FNAB, smear negative, PCR positive MTB, confirmed MTB. Await sensitivities.
- No previous history of TB treatment or known exposure.
- Plan 9mths anti-TB treatment with DOT.

Contact Tracing: Wife and 2 children. Easy…at this point in time!

Issues/ Challenges:

- Call received: Resistance is demonstrated and patient now needs reevaluation and medication changed accordingly. NSW MDRTB panel convened and management plan developed.
- Need to determine infectiousness risk so induced sputum is suggested and performed. AFB smear negative (collective sigh) culture MTB not isolated?
- Treatment length now planned for 18 mths.
- Admitted to hospital and PICC line inserted new regime commenced.
- Approximately 7 weeks later patient becomes unwell, nauseous, upset stomach, epigastric pain…and…he is jaundiced. LFT's not good and continue to rise. All meds ceased.
- Medications re introduced after ~10 days but deranged LFT's continue and hearing problems……cause the cessation of 3 drugs…….Concerned as we are running out of drugs and patient only on 3 anti TB meds..
- Some reintroduced, new added, careful monitoring, thorough documentation, discussions+++.
- 5 mths after initial side effects noted regime appears relatively settled…….
- THEN: Anxiety, forgetfulness, lack of concentration, financial concerns due to side effects unable to work. Lack of support, tinnitus, doesn't want to see staff anymore.
- 2 more months go by and psychological condition is deteriorating, very distressed, extremely anxious, short term memory problems, fidgeting can't keep still, depressive symptoms: insomnia, anorexia and generally not coping. (Patient, not the staff).
- More discussion, NSW MDRTB panel reconvened…"withhold cycloserine & obtain psychiatric review".
- Admitted to psychiatric care after further deterioration.
- More medications, a sedative, anti-depressant and anti-anxiety medication added to the complex mix of anti TB drugs.
- Initial improvement in mental state after ceasing cycloserine but then further decline. Weight loss and anorexia.
- Drug interactions are an issue and serotonin toxicity is a possibility need to monitor for; agitation, restlessness, tachycardia, hypertension, hallucinations, raised body temp, loss of coordination, nausea vomiting and over active reflexes……

Currently (2013) remains on treatment, 4 anti TB meds and tolerating, remains on daily DOT, seeing psychiatrist weekly, TB physician monthly. Plan is for 2 years treatment from June 2012 13mths after the TB journey began.

Lessons learned:

- Documentation and communication are very important.
- The patient care is to be holistic.
- The need to have a multi-disciplinary panel of many and varied experts to discuss issues and formulate strategies and solutions.

Question: Should we do a pre MDRTB treatment psychiatric assessment?