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## **Rotarians Against Malaria Conference**

**20<sup>th</sup> to 21<sup>st</sup> August 2016, Melbourne**

The 2016 annual RAM Conference was held at Ciloms Airport Lodge at Tullamarine Melbourne over the weekend of 20<sup>th</sup> and 21<sup>st</sup> August 2016. This was the first RAM Conference to be held in Melbourne and was attended by 58 delegates representing 12 Rotary Districts. The idea of holding the Conference in Melbourne was to encourage more local Rotarians to attend and experience RAM as well as providing an opportunity for the Melbourne based Walter & Eliza Hall Institute for Medical Research (WEHI) and the Burnet Institute to showcase their malaria research programs. The Conference agenda included updates on progress in the countries where RAM has active programs, reports on the progress of malaria research, the RAM AGM and discussion sessions where future directions for RAM were planned.

### **Conference Opening.**

The Conference was opened by National RAM Chairman Dave Pearson who welcomed delegates and summarised RAM's achievements over the previous twelve months including ongoing programs in PNG, Solomon Islands and Timor Leste . Dave also reviewed notable RAM activities in Australia including promotion of World Malaria Awareness day, DG's Partner fund raising in D9820, the great work of Rotaract's malaria project and the developing project arising from the Rotary Ride Around Australia Against Malaria (RRAAAM) fund raiser conducted by Steve and Doreen Carroll. These achievements are also detailed in the RAM Annual report to RAWCS which will be posted on the RAM web site and published by RAWCS.

### **Summaries of progress in countries where RAM has been active:-**

#### **Papua New Guinea: report from Tim Freeman RAM PNG.**

Tim reported that RAM PNG is currently distributing Long Lasting Insecticidal Nets (LLINs) at a rate of about one million per year. In the last 5 years 7M LLINs have been distributed to households in all 89 districts in all 22 provinces and a further 1M LLINs have been distributed to vulnerable groups. By mid-2016 LLINs have been distributed by RAM twice in every province except Enga in addition to a previous distribution by Government.

Recent problems include a lack of malaria treatment drugs at local clinics due to poor stock control by the Health Dept. and ongoing tribal fighting in some areas making it impossible to deliver LLINs direct to villages. In this case the LLINs are distributed at schools.

Tim described progress in the RAM funded "Chasing Malaria" program which maps positive diagnosed malaria cases in NCD and Central province, identifies malaria case clusters and follows up

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with Community based interventions. This includes more village disease education, identifying and dealing with mosquito breeding areas, ensuring all local people are using LLINs and encouraging alternate ongoing use of superseded LLINs eg as window screens. Data collected in some clusters displays a uniformity of cases across all age groups indicating local reinfection and loss of adult immunity.

Tim also reported that the Private Sector Retail initiative where RAM was seeking to sell LLINs and Mosbar at affordable rates is currently on hold due to ongoing GST negotiations with Government. Once again Tim brought sample LLINs, Mosbar and Colouring in books (used to help malaria awareness in kids) to the Conference to distribute to RAM Chairs as demonstration items.

#### **Solomon Islands: report by PDG Wayne Morris Presented by Dave Pearson.**

At the 2015 conference it was agreed to allocate AUD\$30,000 for the Healthy Village tools program. The funds together with other NGO funding was used to provide tools for 22 villages in the Russell Islands, Central Province. The DG partners project in D9820 raised AUD\$22,291 for Healthy Villages and these funds together with further funds from RAM, making up to AUD\$30,000 have recently been transferred. Funding has also been secured from the Solomon Forest Association of AUD\$16,000 per year for the next three years. These funds together with the funds recently transferred will provide tools for a further 25 villages.

The provision of bed nets and spray control is continuing to be funded under the Global Fund, the funding of the program has been changed with the SI Government having to provide the funding first before being reimbursed. Malaria elimination programs are continuing in Temotu and Isabel Provinces with funding from DFAT (Australia) and a similar program is planned for Western Province starting in 2017.

#### **Timor Leste: report by PDG Phil Dempster.**

Phil reported on the progress of a request from the Timor Leste NMCP for RAM to assist by funding the distribution of LLINs previously supplied by the Global Fund. After careful consideration of the request RAM has offered to fund distribution costs on a dollar for dollar basis with contributions from the MoH up to a maximum of US\$20,000. The timing of this program is still being worked out.

Phil then outlined a new project proposed by the newly chartered RC Dili Lafaek to implement a "Healthy Villages" project in Dili and Liquica districts. The proposal encompasses Community health and hygiene awareness training, establishing Community Committees, planning health interventions and building permanent rubbish disposal facilities, aimed at reducing mosquito breeding as well as improving hygiene. These two Timor projects represent an opportunity to send Rotary Volunteers to assist and observe.

#### **Vanuatu project of RRAAAM: report by Steve Merritt.**

Steve described the search for a suitable project to invest the \$30,000 raised by the Rotary Ride Around Australia Against Malaria being undertaken by Steve and Dorene Carroll. After considering PNG and Solomons where RAM already has active programs Steve and Dorene have based themselves in Vanuatu and had numerous meetings and observation visits to understand what is needed by the local malaria program and where they can best assist. They have determined that rebuilding LLIN storage facilities is the current best fit and are negotiating an MOU with the Vanuatu Government.

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## Reports on RAM related activities in Australia.

### Rotaract Project: Michael Shields: Chairman -Rotaract Australia Against Malaria.

Michael related that eliminating malaria was a goal that was considered achievable in the lifetimes of most Rotaractors and resonated as a tangible practical outcome that they could help achieve. Using slides and U-Tube Michael and Rotaractor Ben Hill showed the passion and creative thinking that can be applied to fund and awareness raising including enlisting corporate sponsors such as Westpac and holding an up-coming Rotaract Ball at Melbourne Zoo.

Michael described Rotaract's ongoing fundraising approach noting that \$8,100 had been raised over the past 12 months and that a personal donations portal had been set up and was available to anyone to use. Funds are tracked through a dedicated RAWCS project account before being transferred to RAM.

### Forum Discussion Topics.

A series of discussion points aimed at assisting in developing future strategy for RAM were suggested prior to the conference and following a brief introduction of the topic on Saturday Forum discussions and consultations were led by selected delegates who reported the outcomes on Sunday morning.

*1) Is the effort and expense in attempting to control mosquitoes by draining stagnant water around villages as in "Healthy Villages" worthwhile or should RAM concentrate on more direct vector control?* Led by: Milton Lewis

Milton reported that the consensus was that the "Healthy Villages" program had an important role in ongoing disease education and action at village level and would contribute to reducing infective mosquito biting when people were outside and not protected by LLINs. It was also agreed that it represented an ongoing role for RAM in the Solomon Islands and that it was important for RAM to remain active there especially whilst elimination programs were being developed.

*2) Should RAM fund raise and use some of our reserved funds to support Vaccine development at the Institute for Glycomics?* Led by: Sam Doumany

Sam pointed out that Australian RI President Clem Renouf had convinced RI to accept the challenge of eliminating polio even though the disease had long been eliminated in Australia and the US. Sam reported support from the delegates for fund raising as a separate but parallel program to RAM and that most considered that the two projects would be mutually beneficial in awareness raising without the need for RAM to contribute funds.

*3) Should RAM work towards a National coordinated awareness and fund raising project for Malaria Awareness Day 2017? If so what form should this take?* Led by: PDG Ian Sayers

Ian reported strong support for a two part national project culminating in local clubs staging activities highlighting that mosquitos are the most dangerous animal on earth with a sausage sizzle on MAD day in conjunction with a national retailer selling outdoor products. The suggested part of

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the project would be to sponsor a national competition for school kids to prepare a short video about mosquitos and malaria.

*4) How should RAM best lobby Rotary International to be a major contributor to a future global malaria immunisation program?* Led by: PDG John McLaren

John reported that the few suggestions received encouraged a continuous multi-level lobbying approach and noted that a substantial business case would be needed before a formal submission was put before the RI board.

## **RAM AGM.**

A brief AGM was held at the commencement of conference sessions on 21<sup>st</sup> August.

National Chairman Dave Pearson reported that the RAM Executive Committee had met on the evening of 19<sup>th</sup> August and determined that the distribution of donated funds for 2016 / 2017 would be 40% to PNG, 35% to Solomons and Timor Leste, 15% to the PhD scholarship and that 10% would be held for new initiatives with disbursements based on an AUD\$150,000 budget.

Dave reported that although an aspirational target for fund raising of \$20,000 per Australian Rotary District had been agreed at a previous Conference there was much work to do to achieve that. Total fund raising for 2015/16 had been \$125,000 or less than \$5,000 per District after the D9820 DG's partners project and Rotaract contributions were subtracted. Further he reported that the Executive Committee had determined to review the Manual of Procedures to align it with RAWCS Committee requirements and that proforma annual reports with indicative benchmarks for District RAM activity would be circulated for completion by all District Chairs.

The Executive Committee position of Publicity and Media Coordinator was declared vacant and nominations called for. No nominations were received.

## **Presentations by Researchers on the fight against Malaria.**

### **RAM sponsored PhD student Edgar Pollard; Australian Institute of Tropical Health & Medicine:**

Edgar reported that the latest statistics from the Solomons included 18,404 confirmed cases and 23 deaths from malaria in the past year. LLINs are working well and continuing to reduce the case load but that the nets only protect people when they are covered by them and that it is estimated that 13% of mosquito biting occurs outdoors. Edgar described his research on the flight characteristics of mosquitos and intended methodologies. Intended research outcomes include:-

1. Best design for barrier screens.
2. Understanding environmental effects on mosquito flight.
3. Define local mosquito biting habits.
4. Determine which human behaviours expose people to mosquito bites.

Edgar thanked RAM for supporting his research and looks forward to reporting interim results at the next RAM Conference.

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**Associate Professor Harin Karunajeewa; WEHI:**

Harin was happy to acknowledge that some of his early research had been sponsored by Rotary in Perth. He told us that WEHI's malaria research programs were focussed on the Pacific nations featuring a bench to bedside approach identifying best practice protection from, and treatment of malaria. He noted that future disease interventions must be prepared for changes in the behaviour of both humans and mosquitos.

Despite significant reductions in malaria cases in the Pacific, and a pleasing fall in the death rate, much of the progress had been achieved in reducing the incidence of Pf whilst Pv rates had been mostly static since 2008. This is a challenge to future elimination programs as Pv often exists in asymptomatic infected humans in the form of hypnozoites in the liver which are problematic to detect and treat with current methods.

Harin highlighted the risks of Drug Drug Interactions (DDIs) in the current best practice treatment employing Primaquine and ACTs and went on to outline his new research project in the Solomons focussed on investigating the degree of DDIs in current treatments and identifying the optimal drug combination and dosage for radical cure of Pv infections.

**Professor Denis Shanks; Australian Army Malaria Institute:**

Prof Shanks presented a talk titled "Why malaria elimination is not a dream" He concluded that malaria elimination is "possible but difficult" and that although a goal of 2030 has been set for elimination there are already weaknesses in national resolve showing up. He demonstrated some significant successes including Chinese elimination programs moving ahead of schedule and several countries (e.g. Argentina) recently being declared malaria free. Prof Shanks emphasised that elimination is about "killing the last parasite" but that this goal was complicated by changing patterns of human and vector behaviour and parasite adaptations including drug resistance.

He classified the challenges into Scientific and Logistical. Scientific problems currently include Drug Resistance, Latent infections (e.g. Pv hypnozoites) and Insecticide Resistance. Under Logistical he included: Inefficient local health systems, Governance of donated funding, competing demands for Govt. resources and landscapes in endemic regions. He highlighted the paradox that 'the more disease control works the less the apparent problem and hence the less funding is applied' and noted that this needs to be overcome if elimination is to be successful. On the up-side it has been demonstrated that post elimination there is no epidemic outbreak following the inevitable natural or manmade disasters that beset the formerly endemic countries.

Prof Shanks highlighted the following needs for elimination:-

1. New drugs to clear and cure
2. New insecticide (low human toxicity)
3. Vaccine
4. People to trust Government interventions, believe and support.

He noted that island by island progressive elimination programs in the Pacific should provide confidence for the 4<sup>th</sup> point.

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**Dr Danielle Stanisic; Institute of Glycomics, Griffith University:**

Dr Stanisic presented an update of progress towards producing a chemically attenuated whole parasite vaccine based on Plasmodium falciparum. She reported that human trials where the safety, tolerability and stability of the vaccine had been evaluated were largely successful and that rodent trials testing induced immunity had provided encouraging results.

The next development stage will examine the protective efficacy of the vaccine in humans by conducting a broad based human trial in a non-endemic country (Australia) . Interestingly she reported that initial results in mice and human blood trials suggest that the vaccine, although based on falciparum, will induce immunity to other plasmodium species as well.

Following Danielle's technical presentation D9640 RAM Chairman Sam Doumany then presented a strong case for Rotary to support these next stage human trials and reported that RC Southport is in the process of registering a RABS project to be a vehicle for fundraising throughout our Rotary Region(40,000 Rotarians) to raise the estimated \$500,000 trial budget. Fund raising would include Rotary crowd funding as well as seeking the direct support of major philanthropists. Following Sam's presentation National RAM Chair Dave asked for a show of hands in support for this initiative which returned overwhelming support.

**Dr Jack Richards; Burnet Institute:**

Dr Richards described the Burnet Institute as both an NGO as well as a research facility with 400 staff and students with malaria projects in Vietnam, Myanmar and PNG. Their experience has shown that elimination programs will have to pay special attention to vulnerable groups including children and pregnant women, poor and remote border populations and mobile and migrant populations and workers. Jack noted that through work, men are more often exposed to infection.

Dr Richards discussed the importance of natural immunity and the concern that people in areas where infection rates had been significantly reduced were losing immunity and hence becoming more vulnerable to outbreaks. In these areas he stressed the importance of strong (or strengthened) health systems with community engagement, good person focussed response to disease and good surveillance including well planned and monitored vector control.

In this context, Jack reviewed the current global momentum towards eradication of malaria including the WHO's Global Malaria Action Plan (GMAP2) supported by the Global Technical Strategy (GTS) with their emphasis on the 3 pillars of :-

1. Universal access to malaria prevention, diagnosis and treatment
2. Acceleration of local elimination programs
3. Transforming surveillance into a core intervention

He emphasised the need for development of a high sensitivity test to detect difficult to diagnose cases and infections in asymptomatic patients if pillars 1&2 were to be achieved and noted a recent success at Burnet was development of a field assay for the G6PD enzyme deficiency which would help avoid complications in some patients during future mass administration of Primaquine to remove latent infections. Unfortunately the test only applies to males.

Another area of Burnet research is in identifying targets for new blood stage vaccines as more effective vaccine than RTS,S will be required for elimination programs. This work currently involves

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identifying susceptible parasite proteins, developing and accessing new human antibodies and determining which vaccine adjuvants assist in inducing the strongest and longest immunity.

Jack also highlighted the importance of sustainable funding for these programs in some of the poorest countries of the world and noted the significant reduction in Australian overseas aid since the 1970's.

**Rebecca Feldman; Victoria Govt. Health and Human Services:**

Rebecca gave us a fascinating insight into the active surveillance and outbreak control activities conducted by her team in keeping Australia free of imported vector borne disease. She described the monitoring and detection programs in place around sea and air ports and emergency response procedures required to control and eliminate out-breaks.

She pointed out the irony of RAM supporting programs like “Healthy Villages” giving people in endemic areas the means of reducing mosquito breeding sites when conversely, modern urban planning in Australia appears to encourage water features that frequently become very effective mosquito breeding zones.

**RAM District Chairs Training session.**

Immediate past RAWCS Chairman PDG John McLaren commenced this session describing the extensive reorganisation and governance strengthening work that had been completed by the RAWCS Ltd Board over the past few years. RAWCS is a facilitating organisation making it simple for Rotary Clubs to develop and complete overseas aid projects. RAWCS currently receives and manages >\$30 million in donations for Australian overseas aid projects. RAM and DIK are the only national projects of RAWCS.

Then followed a short presentation on ‘Branding’ , that had been produced by RDU, to explain the benefits to RAWCS and large projects like RAM of consistent brand identification. This provided context to discuss the new RAM leaflets and promotions in RDU.

RAM’s website was displayed and delegates were informed that the site would be upgraded during the year to be phone and tablet friendly and better integrated with the new RAWCS website. Project descriptions, the current home page video and the donations routine were all demonstrated. Delegates were asked to look for opportunities to post RAM activity short reports on the RAM Facebook page and prepare reports for their District enews and RDU.

The ‘RAM Chairs Information Kit’ developed for last year’s Conference was revisited, demonstrated and explained as were the RAM Annual Report and a briefing paper developed for lobbying high level RI decision makers. All of this material and the Conference presentations will be circulated to RAM Chairs and Committee members via USB storage sticks or Dropbox post Conference.

**PP David Pearson.  
National Chairman: Rotarians Against Malaria.**

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