Minutes of the Partners for Rabies Prevention
7th Annual meeting
Global Rabies Elimination – Making the Case
31st March -3rd April, 2014
UBS Conference Centre in Wolfsberg, Switzerland

Participants

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Day 1 Tuesday 1st April

Session 1 – Introduction

Global Alliance for Rabies Control – Deborah Briggs

Deborah Briggs welcomed everybody to this the seventh annual meeting of the PRP group, and asked everyone to introduce themselves. She then thanked the meeting sponsors, UBS Optimus foundation, Bill and Melinda Gates foundation and Sanofi Pasteur. She reminded everyone of the vision and mission of GARC (to prevent human rabies deaths and animal rabies burden, particularly dogs) and provided an overview of the programmatic framework to create & deliver sustained change within which GARC's work is conducted. From the first PRP meeting in 2008, where a gap analysis was conducted, through the UBS funded care projects, starting in Bohol, we are now entering the long-term phase of our work plan.

In our experience, programmes are often not sustainable and cease when external funding ends. GARC has contributed to a paradigm shift in rabies control, by involving a comprehensive platform of stakeholders, creating models of successful programmes and focusing on sustainability. Our focus areas are Models (education, intersectoral collaboration, communication, technical research), Communication (Community advocacy, WRD, Online resources, documentation and media output), and now we need to move into the Policy aspects (identifying policy gaps, health economics arguments, global & regional advocacy, and supporting international policy goals).

The next 3-5 years' work will include the replication of the Bohol community led project model and will focus on evaluation of successes, lessons learned and ensuring sustainability. We need to evaluate what we've done so we can go out and sell the programme. We have plans to improve surveillance by increasing accessibility of the DRIT test, and proof of concept research on immunocontraception. Educational models include those incorporated into school curricula and in Africa we're working on education outside the school. The Rabies Educator Certificate is a new concept that we are developing. Communications are vital to prevention efforts, and scientific publications, lessons learned, policy briefings, technical support to governments and media outreach all have a role to play. Our webinars were a model that others sought to replicate.

GARC's policy work through the PRP will work with other international organizations to support global policy goals and champions and to advance regional initiatives. We need to use the models and research we have conducted so far to help decision makers prioritize funding for rabies control. The long-term (five year+) goals include more proven programmatic successes for rabies prevention and control, favourable national and local policies, improved diagnostic and dog population management tools, improved knowledge of the burden and costs of disease, and making a convincing case for investment from donors.

Development Impact Bonds & Financing Rabies Elimination – Paul Coleman

Paul Coleman started by describing his PhD work on rabies modelling and his experience working on malaria economics for the Global Fund. He now works for a startup biotech company working on technology for infectious disease control, involving private venture capitalists and both developed and underdeveloped countries. It has established an investment fund built on university research, but making its application profitable. The UK's Department for International Development (DFID) wanted to use the research it had supported to deliver impact and funded a project to develop a Development Impact Bond (DIB) for Sleeping sickness control. He has started to investigate how such a bond might work to leverage both private sector investment and grant aid to help finance rabies control in a sustainable manner.

A DIB is a social impact bond, and it transfers the risk of failure to investors who in turn impose good management on the delivery partner. If the program is successful, the outcome funder pays the investors for the costs of the program and a return on investment. If not, the investors lose their money. The first impact bond was developed in the UK to reduce prisoner reoffending rates, and their use is now growing in the UK and the US. In developed countries, they can shift risk out of the public purse and in poorer countries, a donor may be the outcome funder. The advantages are a big focus on operational delivery, investors control the timing of cash payments, conduct a rigorous evaluation and can sack the CEO of the delivery partner. The disadvantage is that if the project is successful, it is more expensive than direct funding.

In the case of sleeping sickness control, several partners were brought together to design a DIB, to sustainably reduce the level of human infective trypanosomes in cattle in South-East Uganda, and reduce the probability of the two trypanosome species overlapping (with consequent high public health expenses). A lot of work went into evaluating costs and benefits and developing a robust mathematical framework on which to structure the outcome payments. The drivers for the program were a good understanding of the disease and its control, DIFD's Research into Use program, a shift in the donor community (London declaration, Stamp Out Sleeping Sickness) and growth in the impact investment sector. The program involves a mass treatment program followed by community-based control methods that are sustainable, and implementation (by the SOS Alliance) is rigorously evaluated to trigger repayment of the capital and interest.

Compared to sleeping sickness, rabies has better control tools available and is really an obvious choice for the DIB model as the constraints are operational, not technical and with a DIB, funding can be frontloaded to

deliver change (especially important for mass vaccination). Repayments can be structured to ensure long-term stability and transparency for funders. Paul is currently working with Jakob to investigate a proposed DIB for Chad. Payment triggers are vaccination targets and a reduction of incidence on the way towards elimination, and the post-elimination phase requires government financing. There are other project areas (e.g. in Mali) where a DIB for rabies control could work, and this would ideally be done under a GARC partnership to develop a proposal to leverage private sector funding in collaboration with governments.

Discussion:

JZ – The Chad government is engaged, so this is not just wishful thinking

CF –The forthcoming NTD report will look at financing mechanisms. What is the advantage of DIBs over a regular cash on delivery structure?, and how do we measure impact well enough? This needs to be quantifiable and based on sound epidemiology. To what extent will DIBs limit or support horizontal integration of control across diseases?

PC – DIBs are still theoretical, and an evidence base is still needed. The private sector investor (cash up front and risk embracing) approach is a good fit to disease control if we impose the right structures on delivery.

Session 2 – Health Economics Update

Health economics of rabies at global level – Stephanie Shwiff

The health economics subgroup of the PRP issued a statement for World Rabies Day last year: *"*Canine rabies impacts 5 billion people and kills tens of thousands of people, mainly children, in the poorest parts of the world every year. The estimated global economic costs are $124 billion each year. Our goal is to eliminate this horrific disease for the global public good. If we could act together now, this could be achieved within our lifetime for between $6 and $8 billion". This is the culmination of a lot of work, looking into the costs (Vaccines, supplies, labor etc.) and benefits (Reduced human deaths, livestock deaths, PEP use and animal tests) of rabies control.

A publication in Antiviral Research looks at the ways in which rabies has an economic impact and compares the rabies burden across different regions at different places on the pathway to elimination (e.g. Asia is treating instead of preventing rabies exposures). A second publication in Transboundary Diseases provides a detailed update on the global economic burden. This second paper estimated that 69,000 people die, 9.5 million PEPs are administered, 88.8 million dogs are vaccinated and 32,500 cattle a lost annually. It found that human mortality accounts for US$123 of the US$124.2 billion annual cost of rabies, the vast majority in Africa and Asia. These current losses become benefits if they are avoided.

In order to understand the costs of rabies control programmes, detailed costs of dog vaccination programs in different geographical regions are being collected and the cost /dog vaccinated and the cost /human life saved is being calculated in these different settings. We have begun to examine the relationship between dog vaccination efforts and human and livestock losses due to rabies. Future work to develop cost-predictive models (such as the CDC's RabEcon model) require input data. To this end we are evaluating the BMGF project sites in KwaZulu Natal, Philippines and Tanzania for their cost effectiveness of human and animal interventions.

Project	Data collected from	Cost/dog vaccinated	Cost /PEP treatment	Cost /life saved
KZN	11 districts, Human pop. of 10.2m	Mass = $6.61 Local = $5.41	$21.50	$2,143
Tanzania	25 districts, Human pop. of >10m	Phase 1= $11.27 Phase 2= $8.24 Phase 3= $7.41	$24.41	$2,107
Philippines	Cebu city and Carmen Human popn. Of 0.9m	2010 = $3.38 - $5.79 2011 = $1.28 - $2.15 2012 = $1.18 - $2.58	$41.16 - $51.76	$1,371 - $1,725

The breakdown of costs varied across the different project sites, as dictated by their particular challenges and the type of campaign conducted. The level of government funding also varied enormously across the sites, and the Philippines had very unique data on the sources of the money spent and these aspects will be investigated further. In all three project sites, districts which vaccinated more animals per person also experienced higher human treatment rates. The information on cost per dog vaccinated has been used in the WRD statement and will be used in other studies (and is also applicable to DIBs). Papers on all 3 sites are submitted or almost ready.

Future studies planned include a detailed comparison across the three sites (looking into bureaucracy, distribution challenges, project leadership and motivation, accuracy of pre-project estimations). Other studies planned include willingness to pay analyses in Tanzania (for dog and human vaccinations), to develop further cost predictive modeling approaches, and to look at PEP compliance rates and whether costing structure can increase those. We want to use these cost and benefit data to look at macro-economic impacts of rabies, as has been done in the US. If cattle were removed as a result of rabies, how would that impact the economy downstream in developing countries? We also want to look at cost predictions at a regional scale. We are attempting to put rabies through the WHO-CHOICE model for calculating cost-effectiveness this year. Rabies would be the first zoonosis to be analyzed in this way. This information could also be useful in the development of DIBs.

General discussion:

B-NA – We have now done MDV in 58 out of 64 districts in Bangladesh. The cost is poorly quite low, about $2.00 per dog.

SS – The way we cost of human life is using the value of a statistical life (VSL). Its use is controversial, but it is calculated from a willingness to pay for reduced risk of premature death. DALYs don't put a dollar figure in disease impact. The WHO-CHOICE model work will measure the outcome in $/DALY averted.

NV – The cost of PEP is high in the Philippines - we're using ID vaccine, but also giving RIG. There is a delay in reducing PEP usage until there is good confidence in MDV.

AV – Is the coverage of vaccination (i.e. Quality of the campaign) considered here? No

JZ – An understanding of coverage is vital to predict progress towards elimination.

KH – The dynamics of rabies is stochastic therefore case rates are not a good indicator and monitoring vaccination coverage is more vital. Operational inefficiencies really affect progress to rabies suppression and then to elimination.

PC – methods of collecting data which can be independently audited is a big part of DIBs.

NT – the BMGF projects were chosen to be success stories, and are clearly three very different cases. What is WHO thinking of these results and where to go next? how do we select the best new studies? What does BMGF think?

BA-R – these projects were a proof of concept from three very different starting places. This is not research, it is an implementation case study, different countries will need different customizations. We have evidence that the concept works and can be replicated. We need to document the many lessons learnt. We know that PEP doesn't fall very fast when MDV increases.

LN – we think the biggest challenges are donor money, but indigenous government contributions are vital to success or failure and sustainability.

SS – we have already started the process to move to cost/ DALY averted, and vaccination coverage and exposure rates are the best indicators to measure progress.

NT – how does a consortium of players work together in a DIB model?

PC – we are really at the start of planning this, and tripartite endorsement would be extremely valuable in thinking how to move from a site specific bond to a more regional funding strategy.

AD –The science is known, so it is no longer a proof of concept that we need. The purpose of the partnership is to clarify in writing what has to be done and how. It is important to focus on 1) high quality dog vaccines and 2) vaccine banks as a tool to incentivize work at the country-level. We should map financial support for vaccine banks.

KdB – Vaccine banks are a good kick starter. We have seen rabies rise up in priority but the countries still need help with implementation, hence the FAO stakeholder meetings.

BA-R – Countries are our focus. You can scale up access to vaccines through vaccine banks, and we need to embed bite prevention and management in to the health infrastructure.

AD – OIE secures donor funding for vaccine banks, then puts out tenders to buy vaccines. In-kind donations of vaccines are also sought. It is a multi-partner approach, and requests for vaccines come from the MOA right now. It can bypass importation issues and countries are encouraged to make a tax exemption.

B-NA – Bangladesh has benefited from the OIE vaccine bank and the known vaccine quality. They should be a focus on MDV, but bite management must go side by side. We need a human vaccine bank also. We're learning a lot in Bangladesh and need global attention to feedback the benefits to the government. Supportive financing from WSPA helps convince them.

BA-R - the vaccine bank should not be standalone - but within a larger program. The investment case is necessary for this.

AR – in Asia there are too many players trying to do different things. Now GARC has an office in India it could have a big role in coordination. There should be a 'blueprint'-type document to take to a government about what you need to do about rabies.

LK – is their health econ. data to make the case that investing in rabies control is beneficial to other diseases or zoonoses yet?

JZ – in Chad, setting up surveillance for rabies at first and vet posts has increased the number of operational posts. Management of canine distemper (though not a zoonosis) could be integrated into rabies control programmes.

DBr – the same situation is in the Serengeti.

LN – what is the RabEcon model and do we need it? is the WHO-CHOICE model enough?

SS – RabEcon was designed by CDC and is excel-based. Input parameters are based on published work and it outputs the cost effectiveness as cost per dog and costs of implementation. When it was tested in the Philippines it had some critical errors. The problem is after three years it is still not complete. Do we need it? No. Would countries need it? Yes. We could replicate it this summer.

JZ – I can make the model from the PNAS paper it is based on available. The background nonlinear transmission dynamic model is complex, but the connection to a spreadsheet is easy. We will develop a meta-population model for Chad

JM – there should be a summary of this new health econ. information in the blueprint, together with costs and benefits. We could link to experts to help countries customize these estimates for their situation.

TM – is there a way to develop an online interactive platform to predict the basic costs?

SS – a web-based tool would be the way to go (with prompts for the input data), but it doesn't exist yet. But with excel you can take it anywhere.

LT – RabEcon was supposed to be a practical guide for non-experts to explore the costs and benefits of interventions.

NV – the DIB could be important for countries who have not started rabies control yet. There is more to vaccination campaigns than just access to vaccine (social preparation/ training / PEP provision all cost money). A donation from a vaccine bank could be the seed to start a campaign, especially where governments do have some money, and want to avoid low quality vaccine.

SS – we have a lot of information on the Philippines BMGF project funding. As the donor put in money, other government departments and donors produced an unexpected multiplier effect. A vaccine bank donation could work in the same way.

AV – and efficiency is a big part of it. Could a vaccine bank model work with training on optimizing campaigns?

KdB – training was needed in Congo, when the government was taken off guard, there is a need for guidance.

LN – it has to be a programme that makes sense, and can be evaluated. This might be opportunity to provide expertise.

VD-R – in South America, vaccine is put into a revolving fund and now countries can request vaccine from PAHO. Operational choices still need evaluating as to the predicted costs of each.

TM – the EU is co-financing eradication and control of wildlife rabies in member states. A task force (including reps from each member state, govt. and private) meets, visits countries and makes recommendations for improvements. FAO inspection missions also go and countries have to provide all operational details. This shows how quality can be controlled.
AD – the vaccine bank does more than just deliver vaccines. Vaccines are given with guidelines for use, and donors can put on constraints.
LT – is there an evaluation of the use of these donations?
AD – we collect success stories and examples of increases in government involvement because of the vaccine donations.

Session 3 – Case for Change: Towards a Rabies Elimination Case for Investment

The Case for Change: Status Check Discussion - Bernadette Abela-Ridder, Christopher Fitzpatrick and Kim Lamers-Bellio

This work was prompted by previous discussions of the PRP, on a 'Stop Rabies' document and a global landscape analysis. The burden data will also feed into this. The strategy may take a long time to develop, so we need a quick way to make a start. WHO is leading this draft, but it is coordinated with the FAO, OIE and GARC. Christopher Fitzpatrick is a health economist in the WHO NTD dept. and will say something about how rabies fits into the bigger picture.

CF – the NTD report "investing to overcome global burden on in TDS " is due in early 2015 and will have a chapter on investing. So we're committed to look at the resources needed for NTD control, and these may be higher than previous messages have been. If we are committed to meeting 2020 targets, high investment is necessary. Looking at the unit costs for delivery, diseases requiring chemotherapy to control are expensive. We will not be looking at funding gaps, but at what funding is needed. Domestic funding increases for rabies control are very encouraging, and this will be emphasized in the report. We need to focus on universal coverage, catastrophic health expenditure, and the poorest 40% as this is the World Bank's focus, and there may be other indicators to use. The DIB can be explored within this report. It is nice to see innovation in the NTD field, but it is not that new. We are now talking about diaspora bonds and other options may be using revenue from extractive industries for health programs. We should also tackle the distribution of rabies burden across countries. In terms of online tools for countries, I would recommend separating the costs from the cost-effectiveness questions. I wonder how confident governments would be to produce cost /DALY themselves without a model or tool to help. The WHO-CHOICE model can provide cost effectiveness data to policy decision-makers that is comparable to other diseases (eg. Influenza) at the country level.
BA-R – We want to have an investment case this year, ideally by WRD, and from WHO's perspective we want to focus on the country level. We used a paper on the elimination case for onchocerciasis as a basis because this was well structured. We're looking at cost-effectiveness and feasibility (why, what, who and how questions). There's a willingness to move forwards and OIE, WHO, FAO and GARC all have roles. We want to answer questions and put them into a programme template. We need evidence of estimates of the costs of potential interventions. The landscape analysis already exists and is being rearranged to bring out the important statements. We need a brief distillation of messages and we are using the key structures of a grant application to present the key messages.

Discussion:

JM – who is the audience for this?
BA-R – Within countries we want to increase political motivation, and we also want to prime donors to invest.
JZ – we could look to the polio and other disease eradication campaigns for guidance. Can the global fund be extended to zoonoses?
KH – if we cannot make a veterinary and medical collaboration work to fight rabies it won't be possible for any other zoonosis.
A-MS – donors need to be shown the actionable solutions before the costs and the burden /fear.
SGG - there is a need for less specialized language. Donors are very resistant to extending the global fund to more diseases.
CF - the highest absolute burden is in middle income countries, but the poorest sectors, so the emphasis has to be one of inequality. People read 'indirect 'costs as intangible. We should focus on direct and livestock losses first and incrementally include VSL. Consider what is the cost of the status quo, and the incremental costs of good programs compared to the current nonstrategic approach.
AD – the public health concern is the main problem, livestock is a marginal effect. We're trying to change the status quo from most funding into PEP towards investment in MDV – this is the reason for OIE's collaboration. We need to convince donors that vaccinating dogs is the way to have an impact / to break the cycle of transmission to humans. We need to better communicate the main messages – there is no need for new vaccines.
NV – as long as we have rabies in canines, humans are at risk.
BJM – compartmentalizing rabies and into the wildlife, dogs, humans and livestock aspects shows the holistic cost of rabies. We need to identify new donor audiences, e.g. in India there's a concept of corporate social responsibility that could be tapped.
SGG –. Use a graphic - human lives and human security are impeded by rabies, so dogs and livestock losses feed into human security.
VDR – at the regional scale, we mask difficult country-specific situations.

MA – success comes from merging of interests. In Mexico dog vaccination is a tool to prevent human cases, and it is a single programme.
BA-R – but the country itself should take the lead on how to organise control.
B-NA – the primary benefit is to the health sector, so they should take the lead. The dog is a vector for rabies and control focuses on their vaccination.
AD – PAHO who is doing an excellent job for its region, however there is a huge continental gap in Africa. The priority of OIE is to talk to donors notably about Africa and elsewhere in Asia.
KdB – we need to engage decentralized government (through their ministries) as these people are implementing rabies control.
KLB – we need to use these recommendations to improve the document.

Two further sessions lead by Kim Lamers-Bellio were spent working on:
Case for Change: What high level outcomes and impacts do we expect to achieve?
Case for Change to a Case for Investment: How do we get there? - next steps & decisions
We need to answer the questions: why are we doing this? What are we trying to achieve? who will do it, and how?
The key programme objective is the elimination of dog to human transmitted rabies, globally. Under this are 6 objective activities (1. Integrated national plan of elimination, 2. Vaccination: dogs, 3. reduce human deaths: PEP (Pre-exp), 4. Surveillance: dog and human, monitoring and data, lab capacity, 5. community engagement/transdisciplinary research/team science: education, advocacy, social mobilization, reach of policy makers then engagement, communication, responsible dog ownership, 6. funding and resources) each with their target groups, outcomes and ultimate impact. Change and impact is the critical part of the intervention.
Discussion

Discussions specific to the document were captured by KLB for incorporation into the revised Case for Investment.
More general discussion included:

JZ – at the national level, Veterinary Services must carry out the campaign. There is a regional coordination role for the tripartite organizations and implementation can be strengthened through the WHA. Monitoring and evaluation can be international or by other players but must be independent and add pressure to avoid corruption. Success must be scientifically measured.
BA-R – vets need to take the leadership in carrying out the vaccination, but they must be integrated as public health ministries may be leading the whole process.
B-NA – in Latin America the public health authorities take the lead
BJM – in India, public health is funding dog vaccination by law.
AD – different situations will need different solutions, and we don't want to impose solution or leadership, more about clarifying what has to be done and how. Country and regional level strategies are not exclusive and need to work in parallel.
HB – there are other examples of models were a budget comes from different ministries
PC – there's a Coordinating Office for Control of Trypanosomiasis in Uganda (COCTU) which is very attractive to donors
NV – these activities are at the country-level, but the document is for the donors. What is the role of the global community in supporting countries? and which countries will get the support? we need some clear strategies and targets
JC – the pre-intervention study is a good framework to visualize investment, risks and baseline data to assess the impact which are all needed at a business level. It should include intersectoral assessment.
JZ – we should put this on the next WHA agenda, plus OIE, FAO meetings and see which ministers are willing to engage. GARC should contribute to WHA and CVO meetings to assess interest in countries and to help develop a regional approach.
BA-R – but the agenda at WHA is determined by country requests
SGG – for other diseases, concerned NGOs have met with specific member states and directly requested them to write to WHA. You can provide a draft text referring to all previous relevant resolutions. There are regional consultations in September / October and the executive board meets in January.
AD – the OIE System is different, Global Conferences and the General Assembly worked on rabies and got approval from the countries. Rabies is now one of three priorities of the Tripartite (FAO, OIE, WHO) and the mandate is in place. We're working on a paper for next WRD to be distributed to all member states.
KdB – FAO is more complex and there may be competing agriculture and animal health ministries.
BA-R – WHO is hesitant to go disease by disease, so this needs consideration.
AV – we discussed it in countries to submit a letter last year. Why is this not happening?
LN / BD / LK – is very difficult to get a letter from a minister of health, and all countries want a different agenda. Some countries promised but never delivered.
VDR – in Latin America national program directors still do not have enough influence on ministers of health.
NT – only OIE has taken the decision to support rabies control, with WHO rabies is amongst other NTDs. Is a regional approach the best way forwards?
SGG – and alternative approaches to take on existing legislation and amends the wording to apply to rabies, but this takes a lot of work in contact with ministries.

Progress in dRIT – Charles Rupprecht

Surveillance and diagnostics are different. The concept of the direct rapid immunohistochemical test (dRIT) is simple and now a decade old. It requires only a brain stem impression (hence anatomic diagnosis), and you don't

need to break open the skull. It is a light-based colorimetric assay using formalin fixative and it requires very little training. We have done training all over the world, there are several publications and now we want to take it from a cottage industry to commercialization. In 2012-13 we developed an international mAb cocktail for dRIT and this has been validated by OIE reference laboratories and works. About 70,000 samples have been tested for enhanced surveillance in the US by wildlife biologists.

Some mAbs are pan-reactive, so long as they're not over diluted, and polyclonal hyperimmune sera can also be used. Standard operating procedures are critical to its correct use. The sensitivity and specificity (when done well) are comparable to the Direct Fluorescent Antibody (DFA) test and all OIE reference labs have used it.

We have produced a large amount of antibody. GARC has a material transfer agreement with the Wistar Institute, the owners of the antibody, which allows its use until it is commercially available.

Discussion:

TF – have you used it for human ante-mortem diagnosis using skin biopsies?
CR – not yet, we need champions for that, but it could be used in any way that the DFA is used.
TM – corneal smears are not so successful, but nuchal skin biopsies work every time.
LN – what is needed is to get it approved by OIE.
TF – the rules for this are on the OIE website. You need to put together a dossier of evidence and apply for approval by the right route.
CR – Wistar said that they would support its licensure if we can find a commercial partner.
AR – the Bangalore lab would be a GARC lab and could distribute it and training to the South Asia region.
CR – it is a GARC antibody to distribute.
JZ – we trained 30 technicians, but they don't have microscopes in the field labs. We have started to use lateral flow tests, but they are not validated yet.
DS – wildlife biologists have tested 75,000 samples in the US and all are in agreement with DFA.

During the evening, the announcement was made that as of July 1st, Deborah Briggs will stand down as GARC's Executive Director and that Louis Nel will take up this position.

Louis Nel's remarks following this announcement were:
"Some years ago, Alex Wandeler called you 'the eternal optimist'. I have come to realize that you had to be an eternal optimist to achieve what you have done. Although the early English psychologist, Havelock Ellis, remarked that the place where optimism most flourishes is the lunatic asylum... , a more pragmatic Winston Churchill said in a speech made in 1954: 'for myself- I am an optimist- it does not seem to be much use being anything else...' The definition of optimism is to be motivated and passionate about what you do (and how you live your live). In this regard I look at Debbie and it strikes me how she has demonstrated extraordinary talent to inspire and attract other exceptional individuals who have served GARC and PRP and how she had been able to unite everyone towards a singular focus to seriously address the global burden and neglect of rabies.
To build on this is a serious challenge. The good news is that Debbie is just scaling down – and not disappearing. She stays on as director on the GARC boards of directors. Debbie, from the bottom of my heart, I thank you for what you have done for the global fight against rabies."

Day 2 - Wednesday 2nd April

Workshop Overview – Louis Nel

What can be done at the global level to support countries' efforts towards rabies elimination? Given that we have all the tools necessary to eliminate canine rabies, why is the obvious not happening?
The aims are to:

1. Identify the key challenges for countries, in each of 6 areas
2. Suggest possible solutions at the global level, and the stakeholders involved
3. Prioritize these solutions

Workshop Session I Introductory presentations

In order to stimulate the discussions in the breakout sessions, short, introductory presentations were given. For each component a selected speaker provided a summary of the key issues around the topic.

Human and Canine Rabies Surveillance – basic facts – Thomas Müller

The notifiability survey showed that rabies was not notifiable in all endemic countries, and many surveillance systems are ineffective. Global rabies surveillance is hampered by differing definitions and wording leading to different understandings. Surveillance systems may have different foci (Human, Dog, Wildlife) and passive/ active and centralized /decentralized approaches exist. Responsibilities may be different for human and animal case-

reporting and data is not always accessible to all stakeholders. There are regional biases in the quality of data, and remote areas may not be covered at all.
There is similar variability in rabies diagnosis, with lab or clinical -based diagnosis, religious or cultural issues as well as logistical problems for sample transport affecting diagnosis rates. Often there's a lack of sufficient diagnostic facilities, with the equipment, training and capacity to carry out tests.
Variation within reporting systems is marked. Often only the positive results are reported, data may be 'polished' by authorities, or include different host categories. Where the focus is on reporting outbreaks and not endemic case rates, it is hard to assess their significance. International reporting requirements are not always acknowledged, and the sample submitter may never receive any feedback on the results.
At the international database level, WHO RABNET no longer exists, OIE WAHID is incomplete and ProMed occasionally reports but is not systematic. The only complete databases are regional; the Rabies Bulletin Europe and SIRVERA/SIEPI for Latin America. Several national rabies databases exist.
Overall human and dog rabies surveillance is highly variable. There is a high degree of ineffectiveness especially where the burden is highest. Making rabies a notifiable disease does not mean an effective surveillance system is in place and there are huge differences in quantitative and qualitative rabies surveillance data.

Mass dog vaccination - Joanne Maki
Vaccinating dogs impacts public health. Dogs may be vaccinated on a population or an individual level. Dog identification and registration allows dog population size to be estimated and a community based rabies control approach. There's a need to focus on vaccinating dogs at risk, especially those less than one year old. The use of quality vaccines is important for success, and demonstrating success stories can lead to political change. Mass dog vaccinations are about more than just vaccines: parameters of actual campaigns can vary hugely. Awareness plus community action leads to responsibility.
Small pilot programmes can be scaled up to local, national, regional and global levels, but the strategy varies by scale. The PRP should identify exactly what dog related benchmarks support and allow confidence in human rabies elimination. There are programme variables, including those adapted to the objectives and budget, and product variables related to the cost of vaccine, distribution, warehousing and capacity factors.
From a strategic view point, vaccine banks and pilot programmes can prove that MDV is a successful intervention strategy. There is a challenge in maintaining the cold chain through the 'last mile 'of vaccine delivery to the dog. Vaccination costs from $1-$5 / dog and vaccine production and delivery by companies can be phased to fit regional planning and program size. Small programmes can contribute to more strategic initiatives. Finally post vaccination surveillance and reporting are just as important as vaccination and demonstrate and success.

Human Rabies Immunization overview - Michaël Attlan
We used to regard human vaccine as being in short supply, but this is not true now. Two multinational companies (Sanofi and Novartis), six major local producers and more than 20 others, mostly in China and India, have a theoretical supply capacity of over 100 million doses/year. The reported total consumption is around 90 million doses/year, with close to 55 and 12 million doses/year used in China and India respectively. Sub-Saharan Africa uses just one million doses/year. In most endemic countries rabies vaccine remains an "out of pocket" market.
However the quality of human rabies vaccines still needs to be strengthened. Less than 25% of the doses used are WHO-prequalified, and in order to increase this clinical data availability may need to be confirmed. Most vaccine produced is cell culture based, but there's still some use of nerve tissue vaccine or Primary Hamster Kidney Cell-derived vaccine.
The number of patients receiving PEP is difficult to estimate but given that compliance is less than 80% and the widespread use of ID vaccination (especially in Asia), the real number of PEPs initiated is clearly higher than 18 million/year, and probably closer to 20 million/ year.
In contrast there is a severe shortage of human rabies immune globulin (hRIG) worldwide. Only four producers exist and the availability of hyperimmune plasma is the major bottleneck. Human hyperimmune plasma production is complex, it is not an attractive business prospect for blood derivate companies and represents less than 3% of their total activity. However, a relatively large production is reported in China with 1.5 million vials/ year.

Sanofi is the last global company still producing equine rabies immune globulin (eRIG), alongside several Indian and other producers catering to domestic use. The use of eRIG is reduced due to fear of the adverse events, which are highly related to the purification of the product. There's no WHO prequalification in place for immunoglobulins.
The current real RIG use is estimated to be around 2.5 million vials/year, but the theoretical total need is a minimum of 9 million vials per year. Thus immunoglobulins are used on less than one in every three severe (Grade III) cases.

Workshop Session II Introductory presentations

Community Engagement and Advocacy – BJ Mahendra

All the tools of rabies prevention are available – but not necessarily everywhere, at all times and to everybody. Awareness and engaged communities are the cornerstones of success. Advocacy must strive to bring a focus on to rabies. There are success stories, such as the children against rabies (CARe) PreEP program in El Nido Philippines, and the communities against rabies exposure (CARE) extensions of the Bohol model into Ilocos Norte, Sorsogon and Nias. WRD has had a major impact in increasing the awareness of rabies and its control worldwide. The adopt-a-village program near Bangalore India relies upon community engagement, and there are community stakeholder meetings being conducted in Tanzania. In India there was a concerted campaign by the rabies in Asia foundation to write to all MPs in India, and many replied. Innovative methods, such as video, board games, visual images and the engagement of celebrities can be used to engage a community.
Despite these success stories, around 60,000 people still die of rabies every year and the cost of rabies in animals is high. As professionals and stakeholders working for rabies control we need to address the following questions: Why are people still dying? Where are we going wrong? What are we doing right? Why does this disease still have a low priority? What are the competing interests? Are multiple stakeholders causing confusion? What new approaches can be tried? And how do we translate the local success stories to more global community engagement?

Legal Frameworks, Policy and Standards – Gregorio Torres

The OIE standards include: the Terrestrial Animal Health Code (Terrestrial Code), intended to improve terrestrial animal health and welfare, with standards for safe international trade and the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual), with guidance on the prevention and control of animal disease and the improvement of animal Health Services worldwide.
Chapter 8.11 of the terrestrial code includes a case definition (any animal infected with rabies virus (Lyssavirus genus)) and the definition of a rabies free country for the purpose of the Terrestrial Code. It aims to mitigate the risk of rabies to human and animal health. Information is cross referenced to other chapters with sections on notifiability, effective surveillance, the management of stray dogs and prevention and control measures (detailed in the Terrestrial Manual) and recommendations for certification for importation. Dog population management is regarded as an integral part of rabies control and guidance as provided on how to manage stray dogs.
The Terrestrial Manual is updated according to new scientific findings with updates to the diagnostic techniques made in 2011 and to the requirements for vaccines in 2013.
The discussion was opened highlighting some of the recommendations of the 2011 Rabies Global Conference “Toward sustainable prevention at the source”, Overall, rabies remains neglected and under-reported. There is often a need for national legislation, and governance by veterinary services. Control hinges on vaccination and dog population control was in need for resource allocation at the national level and shared responsibilities between sectors. In order to achieve sustainability, efforts must comply with standards and a ‘One Health’ approach.

Intersectoral collaboration - Katinka de Balogh

During the mission to Bali in 2008, we could see things going wrong. At the peak of the outbreak, 11 people were dying every month, but the situation was turned around in part due to WSPA and also intersectoral collaboration through integrated dog bite management. At the health center they are trained to treat the patient, and also to contact an animal health worker who goes to the village get samples from the dog and tests them. A video explaining these efforts was shown.
At the high level technical meeting in Mexico, a series of key supporting elements for successful cross-sectoral collaboration were agreed upon. These were: Political will and high-level commitment, Trust, Common objectives and priorities, Shared benefits, Strong governance structures, Aligned legal frameworks and recognition of existing international standards, Adequate and equitably distributed resources, Identification and involvement of all relevant partners, Coordinated planning of activities, Guidance on implementation of cross-sectoral collaborations, Capacity development, Strong and effective health systems within the individual sectors.
Alongside these, key operational elements needed were: Joint cross-sectoral coordination mechanisms, Routine communication, Joint simulation exercises, Data sharing, Joint risk assessment, Active cooperation on disease control programmes. How do we put these key activities into practice? The tripartite and GARC is now working across disciplines on the basis of international standards and we can use this to drill down to regional and country levels

Discussion

For each Workshop session, participants were divided amongst three groups to brainstorm possible global solutions to the issues raised an introductory presentations. Following this, a rapporteur presented the key

conclusions in each group. It was suggested that GARC combine the outputs of the 6 breakout sessions for general discussion and prioritization for the next morning.

More General discussion points were:

PC – The Decade of Vaccines (DOV) collaboration has lots of people involved, but rabies is not on their agenda.

Human vaccines are being temperature tested with the CDC, and for animal vaccines, freezing is mostly the problem. The promotion of non-cold chain methods is not a good idea.

CR – Why are we not talking about quality standards for animal vaccines?. There's no Advisory Committee on Immunization Practices for animal vaccines. Under a one health agenda and towards a global perspective this is a good idea and the PRP has a role in promoting this. GARC's role is in advocacy, and we don't want to see the Americas fail. I would like to see a GARC Office in Brazil, for regional advocacy, with resources in Spanish to do what PAHO cannot.

DBr - Integration of rabies vaccine into the EPI cold chain has been discussed with GAVI. GAVI will not consider animal vaccines and is not interested in PreEP, but they may supply some funding to increase accessibility of PEP.

MA – It will be difficult to put any more vaccines in the EPI.

JZ – The cost-effectiveness is $50/ death averted. The evidence is there. Rabies is an orphan disease and needs to fit into GAVI structures

NT – What is the position of monoclonals to address the shortage of immunoglobulin?

TF – Crucell has taken their monoclonal into Phase I and II trials, Others are much further back.

DBr – Crucell has been bought by Johnson & Johnson and they want outside funding (not internal investment) to get it to licensure. This is not unheard of and donors could step in.

LN – What about penside tests? Clearly there's a need for validation of simple tests and what can we do going forwards.

TM – We have purchased a number of these and are moving forward with testing them

KdB – Inter-ministerial cooperation increased enormously with avian influenza, and such committees exist, that are often weak. We need to make sure that the high-level success filters down to lower levels and national rabies stakeholder meetings can address this.

DS – In the US we started with intersectoral collaboration at the state level and then took it to the national level

TM – what are the channels to disseminate the tripartite agreement? Some people have never heard of it.

LT – WRD messages can help with that.

KD – we're working on a package of material from the tripartite organizations

AD – then eased three similar discussions of local levels.

JZ – sometimes at the provincial level services are more integrated. There may be different organizational structures at different levels

KD – could Rotary International be engaged? They are decentralized and did engage in polio eradication, as that comes to an end this could be a good time.

JZ – we need to promote positive examples of one health meetings.

LT – adding in economic analyses can help with resource sharing and demonstrate that contributions are cost-effective.

SS – economic messages should be targeted to different audiences. In the context of public good and public support, profitability should not be used

JZ – I am still feeling uncomfortable about the VSL and would not put it prominently into economic arguments.

JM – there should be a more marketing approach to the benefits of working together, e.g. making a video

TM – we could include a short sequence of how it works of the top level

HB – and showcase where the three organizations work together in a very practical way.

KdB – for example in the Congo outbreak, WHO helped with PEP and RIG, OIE put pressure on the CVO, FAO organized training.

DBr – How would we create such a marketing tool?

AD – Are papers not enough to address donors?

JM – We should engage countries and ask why there are in terms of rabies control, and we could have local engagement with neighboring countries.

KdB – joint capacity development is important, especially in the training of the next generation of staff.

JZ - There are massive online open courses (MOOCs) being developed in one health which are free or low cost, and can lead to a master's degree. These reach out to new audiences. They can be registered on a local server And be used 'Pseudo online' if internet connections are poor. Institut Pasteur modules can be downloaded.

LN – GARC's rabies educator certificates (REC) will have a 'can't fail' approach, like the UN safety course.

AD – we still see vaccine banks as a source of incentives

TM – Do you check if vaccines are used effectively and the quality of the rabies control programs using them?

AD – we are following up on individual projects

KdB – that could be guidance on an intersectoral approach in the package of vaccine they receive.

TM – regional networks could act as a multiplier to spread messages

CR – what about intersectoral collaboration between NGOs?

HB – most NGOs in Africa are on the human side.

Are Medicines Sans Frontiers and Vets Sans Frontiers linked at all? We could partner with United Nations High Commissioner for Refugees (UNHCR) to establish new collaborations.

KdB – there's a need to engage new partners.

DBr – We have not approached UNICEF, and maybe we're getting ready for that.

CR – Rotary international actually paid a lot into polio eradication, we have some contact with them in India already.

SGG – Rotary headquarters are in Zurich, that they have different levels and you can access each

BJM – the corporate social responsibility movement is very large also.

LK – we need to focus on the right messages at international and local levels

AV – can we approach Rotary for world rabies day activities?

LN – PRP should explore this

CR – We need to be more proactive, and have a sidebar "activist group ".

SGG – There was a group of medical students from Yale who had a campaign for access to medicines, and eight graded top universities on how much they cared about neglected diseases. Harvard got a D, and they told them what to do to get a better grade next time. It was a gimmick that worked. You could engage them and get them to do a case study on rabies
TM – Do we grade countries? Or universities?
SGG – It depends on the question we want asked. Students are expected to be mouthy, but it doesn't have to be negative.
KdB – this is similar to the idea of the stepwise approach, with guidance on how to get to the next step.
AV – then if you want to apply for the vaccine bank donations, you need to have everything in place.
VDR – similarly in PAHO, if you want to be declared rabies-free, there are strict criteria.

Day 3 - Wednesday 3rd April

Workshop Session III- Presentation of Draft Outputs for Action

An overview of the long list of key issues and potential activities to address them as identified by the workshop groups was presented. This third workshop session attempted an overall prioritization of key issues, leading to activities that can be carried out by the stakeholders present within a short to mid-term timeframe.
Several ways to narrow down priorities for action at global level were suggested. JM suggested grouping the three technical components (surveillance, dog vaccination, human vaccination) and the three more policy related components (community engagement, policy & standards, intersectoral collaboration). B-NA raised that action or activities that lead to more advocacy should be prioritized. TF suggested to look at the feasibility of activities and prioritize them according to incremental benefits that can be achieved relatively easily or to use a multi-step approach along these lines. Different forms of scientific publications such as journal editorials or special issues, ProMed Mailings, (for example related to the publication of the global burden paper) were discussed, and there is a need for complimentary documents aimed specifically at policy makers and donors who do not read scientific papers. There was no clear consensus on how the final priorities and related activities should be made publicly available and it was suggested to first attempt overall prioritization and decide based on the agreed final list.
The participants identified a number of activities that were clearly cross-cutting and could represent a solution applicable across more than one issue. It was noted that the list of suggested stakeholders per action item might warrant careful review. It was also concluded that in order to assess the feasibility of several solutions it was necessary to gain more insight into the current stages of countries' national rabies control and prevention efforts. Many solutions regarding policy and stakeholder engagement could be tackled with more advocacy and targeted communication activities, whereas more technical key issues would be better addressed through highlighting them in the Canine Rabies Blueprint. A clear and simple guidance document on good surveillance would be very helpful both as a stand-alone resource, and within the blueprint. It should consider horizontal integration into efforts to control several diseases. The evaluation component of the blueprint should be revised and expanded to provide more guidance. It was decided to first have a look at the Blueprint revisions before proceeding further.
The original full list of key issues and potential activities suggested will remain available for consultation in future, but a summary of the highest priority areas identified by each workshop group are presented in the Appendix. These two documents will be used to feed into strategic planning by GARC and the PRP, identification of key stakeholders going forwards, and can be fed into documents such as the investment plan.

Session 4 – Blueprint

Revision of the canine rabies blueprint - Louise Taylor

The blueprint goes into a lot of detail about operations on the ground and is a product of the PRP group. Version two of the canine rabies blueprint went online in English in November 2012, which incorporated minor modifications from version one. The translations (into French Spanish Portuguese Russian and Arabic) of version two went online in July 2013. A version in Chinese is currently being proofread.
The blueprint loses its value if it is not kept up to date. There's a need to review the whole document and make necessary changes and additions to have an up to date version 3. Making edits in seven languages is no small task, so we need to focus only on necessary changes.
The blueprint is divided into a number of sections already and I would suggest that people volunteer to review the sections that they are most familiar with.

Discussion:

AD –people need more than just the 'book'. They need extra guidance and training.
Videos, for example on diagnostics, would be very helpful. More links to success stories from different areas of the world would also help.
TL – there are lots of case studies already. I like the video idea, but the website was developed in a very light manner.
AV – Then we should link to video resources outside the blueprint.
VP – we need self-evaluation tools for countries to see where they are and what is required.
KdB – this was the intent of SARE, to see where the gaps are and then use the blueprint to address them. Also there is no 'what is rabies' section.
LT – if this is for people going to implement rabies control programmes, wouldn't this already be known?
AD – it is a great tool, but there is a demand for more. Sometimes information is hard to find.

TL – perhaps more workshops on how to use it?
KdB – We should sit with countries like Kenya and go through it as they develop their strategy.
NV – there is a need for hard copies for people without internet.
TL – this is difficult now – we did one version in two languages, but now we have more.
LT – we need to make necessary changes now, and a radical change to the overall format isn't practical.
You can make a CD image file, and put it on an FTP server, so that people can burn their own CD-ROMS to use it offline. With a professional cover image too that could look really good.
LN – we need to look at its use – we can see that from Google analytics, and maybe a survey online.
PC – it is a great document, you don't need to revise it much – just monitor how it is being used.
KdB – It is a problem that so many linked documents are only available in English.
Volunteers were assigned to each section and it was agreed that LT would distribute the necessary documents for people to edit using track changes. A deadline of the end of May for edits to be received by LT was set. Further suggestions for edits are listed in the potential action points at the end of this document.

Session 5 – Global opportunities for advocacy

Uniting the global community - advocacy mechanisms and opportunities – Lea Knopf
A broad discussion around advocacy was held with PRP participants suggesting what they could do from their sides.
The idea of a global survey on status of national rabies control activities (reaching beyond information already available from public databases) was also discussed as a longer term strategy. Although it was felt that there was a global fatigue for questionnaires, this would be very relevant information for planning global elimination efforts and could be designed as a self-evaluation tool for countries. It could be based on the extensive survey used by PAHO to assess their countries' rabies programs (which will be shared with GARC), or could be completed during regional workshops, or distributed through OIE / WHO channels. There would need to be care taken about how to use and publicize data (e.g. putting it on maps) to avoid offence.
WRD represents a great opportunity for advocacy efforts. This year's theme is "Together against rabies" with obvious tie-ins to One Health. FAO, OIE and WHO will be preparing a package of materials to be distributed for WRD to their country representatives. WSPA has prepared a video presentation, promoting dog vaccination instead of culling. A video promoting the rabies blueprint should be considered, and a suggestion was made to create awards for rabies champions along the lines of the CNN Heroes model.

Closing Remarks

Deborah Briggs thanked all of the participants for attending, for contributing to the discussions, and for their support of Louis Nel in taking the work of GARC and the PRP forwards.

Louis Nel closed the meeting. He emphasized the dynamics of the changing environment that we operate in – and that, despite all the things that change, the PRP has persisted, and friendships and collaborations have persisted. We may 'fight to disagree', but the search for consensus is worthy of our continuing pursuit, for a common objective and unified vision dictates our progress .

Appendix – Key Priorities for each topic area identified in Workshop Session III

Challenges at the country level	Action at global level	Potential stakeholders for this action	Other relevant components
SURVEILLANCE			
Need for integrated surveillance (animal and human) system that covers whole country and includes all host species	Surveillance needs to be at the NATIONAL intersectoral level – promote notification as first step	Tripartite messaging, GARC Advocacy	Legal Frameworks, Policy and Standards
	Replicate good local examples (e.g. Jamshedpur, Philippines, Model) and expand to wider areas	GARC / PRP	
	Use existing trainings and eLearning opportunities (WHO, OIE, RESOLAB etc.) of new vets and medics to stress the importance of linking surveillance efforts.	Inst. Pasteur will share training materials, RESOLAB materials, GARC can facilitate the distribution	
	Identify data needs to support countries on surveillance and outbreak response	WHO, OIE, FAO	Legal Frameworks, Policy and Standards
Notifiability of rabies at country level	Advocacy to include rabies as a notifiable disease and to strengthen surveillance of rabies	Intl NGOs (GARC, WSPA), National and Regional Organizations	
DOG VACCINATION			
Logistics and organization for MDV needs strengthening in many programs;	Support for training	FAO; tripartite agencies	
	Access to infield planning tools		
Lack of clear strategies/national plans	General guidelines for field use (blueprints)		Legal Frameworks, Policy and Standards
	Need for TA and training to develop and implement MDV		
	Create a package of global support tools		
	Advocacy/educational videos for policy makers and MDV program staff		
HUMAN VACCINATION			
Awareness & Access	Advocacy for: Population: Education of educators and children Professionals: Training	GARC/WHO/OIE/FAO, GAVI, Ministries Health, Education, Agriculture, Media, teachers, professional organizations, NGOs, UNICEF	
Access to vaccines and Ig	Advocate for Public health system to provide access to vaccines – Universal Health care	Universal access for patients: Universal health care	

Challenges at the country level	Action at global level	Potential stakeholders for this action	Other relevant components
COMMUNITY ENGAGEMENT AND ADVOCACY			
Need to address appropriate information to relevant audiences	Develop a framework including message bank and means to assess the right message for the right audience and how to reach that audience best. Sharing of good practice case studies - add tools into blueprint		
LEGAL FRAMEWORKS, POLICY AND STANDARDS			
Lack of political will to implement guidelines and standards/ carry out rabies prevention and control	Advocacy	WHO, OIE, FAO, GARC, other NGOs	
	Present health economics studies as an advocacy tool for countries to support rabies prevention and control, formal publications	GARC, WHO, OIE, FAO, Other organizations	
	Collaborate with non-health sectoral groups to emphasize additional benefits of rabies prevention and control relative to promotion of tourism, prevention of accidents	GARC in coordination with other relevant international sectoral organizations (tourism, transportation)	
	Extend linkages with civil society organizations/ non-traditional stakeholders (such as those engaged in dog control measures, waste management) that could further strengthen/support rabies prevention and control implementation	GARC, WSPA and other NGOs, International veterinary organizations	
INTERSECTORAL COLLABORATION			
Lack of one health capacity and communication	Growing educational activities. Use IP workshop format in other settings (eg. SEARG). Extend MOOCs / OH Next generation online course	Academic partners	
	Get intersectoral collaboration prominent in Call to action that distributed by tripartite for WRD	GARC, tripartite	
	Huffington Post blog	Debbie	
	Case studies on the added value of the collaboration at all levels of the tripartite (i.e. Congo Brazzaville, Bangladesh MOH provides resources for animal vaccination) to be used in Blueprint, newsletter	GARC	
	Develop video and other audiovisual footage	Communication specialists, Tripartite at May meeting	
	Webinar on intersectoral collaboration	GARC, Tripartite	

Suggested Action Points

LT will make presentations and publication available to participants

Need a blueprint type advocacy document to tell a government what they need to do about rabies - AR

There is a need for an easily understandable summary of the health economics, including new data and eventually links to contacts of specialists for the Blueprint, esp. on costs/benefits - JM

Develop a web-based cost and benefit prediction model (follow up RabEcon v2) - SS

Develop a cost-predictive model that considers phases of rabies control to show donors when and how long there is a need for external funding – health economics subgroup?

Integrate a training component on optimizing vaccination campaigns into the concept of vaccine banks - AV

Use existing training workshops and e-learning platforms to build in messaging

PRP/GARC to approach Michelle on Rabies Compendium – JM

GARC should make contact with the Decade of Vaccines (DOV) collaboration - PC

GARC should look into establishing an equivalent of the Advisory Committee on Immunization Practices for animal vaccines - CR

GARC should establish an office in Brazil to advocate for the last steps of rabies elimination in the Americas - CR.

A comparison of various penside tests is currently being conducted by an OIE/WHO ref lab, make results available when completed – TM

PRP / GARC should promote the tripartite agreement wherever possible – TM

PRP / GARC should seek to expand our range of partners -– e.g. To UNICEF, UNHCR, Rotary International.

Advocacy: Investigate other existing topic-specific days that could be associated with rabies (e.g. International Children's' Day, etc.) – GARC

Complete investment case this year (by WRD) This needs to include solutions, costs benefits and what will be done - BA-R

- LT will distributed word version of investment case and ask for feedback (by Monday 7th) in track changes, then send comments to Kim and Bernadette.

The secretariat will look at the list of workshop outputs and distribute distilled priorities and related activities.

The Call to action could be 'marketed' in association with the burden study being published - DBr

- We should use ProMed as a platform for PRP announcements more - CR
- Mid-term publication of a special issue of a journal (e.g. Plops NTD) - TL
- Different packaging of messages for different audiences (esp. policymakers and donors) - KdB

Blueprint revisions can satisfy several action points – A full review will be completed, looking to add new resources, update old ones and add modules as necessary. Country user feedback should also be sought – LT.

- LT will distribute sections to volunteers signed up – feedback by end May 2014
- Add in evaluation tool (Hervé) and stepwise approach? (LK, KDB, VDR)
- Add in health economics section (SS)
- Add in checklist for country preparedness for rabies control (NV)
- Add in minimum customizable surveillance guidelines (TF, HB, JB, DS).
- Add in deck of slides on main elements – for training purposes (NV, SJ)
- Add in framework for community engagement with revision of communications strategy (JC and TL)

- Link into video bank stored elsewhere maybe?
- LT will look into how to make a downloadable CD image - with cover art so people can burn their own version. HB, JBa
- Consider making a **short video** asking if people know about blueprint - JM

Consider a **<u>survey of endemic countries' status of rabies control activities and capacities</u>**

- VDR will share the PAHO assessment (127 questions, only in Spanish), and then answers from Latin American countries already completed.
- Drafting group to work on a suitable survey (considering PAHO questionnaire), consider asking back to selected countries what is missing in their opinion – tripartite + GARC
- Consider taking such a survey to other regions and regional events, or delivered worldwide in tripartite information pack for WRD?

<u>WRD activities</u>

- Tripartite package of info to all country reps / office for all organizations
- WSPA has planned a video presentation

Global Awards for Rabies Champions (e.g. CNN heroes) – SJ