

GALVmed is a not-for-profit global alliance of public, private and government partners. By making livestock vaccines, diagnostics and medicines accessible and affordable to the millions for whom livestock is a lifeline, GALVmed is *protecting livestock and saving human life*. It is currently funded by the Bill & Melinda Gates Foundation and the UK Government's Department for International Development (DFID).

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Summary of recent work by GALVmed and partners on priority diseases

GALVmed is actively working with a wide range of partners to develop leads in relation to 12 diseases – nine directly and three additional diseases (lumpy skin disease, sheep and goat pox) through combination vaccines for Rift Valley fever. Below, the diseases have been grouped in relation to the animal species affected with summaries of recent activities and achievements.

Cattle diseases

East Coast fever (ECF)

GALVmed is providing support to the Centre for Ticks and Tick-Borne Diseases (CTTBD), Malawi to enable it to begin production of the ECF (Muguga cocktail) infection and treatment method (ITM) vaccine. Production of the first batch has already started. It has also supported the commercialisation of ECF ITM in Kenya, Tanzania and Malawi.

GALVmed also co-organised an international meeting, together with ILRI and USAID, held in Nairobi in April 2012, the focus of which was to review options for developing a new generation ECF vaccine.

2017 target: To facilitate vaccination of at least 2.5 million cattle.



In July 2012 the Sidai ECF team started vaccinating cattle in Kenya. Sidai, a social enterprise which is establishing a network of franchised livestock service centres in Kenya, has 25,000 doses of the ECF vaccine in stock and all their franchisees are trained ECF vaccinators.

Contagious bovine pleuropneumonia (CBPP)

In January 2012, GALVmed convened an international meeting in Nairobi to consider the role and prudent use of new generation antimicrobials in the treatment of CBPP: currently their use is banned in most of the affected countries in Africa. As a result GALVmed is aiming shortly to commence proof-of-concept studies for efficacy of third generation macrolide antimicrobials.

Cattle, sheep and goat diseases

Animal African trypanosomosis (AAT)

In 2011, GALVmed was awarded a grant by the UK Government's Department for International Development (DFID) to begin work on the development of improved drugs, diagnostics and a possible vaccine against AAT.

Work is progressing well with the College of Life Sciences at the University of Dundee, Scotland, the Swiss Tropical & Public Health Institute and Anacor Pharmaceuticals Inc, a Californian biopharmaceutical company, with the aim of developing novel curative and preventative trypanocidal drugs. These programmes build on promising leads identified during work to develop new drugs for the treatment of human African trypanosomosis (sleeping sickness).

Work is also ongoing at Dundee and the University of KwaZulu Natal, South Africa on the development of penside diagnostic tests.

Exploratory work is also being supported on the identification of a candidate AAT vaccine.

Rift Valley fever (RVF)

GALVmed is generating the data required by the registration authorities in East and West Africa to make available a new, safer monovalent live vaccine, developed by Onderstepoort Biological Products, South Africa.

Proof-of-concept has been demonstrated for a combination live RVF-lumpy skin disease vaccine and registration trials are underway: the vaccine will provide protection against sheep and goat pox, lumpy skin disease and RVF. In addition a penside diagnostic test for RVF is currently under development.

2017 target: At least 150,000 cattle will have received these vaccines.

Sheep and goat diseases

Contagious caprine pleuropneumonia (CCPP)

GALVmed is supporting work at the PANVAC process development laboratory, Ethiopia to develop an improved process (with higher yields) for production of the vaccine against CCPP; an antigen ELISA test to be used for quality control during vaccine production has also been developed. This work is a follow-up to the VACNADA project (see GALVmed newsletter February 2012).

Peste des petits ruminants (PPR)

GALVmed is supporting work to develop a thermostable PPR vaccine. A study has been conducted in South Asia to identify why existing PPR vaccines are not more widely used.

Pig diseases

Porcine cysticercosis

GALVmed is working with a network of partners to develop and make available the tools which could eventually help to eradicate the diseases

caused by *Taenia solium*, which can be transmitted between pigs and people. This includes working with the University of Melbourne and Indian Immunologicals Ltd to support the development of a vaccine, TSOL18, for use in pigs. A commercial process for vaccine production has now been developed and registration trials are ongoing.

GALVmed is also working with MCI Santé Animale, a Moroccan veterinary pharmaceutical company, supporting safety and bioequivalence studies to enable suitable formulations of oxfendazole to be registered for use in pigs to treat infections already present at the time of vaccination. Residue data for oxfendazole have already been generated.

African swine fever (ASF)

GALVmed is supporting work that aims to establish proof-of-concept for a regional live attenuated African swine fever vaccine.

Poultry diseases

Newcastle disease

A number of initiatives are being supported which aim to make Newcastle disease vaccines more accessible and easier to use for small-scale poultry keepers in Africa and Asia. These include the development and delivery of vaccines that are thermostable, one that can be administered via feed pellets and also a fast-dissolving tablet formulation.

GALVmed and partners are currently working with over 100,000 households in Africa (Burkina Faso, Cameroon, DRC, Lesotho and Tanzania), India and Nepal to test vaccine delivery models for sustainability and impact.

2017 target: 15 million Newcastle disease vaccines administered.



Jhapa, Nepal: Report on the Newcastle disease pilot project

A GALVmed-backed poultry vaccination project has resulted in complete prevention of Newcastle disease in the participating Nepalese villages. The pilot project, implemented by Heifer International Nepal, has also left behind a sustainable business model that involves increased profits for everyone along the supply chain. The backyard poultry keepers' incomes are up fourfold.

The pilot in the Jhapa District, Nepal, encouraged backyard poultry keepers to vaccinate chickens against Newcastle disease and also to regularly de-worm their birds. The villages selected for the pilot were close to the border with India because cross-border poultry trade was considered to increase the exposure to Newcastle disease in the area.

Backyard poultry keeping in Nepal provides food for celebrations, a source of protein and supplementary income in rural areas. The low cost of production and minimal land and labour requirements mean there are low barriers to entry to the sector and that it is often an activity carried out by women. However, poor animal husbandry practices and the absence of a systemic approach to tackling poultry diseases have held back the sector.

In the past, Newcastle disease regularly caused 90% flock mortality, especially during March-April and August-September. Backyard poultry keepers in the pilot area were usually unaware that vaccines, routinely used in commercial flocks, could save their birds. Even when available, the vaccines were sometimes of poor quality due to a failure to properly maintain the cold chain.

Community animal health workers in Nepal have not previously been trained to work with the backyard poultry sector. The pilot scheme introduced a four-day bespoke skills development programme delivered by the NGO Anthra (India) with a technical

expert from Heifer International, Nepal. Initial training was followed up with a one-day refresher conducted by Mary Young of the Kyeema Foundation.

Five community animal health workers and other key staff received training in the practical skills of transporting vaccines using cool boxes, reconstitution of vaccine with the correct diluents and the correct intra-ocular (eye drops) administration techniques. In the project, intra-ocular Lasota Newcastle disease vaccine was used every three months.

At the start of the pilot in April 2011 no Newcastle disease vaccinations were taking place in the participating villages. Over the following year, 2,300 households participated in the pilot and four vaccination campaigns resulted in over 60,000 vaccinations. The first two vaccinations were provided free of charge to the farmers. This established the benefits of vaccination so that farmers would be willing to pay for subsequent treatments. Even though the first two vaccine campaigns were delivered free to the end user, the farmers were not easily convinced to be part of the pilot. However, regular interactions with the community animal health workers, backed up by effective publicity materials encouraged the poultry keepers to take part.

Working with the local community animal health workers proved highly effective in understanding the challenges faced by farmers. The fact that they spoke the same language and shared a culture also helped to create deeper bonds. This proved beneficial to the project and in helping to introduce additional animal health innovations. The farmers were organized into self-help groups, which helped with the success of the project.

When the community animal health workers first engaged with the poultry keepers they were supervised by a veterinarian. This helped build credibility for the vaccination programme. Working with the qualified vets also broadened their knowledge of wider animal health issues.

During the pilot, 400 households were provided with services over and above the target of 1900 households; some started keeping backyard poultry, as they saw that the advantages of the improved husbandry techniques and others from outside the pilot villages asked the community animal health worker to visit them. Training included balanced feeding and appropriate brooding techniques; as a result the egg production and hatchability percentage has increased.

Whilst emphasising that only the vaccine can protect birds from Newcastle disease, training was also provided in the use of de-wormers for internal parasites and local herbs to control some external parasites and increase the overall health of the birds.

The self-help groups' representatives and other local stakeholders, including the community animal health workers and the community facilitators, set the price for the Newcastle disease vaccination. The fee-setting took into account all of the processes and costs needed to make the vaccine available. All the backyard poultry keepers agreed to pay the amount fixed and everyone involved considered this fee to be consistent with establishing a sustainable service. The farmers now see these preventative approaches make sound business sense and that poultry can contribute substantially to their household income.

The community animal health workers earned around Nepalese rupees 7,000 (US \$90) during the third and fourth de-worming and vaccination campaigns and the poultry work is now contributing effectively to build their businesses.

The farmers have increased confidence in vaccination as an approach to other poultry diseases (e.g. fowl pox) and other livestock (e.g. hemorrhagic septicemia and black quarter in large ruminants) and all livestock are now being regularly de-wormed. Additionally the pilot made it easy for the government veterinary office to vaccinate 4,668 goats to prevent a peste des petits ruminants (PPR; a devastating sheep and goat disease) outbreak in the area.

The retailers now make sure that they always have the 100-dose pack of the Newcastle disease vaccine in stock. Retailers, who were given training on cold chain maintenance, now know what a quality vaccine means. Periodic checking of the refrigerator's condition, keeping a thermometer to check at which temperature vaccine is stored, maintaining a temperature log and its analysis has become a routine for them.

	Before the project	After the project
Number of clutches of eggs/year	2-3	4-6*
Average number of eggs per clutch	18	18
Average % hatchability	60	85
Mortality rate due to disease	90%	15-20%
Flock size per household	6	30
Income per bird per year	Nepalese Rupee 3,600 (US \$41)	Nepalese Rupee 15,000 (US \$171)

**When chicks are separated from the mother hen, the hen comes into lay earlier than usual increasing the number of clutches in a year.*



Productivity before and after the Newcastle disease pilot

The pilot has helped to improve incomes in the participating households and improved food security in an area where malnourishment occurs. There was an increased sense of comradeship and support amongst the farmers after the training. The programme also engendered a sense of wellbeing, especially amongst women who participated; their standing in the community has increased along with their incomes.

Maintaining the cold chain was a major part of the training in the pilot. The training appears to have been effective as no outbreak of Newcastle disease was reported, implying that the vaccine cold chain was not compromised.

The pilot proved so successful that other self-help groups have already copied it and the animal health department and project partner Heifer International plan to replicate it next year.

Manamaya's story

Manamaya Karki was not enthusiastic about backyard poultry. She had just one chicken and a few chicks. Every 2–3 months her chickens died of Newcastle disease and she would have to buy chicks again. She did not have any type of shelter for her chickens. They produced only a few eggs which the family ate.

After taking the one-day's training as part of the Newcastle disease pilot project, things changed. The family built a compound with bamboo and a shelter. Manamaya invested in 10 more chickens and these, and each subsequent batch of

chicks, have been vaccinated against Newcastle disease. The chicks have also been regularly dewormed.

With Newcastle disease no longer killing any of her chickens, Manamaya has increased her flock to 60 chicks and made 20,000 Nepalese rupees profit (US \$220) and she provides plenty of eggs for the family.

Mamta Dhawan (pictured below) GALVmed's Programme Manager for South Asia who has led the pilot projects commented: *"Backyard poultry make such a difference to people's livelihoods and food security, particularly those of women and children. Newcastle disease can have a devastating impact, wiping out flocks and so vaccination is essential for many fragile communities. I am delighted that this vaccination project has had such positive results for the individuals and families involved and that there has been interest from other stakeholders in replicating the process here in Nepal. I would like to thank the poultry keepers for their confidence in our project partners: Abhiyan Nepal and Jaleshwor Swabhalamban Samaj (Heifer International, Nepal's delivery partners at the grassroots level). We thank them for their hard work and also the Kyeema Foundation for contributing to the success of this project."*



Novel fast-dissolving tablet formulation developed for Newcastle disease vaccine

Demonstration of proof-of-concept (initial experimental evidence that a vaccine is likely to be effective) has recently been achieved for a new fast-dissolving tablet formulation of a vaccine against Newcastle disease by a GALVmed supported project. Thermostability of the vaccine is currently being evaluated.

Newcastle disease, a highly contagious viral disease, is one of the biggest threats to backyard and village poultry flocks in poor countries. Chickens and other types of poultry are especially important to women and young people who often keep small numbers of free-ranging birds which they can sell whenever they need cash.

A new presentation of the Newcastle disease vaccine, in which the fast-dissolving tablets are packed in foil blister packs that can be stored for at least 24 hours at room temperature, promises to dramatically improve access to vaccines for poor people by making them cheaper, easier to transport and more convenient to store and use.

Each tablet, which is reconstituted in under 10 seconds in just 1ml of water, will contain enough vaccine to protect 50 birds. Conventional vaccines are packed in glass vials which are bulky, easily damaged, usually need to be stored under refrigeration and typically contain 500 or more doses.

The new formulation of the freeze-dried Newcastle disease vaccine has been developed by PATH, a Seattle-based not-for-profit organization which aims to transform global health through innovation. Other partners in this GALVmed

commissioned project were the Southeast Poultry Research Laboratory of the United States of Agriculture (USDA) and the University of Washington.

PATH has been working for more than 30 years to increase access to vaccines and to develop improved formulations that are safer, more effective and easier to use.

Baptiste Dungu, GALVmed senior director R&D, explained: *"GALVmed is proud to support the development of the vaccine tablet, which may soon make Newcastle disease vaccine cheaper and easier for poor farmers to transport, store and use. Such technology advances complement GALVmed's pilot efforts to expand vaccine access and training of villagers as poultry vaccinators, helping to protect animal health and human livelihoods against the devastating effects of disease."*

PATH and partners continue to explore the feasibility of producing Newcastle disease vaccine tablets using equipment and materials that developing-country vaccine manufacturers already have or can easily and inexpensively access. Next steps will include transferring the technology.



GALVmed's Senior Director for Research & Development, Baptiste Dungu



Target product profiles for drugs and vaccines against animal African trypanosomosis

“An important early stage in GALVmed’s approach to developing new animal health products is to draw up an appropriate target product profile. Developing new health products is an expensive and time consuming endeavour and target product profiles help ensure clarity at the outset of what success will look like” explains GALVmed’s animal African trypanosomosis (AAT) programme manager Grant Napier.

Target product profiles specify, for a wide range of parameters, the minimum and ideal attributes of the product that will eventually be marketed. They are a standard tool widely used in pharmaceutical and diagnostics development. In the case of AAT products they are being achieved through a consensus seeking approach by consultation with policy makers, industry, wholesalers, retailers, veterinarians, farmers and livestock owners directly.

The objective is to ensure that products being developed meet the needs of the livestock keepers and animal health professional who will be using them, and also the requirements of the regulators: in short, that the products are safe, effective and convenient to use.

Target product profiles are also a useful tool to guide decision making during product development; they enable the question to be repeatedly asked, does the product that is emerging meet the target profile? If not then actions can be identified to address any shortfalls; if it proves impossible to meet the minimum target

this could signal the need to halt that line of development. Such rigorous go/no-go gateways are a key feature of GALVmed’s approach to product development and one which distinguishes the alliance from many other research-for-development organisations.

For the drugs and vaccines against animal African trypanosomosis that the GALVmed led program aims to develop, draft target product profiles have been developed with input from the AAT programme steering committee and through consultation with a variety of stakeholders. The attributes being considered by these are shown in the table below for a therapeutic drug, a combined therapeutic/prophylactic product and an AAT vaccine.

Stakeholders who would like to make suggestions or provide any inputs on the minimum or ideal target product profile criteria for these products in development can send comments directly to the GALVmed AAT programme manager Grant Napier: grant.napier@galvmed.org.

Attributes being considered for AAT drug and vaccine target product profiles

AAT therapeutic drug	AAT therapeutic & prophylactic drug	AAT vaccine
Active ingredient	Active ingredient	Antigen
Indication for use	Indication for use	Indication for use
Recommended species	Recommended species	Recommended species
Route of administration	Route of administration	Recommended dose
Formulation	Formulation	Pharmaceutical form
Regimen	Regimen	Route of administration
Recommended time of treatment	Recommended time of treatment	Regimen – primary vaccination
Expected efficacy	Expected efficacy	Regimen – booster
Expected safety	Expected safety	Epidemiological relevance
Withdrawal period	Withdrawal period	Recommended age at first vaccination
Special requirements for animals	Special requirements for animals	Onset of immunity
Special requirements for persons	Special requirements for persons	Duration of immunity
Special requirements for environmental protection	Special requirements for environmental protection	Expected efficacy
Package size	Package size	Expected safety
Price to user	Price to user	Withdrawal period
Storage requirements	Storage requirements	Special requirements for animals
Shelf-life as packaged	Shelf-life as packaged	Package size
Shelf-life from opening	Shelf-life from opening	Price to end user
		Storage requirements
		Shelf-life as packaged
		In-use stability
		In-use preservatives for inactivated vaccines

GALVmed’s work on AAT is funded by the UK Government’s Department for International Development (DFID). Partners in the drug development component of the AAT program include Anacor Pharmaceuticals Inc. California, the College of Life Sciences at the University of Dundee and the Swiss Tropical and Public Health Institute. More information on the drug discovery work can be found at <http://www.galvmed.org/node/221>



E-consultation on Africa's livestock sector

What do people think about the state of Africa's livestock sector and how delivery of animal health services for rural farmers can be improved?

To answer these and other related questions GALVmed recently commissioned Tim Leyland, a livestock and animal health specialist, to write a discussion paper *A Path to Prosperity: New Directions for African Livestock* (the *Impetus Strategy Paper*).

To enable others to comment on the ideas presented in the paper, GALVmed hosted an e-consultation, moderated by Tim, which ran from March to May 2012. The idea of the two linked initiatives was to provide some guidance and background for GALVmed's future activities.

During the e-consultation 105 people registered, 27 of whom together made 54 posts, nearly half of which focused on improving animal health services. In total these generated 930 views, with the animal health topic proving the most popular.

The questions posed to prompt discussion on animal health services were:

- Many commentators speak of the need for harmonisation of veterinary policy and legislation at regional and national level. Is this appropriate and is it possible?
- Are the current efforts to ensure effective registration processes, enforcement of legislation and quality testing having any impact?
- Are veterinary para-professionals a realistic solution to improving veterinary service delivery in rural areas?
- Should we be concerned about neglected zoonoses? Won't they be sorted out once rural communities are better educated and infrastructure improves?

The highest number of discussion posts made was on **animal health issues**. Key points included the following:

Vets, as a first point of contact with livestock owners, have a (largely missed) opportunity to provide information on improved feeding practices.

Opinion on whether veterinary para-professionals are effective and sustainable, whilst divided, was generally positive. Paravets are useful, particularly in underserved and remote areas. Most agreed that World Organisation for Animal Health (OIE) guidance on how paravets should operate was useful and appropriate. Calls for effective supervision and follow up, improved trust and flexible legislation to govern the use of paravets including Community Animal Health Workers (CAHW) were made. There were calls for effective continuing professional development of vets to help improve service provision and the utilisation of paravets.

There were several observations made about how paper policies and weak institutions don't lead to positive change for the sector.

We heard that whilst drug regulation had been harmonised and improved in some regions, it is not enforced and therefore inadequate. Contributors confirmed that drug acquisition remains largely informal and the quality of drugs continues to fall. Various solutions ranging from training drug vendors, to building franchise enterprises (Sidai Africa Ltd <http://www.sidai.com/>) and ensuring drug registration authorities have an incentive to change the way they do business were put forward.

The OIE PVS mechanism, the new Interafrican Bureau of Animal Resources (AU/IBAR) veterinary governance project and IBAR's strategy for livestock development in Africa were cited as key opportunities to build upon.

Controlling neglected zoonoses needs more than improved education and infrastructure. Partnerships with other sectors, particularly human health, but also agriculture, environment, education, local administration, will be necessary to contain and effectively control zoonotic and food borne diseases that mainly affect the poor.

During the discussion on **market access for smallholders** it was pointed out that product type and policies are the key issues to consider. For example, small holders and medium sized poultry operations can

- Should and if so how can the private sector be involved in animal health service delivery?

Summaries of the various discussions can be found at <http://www.livestock2012.com/e-discussion/summary-documents.html>

In the final post, Tim summarised the contributions:

"In terms of the **overall livestock sector in Sub Saharan Africa**, the discussants confirmed support for the creation of a livestock forum that provides an opportunity for a range of stakeholders, not just government and international agencies, to voice their opinions. There was strong advocacy for greater synergy and collaboration between key actors, including the private sector and civil society. There is a need to re-appraise the state of the livestock sector in Africa (both successes and failures) if we are to strengthen and develop a range of effective livestock policies.

Contributors reminded us that livestock keeping is not just about monetary gain. Livestock are important social capital for millions of people, providing highly nutritious food to subsistence farmers and the poor, manure for crop production and draft power.

Greater recognition of the key role that working equines play in supporting peoples' livelihoods was advocated along with the need to do more for their specific health problems and medicinal requirements.

rarely compete with large scale egg and poultry meat producers however small scale milk and possibly ruminant meat production can be competitive depending on the policy environment. Our understanding of how some small holder markets function remains weak.

Small and poor farmers will inevitably drop out of the market place in coming years and this may not be a bad thing as long as alternative livelihoods options and safety nets are available for the most vulnerable.

The harmonisation of intra and inter regional livestock trade policies in Africa should encourage better structured and regulated markets and this could be very beneficial for small farmers.

Understanding the priorities of different actors in the value chain is important if effective marketing and trade policy is to be developed. It was observed that the priorities of farmers commonly differ to those of the veterinary service providers.

The use of new technologies particularly mobile phones was advocated.

Finally, the idea that contract farming as a key means of improving the profitability and production of small farmers was supported, however the key bottle necks to scaling up contract farming in Sub-saharan Africa do need to be better understood."

Commenting on the e-consultation, GALVmed's senior director for policy & external affairs, Hameed Nuru, explains: "We recognise that GALVmed is a relatively new player on the scene and the e-forum provided us with an opportunity to hear the views and appreciate the knowledge of our more experienced partners and stakeholders. These insights are valuable in enabling GALVmed to strategise and prioritise in phase 2 of *Protecting Livestock, Saving Human Life*."

This online forum also sought to stimulate debate by identifying the key areas of challenges and barriers to the livestock sector in Africa and clearly articulate the major gaps and what investment – not only in the form of money, could be used to plug these. Building on the many face to face meetings Tim Leyland and other colleagues had whilst researching the Impetus Strategy Paper, the electronic consultation challenged participants to contribute to the five principal topics. "

A presentation based on Impetus Strategy Paper was made by GALVmed at the ALive Executive Committee and General Assembly in Nairobi on 18 July 2012.



GALVmed spreads the word

Over the past few months GALVmed has done a good job of sharing news of its aims, ideas and achievements with a wide range of stakeholders using a variety of channels – modern and traditional.

Members of the GALVmed team have made presentations at a number of events. These include a seminar given by Brian Perry in May at the Jenner Institute, University of Oxford which drew heavily on the work he led as a consultant on the VACNADA project. Professor Perry's presentation was titled *A market assessment for vaccines against 'neglected' livestock diseases in Africa: some lessons learned*. Later that month Baptiste Dungu also gave a seminar in the same Jenner Institute series titled *GALVmed: driving technological interventions for the availability and access to control tools on neglected livestock diseases*.

An invited feature article in the British Veterinary Association's flagship publication *The Veterinary Record* gave GALVmed consultant Keith Sones the opportunity to explain the alliance's approach and achievements to date.

A number of publications, including *The Veterinary Record*, and various websites picked up GALVmed's press release featuring the novel fast-dissolving tablet formulation of Newcastle disease vaccine (see page 4 for more details on this exciting development).

In June, GALVmed's operations director, Meritxell Donadeu and Grant Napier, programme manager animal African trypanosomiasis (AAT), joined 90 delegates at the 10th Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC) national coordinators' meeting in Accra, Ghana. This enabled them to obtain useful and otherwise hard to access information, for example on AAT epidemiology, and also to explain how GALVmed's plans to develop new improved control tools for AAT can play an integrated role in PATTEC's tsetse and trypanosomiasis control campaign.

In July GALVmed took part in the ALive Executive Committee and General Assembly in Nairobi. Here a team led by Hameed Nuru, GALVmed's senior director policy & external affairs, presented GALVmed's *Impetus Strategy Paper*, which explains GALVmed's desire to forge an effective alliance with others in order to drive change in the livestock sector in Africa. Prior to this, during March, April and May, GALVmed had led an e-consultation during which people were invited to comment on a draft of the paper (see page 6).



GALVmed's Senior Director, Policy & External Affairs, Hameed Nuru

And the readership grows steadily ...

In February 2012 we reported that the newsletter had over 2,000 subscribers. By May 2012 this figure had grown by nearly 10%. In addition 1178 newsletters were downloaded from the website, an average of over 13 downloads a day. In May 2012 the website received 5089 hits – an average of 164 each day: in June the website reached 200 hits a day.

GALVmed guerrilla marketing campaign launches East Coast fever vaccine in Kenya

In November 2011, the Kenyan government approved the ECF (Muguga cocktail) vaccine for national roll-out and appointed distributors in June 2012, meaning that the vaccine is effectively 'on the market'.

The challenge facing GALVmed has been to provide added impetus to the value chain without expending the budget for a full-scale awareness campaign. The value chain includes all of Kenya's vets, agro-vets, cattle-keepers and all the related stakeholders, including local government vets and extension workers. Compounding the challenge is the fact that GALVmed's focus is on resource-poor and geographically hard to reach farmers.

Using conventional paid media to cover these audiences across Kenya would be expensive, highly inefficient, difficult and costly to evaluate. In addition the message delivered would be likely one-way and greeted with scepticism by many as 'paid for' media has a relatively poor reputation. Additionally a large-scale campaign is not in line with GALVmed's strategy as it is in danger of creating dependency and stifling initiative.

Working together in situ with i-Cow and communications expert, Adam Lury, GALVmed has developed a highly targeted and innovative solution, which is the lead intervention in a guerrilla marketing campaign of targeted strategic interventions designed to kick start the commercial value chain.

i-Cow has a unique and fast growing database that covers all practising government veterinarians and AI distributors, the majority of extension workers and 16,000 'early adopter' cattle owners (the majority owning 1-5 cows) across all of Kenya's counties. i-Cow surveys indicate that these cattle keepers share their text based learning with around 20 others thereby increasing our coverage to around 320,000. A major plank of their brand promise is their integrity and commitment to providing value to poor farmers who pay what is, in their terms, significant sums to receive texts.

Over four days, i-Cow sent an interactive SMS text message to its entire database informing them that the vaccine is now available and asking them to pre-register their interest by sending in their mobile number, location and number of cows they wanted to vaccinate, stating that this information would be passed on to distributors. Receiving the SMS was free, replying cost Ksh 5/- (US 6 cents).

i-Cow's coverage meant that the 'launch' was effectively underway with all government vets informed and significant proportions of other key targets also reached. Research indicates that a high percentage of texts are read in Kenya and we are especially confident that i-Cow texts are read and trusted, basing this on responses and feedback from the database.

The SMS launch has additional value. The replies will be used to provide customer data to distributors and veterinarians. Importantly this information can be used as an early market size indicator for the commercial parties. Interviews undertaken by GALVmed at the time of the launch confirm that some of the distributors have little data of their own. In addition the GALVmed/i-Cow data provides advocacy material in the event of stories emerging that there is frustrated demand from poor farmers in harder to reach areas. As iCow relates is standard in their experience, response rates have begun slowly with follow up surveys indicating that farmers do intend to register for the vaccine in due course.

Working in the spirit of a collaborative alliance, GALVmed has sought to bring an innovative approach to stimulating uptake of the ECF vaccine in Kenya. Key to this was i-Cow's inspirational founder, Kenyan farmer and social entrepreneur Su Kahumbu who wanted to play her part as a GALVmed partner sharing similar goals and values. Kenyan-born Adam Lury is a renowned international communications expert whose commitment to new ways of hearing, supporting and understanding the poor was also key to responding to this communication challenge with GALVmed staff.



GALVmed gender strategy

Lois Muraguri, assistant director of policy and external affairs, sets out progress on the GALVmed gender strategy: *After the October 2011 gender workshop, we set about designing a process formoving towards producing a comprehensive and pragmatic gender strategy. We know that some organizations have struggled for years to develop a gender strategy.*

So, GALVmed took an approach for developing the strategy that we felt gave us the best chance of getting our thoughts down on paper. At the same time as drafting the strategy we needed a process to help our delivery teams and board to think about the implications of gender on the choices we make as an organization.

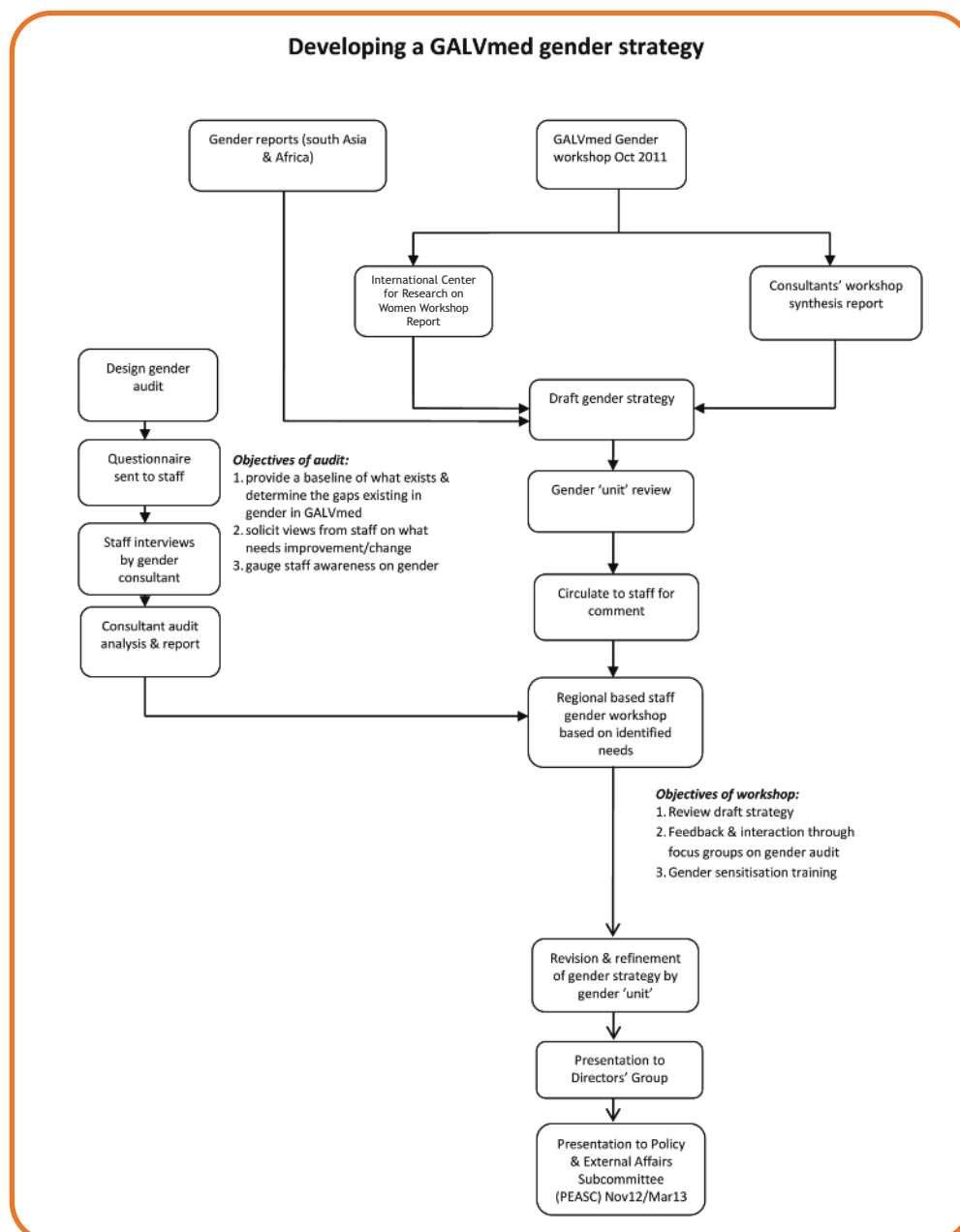
GALVmed is working with a consultant, Beth Miller, in conducting a gender audit. Staff workshops will take place towards the end of 2012. These activities will inform the gender strategy and implementation plan.

We have been in discussion with the UK's Department for International Development about our plans. This led to a suggestion that other organisations might find it useful to see our process for developing the gender strategy.

Of course we're very much aware that designing the process is only the beginning. The point at which the comprehensive gender strategy can be used to inform the priorities and strategic choices for GALVmed is still a little way off, but it is moving closer.



Lois Muraguri, GALVmed's Assistant Director, Policy & External Affairs



Team changes

Professor Andy Peters has been appointed as GALVmed's interim chief executive officer. Andy has been involved with GALVmed almost since the organisation's beginning as a member of the initial Technical Advisory Committee and latterly as GALVmed's chief scientific advisor. He has produced various technical reports for the organisation, prepared the registration dossier for the East Coast fever vaccine (ECF-ITM) and managed the registration process in Kenya and Tanzania. Andy also acted as interim head of research and development in November 2008.

Recently, Andy's work has been focused on the regulatory documentation for Newcastle disease vaccine in Africa as well as providing advisory input and support across GALVmed's portfolio.

Andy commented: *"I believe passionately in GALVmed and am honoured and proud to have been appointed to this position. Working with GALVmed in various capacities over the past six years I have seen tremendous growth as well as challenges for the organisation. In this interim role, I am committed to providing continuity as well as supporting and strengthening GALVmed's leadership."*

GALVmed's deputy chair, Professor Julie Fitzpatrick said: *"I am delighted that Andy Peters has taken on this interim role. Having worked across GALVmed projects and departments for some years, Andy has a deep understanding of this organisation, one to which his expertise and people-skills have already*

contributed greatly. Andy brings a wealth of experience, including technical, commercial and leadership abilities, and well understands the challenges and opportunities that exist in this new phase of delivery at scale."

Relevant career highlights:

Andy has recently been running a consultancy company ARPEXAS Ltd, providing support in new product development to the animal health industry and academia. He was also vice president, animal health, at Aspen Bio Pharma Inc, Denver, Colorado, USA from 2009-2011.

Andy has spent his career in various positions in industry and academia, most recently as head of EU vaccine R&D for Pfizer Animal Health (1998-2005) and professor of animal health, Royal Veterinary College, University of London (1993-1998).

Education: He is a veterinarian with PhD and DSc degrees in animal science and currently holds a visiting professorial appointment at the University of Nottingham.

Key publications: He has published over 150 papers in the scientific and professional literature and is a regular contributor to scientific and industry meetings.

Interests: His interest is in translating high quality research into veterinary products and increasing the availability of veterinary medicines to poor livestock farmers.

Professor Peter Wells has been appointed chair of the board following the resignation of Dr Shadrack Moephuli.

Commenting on the news, Professor Andy Peters, GALVmed's Interim CEO said: *"GALVmed owes Shadrack a debt of gratitude for ably steering the organisation through a period of transition, providing confidence and leadership."*

GALVmed is moving into an exciting new phase where the focus will be on product development and delivery at scale. I am therefore delighted to welcome Peter as the new chair. He has also worked with GALVmed in various roles over the past few years which represents a strong foundation of continuity."

Professor Peter Wells added *"Working as GALVmed's CEO for six months gave me real insight into the organisation's*

challenges and opportunities. I look forward to working with the board, Andy Peters and the entire GALVmed team as we build on the achievements of GALVmed and scale up to achieve tangible impact, living up to GALVmed's vision – protecting livestock, saving human life."

GALVmed is also pleased to announce that Victor Mbao has been appointed to a new role within GALVmed. Since April 2010 Victor has held the post of East Coast fever project manager; with immediate effect he will now have a new role as large ruminants manager. Tindih Heshborne has joined GALVmed as the new project manager for East Coast fever.

Congratulations to Louise Harvie, PA to the CEO, on her recent marriage. She is now known as Louise Gill therefore her e-mail address is louise.gill@galvmed.org

Tim Rowan has joined GALVmed as consultant scientific advisor

Job title: Scientific adviser

Role in GALVmed: To provide scientific advice to colleagues in GALVmed R & D working on the AAT programme, CBPP and porcine cysticercosis projects, and to do so in particular with regard to pharmaceutical drug discovery and development.

Nationality: British

Joined GALVmed: June 2011

Relevant career highlights: Tim was formerly a senior director in veterinary medicine R & D, Pfizer Inc.

He has significant experience in veterinary research having had 14 years on the staff at the Liverpool Veterinary Faculty followed by 20 years' experience in the pharmaceutical industry, principally with Pfizer in discovery and development roles and in establishing collaborative research with academic institutions. He also has experience in UK veterinary practice and most recently with various biotechnology start-ups in consultative and board roles. The majority of his experience is with livestock, and Tim considers himself fortunate to have participated in the development and regulatory approval of many new products for veterinary medicine.



Last word



New interim CEO Andy Peters talks about teamwork, leadership and his vision for delivery of the new business plan...

As we move towards our second business plan I think GALVmed has officially become an adolescent. Parents will know that this is an interesting time: there is a growing independence born of the acquisition of skills, knowledge and experience, but there are growing pains too.

As interim CEO of GALVmed my job is to ensure that the organization is in the best shape to move forward and deliver. The new business plan requires GALVmed to continue with its core mission of developing and making available new animal health products for poor livestock keepers. However, there is a significant new challenge of facilitating the vaccination of nearly 20 million livestock and poultry. I do not underestimate the scale of this challenge.

I have always thought that the idea to create GALVmed was inspired. Its founders saw the need for an honest broker, linking all those involved in veterinary vaccine development, be they academic institutions, research agencies or the private sector. The focus was clear, making vaccines available and suitable for use by low-income farmers in resource poor areas, mainly sub-Saharan Africa and South Asia. The need arose because vaccine research in and for the developing world has often not resulted in vaccines going into use.

In defining our core role more succinctly we are finding some smarter ways of working. For example, after exploring different options to respond to the human resources challenges of a growing organization, we are receiving additional HR support from our neighbours at the Moredun Research Institute. Building on the excellent work of Sharon Ross who has developed the HR function within GALVmed, this is a neat solution that is helping GALVmed to increase capacity going forward.

Getting products into the hands of poor farmers will require us to be more effective in the area of market development. I know that we need to find new and more creative ways of achieving our objectives in this area. A lot of energy is going into devising ways of delivering this.

Through the VACNADA project [Vaccines for Control of Neglected Animal Diseases in Africa] GALVmed has shown itself capable of devising and delivering quite brilliant capacity building, including management and leadership development programmes. I think that we should now spend some time making similar investments in our own teams.

I have been involved in GALVmed from almost the beginning and I will remember the transition from GALV to GALVmed when we decided that in some cases veterinary pharmaceuticals needed to be part of the picture. We also saw the need for diagnostic tools. Gradually we started to be concerned about the distribution channels and also started to question whether governments and donors really understood the unique role of livestock. All of this activity is good and laudable, but I remain to be convinced that we have the capacity to lead the way in all of these areas.

GALVmed is rightly proud of our rigorous stop/go project cycle management. This is where we reassign resources from areas that had initially looked promising, but which failed to fulfill their early promise, to more promising project leads. My job is to do the same with the wider GALVmed portfolio, to identify the areas where we need to lead and where we need to support others to deliver the agenda.

I know that product development alone will not get new animal health products into the hands of poor livestock keepers. There will be a wide range of institutional changes that governments and other investors need to get in place before sustainable business models for these new technologies can be assured. Therefore I am keen to realign our work on policy and advocacy so that it specifically targets our business needs. We also need to be more of an honest broker to governments, suggesting ways that our shared goals can be achieved.

Part of the solution to our growing pains is to recognize that the meteoric growth in GALVmed has meant that we have pushed people into new roles – often without adequate support or development. This has been very hard on all staff and has not necessarily led to GALVmed optimizing its performance. Quite simply our inexperience and youth has led to some poor decision making that we need to address so that we can grow effectively.

The GALVmed team is made up of highly competent and committed individuals. Better alignment of the organization has the potential to further optimize its performance. I have seen the work of GALVmed at close quarters and I know what we can do at our best – when we harness the skills of the whole organization effectively. And I have seen what can happen when we don't. The new challenges of our flagship programme *Protecting Livestock Saving Human Life 2* – will mean that we have to be at the top of our game.

One of the key tasks of my interim management is to help all staff to ensure that they understand what is expected of them and help them be more productive. I need to put in place the systems that will result in this better teamwork.



At GALVmed we believe that equitable access to animal health products can only be fully achieved by addressing issues of gender. So I am delighted that we are able to report our plans for our gender strategy. Gender presents real challenges – differing roles between men and women in relation to livestock and the opting out of African youth from agriculture are realities we have to address. In this newsletter we have reported work from Nepal that is primarily helping women to prevent their chickens dying from Newcastle disease. I hope that seeing chickens contributing to the family's wealth will mean that young people in these households will have positive attitudes and associations with farming and livestock keeping in particular. Our gender strategy can help us embed this work into our thinking and performance. Reaction to our plans has been good so far. This shows that GALVmed is creative with new challenges – as we know many organizations have been struggling with gender for a very long time. Perhaps our blueprint will be useful to others. We are also being equally creative and effective in our thinking on monitoring and evaluation of our activities and on intellectual asset management.

This newsletter starts with a summary of recent work on our priority diseases. There is real progress here in terms of Newcastle disease, porcine cysticercosis, peste des petits ruminants and Rift Valley fever. I think that this is just the start and that we will see incremental progress over the coming months in terms of both technical breakthroughs and moves towards making more products available to poor farmers.

I have talked at some length about the GALVmed staff; these are a group of people that I have worked with for some years and whom I greatly admire. However, what has always excited me about GALVmed is that we are a team – a true alliance. The power and diversity of all of the people and institutions that are working to transform the lives of poor livestock and poultry keepers are really impressive. I would like to thank them all for their dedication and hard work.

**If you would like further information,
or you wish to make any comments,
please contact us by email
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