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SEVENTH FRAMEWORK PROGRAMME

Progress report from the DISCONTOOLS Working Packages

Declan O'Brien, DISCONTOOLS Project Coordinator, February 3rd, 2010

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Summary of Presentation

- Objectives & Organisation
- Stakeholder meeting
- Project Management Board – July & December
- Work Package 3 meeting
- Work Package 4 Workshop
- Expert Groups – status of progress

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Objectives

- Focus & prioritise research
- Stimulate delivery of new and improved diagnostics, vaccines & pharmaceuticals
  - Develop database on 49 diseases
  - Develop prioritisation model
  - Develop Gap Analysis model
- Ensure the deployment of new technologies in the animal health research area as rapidly as possible
  - Develop blueprint for the identification and evaluation of new technologies

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Organisation

- Stakeholder driven as per ETPGAH
- 5 Work Packages
  - Project Management –WP1
  - Disease Prioritisation – WP2
  - Gap Analysis – WP3
  - Technology Evaluation – WP4
  - Communication – WP5
- Project Management & Communication managed by Project Management Board
- Stakeholder Forum & Advisory Council (combined)

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Stakeholder Meeting – July, 2009 - 1

- List of relevant projects from FP 6 & 7
- Evidence of tremendous progress – many aspects of Action Plan being delivered
- Ensure ongoing good liaison with relevant projects – ICONZ, EMIDA, EPIZONE, MedVetNet, Macrosys, Parasol, etc.
- Lobby European Council to ensure that reserve funds are available to commence research in response to an emergency

Cooperation – Collaborative research

Call 1

FP7-KBBE-2007-1 Deadline 2 May 2007

KBBE-2007-1-1-02: Mining genomics information of farm animals to generate new information on the genetic basis of phenotypes important to sustainable animal production. (SRA 17,19) (3m€)-3 years 1/11/08

KBBE-2007-1-3-02: Coordination of European research in the area of animal health, including emerging threats, infectious diseases and surveillance. ERA-Net (SRA 13,35,37,47) (1m€) 3 years 1/4/08 EMIDA

KBBE-2007-1-3-03: Optimising research efforts for the development of the most effective tools for controlling infectious animal diseases (SRA 1,2,9,10,11,12,14) (1m€) 4 years 1/3/08 DISCONTOOLS

KBBE-2007-1-3-04: Development of rational strategies for the eradication of bovine tuberculosis (SRA 5,,11) (3m€) 3 years 1/10/08

Analysis of Recommendations in the Action plan

Theme 1 – Prioritisation of Animal Diseases & Infections				
No	**Item**	**Status**	**Project acronym**	**comment**
1.1	**Prioritisation of diseases**	**ongoing**	**DISCONTOOLS Work package 2**	**FP7 start date 1 March 08**
1.2	**Emerging threats to Europe**	**partial**	**Various**	**FP7**
1.3	**Wildlife Diseases**	**ongoing**	**WILDTECH**	**Novel Technologies for surveillance of emerging and re-emerging infections of wildlife**
1.4	**Supporting Activity**	**ongoing**	**DISCONTOOLS Work package 2**	**FP7 start date 1 March 08**

Analysis of Recommendations in the Action plan

Theme 2 Gap Analysis				
No	**Item**	**Status**	**Project acronym**	**comment**
2.1	**Gap analysis for priority diseases**	**ongoing**	**DISCONTOOLS Work package 3**	**FP7 start date 1 March 08**
2.2	**Gap Analysis of New Technologies.**	**ongoing**	**DISCONTOOLS Work package 4**	**FP7 start date 1 March 08**
2.3	**Gap analysis of Current Research**	**ongoing**	**DISCONTOOLS Work package 3 EMIDA ICONZ**	**FP7 start date 1 March 08 FP7 Start date FP7 start date 1 April 2009**
2.4	**Gap Analysis of Available Products**	**ongoing**	**DISCONTOOLS Work package 3**	**FP7 start date 1 March 08**

FP6 and FP7 projects contributing to research

Group 1 Epizootic diseases and diseases for surveillance	Vaccine	Diagnostic	Pharmaceutical	Control	Strategy	Capacity building
African Horse Sickness	FP7	FP7		FP7	FP7	FP7
African Swine Fever		ASFRISK		ASFRISK	ASFRISK	ASFRISK
Avian Influenza	FP6	FP6		FP6	FP6	FP6
Bluetongue	FP6/7	FP6/7		FP6/7	FP6/7	FP6/7
Contagious Bovine Pleuro Pneumonia						
Classical Swine Fever	CSFV GoDIVA	CSFV GoDIVA		CSFV GoDIVA	CSFV GoDIVA	CSFV GoDIVA
Foot & Mouth Disease	Discovac	Discovac		Discovac	Discovac	Discovac
Peste des Petits Ruminants						
Rift Valley Fever		ARBO ZOONET		ARBO ZOONET		ARBO ZOONET
Ruminant Pox Virus infection						
Swine Vesicular Disease						
West-Nile Virus		ARBO ZOONET		ARBO ZOONET		ARBO ZOONET

Group 2 : Zoonoses and food-borne diseases	Vaccine	Diagnostic	Pharmaceutical	Control	Strategy	Capacity building
Anthrax						
Nipah virus infection						
Bovine Tuberculosis		ICONZ TB_STEP		ICONZ TB_STEP	ICONZ TB_STEP	ICONZ TB_STEP
Brucellosis		ICONZ		ICONZ	ICONZ	ICONZ
Chlamydia						
Cryptosporidium						
Cysticercosis		ICONZ		ICONZ	ICONZ	ICONZ
Echinococcosis		ICONZ		ICONZ	ICONZ	ICONZ
Food-borne bacterial: Salmonella E. Coli Campylobacter				FP7	FP7	FP7
Food-borne viral (Hepatitis E Virus						
Leishmaniasis		ICONZ		ICONZ	ICONZ	ICONZ
Leptospirosis						
Q Fever						
Rabies		ICONZ		ICONZ	ICONZ	ICONZ
Trypanosomiasis		ICONZ	ICONZ	ICONZ	ICONZ	ICONZ
Transmissible Spongiform Encephalopathies						

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Stakeholder Meeting – July, 2009 - 2

- Work of Mirror Groups noted – communication & coordination of funding
- Work of EMIDA in stimulating cross border research appreciated
- Ensure good alignment with Animal Health Strategy
- Review ETPGAH Action Plan in light of what has been achieved & what novel ideas may be added

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Project Management Board – July, 2009

- Propose research ideas for FP 7 consideration for 2011, 2012 & 2013
- Review feedback from assessment of 6 sample diseases
- Reports from Work Packages
- Report on web development
- Report of third party meetings

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Work Package 3 – October, 2009 - 1

- Draft Terms of Reference for Expert Groups as means of assisting operation & based on queries to date
- Maintain very good collaboration with other Animal Health projects – EMIDA, ICONZ, etc.
- European Medicines Agency to develop list of vaccines available in EU for 49 diseases highlighting gaps
- Further develop list of diagnostics

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Work Package 3 – October, 2009 - 2

- Reviewed Expert Group outcome on Classical Swine Fever
  - broadly satisfactory
  - scoring system appears to work
  - European focus with Global perspective
  - Wildlife reservoirs need to be considered
- Issue of how to stimulate development of products where no market exists
  - WHO, US, Australia, EU

EMIDA – October, 2009

- €20m plus in pot for collaborative research calls
- Major step forward in cross border collaboration
- Databases of people, infrastructure, research in past 5 years & ongoing research
- Global EMIDA equivalent bid ongoing under FP 7

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Project Management Board–December, 2009 - 1

- Welcome to EMIDA, EPIZONE & MedVetNet as new Board members
- Report from Work Package 3
- 12 Step Process to track Expert Group work
- Status of Expert Group work
- Focus of DISCONTOOLS continues to be prioritising a list of relevant diseases in terms of research needs from a risk assessment perspective

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Project Management Board–December, 2009 - 2

- Gap Analysis will help to point out minor diseases where public funding will be needed to stimulate innovation
- Maintain focus on long term – do not be overly distracted by the latest emergency
- Compare & contrast how EU & US respond to emergencies
- Agreement to start uploading data on public site when we have 10 diseases analysed

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WP4 – Technology Evaluation – Workshop - 1

- "Review current methods used by stakeholders to identify and evaluate technologies and to develop a "blueprint" methodology to identify and select new technologies for the animal health sector"
- Paradox & challenge – we know the future is uncertain yet we keep trying to predict it!
- Presentations from a Professor of Forecasting a Innovation, Nanotechnologies, Diagnostics, Mobile Technology, Machinery, Information Systems & Decision Sciences, New Zealand Futurewatch Programme

WP4 – Technology Evaluation – Workshop - 2

- Innovation is moving to the East – China & India
- Engage is constructive dialogue to bridge the science versus perception gap
- By 2014, every citizen in the globe will have a mobile phone!!!
- Machinery operate in a largely defined environment
- Potential of an invention may not be appreciated – the computer as a communications medium was dismissed in 1943

WP4 – Technology Evaluation – Workshop - 3

- New Zealand Futurewatch Programme is very interesting
  - Scan for new inventions/technologies that may be of interest to New Zealand
  - Communicate information to policy makers
  - What is new, change in pace, bottleneck?
- Communicate via reports & workshops – leads to better investment decisions
- Must understand the needs of your audience – Gap Analysis!

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WP4 – Technology Evaluation – Workshop - 4

- Lessons learned from Workshop
  - No magic formula out there!
  - All industries struggle just as we do
  - Need to be able to detect information
  - Communication to a risk averse public is important
  - We need “heroes” in the animal health sector – James Herriott/David Attenborough type character
- WP 4 need to reflect on the discussions and build a skeleton “Animal Health Sector Technology Evaluation Methodology”

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Expert Groups – Update - 1

- 49 Diseases in focus
  - Epizootic: AHS, ASF, AI, BTV, CBPP, CSF, FMD, PPR, RVF, Sheep & Goat Pox, Ruminant Zoonotic Pox, SVD, WNV
  - Zoonotic: Rabies, Nipah, Anthrax, Brucellosis, Bovine TB, Q Fever, Trypanosomiasis, Leishmaniasis, Leptospirosis, Clamydiosis, Cysticercosis, Echinococcosis, Salmonellosis, E. coli, Campylobacterosis, Hepatitis E, BSE, Cryptosporidiosis, CCHF

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Expert Groups – Update - 2

– Production diseases: Para TB, Liver Fluke, Coccidiosis, Nematodes, S. aureus mastitis, Environmental mastitis, Small Ruminant mastitis, PRRS, PCV II, SI, Swine A. pleuropneumonia, Swine mycoplasma, BVDV, BRSV, BHV-I, Mycoplasma bovis, Theileria

Nematodes

- Jozef Vercruysse, Andy Forbes, Edwin Claerebout, Johannes Charlier, Georg von Samson-Himmelstjerna, Frank Jackson, Giuseppe Cringoli, Stig Thamsborg, Rinaldi Laura, Knox Dave and Bob Coop

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Paratuberculosis

- Søren S. Nielsen
- David Kennedy, AusVet Animal Health, Australia - industry
  Douwe Bakker, Central Veterinary Institute, Lelystad, The Netherlands - laboratory
  Steve Hendrick, Western College of Veterinary Medicine, Saskatoon, Canada - epidemiologist
  Ad Koets, University of Utrecth, the Netherlands
  Henri Seeges, École Nationale Vétérinaire de Nantes,France. Animal Health economist
  David Kelton, University of Guelph, Canada Epidemiologist with insigth into sociology
  Richard Whittington, University of Sydney, Australia - microbiologist
  Ian Gardner, University of California, Davis, USA - epidemiologist.
  Søren Saxmose Nielsen, University of Copenhagen, Denmark - epidemiologist

BRSV

- Geraldine Taylor (UK)
- Lars Larsen (Denmark)
- John Ellis (Saskatchewan)
- Laurel Gershwin (Davis)
- Adriaan Antonis (Lelystad)
- Sarah Hagglund (Sweden)
- Birgit Makoschey (Intervet)
- Gilles Meyer (Toulose)
- Jean-Francois Valarcher (Sweden)

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Ruminant Pox Virus

- Eeva Tuppurainen, *Head of Capripoxvirus Reference Laboratory, Pirbright*
- Prof Koos Coetzer, Head of Department of Veterinary Tropical Diseases, University of Pretoria, South Africa, expert of tropical veterinary diseases
- Dr. David Wallace, Onderstepoort Veterinary Institute (ARC-OVI), South Africa (molecular characteristics and recombinant vaccine development of LSD)
- Dr. Paul Kitching, previous Head of Canadian Food Inspection Agency, chief government provincial veterinary officer in British Colombia, Canada
- Dr. Shawn Babiuk, Canadian Food Inspection Agency, laboratory tests for capripoxviruses, development of ELISA test
- Dr. Timothy Bowden from CSIRO, Australia, laboratory tests for capripoxviruses, development of ELISA test for Capripoxviruses
- Dr. Adama Diallo from International Atomic Energy Agency, Austria, molecular characterization, development of recombinant vaccines, field work in Africa
- Dr. Faisal A. Dayem, Jordan Bio-Industries Center (JOVAC) from sheep pox, goat pox vaccine and LSD production in the Middle East region

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Expert Groups – Update - 3

- 49 Diseases
- Some disease added late – CCHF, Theileria
- A separate Disease & Product analysis form is being used for each individual disease
- 36 Expert Groups up & running
- 2 have finished work!
- Good progress being made
- By end of 2010, major part of work will have been completed

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Disease and Product analysis

Final 19 May 2009

Disease_____

Disease Analysis	Information	Gap(s) identified
1. Description and characteristics		
1.1 Pathogen		
1.2 Variability of the disease (agent types and mutations, host and vector range, temporal, spatial and species variability)		
1.3 Stability of the agent/pathogen in the environment		
2. Species involved		
2.1 Animal infected/carrier/disease		
2.2 Human infected/disease		
2.3 Vectors cyclical/non-cyclical		
2.4 Reservoir (animal, environmental)		
3. Description of infection & disease in natural hosts		
3.1 Transmissibility		
3.2 Pathogenic life cycle stages		
3.3 Signs (for the different possible clinical forms of the disease)/ morbidity		
3.4 Incubation period		
3.5 Mortality		
3.6 Shedding kinetic patterns		
3.7 Mechanism of pathogenicity		
4. Zoonotic potential		
4.1 Reported incidence in humans		
4.2 Risk of occurrence in humans, populations at risk, specific risk factors		
4.3 Symptoms described in humans		
4.4 Level of under-reporting in humans		

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Expert Groups – Update - 4

- Disease & Product analysis (D&P) draft provided to each group
- D&P analysis provides information &details gaps for each of the diseases & available control tools
- The D&P provides the backdrop for the prioritisation & gap analysis scoring

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Conclusions

- Testing of scoring system indicates it works
- Need to review when we have more data to hand
- Scoring system may need to be adjusted but information generated will remain valid
- Lists of vaccines & diagnostics will be very valuable
- Ongoing work to develop “Animal Health Sector Technology Evaluation Methodology”
- Expert Groups largely in place with tremendous flow of information
- Will populate database during 2010

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THANK YOU !