



## **Quarterly Report**

**Second Quarter 2006**

# **Antimicrobial Resistance Surveillance in Human Medicine**

### **Consortium**

Interaction in Health / Public Health Consultants  
IDA Solutions  
Trnava University

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## Acronyms

ABRES	Antibiotic Resistance (coordinating committee)
AGREE	Appraisal of Guidelines, Research and Evaluation
AR	Antimicrobial Resistance
ARC	Antimicrobial Resistance Control
CBO	Institute for Quality in Health Care (the Netherlands)
CLSI	Clinical and Laboratory Standards Institute
CME	Continuing Medical Education
DDD method	Defined Daily Dose
EARSS	European Antimicrobial Resistance Surveillance System
EU	European Union
EUCAST	European Committee on Antimicrobial Susceptibility Testing
ESCMID	European Society of Clinical Microbiology and Infectious Diseases
ESGAP	European Study Group on Antibiotic Policies
ESGNI	European Study Group on Nosocomial Infections
EVD	Economische Voorlichtings Dienst
FDA	Food and Drugs Agency
GPs	General Practitioners
ICM	Intersectoral Co-ordination Mechanism
ICT	Information and Communication technology
IDA	International Dispensary Agency
ISKRA	Intersectoral Society for Control of Resistance of Antimicrobials.
LIS	Laboratory Information System
MAFWM	Ministry of Agriculture, Forestry and Water Management
MHSW	Ministry of Health and Social Welfare
MPAP	Matra Pre-Accession Programme
MRSA	Methicillin Resistant Staphylococcus Aureus
NEQAS	National external Quality Assessment Services
NHG	Dutch Society for General Practitioners
RIVM	Dutch National Institute for Health and Environment
SIGN	Scottish Intercollegiate Guideline Network
SWAB	Dutch Working Party for Antimicrobial Policy
TB	Tuberculosis
TOR	Terms of Reference
VWS	Dutch Ministry of Health Welfare and Sport
WIP	Working Party on Infection Prevention
WHONET	World Health Organisation Network

# 1 Introduction

## 1.1 Terms of Reference and Consortium

The project Antimicrobial Resistance Surveillance in Human Health is financed by the Netherlands Ministry of Foreign Affairs through the EVD agency MPAP programme. The project started on 1 January 2006 and will last until 31 December 2007. The project aims to contribute to the accession of Croatia to the European Union. In particular, the project aims to assist Croatia in implementing EU-directives and recommendations in the field of antimicrobial resistance and the sound use of antibiotics.

The purpose of the project is strengthening the Croatian institutional structure engaged in surveillance of antimicrobial resistance.

The following project results are anticipated to be achieved:

1. An Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional;
2. A surveillance system for antimicrobial resistance and use of antibiotics established, based on national policy that is in line with the EU strategy for antimicrobial resistance;
3. Guidelines for sound use of antibiotics in the human sector formulated and implemented.

According to the Terms of Reference, the Ministry of Health and Social Welfare (MHSW) is the counterpart of the project and the National Reference Centre for Antibiotic Resistance Surveillance of the Ministry of Health and Social Welfare is the beneficiary of the project.

A consortium consisting of Public Health Consultants/Interaction in Health, IDA Solutions and Trnava University (Slovak Republic) is providing consultancy services, in collaboration with the Dutch Working Party for Antimicrobial Policy (SWAB), the Dutch National Institute for Health and Environment (RIVM) and the Dutch Ministry of Health Welfare and Sport (VWS).

## 1.2 Summary of the quarterly report

## **2 Progress in the reporting phase**

### **2.1 Progress Report**

#### **2.1.1 PAC and programme management**

The Project Advisory Committee (PAC) met on 5 May 2006 for the first time, with all members as proposed in the inception report. The PAC discussed the progress during the inception phase and first month of the implementation phase. The Intersectoral Coordination Mechanism (also called ISKRA) will function under a new ordinance of the Ministry of Health and Social Welfare. In surveillance the emphasis will be on the electronic data communication and analysis of data. Laboratory control and surveillance of antimicrobial use is already in place and do not require special inputs from consultants. In guideline development, the emphasis will be on use of the AGREE instrument, which is widely used in Europe. Members of the PAC approved the inception report and plans presented.

EVD has approved the selection of Dr. Davor Plavec as local assistant programme manager. He will assist the consultants in various activities and will help the Reference Centre for Antimicrobial Resistance with the organisation of necessary activities in the project.

#### **2.1.2 The study visit**

The study visit took place immediately after the PAC meeting, from 8 – 13 May 2006. During the study visit 10 Croatian experts visited the Netherlands to get acquainted with the organisations involved in policy making, surveillance and guideline development. The Croatian experts came from different backgrounds (MHSW, MAFWM, medical specialist and veterinary specialists), with experience in policy making, laboratory work and patient care.

The study visit gave ample opportunities for fruitful exchange with Dutch experts from Ministry of Health, Ministry of Agriculture, RIVM, SWAB, WIP, VANTURES, etc.

The study visit was well appreciated by both visitors and hosts. See attached the programme of the study visit (annex 3) and the evaluation by the participants (annex 4).

#### **2.1.3 Expected Result 1: Intersectoral Coordination Mechanism**

During this quarter, the MHSW used the questionnaire on Antimicrobial Resistance, which the EC sent out to all member states in 2005. Filling in the questionnaire helps the ministry to see which issues are considered important by the EC. It will also serve as baseline information for the project. The questionnaire has been filled in, but needs some verification of legal issues within the ministry.

The study visit to the Netherlands was already mentioned above.

On 5 June there was a brainstorming session on the composition of the ISKRA, the tasks of the ISKRA and the outline for a national policy on antimicrobial resistance, which has to be formulated as part of the project. There were participants from various backgrounds, both human medicine and veterinary medicine. Both the MHSW and the MAFWM were represented. From the Netherlands Prof. John Degener, incoming chair of SWAB gave his views on the ICM and national policies. From Slovakia, Prof. Valdimir Krcmery did the same. The consultants Dr. Jaap Koot and Prof. Martin Rusnak also participated in the meeting.

Dr. Stamenic and Dr. Tambic will coordinate the production of a first draft for an ISKRA. After further discussion, the MHSW will produce an ordinance for official installation of the Intersectoral Coordination Mechanism.

<b>Result 1 : Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional</b>						
		Expected starting date	started	Completed	In progress	Expected completion date
1.1	“zero” assess of implementation of EU recommendations on Antimicrobial Resistance Control	14/04/06	14/04/06	05/06/2006	Small details still to be verified in MHSW	30/04/05
1.2	Study visit to the Netherlands	08/05/06	08/05/06	13/05/2006		13/05/06
1.3	Proposal for structure and mandate of the ICM	01/06/06	05/06/06		01/07/2006 Draft under production	01/07/06
1.4	Conference on control of antimicrobial resistance, presentation of design structure and discussion	23/09/06				27/09/06
1.5	Presentation of the proposal to the MHSW, legal instruments for backing up the ICM	01/10/06				31/10/06
1.6	Outline document on policy development: topics and set-up of the document	01/05/06				31/05/06
1.7	Round table discussions with prospective members of the ICM on policy development	01/06/06				30/06/06
1.8	Draft policy and circulation among relevant stakeholders	01/07/06				31/07/06
1.9	Presentation policy during conference	23/09/06				27/09/06
1.10	Final version of policy and presentation to MHSW	01/10/06				31/10/06
1.11	Develop budgets for surveillance activities	01/12/16				31/12/06
1.12	Formulate financing proposals to relevant institutions	01/01/07				31/01/07
1.13	Develop growth scenarios based on available funding	01/05/07				31/05/07

### **2.1.4 Expected Result 2: Surveillance System**

As mentioned above, in this project the emphasis is on improvement of data communication between labs and data analysis, using software provided by WHO (WHONET).

The reference centre made an inventory of ICT in the labs involved in the surveillance programme. Some labs are fully equipped with computers and use a Laboratory Information System (LIS) developed in Croatia, which is also used for billing, procurement, etc. One lab uses WHONET, in parallel to the LIS. There are also some labs, which do not use computers at all. All in all, some computers with internet connections are needed to realise data exchange. It is not yet decided to which extent this project will contribute to this purchase.

The assessment of ICT hardware in the reference centre showed that only one powerful server is needed to meet the requirements of data collection and storage of the national antimicrobial resistance surveillance.

With regard to software, there is a need for establishing a link between the LIS and WHONET. Export of data from LIS into WHONET should be smooth (and also export from other software programmes which labs may have in use to register lab results). The

consultants have made of proposal for software development, which is in discussion with ICT experts.

In addition, callipers are required. These instruments allow for automated registration of found resistance on culture plates into the WHONET software. It would be good to make at least a trial to assess whether these instruments have an added value.

<b>Expected result 2: Surveillance system for antimicrobial resistance and use of antibiotics established</b>						
		Expected starting date	Started	Completed	In progress	Expected completion date
2.1	Inventory of automation in laboratories, information and communication	15/04/06	15/05/06	30/06/06		30/06/06
2.2	Study visit to the Netherlands	08/05/06	08/05/06	13/06/06		13/05/06
2.3	Plan for Improving ICT in Reference centre and labs	01/06/06	06/06/06		Proposal for reference centre and software	31/06/06
2.4	Improving ICT in Reference centre	01/07/06				31/08/06
2.6	Presentation of communication strategy during national conference	23/09/06				27/09/06
2.7	Implementing new communication system between labs	01/10/06				31/12/06
2.8	Testing of new communication system labs	01/01/07				31/07/07
2.9	Evaluation of new communication system	01/10/07				31/10/07
2.10	Final report National Surveillance System	01/10/07				31/10/07

### **2.1.5 Expected Result 3: Guideline formulation**

During the study visit there was a lot of discussion on the right approach in developing guidelines, and especially on how to ensure that hospitals indeed are sticking to guidelines. The mechanisms as developed under the AGREE methodology were found suitable for the Croatian situation.

In preparation for the workshops in September Dr. Plavec has started to make an inventory of existing guidelines in Croatia with regard to antimicrobial policy. Not only national guidelines, but also guidelines developed by professional groups and by individual hospitals will be incorporated in the overview.

<b>Expected result 3: Guidelines for sound use of antibiotics in the human sector formulated and implemented</b>						
		Expected starting date	Started	Completed	In progress	Expected completion date
3.1	Study visit to the Netherlands, discuss guideline development with NHG, SWAB	08/05/06	08/05/06	13/06/05		13/05/06
3.2	Inventory of existing clinical practice guidelines and protocols available in Croatia	01/06/06	05/06/06		Assistant Project Manager is collecting	01/08/06
3.3	Testing guidelines with AGREE instrument, workshop	23/09/06				27/09/06

	during conference, selection of priority guidelines					
3.4	Workshop on guideline development with working groups	01/10/06				31/10/06
3.5	Development of pilot guidelines	01/11/06				31/01/07
3.6	Feed back on pilot guidelines from various stakeholders	01/02/07				30/04/07
3.7	Formulating of final versions of guidelines	01/05/07				30/09/07
3.8	Publication of guidelines and implementation tools	01/11/07				30/11/07
3.9	MRSA reduction strategy in collaboration with national nosocomial infection committee	01/10/06				31/10/06
3.10	Introduction of MRSA reduction measures and quality control in selected hospital	01/01/07				30/09/07
3.11	Evaluation of MRSA reduction strategy	01/11/07				30/11/07

## 2.2 Resource Utilisation

### 2.2.1 Result 1 ICM

	Home	Croatia
Dr. Jaap Koot	3	3
Prof. Martin Rusnak	3	4
Prof. V. Krcmery	0	1
Prof. J. van der Meer	0	0
SWAB	0.5	3
Dr. Plavec		6

### 2.2.2 Result 2 Surveillance

	Home	Croatia
Dr. Jaap Koot	See under 1	See under 1
Prof. Martin Rusnak	See under 1	See under 1
RIVM	0	0
SWAB	0	0

### 2.2.3 Result 3 Guidelines

	Home	Croatia
Dr. Jaap Koot	4 (study visit)	See under 1
Prof. Martin Rusnak	See under 1	See under 1



## **3 Implementation issues**

### **3.1 Specific Issues**

At this moment in time the project has not yet come across relevant issues, which may have an impact on the project implementation.

### **3.2 ICM**

### **3.3 Surveillance**

### **3.4 Guidelines**

## 4 Plans for the next reporting period

### 4.1 Detailed work plan

#### 4.1.1 Result 1 ICM

Dr. Stamenic and Dr. Tambic will continue to develop a draft for the ICM and its mandate. Also the first outline for the national policy regarding antimicrobial resistance will be produced in the coming quarter. During the National congress for infectious diseases the draft will be presented. The professionals will be given the opportunity to give feedback.

#### 4.1.2 Result 2 Surveillance

During the coming quarter hardware (server) will be procured for the reference centre, as well as callipers for trial. Hopefully, also decisions can be made on which labs should receive computers from the project, to enable them to participate in electronic data communication.

Software developers will work on the communication software between the LIS and WHONET. Hopefully by the end of the coming quarter it will be possible to experiment with data communication.

Dr. John Stelling of WHO, the designer of WHONET, will visit Croatia during the autumn and will hopefully be able to give further advice on the adequate use of the software for data aggregation and analysis.

#### 4.1.3 Result 3 Guidelines

On 23 September the project will organise two workshops for Croatian experts in the area of antimicrobial policies.

The first workshop will be on the application of the AGREE instrument on existing Croatian guidelines. These guidelines will be assessed along relevant criteria. Thus it will be possible to analyse strong and weak points of guidelines and make recommendations for good guideline development. Also topics for guideline development will be selected during the workshop.

The second workshop will tackle the issue of MRSA in hospitals. The surveillance in Croatia (in the context of EARSS) is in order. However, little is done with the results of the surveillance, i.e. measures to reduce MRSA. There are, nevertheless, hospitals in Croatia where appropriate measures are taken (search and destroy). Also there are experiences from the Netherlands and from the UK, which could serve as example. The workshop will produce an action plan for hospitals in Croatia for MRSA reduction, taking into account local conditions.

### 4.2 Human resources allocation

#### 4.2.1 Result 1 ICM

	Home	Croatia
Dr. Jaap Koot	3	3
Prof. Martin Rusnak		
Prof. V. Krcmery		
Prof. J. van der Meer		
SWAB		
Dr. Davor Plavec		4

#### 4.2.2 Result 2 Surveillance

	Home	Croatia
Dr. Jaap Koot	See under 1	See under 1
Prof. Martin Rusnak	2	4
RIVM		
SWAB		
Dr. Davor Plavec		6

#### 4.2.3 Result 3 Guidelines

	Home	Croatia
Dr. Jaap Koot		
Prof. Martin Rusnak		2
SWAB	4	8
Dr. Davor Plavec		6

## Annex 1 Logical Framework

<b>LOGFRAME PLANNING MATRIX FOR PROJECT: Antimicrobial Resistance Surveillance in Human Medicine MAT05/HR/9/2</b>			
Project duration: 1 January 2006 – 31 December 2007			
<b>Overall Objective</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	
The project aims to contribute to the accession of Croatia to the European Union.  In particular, the project aims to assist Croatia in implementing EU-directives and recommendations in the field of antimicrobial resistance and the sound use of antibiotics.	Implementation of the Council recommendation (2002/77/EC) on the prudent use of antimicrobial agents	Questionnaire from EU document, COM (2005)684 final, SEC (2005)1746, Brussels, 22.12.2005	
<b>Project Purpose</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Assumptions and risks</b>
Strengthening the Croatian institutional structure engaged in surveillance of antimicrobial resistance and responsible for measures to reduce antimicrobial resistance	Indicators using in international projects, like EARSS and ESAC, data over 2007 compared to data over 2005	Official annual reports EARSS and ESAC, benchmarking against other European countries	Commitment of government, insurance and professional organisations toward structure, availability of funding

<b>Results</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Assumptions and risks</b>
1. an Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional;	Government MHSW ordinance for ICM, with composition, terms of reference and funding mechanism Policy document approved by Cabinet	Legal document (ordinance) issued by MHSW Budget for 2008, compared to 2005 increased Policy document published	MHSW is cooperative in establishing an ICM and other stakeholders are ready to participate in this structure
2. a surveillance system for antimicrobial resistance and use of antibiotics established, based on national policy that is in line with the EU strategy for antimicrobial resistance	National Surveillance System document approved Automated data communication in place, data collection of full year's samples, and data analysis	Documentation of National Surveillance System publication of annual reports	Financing for surveillance system made available during project period. Hospitals and general practices are willing to collaborate
3. Guidelines for sound use of antibiotics in the human sector formulated and implemented.	Series of guidelines developed, piloted and final versions published	Documentation on guidelines on official website Inspection reports by sanitary inspection	Willingness of stakeholders to collaborate in developing guidelines, piloting and publication. Capacity of hospitals to implement MRSA containment measures

		Remarks
<b>Activities Result 1</b>		
<b>Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional</b>		
1.1	“zero” assess of implementation of EU recommendations on Antimicrobial Resistance Control	Implemented, details to be sorted out
1.2	Study visit to the Netherlands	Done
1.3	Proposal for structure and mandate of the ICM	First draft under production
1.4	Conference on control of antimicrobial resistance, presentation of design structure and discussion	
1.5	Presentation of the proposal to the MHSW, legal instruments for backing up the ICM	
1.6	Outline document on policy development: topics and set-up of the document	
1.7	Round table discussions with prospective members of the ICM on policy development	
1.8	Draft policy and circulation among relevant stakeholders	
1.9	Presentation policy during conference	
1.10	Final version of policy and presentation to MHSW	
1.11	Develop budgets for surveillance activities	
1.12	Formulate financing proposals to relevant institutions	
1.13	Develop growth scenarios based on available funding	

<b>Activities Result 2</b>		
<b>Surveillance system for antimicrobial resistance and use of antibiotics established, based on national policy that is in line with the EU strategy for antimicrobial resistance</b>		
2.1	Inventory of automation in laboratories, information and communication	Done
2.2	Study visit to the Netherlands	Done
2.3	Plan for Improving ICT in Reference centre and labs	First proposal made, to get approval from reference centre and EVD
2.4	Improving ICT in Reference centre and improving communication	
2.5	Presentation of ICT strategy during national conference	
2.6	Implementing new communication system between labs	
2.7	Testing of new communication system labs	
2.8	Evaluation of new communication system	
2.9	Final report National Surveillance System	

<b>Activities Result 3 guidelines for sound use of antibiotics in the human sector formulated and implemented</b>		
3.1	Study visit to the Netherlands, discuss guideline development with NHG, SWAB	Done
3.2	Inventory of existing clinical practice guidelines and protocols available in Croatia	In progress
3.3	Testing guidelines with AGREE instrument, workshop during conference, selection of priority guidelines	
3.4	Workshop on guideline development with working groups, that will formulate guidelines	
3.5	Development of pilot guidelines	
3.6	Feed back on pilot guidelines from various stakeholders	
3.7	Formulating of final versions of guidelines	
3.8	Publication of guidelines and implementation tools	
3.9	MRSA reduction strategy in collaboration with national nosocomial infection committee	
3.10	Introduction of MRSA reduction measures and quality control in selected hospital	
3.11	Evaluation of MRSA reduction strategy	



## Annex 2 Gantt Chart

		Antimicrobial Resistance Surveillance in Human Medicine												Matra Project MAT05/HR/9/2											
Gantt Chart and consultants contribution		2006												2007											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
	Inception phase	■	■	■																					
<b>1</b>	<b>Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional</b>																								
1.1	“zero” assess of implementation of EU recommendations on Antimicrobial Resistance Control				■																				
1.2	Study visit to the Netherlands					■																			
1.3	Proposal for structure and mandate of the ICM						■																		
1.4	Conference on control of antimicrobial resistance, presentation of design structure and discussion									■															
1.5	Presentation of the proposal to the MHSW, legal instruments for backing up the ICM										■														
1.6	Outline document on policy development: topics and set-up of the document					■																			
1.7	Round table discussions with prospective members of the ICM on policy development						■																		
1.8	Draft policy and circulation among relevant stakeholders							■																	
1.9	Presentation policy during conference									■															
1.10	Final version of policy and presentation to MHSW										■														
1.11	Develop budgets for surveillance activities												■												
1.12	Formulate financing proposals to relevant institutions															■									
1.13	Develop growth scenarios based on available funding																							■	
	Dr. Jaap Koot		■	■			■			■					■									■	
	Dr. Martin Rusnak (partly combined with result 3)		■	■			■			■	■				■										
	Prof. Krcmery (partly combined with result 3)									■															
	Prof. Van der Meer (partly combined with result 3)									■															
	SWAB						■			■	■														

Antimicrobial Resistance Surveillance in Human Medicine		Matra Project MAT05/HR/9/2																							
Gantt Chart and consultants contributions		2006												2007											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Inception phase		■	■	■																					
<b>2.</b>	<b>Surveillance system for antimicrobial resistance and use of antibiotics established, based on national policy that is in line with the EU strategy for antimicrobial resistance</b>																								
2.1	Inventory of automation in laboratories, information and communication				■																				
2.2	Study visit to the Netherlands					■																			
2.3	Plan for Improving ICT in Reference centre and labs						■																		
2.4	Improving ICT in Reference centre							■	■																
2.6	Presentation of ICT strategy during national conference									■															
2.7	Implementing new communication system between labs										■	■	■												
2.8	Testing of new communication system labs													■	■	■	■	■	■	■					
2.9	Evaluation of new communication system																				■				
2.10	Final report National Surveillance System																						■		
<b>Consultants input to result 2</b>																									
	Dr. Jaap Koot (combines with other results)						■			■										■					
	Dr. Martin Rusnak (combines with other results)						■		■	■				■											
	RIVM												■							■					
	SWAB																						■		

Antimicrobial Resistance Surveillance in Human Medicine		Matra Project MAT05/HR/9/2																							
Gantt Chart and consultants contribution		2006												2007											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
	Inception phase	■	■	■																					
<b>3</b>	<b>guidelines for sound use of antibiotics in the human sector formulated and implemented</b>																								
3.1	Study visit to the Netherlands, discuss guideline development with NHG, SWAB					■																			
3.2	Inventory of existing clinical practice guidelines and protocols available in Croatia						■																		
3.3	Testing guidelines with AGREE instrument, workshop during conference, selection of priority guidelines								■																
3.4	Workshop on guideline development with working groups, that will formulate guidelines									■															
3.5	Development of pilot guidelines										■	■													
3.6	Feed back on pilot guidelines from various stakeholders													■	■	■									
3.7	Formulating of final versions of guidelines																■	■	■	■					
3.8	Publication of guidelines and implementation tools																						■		
3.9	MRSA reduction strategy in collaboration with national nosocomial infection committee									■															
3.10	Introduction of MRSA reduction measures and quality control in selected hospital												■	■	■	■	■	■	■	■	■	■			
3.11	Evaluation of MRSA reduction strategy																						■		
	Dr. Jaap Koot						■		■			■					■					■			
	Dr. Maja Vucetic								■	■							■								
	Dr. Martin Rusnak (partly combined with result 1)						■		■	■		■													
	Dr. Health Houlihan								■	■													■		
	SWAB								■	■							■						■		
	Dr. Gyssens									■							■								

■	Programme activity of several weeks/months
■	Single event planned during project
■	Implementation according to plan
■	Mission by consultant ( mostly 5 days)

## Annex 3 Programme Study Visit

**MAT05/HR/9/2**

**Antimicrobial Resistance Control in Human Medicine**

Study Visit The Netherlands

Programme

Date time	Activity	Remarks
Monday 8 May morning	Arrival	Amsterdam Hotel
Monday 8 May afternoon	SWAB AMC Amsterdam	The work of SWAB, general introduction, different components
Monday 8 May afternoon	Microbiology lab AMC Amsterdam	Short visit and introduction Electronic communication with referral and surveillance centre
Tuesday 9 May morning	Ministry of Health, Welfare and Sport	Ministry's policy on antimicrobial resistance ABRES Financing mechanisms
Tuesday 9 May afternoon	Ministry of Health Health Inspectorate	Role of Health Inspectorate in control of antimicrobial resistance
Tuesday 9 May afternoon	Ministry of Agriculture	Policy Antimicrobial use in animal health
Tuesday 9 May afternoon (late)	City Centre	sightseeing
Wednesday 10 May morning	RIVM	Surveillance activities <ul style="list-style-type: none"> <li>• ISIS</li> <li>• EARSS</li> <li>• Electronic communication between laboratories</li> <li>• Nethmap</li> </ul>
Wednesday 10 May afternoon	RIVM	CIB and LCI <ul style="list-style-type: none"> <li>• Protocols for infectious diseases</li> </ul>
Wednesday 10 May evening	Dinner	
Thursday 11 May morning	SWAB	Detailed information on elements of work <ul style="list-style-type: none"> <li>• Guidelines and protocols</li> <li>• Education and training</li> </ul>
Thursday 11 May afternoon	WIP Hospital	MRSA policy the Netherlands (and possible interventions in Croatia)
Friday 12 May morning	CIDC Lelystad	VANTURES
Friday 13 May afternoon	GP clinic NHG	Visit to clinic patient information Discussion NHG standards
Saturday 14 May afternoon	Departure	

## Annex 4 Evaluation by participants

### Matra project MAT 05/HR/9/2

### Antimicrobial Resistance Surveillance and Containment

### Study visit 8 – 13 May 2006

#### Result 1

#### **An Intersectoral Co-ordination Mechanism (ICM) in the field of antimicrobial resistance established and functional.**

Most important points you learned from the study visit:

- The Netherlands has a very good organised system of Intersectoral co-ordination mechanism. The role of Ministries is financial support and legislation. The role of Ministries are logistics and financial support, other issues are in hands of professionals.
- The ICM doing coordination without analyzing.
- Non-governmental organizations like SWAB (med) and VANTURES (vet) perform the professional work. The several members of SWAB and VANTURES are close collaborating 4 times a year. Their work is supported by the Ministry of Health and the Ministry of Agriculture. Good collaboration between different professional societies is possible. In the Netherlands there is an excellent link between different surveillance network.
- The development of an integrated system is a result of interaction between more areas.
- Availability of all relevant data about the resistance and consumption of antibiotic on internet.
  
- In Croatia ISKRA will be established as ICM, by the Ministry of Health. There must be a connection between the Ministry of Health and the Ministry of Agriculture in Croatia.
- Financial reserves have to be planned in the budget for 2007. Financial support is necessary.
- The Ministries need to work together and they must find the consensus and agreement about antibiotic resistance, surveillance and there must be a cooperation of veterinarian and medical microbiologists, infectiologists, epidemiologists and epizootiologists.
- The MHSW and MAFWM work together, but with their own plan and strategy
- A National strategy has to be developed
- Need to coordinate among levels of health care (primary, secondary) and support of Ministry of health and health insurances. It is necessary to include all stakeholders (physicians, veterinary, Ministry of Health) and their roles in the problem of antimicrobial resistance.

#### Result 2

#### **A surveillance system for antimicrobial resistance and use of antibiotics established, based on national policy that is in line with the EU strategy for antimicrobial resistance.**

Concerning surveillance of resistance in animals use of veterinary drugs in Croatia:

- First of all we must implement our regulations about zoonoses and zoonotic agents in EU regulation. We must (experts and people from Ministry) provide guidelines with methodology and recommendations that are feasible for routine vet-practice.
- Make a list of essential antibiotics for veterinary use (recommendation).
- Reduce possibilities for application of antibiotics to animals by the farmer.
- Control on the prescription behaviour of the vet
- Get information from wholesalers about antibiotics.
- Extra control by veterinary inspection.
- Make control/measures by the sector.

Concerning surveillance and information communication technology

- It would be benefit that all microbiological labs use WHONET and connections between

them.

- The already existing Croatian antibiotic resistance surveillance system in human medicine could benefit from implementing WHONET, however control data collection in the Netherlands are done through another software program, so the role of WHONET should be explored further with John Stelling.
- Returning back to Croatia, we need to work further on WHONET implementation, to improve programs like SARIN (SIRIN, SERIN) (to develop with help of with SWAB)
- Surveillance networks: RIVM (ISIS< EDRS...), SWAB, SFK
- network, internet board, information system
- The role of the health-care inspectorate is very important

#### Technical issue

- Breakpoints should be on EU-level
- It is important to establish the surveillance of usage of antibiotics in Croatia.
- Control of antibiotic use by SWAB & infection control is important example for Croatia.
- SWAB, NETHMAP (medical) , VANTURES, MARAN (veterinary) are good publications
- RIVM (only as reference Public health laboratory )

### Result 3

#### **Guidelines for sound use of antibiotics in the human sector formulated and implemented**

##### Developing guidelines

- Good guideline program, including all specialists for specific areas.
- Guidelines should be prepared by professionals of different specialities. Collaboration of clin.microbiologists, ID doctors and others is important and should be based on good quality and timely reported data (both individual patient data & surveillance data)
- Agree instrument is a useful tool
- Efforts to achieve consensus WIP; SWAB, draft guidelines on web for comments by all professionals.
- Clarity and presentation are important issues
- Guidelines have to be prepared by members of ISKRA and experts nominated by ISKRA. The final version of guidelines will be approved by ISKRA.
- The veterinary sector must formulate and implement guidelines for use of antibiotics. For good results veterinarian and medics need teamwork, annually? meetings, conversations and evaluations of results very often.

##### Using guidelines

- Barriers to implementation guidelines
- Most important is that guidelines are essential for the reduction of use of antibiotics, but that they are not a guarantee for it.
- The second very important is a continuously education of all staff (doctors).
- Implementation guidelines for use antibiotics Croatia.
- SWAB the role of WIP in writing and developing guidelines, and of course all obstacles in implementing them
- Intervention strategies of antibiotic policy: educational, power, supportive supervision
- Laboratory & ID consultant information system, linking lab data to possible interventions in the hospital
- The number of steps needs to be identified for optimal use of guidelines and presence of barriers.
- The role of infection prevention unit and antibiotic policy in use of antibiotics guidelines and follow them.
- Health inspectorate plays an important role in guideline implementation.
- NHG, guidelines for and by GP (family practice)
- Implementation of SWAB guidelines and affiliated projects, e.g. surgical prophylaxis & surveillance of SSI, CHIPS study.

**What did you like most during the visit?****Presentations**

- Presentation of dr. Dik mevius (monitoring antimicrobial resistance in veterinary medicine) (4x), was excellent (1x).
- Most interesting was visit to CIDC in Lelystad (2)
- VANTURES; Dik Mevius was a top expert in his field
- It was impressive to see University Hospital in Rotterdam
- I personally enjoyed the visit to the Rotterdam EC most (2x).
- The lectures of dr. Gyssens and the activities in antibiotic committee.
- Very good presentations, especially SWAB & VANTURES and also good organised visits to hospitals and institutes
- All the faculty members showed high professional interest in discussing things and great hospitality.

**Systems**

- Excellent organisation of different surveillance systems and connection between different specialist not only in medicine but more widely veterinary, pharmacists. Team working!!! Personal efforts to contribute to integrated system. Impressed with good collaboration between professionals and good organization. Evidence based and consensus achievement.
- Professional approach. Strong professional societies/ role of ID specialists
- The influence of professionals (authorities) on government policies and appreciations of their opinion of other colleagues.
- Nethmap Report, explicit report from high level of Research Institutes and Government
- Information systems
- Infectious diseases consultant has the most important function in control of consumption of antibiotics in hospital and surveillance system for antimicrobial resistance in communication with microbiologist.

**Which suggestion do you have for improving the study visits**

- More presentations for veterinarian.
- To one field with all details, visit the wards with ic-practitioners.
- In the field of vet. medicine are important:
  1. Permanent education for animal keepers, in way to reduce the usage of antibiotics.
  2. Education DUM
  3. Trainings and workshops for specialists, microbiologists, infectologists...
  4. Financial support from Ministry of Science and Ministry of Agriculture for project about antibiotic resistance
- I expected a little more from the visit to RIVM.
- Workshop for priorities targets
- Practical work, like participating in work of antibiotic committee
- For improving the study visit I suggest some practice work with infectious diseases consultant on the department of hospital and in the infection prevention unit.
- There could have been some spare time devoted to discussing problems in Croatia
- Comments and solutions to the problems suggested by the Dutch experts would be very much welcomed.
- Situation in Croatia should have been more included in presentations.
- More input of visitors to discuss the Croatia situations!
- Comparative data Netherlands vs Croatia, benchmarking