Content

Good practice AMR Austria 2
Good practice AMR Croatia 4
Good practice AMR Czech Republic 6
Good practice AMR Estonia 8
Good practice AMR Finland (1) 9
Good practice AMR Finland (2) 11
Good practice AMR Greece (1) 13
Good practice AMR Greece (2) 14
Good Practice AMR Italy (1) 17
Good Practice AMR Italy (2) 18
Good Practice AMR Italy (3) 19
Good Practice AMR Italy (4) 21
Good Practice AMR Italy (5) 23
Good Practice AMR Italy (6) 24
Good Practice AMR Italy (7) 26
Good Practice AMR Italy (8) 27
Good Practice AMR Italy (9) 29
Good Practice AMR Italy (10) 30
Good Practice AMR Italy (11) 32
Good Practice AMR Italy (12) 33
Good practice AMR Lithuania 35
Good practice AMR Norway 36
Good practice AMR Portugal 38
Good practice AMR Spain (1) 40
Good practice AMR Spain (2) 42
Good practice AMR Spain (3) 43
Good practice AMR Spain (4) 44
Good practice AMR Spain (5) 45
Good Practice AMR Spain (6) 46
Good practice AMR Sweden (1) 48
Good practice AMR Sweden (2) 49

Good practice AMR Austria

Goal1 of this good practice:

A transparent database system which covers all important processes on a poultry farm (access to the database: members and [state]-veterinarians)

Concerned stakeholders/target group:

The whole chain of poultry producers

Description of the good practice:

Detailed database design based on the epidemiological unit (= flock) along the whole chain starting with the parent flocks over the hatcheries and farms to the slaughterhouses and packing stations. The database belongs to the poultry health service and is used by its members.

The database includes all veterinary information:

- Salmonella samples and results,

- vaccination data,

- treatment data and resistance tests,

- Flock traceability with all these veterinary data starting on grandparent stock farm

level. Statistical evaluation and a ranking system (best farms- critical farms) lead to valid data and a systematic improvement.

Since when is this good practice operational?

Since 2008.

What are the results (till now)?

Voluntary reduction of using antibiotics from 4.71 tons in 2011 to 2.65 tons in 2014.

Do you have a clarification for the results?

Making the whole chain transparent helps to give a holistic approach to the stakeholders involved (vets, farmers, hatcheries, slaughterhouses), better risk assessment and more effectiveness when using antibiotics.

Would you advise other Member States to take the same (or adapted) measures?

If possible, yes.

Advises for other Member States:

If such a data base is installed on farm level it is possible to add other items quite easily if necessary. For example: animal welfare, zoonosis monitoring, meat inspection protocols, resistance monitoring.

1 What is the exact goal of your good practice (e.g. prevention of animal diseases, reduction of the use of critical antibiotics).

Good practice AMR Croatia

Goal of this good practice:

Reduce the use of antibiotics as much as possible, control at the farm level and raising awareness on prudent and responsible use of antimicrobials among veterinarians

Concerned stakeholders/target group:

Primary producers, Food and Feed business operators, Veterinary faculty, Veterinary organizations, Farmers associations, Laboratories.

Description of the good practice:

Each year depending on the epidemiological situation Veterinary and Food Safety Directorate prepare an annual "Order on measures to protect animals from infections and parasitic disease and the financing thereof" which determines annual measures/programmes for early detection, monitoring, surveillance and control of specific animal disease: including programmes and measures aimed at reduction of prevalence of zoonoses as well as programmes to monitor the antimicrobial resistance of Salmonella spp., *Campylobacter spp*., Enterococcus spp., *E.coli, E. faecium* and *E. faecalis* in primary and food production.

According to national legislation only a veterinarian with valid license, registered in Croatian Veterinary Chamber, may prescribe prescription for antimicrobials and the same can be bought only with valid prescription. Also national legislation requires that evidence on prescribed and used antimicrobials is kept in veterinary organisation as well as in farm records. Annual veterinary check of holdings is used to raise awareness of primary producers on responsible usage of antimicrobials. The inspections carried out at farm level on compliance with legislative requirements on VMP place an emphasis on prudent use of antimicrobials and records of the same.

Since when is this good practice operational?

All of the above applies to Croatia since 2009.

What are the results (till now)?

Primary producers are better aware on prudent and rational use of antimicrobials and their role in prevention of AMR

Veterinarians are more aware of prudent use of antimicrobials

Consumption of antimicrobials is slightly improved

Do you have a clarification for the results?

Data on use/consumption of antimicrobials before 2013 are not comparable with data from 2014 while meteorology applied is not the same. Therefore first measurable results will be available in 2016.

Would you advise other Member States to take the same (or adapted) measures?

Since AMR is global problem all countries should follow "one health" approach and at least in national strategies involve minimum of recommendations prescribed by leading human and veterinary medicine organisations such are OIE and WHO as well as guidelines from EC

Advises for other Member States:

N/A

Good practice AMR Czech Republic

Goal of this good practice:

Health management of the herd (dairy cows): the carrying of the on farm diagnostics

Concerned stakeholders/target group:

- Veterinarian
- Farmers
- Technical staff taking care of the animals

Description of the good practice:

Following steps to be taken for the good practice is working:

- To identify dairy cows with mastitis, to make thorough clinical investigation, SCC etc.
- To identify dairy cows from which samples for bacteriological investigation should be taken
    - On farm testing – diagnostic plates with specific (usually chromogenic media or multiplex rea time PCR) => result on farm bacteriological diagnosis
    - if considered necessary the bacteriological identification can be confirmed by accredited laboratory and investigated for susceptibility/resistance (currently (2015) – pilot project on MIC detection also in selected mastitis causing pathogens runs)
- To identify dairy cows, which should be treated:
    - Treatment by antimicrobials necessary (which ATM from the portfolio to choose)
    - Decision: intramammary administration and/or injectable administration
    - NSAID alone or in combination with antimicrobial
- To identify dairy cows for isolation (when possible) and /or establish specific order of milking not to spread infection to other cows,
- To identify dairy cows for early dry off, or for specific quarter to be dried off
- To Identify dairy cows , which is necessary to treat at dry off (teat seal or antimicrobial needed),
- To identify dairy cows to be culled off from the herd
- To evaluate efficacy of the treatments and management measures at the level of individual dairy cows and at the level of the herd (if MICs results available trends in susceptibility can be analysed together with the consumption of ATM at the herd level)

Since when is this good practice operational?

Since 2013, certain parts (real-time PCR, pilot MIC since 2015)

What are the results (till now)?

Results of the herds when this policy is used are:

- Decreased use of antimicrobials in total at the herd level
- Selective ATM use at drying off – decrease of use of antimicrobials and improvement of the health status of the herd
- Data on MIC will be subject of analysis in early 2016

Do you have a clarification for the results?

- Rapid and more precise diagnostic, long term taking care on the animals as for the proper treatment and monitoring of the health status.

It is necessary to comment on that further steps are also necessary and not only the diagnostic and proper treatment (e.g. technical staff training – udder cleaning, disinfection, proper feeding, good management: biosecurity, welfare etc.).

Would you advise other Member States to take the same (or adapted) measures?

Yes.

Advises for other Member States:

Message is not only for other MSs:

- elaboration of the guideline for the correct sampling techniques will be beneficial;
- future work on harmonised interpretative criteria as for antimicrobial/pathogen/susceptibility-resistance clinical breakpoints needed;
- Elaboration of the guideline with antimicrobials of the first, second and last choice and recommendation as for IMM vs INJ treatment schedules for the mastitis caused by specific pathogens/certain pathology of mastitis will be beneficial

Good practice AMR Estonia

Goal of this good practice:
reduction of the use of antibiotics

Concerned stakeholders/target group:
farmers and veterinarians

Description of the good practice:
The Estonian University of Life Sciences developed recommendations for the use of antibiotics in 2012. The recommendations are available on the website of the competent authority, the Veterinary and Food Board:

"Recommendations for prudent use of antibiotics in the treatment of different animal species" addressed to farmers and veterinarians:

http://www.vet.agri.ee/static/files/1289.antibiootikumide%20kasutamine%20eri%20loomliikide%20puhul.pdf

"Recommendations on the use of antibiotics in cattle diseases" addressed to veterinarians:

http://www.vet.agri.ee/static/files/1290.ab%20kasutamine%20veised.pdf

"Recommendations on the use of antibiotics in swine diseases" addressed to veterinarians:

http://www.vet.agri.ee/static/files/1291.AB%20kasutamine%20sead.pdf

Since when is this good practice operational?
Since 2012

What are the results (till now)?
Awareness of farmers and veterinarians is increased.

Do you have a clarification for the results?
The Estonian University of Life Sciences uses this material in trainings for the farmers. In addition to the competent authority website, the materials are also on the website of Estonian Associations of the Veterinarians.

Would you advise other Member States to take the same (or adapted) measures?

Yes, we would.

Advises for other Member States:

Raising awareness is very important action.

Good practice AMR Finland (1)

Goal of this good practice:

Promoting prudent use by systematic risk management measures in Finland

Concerned stakeholders/target group:

Authorities, veterinarians, animal owners and healthcare organisations

Description of the good practice:

The Finnish AMR strategy has focused on zoonoses and animal disease control, herd health programmes and legislation on the use of medicines in animals. Legal requirements and official guidelines aim also to promote prudent use of antimicrobials in animals.

Making profit on sales of medicines by veterinarians is banned and antimicrobials for systemic treatment subject to veterinary prescription since 1949. Systematic resistance monitoring has been carried out in Salmonella species since 1983 and Finres-Vet programme covering resistance monitoring in major zoonotic and indicator bacteria was initiated in 2002.

Indication-based recommendations for the use of antimicrobials in animals have been in place since 1995. Consumption of antimicrobials has been published annually since 1995. Detailed recommendations, such as on the use of (fluoro)quinolones in 1998 have been published when needed. Veterinarians have a legal obligation to follow the official recommendations and guidelines on the use of antimicrobials.

The use of certain human last resort antimicrobials in animals was banned in 1999. Also the use of antimicrobials for salmonellosis was banned in poultry in 2006 and for swine and cattle in 2011.

A joint human and veterinary AMR task force was established in 2012 although the human-veterinary co-operation had already started in 1997.

In 2014, new legislation on the medication of animals with special emphasis on the use of antimicrobials became into force. The legislation emphasises the role of veterinarian i.e. clinical diagnosis and microbiological analyses as a prerequisite for an antimicrobial treatment. Special requirements are laid down for group treatments and recurrent infections. Rules also exist on prioritising the choice of antimicrobial for treatment and restrictions are set for the use of human critically important antimicrobials (HCIA). New legislation also gives more responsibility for herd health programmes to set criteria for responsible use and follow the use of antimicrobials in animal production units. Herd health programmes are run by the private food industry and their goal is to prevent and control contagious animal diseases and improve the health of production animals.

Awareness and education of all parties, including industry, veterinarians and animal owners, has contributed positively in tackling AMR in Finland. Cooperation between all sectors has resulted very low occurrence of animal diseases and zoonotic agents in food animal production warranting consequently very limited need to treat animals with antimicrobials. The strict policy in using antimicrobials has prevented development of AMR.

Since when is this good practice operational?

1949

What are the results (till now)?

Consumption of antimicrobials in food-producing animals has remained on relatively low level (ESVAC reports). In Finland antimicrobials are used for treatment of individual animals rather than groups, and narrow spectrum antimicrobials are in the main role. The overall resistance situation is good, in particular, in zoonotic bacteria (Finres-Vet reports) although increasing resistance is seen in some animal pathogens.

Do you have a clarification for the results?

Systematic multidisciplinary actions involving all parties (human and veterinary medicine, animal industry) are necessary to promote prudent use of antimicrobials.

Would you advise other Member States to take the same (or adapted) measures?

Yes.

Advises for other Member States:

Combatting AMR needs endurance and strong motivation of all parties, as well as, multiple actions.

Good practice AMR Finland (2)

Goal of this good practice:

One Health: Promoting prudent use of antimicrobials in Finland

Concerned stakeholders/target group:

Authorities, healthcare professionals, veterinarians, industry, animal owners and organisations

Description of the good practice:

The Finnish One Health AMR strategy has focused on prudent use of antimicrobials in humans and animals. The human-veterinary co-operation started in 1997 and a joint human and veterinary AMR task force was established in 2012.

There are treatment guidelines for primary care human infections. There is extensive national microbiological surveillance, and microbial resistance data has been collected to registries since 1991: multi resistant microbes, invasive infections and carrier registry; Finres: development of resistance; and SIRO: multi resistant microbes in hospital setting.

In 2014, new legislation on the medication of animals came into force. The legislation emphasises the role of veterinarian i.e. clinical diagnosis and microbiological analyses as a prerequisite for an antimicrobial treatment of individual animals. Special requirements are laid down for group treatments and recurrent infections. Rules exist on prioritising the choice of antimicrobial for treatment of animals and restrictions are set for the use of human critically important antimicrobials (HCIA).

Since when is this good practice operational?

1997

What are the results (till now)?

Consumption of antimicrobials in humans and food-producing animals has remained relatively low (ESVAC reports). Cooperation between stakeholders has resulted in low occurrence of animal diseases and zoonotic agents in food animal production, warranting consequently very limited need to treat animals with antimicrobials. The overall resistance situation is good, in particular, in zoonotic bacteria (Finres-Vet reports)

Do you have a clarification for the results?

Systematic multidisciplinary actions, awareness and education of all parties (including doctors, veterinarians, industry and animal owners) are necessary to promote prudent use of antimicrobials.

Would you advise other Member States to take the same (or adapted) measures?

Yes.

Advises for other Member States:

One health approach tackling AMR requires endurance, multiple actions and strong motivation from all parties involved.

Good practice AMR Greece (1)

Goal of this good practice:

reduction of the use of antimicrobial veterinary medicines.

Concerned stakeholders/target group:

all food producing animals.

Description of the good practice:

disposal and use of antimicrobial veterinary medicines only on veterinary prescription and not for prophylactic use.

Since when is this good practice operational?

Since 2009 in compliance with the ministerial decision No 314738/2009.

What are the results (till now)?

reduction of 5% of the use of antimicrobial veterinary medicines during the period of 2011-2014.

Do you have a clarification for the results?

according to official data of National Organization for Medicines for sales / consumptions of antimicrobial veterinary medicines.

Would you advise other Member States to take the same (or adapted) measures?

Yes

Advises for other Member States:

Good practice AMR Greece (2)

Goal of this good practice:

1. To reduce Antimicrobial Resistance (AMR) in health care settings and control the dissemination of Multi-Drug-Resistant bacteria focused on Carvapenem Resistant Gram Negatives pathogens at national level,

2. To promote the rational use of antibiotics in hospitals with a view to improving quantitative and qualitative parameters that relate to their administration,

3. To integrate the prevention of Healthcare Associated infections (HAIs) into the routine clinical practice of health professionals so as it constitutes a quality index of health care services,

4. To mobilize hospital administrations and reinforce institutional bodies (Infection Control Committees and Antibiotic Stewardship Committees) so as such actions acquire cumulative and timeless value for tackling public health crises.

Concerned stakeholders / target group:

1. Hospital Administrations,
2. Infection Control Committees,
3. Antibiotic Stewardship Committees,
4. Healthcare Workers,
5. Hospitalised Patients.

Description of good practice:

It is a new legislation for the control of Antimicrobial Resistance and the Prevention of Healthcare-Associated Infections (HAI) in hospital settings and its implementation concerns all public, military, and private hospitals.

The main axes of the new legislation are as follows:

1. The establishment of Infection Control Committees and Antibiotic Stewardship Committees by health professionals qualified in infectious diseases in every hospital,

2. The formulation of an Infection Control Programme and Antibiotic Stewardship Programme by each hospital in accordance with instructions issued by Hellenic Center for Disease Control and Prevention - HCDCP), which should be approved by the respective Health Districts,

3. The formulation of an Annual Action Plan for the control of antimicrobial resistance and the use of antibiotics that will give a detailed account of actions, budget, and specific goal setting,

4. The consolidation of mandatory monitoring of 8 indicators related to antimicrobial resistance and HAIs prevention and control (indicators of structure, process, and outcome) against which all hospital administrations and the quality of health care will be assessed,

5. The continuous training of all health professionals in the implementation of prevention and control measures and the proper use of antibiotics. Training is mandatory and will be received annually through the corresponding programmes of HCDCP,

6. The occupation of health professionals with the nosocomial infection control will be assessed and certified by Infection Control Committee as a separate activity that will enrich their CVs.

Since when has this good practice been operational?

The implementation of this legislation began in the 2nd semester of 2014.

What are the results to date?

1. The gradual monitoring of the indicators has already begun. HCDCP has completed and dispatched the common surveillance methodology to all hospitals. 75% of public and military hospitals and a significant number of private hospitals participate until now in the mandatory surveillance.

2. Infection Control Committees have been reconstituted in all hospitals and Antibiotic Stewardship Committees are setting up,

3. All Health Districts have established Committees for the approval of the Infection Control Programmes and Hospitals' Annual Action Plans. HCDCP laid down the guidelines for the formulation of hospital infection control programmes,

4. HCDCP has dispatched updated guidelines for controlling the dissemination of Multi-Drug-Resistant pathogens with a focus on Carbapenem-Resistant Enterobacteriaceae (CRE) isolates. Moreover, HCDCP has issued updated guidelines on the use of antibiotics in the community and the hospital setting in 2015.

5. From October 2014 until May 2015, HCDCP concluded the 1st cycle of nationwide training of trainers in the prevention and control measures for the dissemination of MDROs in the hospital setting. 864 health professionals from all the hospitals (both public and private) of every Health District were trained in specific materials and tools developed by the Office of Antimicrobial Resistance of KEELPNO. The training will continue with hospital administrations..

Do you have further clarification of the results?

From the participation of hospitals in the process and monitoring of training thus far, there seems to be a growing awareness of health professionals in terms of the prevention of HAIs and antimicrobial resistance. The results of the first indicators also suggest that despite limiting resources, no effort is spared to implement control measures. The desideratum is to mobilize

hospital administrators to promote the implementation of cost-effective measures and support the efforts made by the Infection Control Committees.

Would you advise other Member States to take the same (or adapted) measures?

We believe that it is too early to assess the implementation of the new institutional framework.

Advice to other Member States:

Antimicrobial resistance (AMR) constitutes one of the major public health threats that gravely endangers the "patient safety" across Europe. AMR tackling should be a key strategic objective of public health and it should rest upon institutional bodies that will be effective in dealing with such crises.

Good Practice AMR Italy (1)

Goal of this good practice:

Infection prevention

Concerned stakeholders/target group:

Stakeholders: University of Milan, University of Parma, University of Sassari, University of Catania, University of Rome "La Sapienza"

Target group*:*

Joint replacement surgeries

Description of the good practice:

Titles: Proposal of an integrated approach for the prevention of surgical site infections (SSI) in joint replacement surgery: project for an active perspective surveillance on infection, prevention lines and benefits.

In Italy joint replacement surgery is characterized by a volume of more than 120.000 intervention per year with important costs for our National Health System. The surgical site infections are common avoidable complications of this surgery. Antibiotic prophylaxis, a better ventilation system in operating rooms and use of international guidelines made better the rate of complications in the last years. Many studies highline the role of ventilation system, of prophylaxis and the guideline adherence to obtain a microbiological environmental quality improvement. The integration among different actors (surgeons, public health medical doctors, biomedical engineers, infectivologists) involved in the infection surveillance and the different procedures focused on avoiding SSI represents the strategic key of the project. Main objectives of the project are:

- Assessment of adherence to the recommendations on procedures for antibiotic prophylaxis and the level of microbiological contamination of the air during clean operations of hip and knee

- evaluating the cost effectiveness and the impact on health outcome that different ventilation systems have on SSI related to joint replacement taking into account a previous evaluation of antimicrobial prophylaxis and the characteristic of operating rooms.

Since when is this good practice operational? 3/03/2010 since 2/05/2012

What are the results (till now)?

Identification of some targets for improving:

- adherence to recommendations regarding antibiotic prophylaxis;
- organization of the surgical team;
- management of ventilation system;
- behaviour in general.

Good Practice AMR Italy (2)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Istituto Superiore di Sanità

Target group: Regional and local laboratories

Description of the good practice:

Titles: Laboratory surveillance for bacterial infections due to pathogens subject to EU surveillance or bioterrorism agents.

The Department for Infectious Diseases (MIPI) of Istituto Superiore di Sanità (ISS) is the scientific institution involved in the laboratory surveillance of infections of public health concern. The main objective of the project is: to implement the national laboratory surveillance for legionella, Bordetella pertussis, diphtheria, atypical agents or bioterrorism infections, AMR infections, drug-resistant tuberculosis in at risk groups such as migrants.

The implementation process needs:

- for Legionella and AMR bacteria the promotion of a network among reference labs, already existent national and regional laboratories and new ones;

- for diphtheria and Bordetella it's necessary to develop a laboratory network as suggested by ECDC;

- to implement the participation in European Networks.

Since when is this good practice operational?

9/10/2010 since 8/04/2012

What are the results (till now)?

Implementation of the laboratory diagnosis and surveillance for AMR infections and drug-resistant tuberculosis in at risk groups (such as migrants) at national and local level, also through support actions carried out by the national laboratory.

Description of the epidemiology of the main antibiotic-resistant bacteria.

Description of the AMR profile of Mbt and of the epidemiology of MDR and XDR strains, especially in at risk groups (such as migrants coming from high endemic countries).

Good Practice AMR Italy (3)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Regional Social and Health Agency of Emilia Romagna Region, Istituto Superiore di Sanità, Regional Health System of Lombardy Region, University of Turin

Target group: Regional and local laboratories

Description of the good practice:

Titles: Clostridium difficile infection surveillance: epidemiological and microbiological aspects.

Clostridium difficile infections (CDI) represent in many European hospitals one of the first causes of healthcare acquired infections with a growing trend in the last years. In many Countries and in several Italian Regions, such as Lombardy or Emilia Romagna, a Clostridium difficile infection surveillance system already works but a nationwide system doesn't exist yet.

Now more than ever a real time CDI surveillance system appears necessary.

Aim of the current project is to start up a nationwide real time CDI surveillance system that can be sustainable in each Italian region to obtain epidemiological data and improve subsequent prevention and control actions.

Main objectives of the project are:

- to analyse and assess feasibility of different surveillance system for CDI already implemented at regional and European level

- to describe epidemiology of CDI in Italy and circulation of clones particularly virulent

- to get a comparative analysis of existent Italian experiences evaluating the cost effectiveness of each intervention already implemented

- to promote better CDI diagnostic system and the related scientific research

Since when is this good practice operational?

1/03/2012 since 28/08/2014

What are the results (till now)?

Evaluation, in terms of feasibility, accuracy and transferability, of different surveillance systems, already in place in some European countries and in some Italian regions.

Elaboration of a proposal concerning a national surveillance system.

Development of a proposal concerning a surveillance system, using process indicators, in case of outbreaks.

Preparation of national indications regarding CDI diagnosis.

Description of CDI epidemiology.

Good Practice AMR Italy (4)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Istituto Superiore di Sanità

Target group: Regional and local health authorities and laboratories

Description of the good practice:

Titles: AMR surveillance for Community, food-related and zoonotic infections (Salmonella, Campylobacter, E. coli, MRSA).

AMR has a growing impact on Public Health representing now more than ever a problem in the field of both human and veterinary health. In the last years food-related infections are becoming another relevant issue due to resistance to antimicrobial against salmonella and campylobacter, the principal food-related zoonotic pathogens. The treatment of MRSA and E. Coli infections is often complicated by resistance.

The project has been realized involving other structures of the National Health System.

Main objectives of the project are:

- to implement AMR surveillance system for multi-drug resistant Salmonella and Campylobacter strains, causing food related infections,

- to implement AMR surveillance for MRSA, causing infection or colonization, defining the origin (zoonotic, community, nosocomial)

- to implement surveillance for E. Coli with specific AMR and high morbidity profile

- to identify molecular markers for epidemiological analysis.

Since when is this good practice operational?

19/03/2013 since 19/03/2014

What are the results (till now)?

Strengthening of surveillance system of food -related and zoonitic infection with a strong component of Molecular epidemiology.

Identification of a circulation of a Monophasic variants of Salmonella Typhimurium clone resistant only to nalidixic acid and ciprofloxacin (very rare in Europe)

Identification and characterisation of campylobacter isolates to map the circulation of the clones

Identification and characterisation of a sample of MRSA and MSSA isolates to map the circulation of the clones

Identification and characterisation of a sample of E.coli with probable zoonotic origin.

Good Practice AMR Italy (5)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Istituto Superiore di Sanità, National Transplant Center, Emilia Romagna Region, National Institute for Communicable Diseases Spallanzani

Policlinico Sant'Orsola Malpighi, University of Insubria - Varese

Target group: Regional and local health authorities, hospitals, laboratories

Description of the good practice:

Titles: Prevention and risk analysis of multi-drug resistant (MDR) infections spread in transplant surgery.

After a transplant infections and, in particular, multi-drug resistant infections represent a feared event especially in the subject undergoing invasive procedures, in a long-term stay or immunocompromised subjects. Therefore, the control of these infections spread as well as the risk analysis of post-transplant contagion become necessary now more than ever.

Main objectives of the project are:

- to obtain a national estimation of potentially infected donors

- to perform a risk analysis of colonization/infection of the patient who received organs from KCP and other MDR microorganisms colonized/infected subjects, especially with a focus on new resistance profiles

- to estimate MDR microorganisms colonization/infection prevalence among transplanted patients

- to provide guidelines for decision makers

- to perform a microbiological analysis of MDR microorganisms circulating

Since when is this good practice operational?

1/11/2012 since 30/04/2015

What are the results (till now)?

Data were collected using an extension of the informative system for Transplant that it is used at national level and that permits the traceability of donors and receivers and the results of microbiological test for each organ.

The activity was conducted on 613 transplants.

Data processing is still ongoing.

Good Practice AMR Italy (6)

Goal of this good practice:

combating and preventing infections

Concerned stakeholders/target group:

Stakeholders: University of Milan, University of Marche, University of Sassari, University of Catania, University of Udine, University of Bari, University of Parma, University of Verona.

Target group: Hospitals, Intensive care and Surgery Units

Description of the good practice:

Titles: Risk analysis for the control of Healthcare acquired infections (HAI) in Intensive care and Surgery Units and effectiveness assessment of preventive strategies in clinical practices.

HAIs are considered most frequent adverse event in healthcare and their impact became a Public Health priority. HAIs are a focus point for the development and spread of AMR. It's necessary to identify risk factors related to these infections in order to define specific interventions reducing subsequent risks.

Epidemiological surveillance represents an important instrument of hospitals quality management.

Main objectives of the project are:

- To perform a risk analysis for the control of HAI in Intensive care and Surgery Units, identifying main preventable risk factors

- To evaluate the effectiveness of the prevention measures identified, their implementation and related compliance level

- To describe the epidemiology of some alert pathogens, defining an effectiveness assessment of PH interventions

- To develop an educational program and a set of indicators

- To estimate the costs of surveillance and preventive interventions

Since when is this good practice operational?

7/11/2012 - 7/05/2015

What are the results (till now)?

The risk analysis has been performed.

SOPs for the control of HAI in Intensive care and Surgery Units have been elaborated.

In order to describe the epidemiology of some alert pathogens, a pilot surveillance system has been developed in the Marche Region.

In order to develop an educational program, a literature review has been conducted.

The costs of surveillance and preventive measures implemented have been estimated.

Good Practice AMR Italy (7)

Goal of this good practice:

combating and preventing infections

Concerned stakeholders/target group:

Stakeholders: University of Cagliari; Hospital Brotzu, Cagliari; Hospital Giovanni Paolo II, Olbia; Hospital San Raffaele, Milan; Polyclinic of Verona; Hospital of Padua

Target group: Hospitals, Intensive care Units and their HCW

Description of the good practice:

Titles: Proposal of a risk analysis model for healthcare acquired infections risk assessment and control in Intensive Care Units (ICU)

The use of shared common hygienic measure among the HCW, the rooms for the health assistance and the maintenance of diagnostic and therapeutic instruments, if listed in a check list can lead to a reduction of the risk of HCAI especially in ICU where the patients are have risk because the underlying conditions and the use of invasive procedures.

The project included 3 steps: monitoring of indicators before the intervention, during and after the intervention.

Main objectives of the project are:

- To perform a risk analysis for HAIs in intensive care units

- to identify and apply effective practices and guidelines

- to assess the effectiveness of the actions carried

Since when is this good practice operational?

17/10/2012 since 16/04/2015

What are the results (till now)?

During the project the checklists was prepared; all the procedures or HCW behaviours with higher risk were listed; protocols on the management of patients were collected and prepared

Good Practice AMR Italy (8)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Regional Social and Health Agency of Emilia Romagna Region; Institute Mario Negri; University of Catania (SPIN-UTI Project - GISIO SItI)

Target group: Hospitals

Description of the good practice:

Titles: Healthcare acquired infections (HAI) surveillance.

HAIs are considered most frequent adverse event in healthcare and their impact became a Public Health priority. HAIs surveillance represents an important instrument to improve epidemiological trend and to implement improvement actions to manage this issue.

In the last years in Italy has been created an interregional network aimed at:

- implementing a nationwide SSI surveillance system,

- integrating data of infection surveillance from different already existent networks.

Italy has been involved in different European networks (such as HALT) for AMR infection surveillance. Several project has been carried forward for the different healthcare settings:

- Infections in at risk Surgical Unit (SNICh Project for SSI surveillance);

- Intensive Care Unit Infections (3 networks: a National Database with data from 91 intensive care Unit, SPIN-UTI project with data from 25 intensive care Unit, SITIER project with data from 2 intensive care Unit)

- Hospitals (ECDC promoted a study and Italy participated with data from 49 hospitals)

- Nursing home care.

Main objectives of the project are:

- To ensure the Italian participation at HAIs European surveillance System coordinated by ECDC

- To obtain a nationwide HAI epidemiological database

Since when is this good practice operational?

23/11/2012 since 22/05/2014

What are the results (till now)?

A software for the data collection was provided to the participating centres. Collected data were uploaded to Tessy. Data were disseminated also at national and local level. Publication on the

reinforce of SSI was prepared. ECDC meeting on HCAI was attended. Aggregated data from different surveillance system were prepared. Training for the new centres from long term care facilities was provided. Extended reports were prepared and disseminated at national and regional level

Good Practice AMR Italy (9)

Goal of this good practice:

Combating and preventing infections

Concerned stakeholders/target group:

Stakeholders: Istituto Superiore di Sanità; Regional Social and Health Agency Emilia Romagna; Hospital Papa Giovanni XXIII, Bergamo; Hospital Campo di Marte, Lucca; Hospital Spirito Santo, Pescara; Hospital Agostino-Estense-Baggiovara, Modena.

Target group: Nursing Home Care, elderly population in nursing home care

Description of the good practice:

Titles: Colonization and infection of elderly from multi-resistant pathogens in Residential Heath Care.

In Italy there are more than 13.000 nursing home care providing assistance for more than 400.000 patients, of which the 75% is elderly. For this population the infections represent an important cause of mortality. In these settings outbreaks represent a possible risk with high costs for health system and the same assistance setting can be considered a reservoir for AMR infections given the frequent accesses in hospital of guest population. A nationwide analysis of MR enterobacterias, MRSAs, MR Clostridium difficile strains in the context of Nursing Home Care represents a priority in the field of Public Health.

Main objectives of the project are:

- To describe the circulation of AMR pathogens of public health concern among elderly population in nursing home care

- to evaluate the prevalence of AMR strains of E. Coli, K. pneumoniae, MRSAs, Clostridium difficile, with particular regard to Enterobacteriaceae producing carbapenemases

- to perform data analysis to identify main risk factors related to colonization of specific AMR pathogens.

Since when is this good practice operational?

13/02/2014 since 12/02/2016

What are the results (till now)?

The epidemiology of AMR pathogens of public health concern among elderly population in nursing home care has been described.

The prevalence of AMR strains of E. Coli, K. pneumoniae, MRSAs, Clostridium difficile, with particular regard to Enterobacteriaceae producing carbapenemases has been evaluated and the main risk factors identified.

Good Practice AMR Italy (10)

Goal of this good practice:

Promote the responsible use of antibiotics

Concerned stakeholders/target group:

Stakeholders: Emilia Romagna Region; Istituto Superiore di Sanità; Tuscany Region; Campania Region; Lombardy Region; INMI L. Spallanzani; Hospital Bambino Gesù, Rome; University of Turin; Hospital Mater Domini, Catanzaro.

Target group: health care workers, laboratories, general population.

Description of the good practice:

Titles: Good practices in antimicrobial resistance surveillance and control.

AMR represents a Public Health emergence as well as a growing issue all over the world in the field of both human and veterinary health. For example, in Italy, the rate of carbapenem resistant K. pneumoniae arrived at 35% in 2013. Different Italian Regions started up programs to face AMR through the creation of AMR and antimicrobial consumption surveillance networks based on sharing laboratory and drugs consumption data flows. But common strategies and interventions are needed to better face the problem.

To increase the general capability level it's opportune:

- to define, highline and share regional and national good practices in the field of AMR surveillance, antimicrobial use monitoring, guideline implementation ecc,

- to identify minimal common standards to make easier the impact analysis of different contexts,

- to straighten the existent national AMR surveillance systems,

- to promote the implementation of common guidelines,

- to implement communication strategies on this topic,

- to support the relationship between regional and national institutions and all stakeholder involved in the process.

Main objectives of the project are:

- To promote already existent good practices in the field of AMR surveillance and control

- to transfer good practices to all the contexts.

Since when is this good practice operational?

22/07/2015 since 21/07/2017

What are the results (till now)?

The project has just started and no results are still available.

Good Practice AMR Italy (11)

Goal of this good practice:

Strengthening surveillance system

Concerned stakeholders/target group:

Stakeholders: Regional Health Authorities of Sicily Region; University "La Sapienza", Rome; Istituto Superiore di Sanità; Polyclinic San Matteo, Pavia.

Target group: NICU, health care workers, laboratories.

Description of the good practice:

Titles: MDR carriage and infections in neonatal intensive care unit (NICU): comparison among different epidemiological and organizational contexts and proposal of a "network-based" surveillance model.

The neonatal intensive care units (NICUs) represent a complex healthcare setting with high risk of dissemination of MDR pathogens with potential serious consequences for new-borns. The carriage of pathogens represents another risk factor due to the neonatal transfer to NICU from other care setting.

Main objectives of the project are:

- to compare epidemiological characteristic and risk factors for MDR pathogens dissemination among some Italian NICUs with different geographical, epidemiological and organizational conditions

- to define key molecular characteristics of this bacteria, with particular regard to MRSA and MDR Gram negative

- to check feasibility and effectiveness of a "network based" MDR infection real time surveillance program involving all the NICUs in the project

- define a model and guide-line.

Since when is this good practice operational?

23/04/2015 since 22/04/2017

What are the results (till now)?

The project started few months ago and no significant results are still available.

Good Practice AMR Italy (12)

Goal of this good practice:

Promoting a "correct and rational use" of antimicrobial agents; preserving efficacy of antibiotics, improving animal health through a proper livestock health management and the implementation of biosecurity measures; strengthening the monitoring of consumption of veterinary medicinal products through the use of informatics tools in the different steps of distribution and use of the veterinary drug in zootechnical field; identifying and collecting useful indicators for the categorization of farms depending on the level of risk (health, animal welfare and veterinary drug consumption) for a better effectiveness of planning controls; supervising and monitoring the antimicrobial resistance; raising awareness and informing people and professionals on the AMR theme and on the importance of the appropriate use of antimicrobial agents.

Concerned stakeholders/target group:

Authority, prescriber veterinary, owner/farmer, public and organisations.

Description of the good practice:

- Manual Biosafety and correct and rational use of antibiotics in zootechnics", distributed to all the stakeholders, deeps problems arising from improper use of antibiotics in zootechnics. It provides recommendations aimed at containing the spread of antimicrobial resistance on livestock and is completed by general indications about good farming practices, mainly biosecurity and hygiene measures, in order to reduce the incidence of the infective diseases. It covers the pig, poultry and rabbits production.
- Guidelines addressed to the Competent Authorities provide pratical guidance on the official controls of VMPs, especially concerning the antibiotics.
- Guidelines for the correct management of livestock in order to reduce the prescriptions of antibiotics and prevent the risk of antibiotics resistance" under preparation. These promote a holistic, cross-sectoral, collaborative and multidisciplinary approach, involving different offices responsible for animal health, animal welfare, animal feed and veterinary drugs with the aim to identify and propose specific indicators of biosecurity, animal welfare, conscious and rational use of antimicrobial agents, even through their use in feed and drinking water.
- Project of categorization of the risk levels of farms, for health and welfare animal, use of antimicrobial agents, etc. These information are into a computer database together the results of the inspections carried out on the carcasses in the slaughterhouses.
- Expert Group from veterinary medicine for the monitoring, surveillance and containment of antimicrobial resistance of zoonotic bacteria and commensal for supporting all the offices involved in the risk assessment of antimicrobial resistance and the planning of appropriate national and international policies.
- Digitization and traceability system of VMPs through two projects, on a voluntary basis. One traces the sales of the veterinary medicinal products from the producer to the final recipient (breeder, veterinary clinic, etc.) and the other one computerizes the management of veterinary drugs, from their prescription by the veterinarian to the administration to the animals.
- Industrial voluntary plan to reduce the antimicrobials' use in rabbit and poultry production.
- Campaign of communication as the AMR dedicated area on Ministry of Health's website and leaflet for use of antibiotics in pets in order to increase awareness of public and professionals.

Since when is this good practice operational? 2012 for the Guidelines and Manual; 2013 for the traceability system and Project of categorization, 2015 for the electronic prescription, Guidelines and Working Group.

What are the results (till now)? ESVAC data show a decrease of the antibiotic's sales of 29% (from 2011 to 2013) as sign of appropriateness and effectiveness of the above-mentioned measures.

Would you advise other Member States to take the same (or adapted) measures?

Yes.

Advises for other Member States: One Health principle [more competences (human, veterinary and food security in one Ministry]; Harmonised monitoring of AMR (Competent Authorities for the animal nutrition, animal health and welfare, zoonoses, veterinary drugs with the National Laboratory Reference and the network laboratories. Antimicrobials are available only on veterinary prescription since veterinary are only permitted to prescribe to animals under their care, after visit animal and diagnosis; Use of the electronic veterinary prescription to obtain a real consumption of VMPs for different species. The crossing of information of sales and use can guarantee a more effective pharmacovigilance system, an essential tool for combating the AMR and evaluating the effectiveness of measure adopted for reducing an inappropriate use of it.

Good practice AMR Lithuania

Goal of this good practice:

Prevention of animal diseases and to minimise the use of antibiotics in animal husbandry.

Concerned stakeholders/target group:

All relevant stakeholders (working in the veterinary, agriculture, consumer and development sectors)including local authorities and non-profit organizations.

Description of the good practice:

Surveillance of the use of antimicrobials and antimicrobial resistance, reducing the need for antimicrobials by preventing disease and controlling infection. A correct and prudent use of antibiotics based on diagnosis and improving animal husbandry.

Since when is this good practice operational?

Since 2010

What are the results (till now)?

An apparent 24 % drop in sales (in mg/PCU) from 2010 to 2014 was seen in Lithuania, accounted for by all antimicrobial classes except pleuromutilins (not sold in 2010). The sales patterns remained relatively stable.

Do you have a clarification for the results?

Developing a biosecurity requirements for each farm, personal hygiene (shower and hand disinfection), and clothing hygiene (laundry wash at the farm) requirements. Increasing comunication and education of AMR. Improving of good farming practice.

Would you advise other Member States to take the same (or adapted) measures?

Yes

Advises for other Member States:

Developing animal health and biosecurity measures and good farming practice.

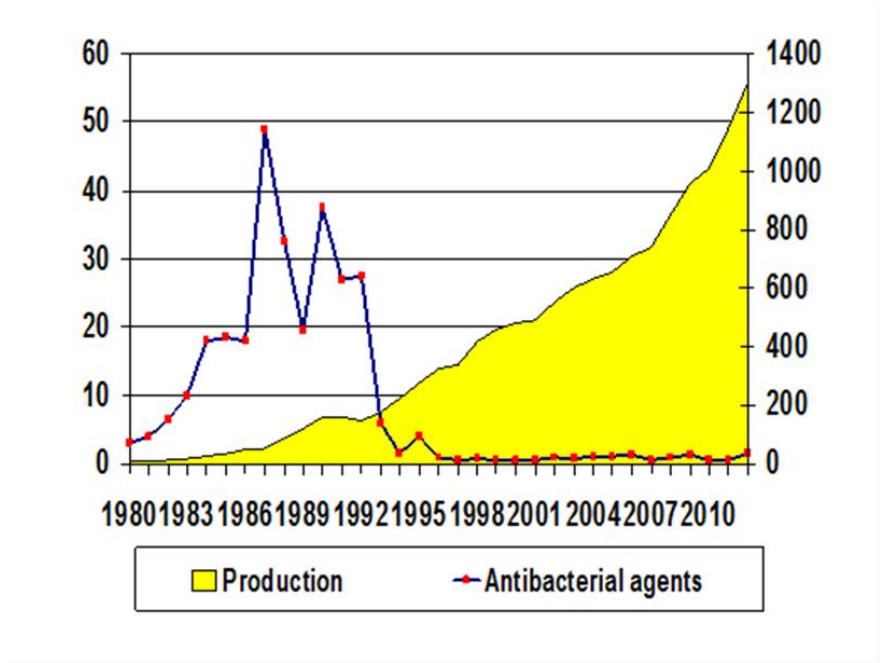
Good practice AMR Norway

Norway provided examples of Good practices in the annex of the guidelines on prudent use from the EC: http://ec.europa.eu/health/antimicrobial_resistance/docs/2015_prudent_use_guidelines_en.pdf.

These examples are still valid and can be found in the annex on the following pages;

- Page 13
  - Veterinarians are allowed to dispense medicines only in acute situations. The dispensing of medicines by veterinarians to treat animals in their care is limited to non-profit sales.

- Page 26
  - The Norwegian Husbandry Organisations published prudent use guidelines in 1996 which were implemented through comprehensive training of veterinarians in all regions of Norway during the late 1990s. The Norwegian Medicines Authority published prudent use guidelines in 1999 which were revised in 2012. http://www.legemiddelverket.no/Veterinaermedisin/terapianbefalinger/Documents/Terapianbefaling_bruk%20av%20antibakteriellt%20midler%20til%20produks.pdf
- Page 29
  - Sweden and Norway operate a voluntary hygiene programme, driven by industry and approved by the authority, to reduce the introduction of *Salmonella* in herds or flocks. In the future, the programme will form part of an overall biosecurity programme. The biosecurity programme for poultry is in place since 2007 and requires infection control and prevention, including easy clean and the sanitising of sheds and furnishings. See also examples under Chapter 7.7.
- Page 32
  - Efficient vaccines against cold water vibriosis in farmed fish were introduced in 1987 and against furuncolosis in 1993. This reduced annual sales (in kilogram of active substance) of antimicrobial medicinal products for therapeutic use from a peak of 48 tonnes in 1987 to 3 tonnes in 1993 and 1.5 tonnes in 2012. Over the same period fish production increased from 3 000 to 1 200 000 tonnes.



- Page 37
  - The Norwegian Husbandry Organisations set a target to reduce consumption of antimicrobials in terrestrial food-producing animals by 25 % from the 1995 level. The observed reduction from 1995-2000 was 40 % and the level has been stable since then: http://www.vetinst.no/Publikasjoner/Norm-Vetrapporten/Norm-Norm-Vetrapporten-2012

Good practice AMR Portugal

Goal of this good practice:

The main objectives of the Plan are the prudent and responsible use of AM which will conduct to the reduction of AB consumption in animals

Concerned stakeholders/target group:

All stakeholders, including pet owners, livestock producers, doctors, veterinarians, pharmacists, college students, animal health associations, and other public and animal health communities.

Description of the good practice:

PANRUAA - National Plan For Reduction Of Use Of Antibiotics In Animals (Plano De Ação Nacional para a Redução do Uso de Antibióticos nos Animais

http://www.dgv.min-agricultura.pt/portal/page/portal/DGV/genericos?generico=11370351&cboui=11370351

Other Plans/BPG:

The PNCUM "National Plan for the control of medicines use on farms" it's an annual plan executed in parallel with the National residues plan and national welfare plan which besides de use of medicines, controls the registers/detention / storage of medicines (including antibiotics) on farm ". Performed in farms in the different regions of the territory and an annual report is published.

Also it is in preparation (working document) the following:

- a BPG on the use / storage of medicines in farms / fish farms / apiaries and a Guide for prudent use of AB;
- - a BPG on the responsible use of animal medicines on the farm (to be published still during this month) to provide a helpful reference document for keepers of livestock in respect of the responsible use of animal medicines

There is a Good practice Guide on Distribution and retail which contains guidance on storage of VMP.

http://www.dgv.min-agricultura.pt/portal/page/portal/DGV/genericos?generico=11370351&cboui=11370351

There is also ***national guidance on medicated feed.***

Since when is this good practice operational?

1 jan 2014

What are the results (till now)?

The measures taken by DGAV and many stakeholders further to the establishment of this plan (please see "**Questionnaire to update[1] present member state actions/policy AMR")** can account for the reduction of most classes of AB. The sale of most classes of AB has decreased (2014 account for ESVAC exercise) and the ones that have slightly increased are justified mostly by the outbreak of certain diseases .Nevertheless we do have a long way to go and we need to keep tackling this problem involving all society

Do you have a clarification for the results?

Please see above

Would you advise other Member States to take the same (or adapted) measures?

We do not agree with a % reductions as in our opinion that may lead to illegal market (buying in neighbour MS or via web and using it anyhow) and because reduction may not mean appropriate use and this is the aim of all involved – the use, because AM are really necessary, but a prudent one – "O menos possível, o máximo necessário" – "The least possible, the maximum necessary"

[1] Since publication of:
http://ec.europa.eu/health/antimicrobial_resistance/docs/2015_prudent_use_guidelines_annex_en.pdf

Good practice AMR Spain (1)

Strategic Action Plan to reduce the risk of selection and dissemination of antibiotic resistance (Spanish National Plan against the Antibiotic Resistance)

The objective of the plan is to develop a series of necessary strategic lines and actions to reduce the risk of selection and dissemination of AMR and subsequently, reduce its consequences for the health of animals and humans, thus conserving the existing therapeutic arsenal in a sustainable manner. Said plan will fulfil the European Commission Communication, of November 17, 2011, in which Member States are asked to prepare an action plan on antibiotic resistance, as well as the Conclusions of the EU Council, of June 22, in which a joint approach is urged.
Six common strategic lines are proposed for human and veterinary health in order to achieve the objective of the Plan. Each of these strategic lines is subdivided into measures and each of these measures into specific actions.

- **Concerned stakeholders/target group:**
  - Six Ministries (Ministry of Health, Social Services and Equality, Ministry of Agriculture, Food and Environment, Ministry of Economy and Competitiveness, Ministry of Education, Culture and Sport, Defense Ministry, Ministry of Internal Affairs), Spanish Antibiogram Committee (COESANT), several Spanish Scientific Societies, several Spanish Collegiate Organizations and several Spanish Professional Associations.
  - The plan is target to the general public and all healthcare professionals in all stages of his career.

This plan includes many good practices that are described in detail below. These are included in six strategic lines that compose the plan: surveillance, control, prevention, research, training and communication.

1. **Development and implementation of the electronic prescription (this good practice is included within the Spanish National Plan against the Antibiotic Resistance).**

- **Goal of this good practice:** Monitoring veterinary antibiotic consumption.

- **Concerned stakeholders/target group:**
    - This practice is developed by a working group composed of experts from the field of animal health, belonging to Ministry of Health, Ministry of Agriculture, Food and Environment, Spanish Collegiate Organizations, and Spanish Professional Associations.
    - This good practice is target to collegiate veterinarians exercising clinical practice.

- **Description of the good practice:** It consists on the development and implementation a mandatory system of electronic Prescription. Because of monitoring antibiotic consumption at farm level is essential to understand the pressure their use exerts on the appearance of resistance. In the field of animal health it is fundamental to improve the tools available so as to obtain data on antibiotic consumption according to animal species.
  This electronic system will link the prescription with the veterinarian practitioner and animals (farmer) allow a total tradability of the prescription.

- **Since when is this good practice operational?** Since 2014 this working group is developing requirements for implementing the electronic prescription. The pilot phase will be January 2016.

- **What are the results (till now)?** It already has a prototype and it is working at the appropriate regulation.

- **Do you have a clarification for the results?** Not yet, but all sectors are very interested in the development of this good practice. The results will allow as know what, why and who are using antibiotic.

- **Would you advise other Member States to take the same (or adapted) measures?**

- **Advises for other Member States:**

Good practice AMR Spain (2)

Control of the use of critical antibiotics (this good practice is included within the Spanish National Plan against the Antibiotic Resistance).

- **Goal of this good practice:** Identify the areas of specific action to reduce the use of critical antibiotics and, whenever necessary, develop new recommendations and/or actions.

- **Concerned stakeholders/target group:**
  - This practice is developed by a working group composed of experts from the areas of human health and animal health.
  - This good practice is target to the general public and all healthcare professionals in all stages of his career.

- **Description of the good practice:** Identify and list the antibiotic classes considered as critical at national level, on bases on the information from the human side (hospital and community) and in order to proceed to a specific vigilance of their consumption in the veterinarian side and the appearance of resistance. Limit the prescription of those antibiotics whose effectiveness has to be particularly conserved.

- **Since when is this good practice operational?** in the first quarter of 2015 the working group met to define this practice.

- **What are the results (till now)?** It has diffused the list of critical antibiotics and the group continues working on the development of its actions. In the project ESVAC-SP there are specific control of the consumption of these in order to take a specific measures when needed.

- **Do you have a clarification for the results?** So far there are no quantitative measures to measure the impact of this good practice, but qualitatively it can be highlighted the involvement of many sectors and the social impact.

- **Would you advise other Member States to take the same (or adapted) measures?**

- **Advises for other Member States:**

Good practice AMR Spain (3)

Development of on line veterinary prescription guidelines (this good practice is included within the Spanish National Plan against the Antibiotic Resistance).

- **Goal of this good practice:** Ensure the correct veterinary antibiotic prescription.

- **Concerned stakeholders/target group:**
  - This practice is developed by a working group composed of experts from the areas of animal health.
  - The guidelines are target to veterinarians exercising clinical practice.

- **Description of the good practice:**
  - Develop more extensively a specific section on the good use of antibiotics for each animal species in the guidelines.
  - Promote that antibiotic treatments are based on microbiological diagnosis and susceptibility testing.
  - Develop specific recommendations for the use of certain antibiotics such as "first line", "second line" or "final line" in relation to specific infections.
  - Provide help to the prescriber on infectious bacterial diseases and antibiotic use, either to prevent or cure, using information and communication technologies (ICTs) and develop specific section on the exceptional prescription of antibiotics when there are no other existing alternatives.
  - Limiting prophylactic use of antibiotics to cases with well-defined clinical needs.

- **Since when is this good practice operational?** During 2015 the working group met to define this practice.

- **What are the results (till now)?** The group continues working on the development of these guidelines and the following guidelines are used as reference:

  - http://www.vetresponsable.es/vet-responsable/guias-por-especies/animales-de-compania_202_1_ap.html:
    - ✓ Small animals
    - ✓ Porcine
    - ✓ Apiculture
    - ✓ Horses

- **Do you have a clarification for the results?** These guidelines are not finished yet.

- **Would you advise other Member States to take the same (or adapted) measures?**

- **Advises for other Member States:**

Good practice AMR Spain (4)

Promotion of improved measures in animal hygiene, handling and wellbeing (this good practice is included within the Spanish National Plan against the Antibiotic Resistance).

- **Goal of this good practice:** Ensure the good livestock and animal wellbeing practices.

- **Concerned stakeholders/target group:**
  - This practice is developed by a working group composed of experts from the areas of animal health. The AEMPS, MAGRAMA, INIA and the Vet+I Platform are involved in the development of these guidelines.
  - The guidelines are target to farmers and veterinarians exercising clinical practice on farms.

- **Description of the good practice:**
  - Promote the dissemination and use of the existing guidelines of good livestock practice and identify and develop those which are necessary but not yet prepared.
  - Modify the existing guidelines to include recommendations solely intended for livestock farmers, giving a clear and comprehensible explanation of how antibiotics should be administered and/or prepared (in the case of medicinal products administered orally) and/or applied, so as to guarantee their appropriate use.
  - Establish effective mechanisms which ensure that livestock farmers receive and use the guidelines.

- **Since when is this good practice operational?** During 2015 the working group met to define these guides.

- **What are the results (till now)?** The group continues working on the development of these guidelines, by the time it has developed the guidance of poultry, and the following guidelines are used as reference:

  - http://www.vetresponsable.es/vet-responsable/documentos/guias-de-buenas-practicas-de-higiene_198_1_ap.html

    - ✓ Best hygiene practices Guide in poultry farms Commissioning
    - ✓ Best hygiene practices Guide in Cattle and Sheep / Goat
    - ✓ Best hygiene practices Guide in Heliciculture
    - ✓ Best Hygienic Practices Guide for intensive pig farms
    - ✓ Best Hygiene Practices Guide for the honey sector

  - http://www.magrama.gob.es/es/ganaderia/publicaciones/

    - ✓ Guide to best hygiene practices in poultry farms
    - ✓ Guide to best hygiene practices in Cattle and Sheep \ Goats
    - ✓ Best hygiene practices Guide in Cuniculture
    - ✓ Best hygiene practices Guide in Heliciculture
    - ✓ Best hygiene practices Guide in Porcine

- **Do you have a clarification for the results?** The guidelines which are proposed are not finished yet.

- **Would you advise other Member States to take the same (or adapted) measures?**
- **Advises for other Member States:**

Good practice AMR Spain (5)

Promotion of the development and use of antimicrobial susceptibility testing and rapid diagnostic methods (this good practice is included within the Spanish National Plan against the Antibiotic Resistance).

- **Goal of this good practice:** Promotion of the development and use of antimicrobial susceptibility testing and rapid diagnostic methods.

- **Concerned stakeholders/target group:**
  - This practice is developed by a working group composed of experts from the areas of animal and human health.
  - This good practice is target to all healthcare professionals in all stages of his career.

- **Description of the good practice:**
  The promotion of the development and use of rapid microbiological diagnostic methods and antimicrobial susceptibility testing permit early guidance in the diagnosis and, where appropriate, correct identification of the elected antibiotics in the treatment of bacterial diseases, guiding prescription appropriately and avoiding ineffective treatments:
  - Promote the use of microbiological diagnostic tests.
  - Standardisation of the antimicrobial susceptibility testing and their interpretation.
  - Promote use of rapid diagnostic tests.

- **Since when is this good practice operational?** During 2015 the working group met to define this good practice.

- **What are the results (till now)?** the group continues working on the development of its actions, it has defined criteria for creating new tests and all sectors have specified their needs in order to promote use of rapid diagnostic tests.

- **Do you have a clarification for the results?** So far there are no quantitative measures to measure the impact of this good practice, but qualitatively it can be highlighted the involvement of many sectors

- **Would you advise other Member States to take the same (or adapted) measures?**
- **Advises for other Member States:**

Good Practice AMR Spain (6)

Goal of this good practice:

Reduction and prudent use of antibiotics

Concerned stakeholders/target group:

All hospitals and primary care centers in Andalusia

Description of the good practice:

Implementation of antimicrobial stewardships porgrams at both hospital and primary care center level in the autonomous community of Andalusia

Since when is this good practice operational?

January 2014

What are the results (till now)?

This program during its first year of operation totaled following achievements:

1. <u>Acceptance of the program</u>.

- The program has been well accepted among all health professionals in all hospitals and primary care units. Proof of this are:
    - Creating specifics teams for the antimicrobial stewardships porgram in all hospitals and districts, chaired by the medical health care management.
    - Completion of the program indicators (higher than 90%).
    - Registration and active participation of health professional in the training courses organized for the coordinating team of the antimicrobial stewardships porgram.
    - Achievement of the objectives. It has achieved the objectives set in the contract program Districts and Hospitals.

2. <u>Achievement of the objectives</u>.

- Filling a percentage of the total committed indicators:
    - For Primary Care Units = 91%
    - For Hospitals = 94%
- Antibiotic pressure reduction 2014 vs 2013:
    - Primary Care = - 6%
    - Hospitals = - 9%

3. <u>Reduced of direct spending on antibiotics 2014 vs 2013</u>.

- Hospitals: 37,380,118 vs. 38,241,365: € - 860,446 (-2.2%)
- Primary Care: 36,183,995 vs. 38241565 = € - 2,057,570 (-5.3%)
- TOTAL = - € 2,918,016

Would you advise other Member States to take the same (or adapted) measures?

Yes

Good practice AMR Sweden (1)

Goal of this good practice:

Prevention of animal diseases

Concerned stakeholders/target group:

Farmers, Veterinarians, animal health organisations, animal owners.

Description of the good practice:

Prevention is better, and cheaper, than cure. Healthy animals do not need antibiotics. By involving authorities and farmers associations together, a common understanding of how animals are best kept and protected against disease without preventive treatments is gained. To ensure a holistic perspective the Swedish Government has established a national collaboration platform to coordinate the various measures against antimicrobial resistance. The responsibility for this collaboration platform is shared by Swedish competent authorities on both the human and veterinary side. Regulatory agencies concerning the use of antibiotics on the animal side are the MPA, the Board of Agriculture and the Food Agency.

Knowledge of the use of antibiotics has proven to be a key factor in bringing the work against antibiotic resistance forward, both nationally and within the EU.

Since when is this good practice operational?

Working with prevention and sustainable production system has been a characteristic feature for Swedish farmers for decades.

What are the results (till now)?

Sweden has the lowest use of antibiotics in the EU as well as the fastest growing pigs!

Do you have a clarification for the results?

Fifth ESVAC report, Sales of veterinary antimicrobial agents in 26 EU/EEA countries in 2013, table 5.

Swedish pigs have an average of 680g/day of growthrate.

Would you advise other Member States to take the same (or adapted) measures?

Our efforts in Sweden are built on consistent work over the long term. We hope to be able to contribute to others' work by sharing our measures, good practices and results. However, action plans should always be formulated based on local knowledge and situation.

Good practice AMR Sweden (2)

"Protect antibiotics" – a campaign backed by 23 national authorities and stakeholders

Goal:

Good knowledge about what antibiotics are and how they work is one of the cornerstones of safeguarding these important medicines for the future. With many stakeholders involved, from human and veterinary medicine to agriculture and innovation, there are multiple perspectives on how to handle the issue of increasing antibiotic resistance. This initiative emphasises that all sectors of society need to come together in order to keep antibiotics effective.

Concerned stakeholders/target group:

Sweden has a long tradition of targeting prescribers and health care staff with information and feedback on rational use of antibiotics. However, the 'one health' perspective requires participation from many more actors.

Everybody can do something to protect antibiotics. The campaign aims to show members of the public – in their roles as patients, pet owners and consumers – how to make wise decisions in everyday life.

Description of good practice:

To date, the initiative has produced a shared communications strategy around responsible use of antibiotics. The content builds on three core messages and supporting texts, which are backed by 23 national authorities and organisations:

- Wash your hands to avoid spreading disease.
- Speak to your doctor or vet about when antibiotics might be helpful.
- Do not save leftover antibiotics; return them to the pharmacy.

All content is presented on a website, and the campaign is designed mainly for social media. Posters and flyers are also available to download.

Since when is the good practice operational?

The "Protect antibiotics" website was launched on European Antibiotic Awareness Day, 18th November, 2015. In the future, it can serve as a platform for further shared communication activities from the Swedish intersectoral collaborating mechanism against antibiotic resistance.