1. **Case: Illegal and irregular use of antibiotics in Bulgaria: analysis of the situation.**

   The proper use of antibiotics and antimicrobial resistance (AMR) is a matter of great concern to the public in Bulgaria. In recent years the *Patients’Organizations With You* have been contacted by parents with many reports of improper issuance of antibiotics to children. Parents are issued prescriptions for antibiotics without any clinical need for it. They are often advised to go home and decide on their own whether to give antibiotics to the child if its health gets worse. That vicious practice in Bulgaria is a result of the financial pressure of the pharmaceutical companies.

   Another issue in Bulgaria is the frequent "self-prescription" of antibiotics by patients - an important factor leading to AMR. Access to primary health care in Bulgaria is impeded by the fact that the health reform implementation is slow, with non-existent antibiograms referrals as required and no National Antibiotics Resistance Programme to train doctors how to counter that threat.

   A problem in Bulgaria is also the lack of information regarding the length of treatment with antibiotics. Patients and even doctors at times often tell us that when they feel better they tend to discontinue their treatment, and that leads to resistance.

2. **Action: Steps taken by us to inform the public concerning AMR.**

   The *Patients’ Organizations With You* are focused on AMR and the proper use of antibiotics in Bulgaria.

   Since January 2016 we have launched an active media campaign jointly with the National Television and some health websites, designed to probe the public opinion regarding prescription of antibiotics. Over that time we have been contacted by many experts in the field of antimicrobial resistance as well as many patients. From the analysis done by us we have found that, in contrast to general practitioners who refuse to admit the problem, microbiologists are greatly alarmed by the excessive prescription of antibiotics. We have also found that the reluctance for antibiograms could be explained with the control thus to be exerted over the doctor’s work.

3. **Proposal: Our initiative was to organize a National Round Table – Discussion with the participation of medical experts from across the country as well as politicians, institutions, professional and patient organizations, WHO and the media.**

   Thus the need arose for a meeting between the experts in the proper use of antibiotics and representatives of the training institutions for the purpose of information and for legislative decisions to be taken as needed.

4. **Methodology of the Initiative AMR National Round Table: Discussion on the subject of: Rational Antibiotic Use in Children: Common Mission of Doctors, Patients and Institutions and human health protection.**

   After the preparation beginning in early 2016 and the media campaign held on the International
Children's Day, the 1st of June 2016, the Patients’ Organizations With You organized a National Round Table - Discussion entitled Rational Antibiotic Use in Children: Common Mission of Doctors, Patients and Institutions with the Bulgarian Parliament, jointly with the Health Committee of the 43rd National Assembly, the Ministry of Health, WHO, the Bulgarian Medical Association, the Bulgarian Pharmaceutical Union, the Bulgarian Red Cross, the National Association of Bachelor Pharmacists in Bulgaria, the Drug Agency, the National Health Insurance Fund, doctors from across the country engaged in antimicrobial resistance structures in regional cities, patients’ organizations, media.

In the course of that initiative the speakers - Dr Danilo Lo Fo Wong, Associate Prof. Mihail Okolyiski, Prof. Todor Kantardzhiev and Prof. Ilko Getov - conducted training of medical experts from across the country as well as of politicians and representatives of institutions and the civil society.

Dr Danilo Lo Fo Wong, Program Manager Antimicrobial Resistance, the World Health Organization, Regional Office for Europe, Copenhagen participated with a presentation entitled WHO Prospects on Proper and Improper Use of Antibiotics in Children.

Antimicrobial resistance is a social and economic problem and we are all responsible for the health of the nation and the reduction of the threat of resistance.

Dr. Danilo pointed out that the main driver for AMR is the misuse of antibiotics, in particular: unnecessary prescription; inappropriate prescription; indiscriminate use of broad spectrum antibiotics; improper use of narrow spectrum antibiotics; wrong length of treatment; dosage; non-use of antimicrobial tests to adjust treatment; self-treatment; pressure by patients on prescribers; financial pressure by pharmaceutical companies.

The following important points were discussed concerning the risks of misuse of antibiotics in children:

- false sense of security;
- recovery is not faster;
- continuing spread of infection;
- side effects;
- indigestion, diarrhea, allergic reaction;
- long-term side effects: ceramic structure of infant gut microflora, childhood obesity, asthma, juvenile arthritis, Crohn's disease.

Also discussed by the participants were WHO recommendations regarding what patients / parents can do against improper and illegal use of antibiotics, in particular:

- Take antibiotics only when prescribed;
- Trust your doctor - do not apply pressure;
- Ask for antibiogram;
- Do not discontinue treatment in case of improvement;
- Do not share your prescription with other patients;
- Do not undertake self-treatment;
- Prevent infections.

Discussed with politicians and institutions was the organisation of training for doctors in the area of what they can do to be better informed about AMR:

- when to prescribe antibiotics;
- what to prescribe (after a mandatory microbiological test of the patient in line with the local
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practices);
• how to determine the dose; treatment duration;
• to be part of a team (multiple disciplines; care to patients);
• not to succumb to pressure from patients / parents;
• to be able to explain their decision;
• not to succumb to incentives from the pharmaceutical industry.

Special attention in our initiative was paid to the importance of the advice of pharmacists, with special emphasis on:
• recognition of the role of pharmacists in the importance of AMR;
• not to succumb to material incentives against the prudent use of antibiotics;
• pharmacy is not just a store, pharmacists are responsible for people’s health;
• control over antibiotics dosing to patients;
• not to yield to the financial interest in sales;
• information to patients;
• control for correct treatment administration;
• completion of treatment;
• information to patients of the risks involved when sharing prescriptions.

The politicians participating in our initiative committed to:
• provide a comprehensive National Action Plan against AMR;
• provide an operational plan, budget, monitoring and evaluation;
• regulate and encourage the proper use of medicines;
• strengthen, implement and enforce policies;
• improve the monitoring of antimicrobial resistance and consumption;
• inform the professionals and the public.

AMR global strategic objectives set by WHO discussed within the framework of our initiative and adopted as such in Bulgaria: improve awareness and understanding; strengthen knowledge and evidence of the threat to the health of humanity; reduce the rate of infections; optimize the use of antimicrobial drugs.

Dr Danilo Lo Fo Wong from WHO familiarized the experts and politicians with the Strategic Action Plan for Antibiotic Resistance (2011 - 2020) adopted by 53 countries, which recognizes that: AMR is overlooked in many countries in the region; in most countries there is no systematic monitoring of AMR; inter-sectoral coordination is needed; AMR is spreading through travel and trade; international standards and data exchange are needed; concrete actions are needed for implementation on national level.

Associate Prof. Mihail Okolyiski from WHO Bulgaria participated with a presentation entitled Antimicrobial Resistance Within the Framework of the Two-Year Cooperation Agreement between WHO and Bulgaria.

In the program area Access to Medical Products and Health Technologies and Strengthened Regulatory Capacity of the Cooperation Agreement between the Bulgarian Ministry of Health and WHO it is
pointed out specifically that the rational use of antibiotics should be systematically translated into policies and programs of the health systems so as to improve the efficiency of use of the scarce resources of health care. The improper use of antibiotics and antimicrobial resistance (AMR) is a specific challenge.

Prof. Todor Kantardzhiev, National Consultant in Microbiology, Director of the National Center for Infectious and Parasitic Diseases NCIPD, Chairman of the Bulgarian Association of Microbiology, participated with a presentation entitled Consumption of Antibiotics and Antibiotic Resistance in Bulgaria.

The data provided by Prof. Kantardzhiev are alarming. The number of antibiograms in Bulgaria has decreased significantly since 2011 till now. It dropped threefold in ambulatory care and fourfold in hospitals. Experts from the National Center drew attention to the lack of adequate funding from the state for the registration of resistant bacteria and the training of doctors.

Prof. Ilko Getov, Chairman of the Bulgarian Pharmaceutical Union, participated with a presentation The Role of Pharmacists for Promotion of the Reasonable Use of Antibiotics. Pharmacists are recognized as key players in the fight against antimicrobial resistance. They can play a leading role in restricting antimicrobial resistance by informing and exerting their influence to promote appropriate use and prescription. Cooperation with doctors and other medical professionals is of key importance. The focus of the training of pharmacists should be the length of therapy, the daily intake of medicines and the unnecessary storage of expired medicines. It is recommended that every patient who feels unwell and / or is prescribed antibiotic treatment should ask a pharmacist for individual consultation. Pharmacists in the EU have a well established role in the reasonable use of antibiotics. They can contribute to better awareness and effectiveness of the measures to combat antimicrobial resistance. There are a number of opportunities and channels to promote the rational and safe use of antibiotics that are not being used in Bulgaria, and one of them is the pharmacy!

5. Results from the National Round Table Discussion of AMR

The Patients’ Organizations With You performed an analysis and participated in the training. On that basis and with the help of experts in the field of antimicrobial resistance we are in a process of drafting a National Program for Proper Use of Antibiotics in Bulgaria to be adopted and implemented by the Ministry of Health in the next 5 years.

Concerning the National Program the participants agreed on information, training, research and popular activities in the member states.

The expectations of the Patients’ Organizations With You from this national forum are for key actions to be formulated by experts from across the country for fighting these deadly infections and some legislative changes to be demanded from the politicians, more specifically:

• Prophylaxis of infections, thus preventing their resistance.
• Monitoring of the bacteria resistant to antibiotics.
• Improving use and control over the use of modern antibiotics.
• Promoting the development of new antibiotics and new diagnostic tests.
6. Transferability: the good practice can be applied in other Member States of the EU.

Patients’ Organizations With you is National contact center for the European Union Member states and participates in communication campaign “Patients' rights have no borders”. Together with Active Citizenship Network (http://activecitizenship.net/patients-rights/projects/219-patients-rights-have-no-borders-partners.html) we decide to organize campaign in 2016 and 2017 in cooperation with some of the national patient associations involved in its network.

The main goals are: to improve citizens and patients’ awareness about their rights; to build a network of patient/healthcare users’ organizations all around Europe, able to provide information; to enable patient/healthcare users' organizations, to easily contact their counterpart in another country to get specific information and exchange of good practices; to get in touch with National Contact Points and institutions in the EU Member States; to conduct information campaigns for antimicrobial resistance and experience exchange between the countries in the struggle against the antibiotic resistant bacteria.

Activities: the communication campaign foresees online and on-the-spot initiatives; set up a stall in crowded public places (markets, fairs, other organisations’ events) to distribute informative materials; organise a press conference; arrange conventions, workshops or round tables with national speakers and experts; use of social media and any other communication tool (newsletter, web site etc..) to share the communication materials produced.

7. Conclusions:

According to the World Health Organization (WHO) and the Center for Disease Control and Prevention USA (CDC) the threat of antibiotic resistance is a global problem. Currently AMR is perceived as a "medical" issue. The conclusions of the Round Table discussion organized by us and attended by experts, politicians, ministers, representative of professional and non-governmental organizations and patients are that it is necessary to raise awareness and to extend the training of doctors, nurses and pharmacists. The role of NGOs is to work with the communities, i.e. patients, families, schools.

We envisage the organization of a National Dialogue by the end of the year together with the Committee on Agriculture and Food with the Bulgarian Parliament and WHO to inform the public and take measures against the improper use of antibiotics by farmers and to raise some questions as to what can be done in the agricultural sector, more specifically:

• to use antibiotics only for treatment of diseases;
• to vaccinate animals in order to reduce the need for antibiotics;
• to apply best practices in farming production and processing;
• to maintain good hygiene and biosecurity;
• to implement international standards and guidelines.

Bacteria find ways to "resist” antibiotics; consequently urgent integrated actions to reduce resistance are needed on the part of the public at large: patients, politicians, institutions, experts and the media.

Penka Georgieva, Chairwoman, Patients’ Organizations With You
National Round Table Discussion with the Bulgarian Parliament

Rational Antibiotics use in Children: a Common Mission of Doctors, Patients and Institutions

On the picture: Dr Adam Persensky, Deputy Minister of the Ministry of Health; Dr Danilela Daritkova, Chairwoman of the Health Committee with the Bulgarian Parliament; Mrs. Penka Georgieva, Chairwoman of the Patients’ Organizations With You; Associate Prof. Mihail Okolyiski, WHO Bulgaria, and Dr Danilo Lo Fo Wong, Program Manager Antimicrobial Resistance, the World Health Organization, Regional Office for Europe, Copenhagen

On the picture: Dr Zorka Ugrinova, Pediatrician; Prof. Nadka Boyadjieva, Head of the Department of Pharmacology and Toxicology, Medical University, Sofia; Professor Dr. Lyudmil Peychev, Dean of the Faculty of Pharmacy, Medical University, Plovdiv; Mrs Lyudmila Zafirova; Prof. Todor Kantardzhiev, National Consultant in Microbiology, Director of the National Center for Infectious and Parasitic Diseases; standing: Mrs. Penka Georgieva, Chairperson of the Patients’ Organizations With You; Associate Prof. Ivan Ivanov, Department of Antibiotic Resistance