TOWARDS HIGHER PATIENT SAFETY IN EU HOSPITALS
Innovation in Hygiene & Sanification to Reduce Healthcare Associated Infections And Antimicrobial Resistance

5th February 2019 - European Parliament
Hosted by MEP Brando Benifei, S&D

Moderator: **Brian Maguire**, Journalist, EURACTIV

Speakers:

- **Brando Benifei,** MEP - Group of the Progressive Alliance of Socialists and Democrats in the EP
- **Charles Price**, Policy Officer for Antimicrobial Resistance and Healthcare-associated infection, European Commission Directorate for Public Health
- **Daniele Celotto**, European network to promote infection prevention for patient safety (EUNETIPS)
- **Luca Arnoldo**, Hygiene and Public Health - Department of Medicine – University of Udine
- **Elisabetta Caselli**, PhD – Section of Microbiology – Dept. Of Medical Science, University of Ferrara
- **Denis Herbaux**, European Hospital and Healthcare Federation (HOPE)/Director PAQS
- **Giuseppe Banfi**, European University Hospital Alliance (EUHA)/IRCCS Ospedale San Raffaele
- Esther Calbo, European Regional and Local Health Authorities (EUREGHA)/Infection Control Program of Catalonia (VINCAT)
- **Melina Raso**, Health First Europe
- **Antonio Gaudioso**, Secretary General, Cittadinanzattiva
- **Mariano Votta**, Director of Active Citizenship Network

Secretariat: **Manuela Amadori**, Active Citizenship Network

Welcome Address (by B. Benifei)

MEP Benifei welcomes everyone to the event and introduces the meetings' theme: Innovation in hygiene & sanification to reduce healthcare associated infections (HAIs) and antimicrobial resistance (AMR).

- The EU's commitment to face healthcare-related issues has become increasingly relevant, and there is a growing attention coming from the different actors involved in this debate.
- A high-quality healthcare should not only be granted by the EU member states, but it is necessary to build a stronger role of the EU to help delivering this objective.
- HAIs and AMR are two key issues today, which affect the European healthcare system.
- We should not focus on just improving healthcare treatments, but also on improving the way in which we provide them.

- Civic and patients' associations play a key role in promoting innovation to reduce healthcare-related risks, as they are deeply involved into the debate and are closer to the citizens.
- The data reported by the ECDC are worrying, as the center estimates that over 4 million patients acquire a healthcare-associated infection in the EU each year. The number of deaths occurring as a direct consequence is estimated to be greater than 30.000.
- The burden of HAIs on citizens is huge.
- Patient's safety is a milestone of a quality healthcare.
- We see great innovation happening in the healthcare sector, but we are also highly aware of the impact that badly managed healthcare policies have on the economy and the society of a country. Thus, quality healthcare should occupy a higher place within the priorities in the EU agenda.
- In September 2018, the EC launched and approved an Action Plan against AMR.
- Fighting for patient safety is a key part of innovation and policy makers have to engage into this debate more, both at the national and European level. In particular, after the European elections we will soon come to a multi annual funding framework and we need to ensure that proper attention is given to healthcare issues by the end of 2019 (EU budget).

Welcome Address (by M. Votta)

Mariano welcomes and thanks everyone for their participation to the event, especially MEP B. Benifei, the Commissioners, and Copma.

- Healthcare associated infections and antimicrobial resistance have been identified by the European Center for Disease Prevention and Control (ECDC) as a significant danger for patients' safety and health care more generally.
- Most healthcare associated infections and other adverse events occurring in hospitals are preventable. EU Member States must protect patients from preventable harm and prevention must be at the core of national healthcare policies and strategies. At the same time, this preventive approach should be a priority also for all the actors involved in the healthcare sector, including the private ones and advocacy groups.
- A better control of the pathogen contamination is fundamental, also taking into account that healthcare-associated infections (HAIs) affect up to 15% of hospitalized patients in Europe.
- We have decided to focus on one specific aspect, not strictly clinical, as the one of sanification. Indeed, we think that hygiene represents a matter for which the civic society, if properly informed and aware, could help make a difference in promoting and leading to changes.
- The concept of continuity of care should be replaced by continuity of safe care, not just in the hospital but also at home and, of course, in long term care homes for elderly and chronic patients. In these contexts, the lack of official data represents a hint that the phenomenon of healthcare associated infections could be underestimated and consequently neglected and tackled in the wrong way.
- My country, Italy, has one of the highest numbers in Europe for healthcare associated infections, with 530 thousand cases every year. This issue is not immediately visible, but it is highly concrete and unluckily worsening.

Overview (by C. Price)

- I am pleased to see such a high level of interest on this topic.
- We are all aware of healthcare responsibilities within EU member states, but not of those of the EU in this field.
- Diseases linked to HAIs represent a huge burden. They are the largest cause of AMR infections in the EU.
- To give you some data: 50% of AMR deaths can be preventable; 4.5 million hospital associated infections occur every year.
- HAIs could be prevented through these well-known, good practices of the healthcare system:
    - Hand hygiene
    - Building and equipment hygiene
    - Diagnosis, screening, surveillance
    - Patient isolation and cross contamination
    - Appropriate antimicrobial use
    - Specialist infection control staff
    - Training and adherence to good practice by all staff
- Most AMR deaths in OECD countries could be prevented at a cost of 2 USD per patient per year.
- The EU plays a complementary role with its member states:
    - A Council recommendation on patient safety including prevention and control of HAIs was published in 2009 → the key points were national strategies on prevention and control of HAIs, improved surveillance, education and training of health professionals, information for patients, research.
    - The Decision on Serious Cross Border Threats to Health was released in 2013 (D. 1082/2013) and it is characterized by:
        - A decisive coordination and cooperation of the member states;
        - The establishment of health security committee to coordinate response;
        - A legal framework for surveillance (provides definitions of HAIs);
        - Measures for reporting these infections worldwide (alerts and exchange of information);
    - A European one health action plan against antimicrobial resistance published in 2017, which contains EU Guidelines on the prudent use of antimicrobials in human health in 22 languages.
- The One Health Plan is structured around three main pillars:
    - Support member states to take action to make the EU a best practice region
        - Better evidence and awareness
        - Better coordination and implementation of EU rules
        - Better prevention and control infection
    - Boosting research, development and innovation
        - New antimicrobials, rapid diagnostic tests, vaccines, and alternative therapies
    - Shaping the global agenda
        - Stronger EU global presence, stronger bilateral partnership for stronger cooperation
- EU activities on HCAI:
    - Provides support to member states on HAI through guidance, training, information exchange, etc.
    - Surveils HAIs development and reporting;
    - Supports the implementation of national policies on AMR and HCAI (research priorities; prevention tools and methods, etc.);
- The ECDC and the WHO provide guidance and trainings for EU member states and their citizens.

EUNETIPS Overview (by D. Celotto)

- EUNETIPS is part of the Global Infection Prevention and Control Network (GIPC) and has joined its call for action for 2018-2022 addressing common priorities.
- The Network of EUNETIPS was born in Berlin in 2008 from the union of 12 European Scientific Professional Societies that recognized the importance of sharing and promoting knowledge, attitudes, practices and trainings on infection prevention and control.
- Today EUNETIPS includes 30 national scientific and professional societies + groups of infection controls/hospital hygiene professionals in 22 countries.
- In order to prevent and control infections, EUNETIPS promotes, shares and supports training activities of its members.
- As scientific and professional societies working in infection prevention for patient safety in Europe, we want to promote:
    - Activities to prevent and control infection risks including patients and staff movement throughout Europe;
    - Engagement of politicians, caregivers and individuals in addressing public health implications, challenges and opportunities related to infection prevention;
    - Exchange of experiences and harmonization of activities both for professionals and "customers".
- We want to be an active partner in promoting patient safety in Europe.
- We strongly believe that infection prevention needs a Europe wide approach and thus a greater involvement of and collaboration between:
    - Politicians/governments;
    - Infection prevention societies;
    - Public health, academic, education and research institutions;
    - Health care organizations;
    - Insurance companies;
    - Patients and customer organizations;
    - Industries;

  As well as better networking within infection prevention professionals guaranteeing:
    - Competencies;
    - Education;
    - Advice and support;
- We put particular emphasis on:
    - Behavioral change;
    - Evidence based intervention and practices;
    - Basic hygiene issues;
    - Proactive in identifying emerging issues;
    - Support for enhanced surveillance at HCO level to permit evaluation of interventions to reduce HCAI.

The Role of Innovation in Hygiene & Sanification: A Multicenter, Prospective, Intervention Study (by E. Caselli)

- Conventional chemical-based sanitation cannot prevent recontamination, has a high environmental impact, and can favor selection of resistance. There is therefore an urgent need to find new effective methods able to steadily halt contamination.
- For the past 8 years, we have been working on a new system which could stably abate contamination and decrease "side effects" (AMR, environmental impact).
- It is important to link the "health" of the environment with the health of the human body.

- The PCHS (*Probiotic Cleaning Hygiene System*) is a sanitation system based on the use of eco- sustainable detergents with spores of probiotics bacteria. Simply put, we tried to prevent recontamination and infections by substituting bad bacteria with good ones.
- The aim of our research was to test probiotics' effectiveness of the system against pathogens on hospital surfaces. The effectiveness on HAI incidence was measured first in vitro and then on the field and resulted in a decrease of resistant strains (no AMR selection).
- 6 Italian hospitals and 5 universities took part to the research.
- The tested surfaces included floors, bed footboards and sinks in 3-6 randomized rooms per ward. About 32,000 total microbiological samples were analyzed.
- The study resulted in a significant reduction of pathogens, HAIs, AMR, antimicrobial consumption, and antimicrobial associated costs.
- The combined use of probiotics + phages leads to rapid, specific & stable decontamination.
- Even if the results are promising, the system can be further improved. In the meantime, we hope that our study can lead to new perspectives and improvements in the fight against HAIs and AMR.

The Role of Innovation in Hygiene & Sanification: A Multicentre, Prospective, Intervention Study (By L. Arnoldo)

- In our study, 5 acute hospitals were included, particularly the general medicine, geriatrics and neurological wards, from different parts of Italy: 3 in the north, 1 in the center and 1 in the south of Italy.
- The study consisted of a pre and post surveillance to monitor the application of the PCHS system.
- The cleaning staff did not change during the study and were adequately trained for the appropriate PCHS application.
- Ward healthcare personnel and patients were not aware about the new cleaning system.
- Of course, we did not introduce any new intervention which could potentially affect HAIs incidence throughout the whole study.
- In total, 11,416 patients were included in the study and took part to the survey.
- At the end of the study, the data suggested a positive effect of PCHS application, successfully preventing the onset of HAIs in the involved wards. HAIs incidence dropped from 4.8% to 2.3%, showing a significant decrease and proving that patients treated in the wards cleaned with the PCHS system have a lower probability to contract a healthcare associated infection (half risk to develop an infections).
- Further studies are needed to evaluate the impact of this technology, in particular to analyze other time periods and the different care settings.
- These data open a window on:
    - The use of microbiota for cleaning processes and its role in HAIs prevention and control;
    - the impact evaluation of environmental bio-burden for HAIs onset and tools for measure it.

Panel Discussion and Comments from the Audience:

Four Panelists:

- Denis Herbaux – he works in a small organization in Belgium committed to improve patients' safety and healthcare. He also represents the European Hospital and Healthcare Federation (HOPE).
- Giuseppe Banfi – he works in the EUHA, which has 2 major aims: to research and to evaluate hospital organizations, especially with regards to value-based healthcare.
- Esther Calbo – she works in the unit surveillance system for nosocomial infections in Catalonia.
- Melina Raso – she works for HFE, a multi-stakeholder platform based in Bruxelles. The aim of HFE is to make sure that innovation is part of any healthcare reform. They believe that prevention is key and that we need to reduce the use of antibiotics.

Discussion:

B. Maguire: Why don't we have a rigorously enforced methodology to ensure that good practices such as hand washing are carried out in all healthcare facilities? In order to better tackle this issue, should we focus on data, education, or what?

M. Raso:
The biggest problem is the lack of awareness, as the issue of AMR is not so well known among the public. It is clear that political engagement is needed at the EU level. The EC should play an important role, monitoring and supporting member states in collecting data, raising awareness of major health issues, and following proper medical procedures. Patients should be at the center of our political agenda.

E. Calbo: Surveillance procedures that allow us to collect data in coordination centers and to identify major issues in the healthcare sector are necessary, especially to understand what we have to work on.

G. Banfi: Data collection is crucial and new technologies to collect them are extremely necessary.

B. Maguire: Don't you think that we should carry out more practical actions rather than focusing on collecting more and more data? Are HAIs not known or not reported?

G. Banfi: As far as now, there are still too many differences among hospitals and clinics in observing and reporting infections.

D. Herbaux: I agree that, first of all, we need education and training! We need to collect data, of course, but we cannot wait for the data to be perfect. If good data and good technologies are not used in the right way, nothing is going to change.

B. Maguire: Who is it to blame for the growth of these issues? Why would a surgeon anywhere in Europe use dirty instruments in surgery?

D. Herbaux: As I already said, I think that, if we want to successfully tackle this issue, we need to increase education and trainings on patients' safety. Doctors do know how to wash their hands, but they do not always do it. This also depends on people's culture and whether or not a culture of hygiene exists in a country/hospital facility. You can enforce all the rules and norms that you want, but if people don't follow them there's not much you can do. Basic education for physicians and nurses is essential. Many trainings don't include hygiene education for new doctors.

M. Raso: It's not just a matter of looking on who specifically to blame, but it's the healthcare system as a whole that has to be reformed and improved.

D. Herbaux: Exactly. No one wakes up in the morning willing to hurt someone. It's the system that doesn't work properly and all stakeholders should work on it. We need to involve patients and their families, to improve university education, and to properly train doctors and nurses. It should be a multi-stakeholder activity, in which all different actors are involved.

E. Calbo: It's a behavioral problem! We need to change our behavior. The next revolution in infection control is to use the data and information we have where we work and make improvements accordingly.

D. Herbaux: If we all used the "in-surgery checklist", patient's safety would increase. However, many doctors do not use it, while instead it should be a standardized procedure.

B. Maguire: What's the problem with standardized procedures? How do you persuade hospitals and their workers to change their attitudes? Are we looking at individual practitioners or at the structure/system as a whole?

G. Banfi: The real challenge is organization. In recent years, we have made a big deal about antibiotics and AMR and we promoted a big awareness and education program, but the results were not so good. The use of antibiotics actually increased. I think that organization is the real challenge: organizational responsibilities are important.

B. Maguire: We talked about innovation in culture, but what about innovation in hygiene?

G. Banfi: In our hospital we carried out programs that allowed us to follow our patients step by step and to evaluate the whole patients' journey (therapies, costs, etc.), monitoring whether or not they had contracted possible infections.

G. Griffin (UK): My suggestion is to keep it simple! The more complex we make things, the less they happen. We need to control infections is a simple and feasible manner. Each institution should have a group of people working on infection prevention.

B. Maguire: In Europe, the issue came to the light thanks to class actions of those directly affected and their families.

J. Maes (Netherlands): We need to raise more awareness of bacteria and infections among the public; bacteria are everywhere, not just in hospitals.

D. Herbaux: I'm not sure we can actually solve this issue just by talking about responsibility.

C. Baluci (Malta): We cannot focus only on professionals' training, but on the whole cultural change that should lead to prevention. Citizens and patients are included in the change as well.

E. Calbo: We should disseminate evidence-based guidelines for everyone. We should develop tools for patient's involvement in hygiene.

G. Banfi: We need to conduct specific studies in different countries in order to find out the best practices and guidelines that should be spread across all European countries and healthcare facilities.

D. Herbaux: We need to look at the big picture and to take all aspects into account. We need to shift to a more reliable organization – which includes education, working environments, etc. – and to endorse a "big-picture approach" to improve patients' safety everywhere.

E. Moya (Spain): I like to imagine the solution as a table with three legs: one is represented by health policy officers, one by politicians, and one by patients and their voice. These three groups are here today and should collaborate together to achieve the desired results.

D. Bonsembiante (Italy): I believe that prevention cannot only take place in the hospital. Are we sure that some of these infections don't actually exist before hospitalization? Maybe we should carry out actions of preventions also within citizens. We need to think of a preventive activity for the whole population, patients' relatives in particular, as all citizens may have dormant infections or viruses within their bodies or attract these (through food, poverty, illnesses). We have to think about educating citizens first.

B. Maguire: Let's have some final comments on the PCHS system presented today:

E. Calbo: It is a new approach to infection prevention, and it is absolutely useful and innovative.

E. Caselli (Italy): We know that this study shows some limitations, we are very aware of this. However, the PCHS system represents just a starting point for us. We are now trying to expand our research in other hospitals with different types of patients and different exposure to contamination, trying to collect new reliable data for the future.

Conclusion (by A. Gaudioso)

A. Gaudioso thanks Brian for moderating the event and everyone else for their participation.

- There is not too much to add. This discussion shows that it is possible to lead to changes even without a legislation. We have the tools and the capacity to conduct research and lead to innovation.
- We need to remember that "the best is the enemy of the good ". We need to work for a change, and we cannot wait to reach the best first. We have a battle to fight and we can't wait.
- We can immediately start cooperating to improve our networking, exchange of practices and information, etc.
- It should exist a partnership comprising different stakeholders, including citizens, patients, and mainly healthcare workers, who need to be empowered and, in the case of healthcare professionals, to work on correct prevention and monitoring measures. Beside collecting data, they should measure the impact of their actions and see how innovative tools change the environment.
- We need to share good practices, knowledge and information in order to reach common goals.

Conclusion (by M. Votta)

- The lack of consciousness and involvement of citizens is a key issue. It is the media and experts' responsibility to talk about these issues and raise awareness among the public.
- As a citizen, I believe that the PCHS system is an efficient and effective innovation and it is difficult for me to understand why we can't disseminate the research and use it in other facilities and countries.
- These are some proposals for a concrete follow up of this meeting, which show how we could cooperate with both private and public bodies.
    - In the framework of the EU Health Policy Platform, we encourage the DG Santé to dedicate one of the Annual EU Health Awards to NGOs committed to increase patient safety and to prevent healthcare-associated infections.
    - Presenting a selection of best practices promoted by both the private sector, as the one presented today, and by citizen & patient organizations active in this field, in the framework of the networks chaired by the EU commission and the ECDC.
    - On January 28th, Public Health England (PHE) launched a new multilingual survey, funded by the European Centre for Disease Prevention and Control (ECDC), which aims at understanding the knowledge and perceptions of European healthcare workers about antibiotic usage and resistance. We'd like to extend the same survey to the leaders of patients' organizations and advocacy groups.
    - To promote a citizens' awareness campaign to be launched in occasion of the European Antibiotic Awareness Day in order to spread the messages on the risks associated with the inappropriate use of antibiotics and how to take antibiotics responsibly.