



Stop AMR Global Media Monitor

15 – 21 February 2020

MEPs join forces to boost European Parliament actions to tackle antimicrobial resistance (AMR)

Fifteen MEPs from a wide political spectrum launched on the 19th of February an AMR Interest Group. They want to show that the European Parliament is able and ready to play a significant role against the threat of AMR. Their [strategic work program](#) covers the current parliamentary term.

The objective is to raise awareness on the AMR threat, promote funding and creation of EU binding measures and increase prevention.

MEPs are heartily invited to join the group. The next activity will take place at the occasion of the European Antibiotic Awareness Day

Source: [EPHA](#), 19 February 2020

Antibiotic resistance calls future of cancer treatment into question

A recent study shown that 41% of UK oncologists notated a rise in drug resistant infection in the past year. 95% expressed their fears about the impact of superbugs and 46% believe that antimicrobial resistant infections may lead to an unviable chemotherapy. Indeed, cancer patients rely on medication as their immune system is weakened by the chemotherapy.

They call for improved policies toward a better stewardship of antibiotics and the development of cheap and efficient tests to distinguish bacterial from viral infection. By doing so, the medical team will be able to administer the correct antibiotic.

Source: [Technology Network](#) 20 February 2020

Powerful antibiotic discovered using machine learning for the first time

Researchers discovered a powerful antibiotic capable of killing two of the three pathogens that the WHO has classified as critically needing new antibiotics.

To help them discover this antibiotic, researchers used a “deep learning” approach. They have developed an algorithm and made it capable to recognize efficient molecules to kill bacteria. To do so, they injected the details of around 2500 natural compounds and drugs. Once the algorithm was able to recognize the features of efficient antibiotics, they requested it to analyse a library of more than 6000 compounds in investigation for the treatment of various human diseases. The algorithm focused on selecting potentially effective compounds that were significantly different from existing antibiotics. This way, the chance for potential bacteria to be resistant decrease drastically as they did not have the chance yet to be positively selected for their resistance to the antibiotic.

This way, they managed to isolate a compound previously used against diabetes, but which did not make its way to the clinical trials. The newly discovered antibiotic, named halicin, was strongly efficient against multiple antibiotic resistant bacteria. A new run with 1.5 bn compounds led to 23 potential antibiotics in only 3 days.

Researchers now want to further explore the database but in search of more selective antibiotics to prevent affecting non-pathogenic bacteria. In the long term, scientists want to use the algorithm to design new antibiotics from scratch.

Source: [The Guardian](#), 20 February 2020



Study raises questions about broad-spectrum antibiotics for pneumonia

A study based on patients suffering pneumonia suggests that the treatment strategy in place might need to be reconsidered.

The study showed that patient receiving the empirical broad-spectrum antibiotic had a higher risk of death compared to the one receiving a standard antibiotic therapy. The broad-spectrum antibiotic is generally used when the medical team has concerns about a possible infection by *Staphylococcus aureus* or *Pseudomonas aeruginosa*, well known resistant organisms. Even though these bacteria are rarely implicated in pneumonia, a fear to miss potential infections lead to the use of this broad-spectrum antibiotic, leading to higher risks of kidney failure and secondary infections in patients carrying a pneumonia from non-resistant bacteria.

To prevent overtreatment, it is proposed to develop better diagnostic tools.

Source: [CIDRAP](#), 19 February 2020

Vaccine misinformation and social media

A recent study based on 2.500 American adults showed that around 20% of the interrogated peoples were misinformed toward vaccine. A strong misinformation inside the population might impact the vaccination rate and destabilize the community immunity.

People taking their information about vaccines through social media were more likely to be exposed to and believe misinformation than people taking information from traditional media. Researchers have also demonstrated that the anchorage of misinformed ideas and susceptibility to reject that misinformation is directly linked to the level of trust toward medical experts.

Researchers suggested to increase pro-vaccination information toward all media to prevent the likelihood of finding misinformation.

Source: [EurekAlert!](#), 17 February 2020

Atomic structures mapped in measles, mumps, flu and RSV

Using cryogenic electron microscopy, researchers managed to determine the 3D shape of a key enzyme complex. This enzyme is found in the paramyxoviruses, the family of viruses which include measles and other common one.

This enzyme is implicated in the genome replication and transcription and might therefore be a target for potential novel drugs. To know the structure of an enzyme is a first important step to potentially develop such drugs as it prevents researchers to try to randomly hit the targeted enzyme or protein in the virus.

As the coronavirus uses a similar transcription enzyme, it could be the lead toward drugs against it at the same time.

Source: [EurekAlert!](#), 17 February 2020

FSA surveys show level of antimicrobial resistant bacteria on UK chicken

Two annual surveys approached fresh chicken sold in the UK. They wanted to determine the quantity of AMR bacteria *E. Coli* and *Campylobacter*. Regarding *E. Coli*, 309 samples of chicken were randomly collected from 10 supermarket chains between January and December 2018. They noted a continual decrease of resistant *E. Coli* since 2013/2014, which may be linked to the banning of the use of multiple generations of cephalosporins in the poultry meat production in the UK.

Regarding the resistant *Campylobacter*, the level of isolate resistant bacteria remained similar to the previous annual study.

Source: [FoodSafetyNews](#), 20 February 2020

One drug, many diseases

An inflammatory protein, NLRP3, is involved in many diseases such as atherosclerosis, cancer, Alzheimer's, Parkinson's and arthritis. A recent article in [Chemical & Engineering News](#), has pointed out that many companies are rushing to develop a drug capable to inhibit the function of this protein.

NLRP3 structure remains unknown at this day, inducing difficulties to efficiently elaborate a new drug. A promising inhibitor, MCC950, is the starting point of the research toward safer inhibitor as MCC950 induces liver damages at high doses.

Source: [EurekAlert!](#), 19 February 2020

New technology may significantly reduce diagnostic time of coronavirus

The method currently used to diagnose whether a patient is infected or not by the coronavirus delivers the answer in one hour. This period represents a critical issue in the handling of infected patients and could increase risk of exposure.

A new technology, which has been efficiently tested on the zika virus, could decrease this time to 15 minutes for 100 patient's samples. Based on the detection of virus-specific RNA sequences with fluorescent molecules, adsorbed to its surface, emitting light when illuminated by a laser beam. To amplify the response efficiency, fluorescent molecules are coupled with magnetic particles and two electromagnets. By changing the polarity of the magnetic field, the RNA-virus is easily detected by passing multiple time in the laser beam and giving a strong light signal.

Source : [EurekAlert!](#), 14 February 2020
