

# THOU SHALT NOT PRESCRIBE ANTIBIOTICS...

According to the report, Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations,<sup>1</sup> it is estimated that at least 700,000 people succumb from microbial-resistant infections around the globe each year. It is indeed predicted that by 2050, antibiotic resistance will cost the world up to a staggering €88,000,000,000,000 as well as a reduction of 2% - 3.5% in global GDP. We are partly to blame for this, considering over-prescriptions, over-the-counter selling of antibiotics, as well as veterinary misuse. Interestingly, the Health at a Glance: Europe 2016,<sup>2</sup> published in November, reports that of all EU countries, Malta has the highest proportion of second-line antibiotic use [32%]. The EU27 average is 18%.

How can we tackle this problem, or at least part of it? Interestingly, Jason Doctor, director of health informatics at the University of Southern California's Schaeffer Center for Health Policy and Economics, has been carrying out experiments to see whether it is possible to [at least] reduce over-prescriptions.<sup>3</sup> He persuaded 248 physicians working in 47 primary care practices in Boston and Los Angeles to participate in a cluster randomized clinical trial. The interventions included:

1. Placing a poster in the examination room with the picture of the physician and signature showing a public commitment to not over-prescribe antibiotics;
2. Physicians had to explain their reasoning for the prescribed drugs;
3. Comparing physicians to other top-performing physicians within the cohort [those with the lowest inappropriate prescribing rates].

These interventions effectively reduced the number of antibiotic prescriptions. In fact, similar interventions are now being applied in health departments across the United States and even in the EU.

However, if one were to completely eliminate over-prescribing [and illicit over-the-counter use of antibiotics], this would not solve the problem relating to antimicrobial resistance. The reason for this is very simple ... there is an even bigger market of antibiotics. In 1950, a group of US scientists found that adding antibiotics to animal feed increases the growth rate of livestock. Ever since, antibiotics have been pumped in animals, even though we are all aware of the fact that bacterial resistance passes from animals to humans. On many occasions, any bans on growth-promoting antibiotics have been circumvented by using different labeling. Furthermore, it is envisaged that countries such as China, Brazil and Russia, will double their use of antibiotics by 2030. This has spurred researchers to try to source novel antibiotics from different sources such as the algae-filled fur of a three-toed sloth in Panama [at least this country is not only the home of tax evaders], the saliva of Komodo dragons, blood of alligators, bacteria in British Columbia caves and on the ocean floor off the coast of Panama. ❄️

*Ian Ellul*

#### REFERENCE

1. Review on Antimicrobial Resistance. Antimicrobial resistance: tackling a crisis for the health and wealth of nations. Review on Antimicrobial Resistance, London, United Kingdom. 2014.
2. OECD/EU. Health at a Glance: Europe 2016 – State of Health in the EU Cycle, OECD Publishing, Paris. 2016.
3. Meeker D, Linder JA, Fox CR, Friedberg MW, Persell SD, Goldstein NJ et al. Effect of Behavioral Interventions on Inappropriate Antibiotic Prescribing Among Primary Care Practices: A Randomized Clinical Trial. JAMA. 2016;315(6):562-70.



Cover: The Hospital of St. John the Baptist opened in Victoria Gozo, on 14 October 1729. The hospital changed its name to Victoria Hospital on the occasion of Queen Victoria Jubilee in 1887. In 1957 it reportedly had a bed complement of 26 [medical], 40 [surgical], 12 [maternity], 6 [gynaecological] and 10 [pediatric] beds. It ceased to function in 1975. The hospital was re-utilized for other Government purposes including the Gozo Ministry.

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