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Individual decision on antibiotic treatment. A case for utility assessment.

Objectives The objective of the project is to define patients', health care professionals' and 'society's' preferences as to acceptable risk of antibiotic resistance development for a given increase in mortality, morbidity and/or inconvenience. The population's preferences can be assessed and expressed in quantitative terms known as "utilities", which allow the weighting of statistical probabilities for various outcomes according to the population's preferences for these outcomes. The hypothesis is that guidelines for the initial treatment of community acquired pneumonia can be derived that maximize total expected utilities for individuals as well as the whole population. The guidelines consider not only immediate gains in outcomes and/or treatment conveniences after a single episode of pneumonia but also take into account the emergence of antibiotic resistance and changes in treatment efficacy over time.

State of the research Data collection has been completed, and data analysis is ongoing. As planned, the final results of the interviews will be used to weight the possible outcomes of the simulation studies reported previously according to patients' preferences.

Main results and findings (preliminary: data analysis ongoing)

A representative population sample from the French, German and Italian speaking parts of Switzerland was contacted by phone and asked if they were able (and willing) to take part in the interview on the Internet (<http://www.antibiotikaresistenz.ch>) – if not, they were sent the paper-based version of the interview.

In addition, all politicians of the cantonal parliaments of Bern, Neuchâtel and Ticino were contacted by mail. They were sent the interview on paper but were requested in a cover letter to complete the interview on the Internet.

Health care professionals (100 each from three hospitals in Bern, Neuchâtel and Ticino) were contacted by mail and sent the interview on paper as described above. Due to a delay in the distribution of the questionnaires in one of the hospitals, only incomplete results were available for this group at the time of the preliminary analysis.

It was originally planned to contact patients who had previously been seen at one of the three hospitals' emergency rooms for community acquired pneumonia. Unfortunately, the available electronic databases proved to be insufficient for a reliable detection of such patients. In addition, ethical considerations led to the decision to first await the final results of the project, based on the normal population, politicians and health care workers. It will then be decided if a prospective study of an additional group of patients with community acquired pneumonia (who will be contacted by their family practitioner) might provide additional insights.

More than 700 interviews have been collected from a representative sample of the normal population, politicians and health care workers. The 81, 50 and 24 available interviews from the politicians of the cantonal parliaments of Bern, Neuchâtel and Ticino represent a response rate of 40, 33 and 27%, respectively. Detailed analysis of estimated individual utilities and differences in utilities between different groups and language regions are ongoing.

As originally planned, the final results of the interviews will be used to weight the possible outcomes of the derived Markov model according to patients' preferences.

M. Filippini

New insight with respect to patient education might be derived from relating the data of these interviews with data on antibiotic consumption provided by the projects of Prof. M. Filippini and Prof. G. Zanetti.

G. Zanetti

Publications of the NRP 49 project

A manuscript with the final results is in preparation.