Professor Margareta Hallberg provides insight into her investigations concerning the interactions between science and health legislation; research that will help inform decision-making on children’s mental and physical health issues in the future.

What are the major questions you seek to address through your research?

My research covers a broad range of topics within the theory of science, focusing particularly on controversy studies of scientific knowledge, meta-theoretical work on the human sciences, biography included, and social studies of health issues. My research facilitates the combination of epistemology and empirical studies to stimulate conceptual and methodological reflection.

What is the ‘co-production’ relationship between scientific knowledge and social order?

Sheila Jasanoff, of Harvard University, has developed the theoretical framework of ‘co-production’, which my co-partners and I have put to work in the analysis of both historical and contemporary processes in Swedish society where knowledge claims and controversies are involved. ‘Co-production’ is the outcome of a close interconnection between science and society where each depend on the other. All researchers, regardless of their discipline and field of study, need allies in wider society to become successful in their knowledge claims and, in addition, society needs science to organise social institutions and standardise practices and decisions. Our findings from three different empirical case studies point out the usefulness of the framework as such and also that science and social order mutually depend on each other.

In regard to your work on the dissemination of knowledge related to antibiotic resistance, how did you select the range of Swedish publications to study?

The number of relevant Swedish medical publications was relatively scarce after World War II. The Swedish Medical Association edits one publication for all members and this journal was of immense importance to our study. A few other medical publications, as well as the most important international journals, were also included. In addition, almost all Swedish newspapers are topically indexed and it is quite easy to find what has been reported and discussed at a given time.

Can you describe your study of the controversy surrounding the MMR vaccines and their reported link to autism?

The background to our project was a study by a British research group, published in The Lancet in 1998, with Andrew Wakefield as principal author. In this article a possible link between the MMR-vaccine (the measles part) and autism is suggested. Our project has explored, focused and given an account of what happened in Sweden in relation to the UK before, during and after the publication of the article. The purpose was to show the recurrent interplay between medical research and society in both historical and present times.

How much of a role do you think governments should play in advising the public on decisions around vaccinations?

In the case of childhood vaccination, parents may know about possible side effects, but these effects should be rare and above all not severe if vaccination is worth the risk. Measles as a potentially life-threatening childhood disease was fading away in the public’s memory and that might have been one reason why parents had doubts about the value of the vaccine. We believe, though, that even if the public memory of the dangers of measles had been more vivid, the risk of autism – once the possible vaccine/autism link was suggested – was a tremendous threat in itself. Governments’ advice cannot contradict scientific results, but when evidence is uncertain and contested, governmental intervention has to be made sensitively and carefully to avoid distrust and further damage when a similar incident next arises.

Is an interdisciplinary approach important in assessing ‘co-production’?

The Theory of Science at the University of Gothenburg has a long tradition of empirical studies of science in close connection with other disciplines studying the same objective. Psychologists, sociologists, and historians of science have been co-partners over the years in various research projects. The theoretical and methodological influences are all international, often brought from the field called Science and Technology Studies. In my current research on contested medicine and health issues, I work together with one associate professor in my own subject, PhD Fredrik Bragesjö (MMR and anti-biotic resistance), and one sociologist, PhD Eva Marie Rigné (child sex abuse). Interdisciplinary approaches are also important in assessing ‘co-production’, and they could even be more inclusive than hitherto, but I would say the ‘co-production’ perspective is what matters most to gain a profound understanding of the complex relationship between knowledge production and social order.
Science and its link to society’s wellbeing

A team at the University of Gothenburg are exploring connections between politics, media and science. In doing so, they seek to deliver more comprehensive views of how science impacts health decisions.

Governments around the world are faced with the need to devise and implement policy to safeguard social order. This is particularly true in the fields of healthcare and medicine, where scientific research and evidence forms, more often than not, the very backbone of the decisions these governments make. The process of attaining and collating unambiguous scientific evidence is very complex, and the embedding of research in social networks and the public domain has meant that it is increasingly important to provide a more realistic view of what science can actually deliver.

One of the issues is that results of research are seldom unequivocal or easy to apply at a policy level. However, scientific methodology remains the most reliable way of providing enough certainty for a government to set health-related policies. Gaining knowledge of some of the more controversial health issues should provide improved understanding of what science can realistically offer to the policy process.

A team at the University of Gothenburg are attempting to address this very problem through a comprehensive research programme aimed at bringing awareness to the links between science and policy making. The team, led by Professor Margareta Hallberg, are using the theoretical framework of ‘co-production’ to analyse both the creation and distribution of knowledge through three controversial case studies: Antibiotic Resistance; Measles, Mumps and Rubella (MMR); and Child Sexual Abuse (CSA).

Co-production: Aiding Decision-Making

Through their work on MMR and CSA the research team has made significant steps in understanding how translating scientific knowledge into policy and action can run into major difficulties. Hallberg explains how the team will this year take a step towards an analysis of co-production: “Our recently finished research projects with a similar general view of science and society will be compared to cases of antibiotic resistance, with the purpose of receiving a solid description of how knowledge and politics interact, thereby co-producing social order”. Merging co-production studies with empirical cases in Sweden has not previously been investigated thoroughly.

The research covers a broad range of topics within the theory of science, particularly controversy studies of scientific knowledge, meta-theoretical work on the human sciences, biography mapping, and social studies of health issues. Facilitating the combination of epistemic and empirical studies to stimulate conceptual and methodological reflection is one of the main ways Hallberg’s team has been able to assemble more knowledge about these complex societal health issues.

Insights into MMR-vaccine controversy

Hallberg is working with her colleague Dr Fredrik Bragesjö (University of Gothenburg) in analysing scientific and social responses to the complicated issue of MMR vaccination and its links with...
autism. Hallberg explains that there were a number of co-existing incidents that meant the authorities’ responses had to be delivered with notable delicacy and sensitivity: “Contested and uncertain knowledge, intense media coverage, resistance to vaccination among actively engaged parent groups, supposed increase of the autism diagnosis, too far-reaching interpretations of the research results, parallels to other similar conflicts in society and also that the memory of measles as a severe children’s disease was fading away were all contributing social factors,” she outlines.

The research project has explored and given an account of what happened in Sweden during and after the publication of Andrew Wakefield’s article in The Lancet in 1998, in which he suggested a possible link between the MMR-vaccine and autism. From Hallberg’s perspective the purpose of her research is to show the recurrent interplay between medical research and society in both historical and contemporary contexts. The controversy, Hallberg demonstrates, stemmed from a large number of co-existing and interacting factors within and between science and society. The analysis conducted by her team also shows that although the controversy was of short duration among medical experts, it still remains unsolved in parts of society.

CSA AND THE IMPLICATIONS OF A GLOBAL SOCIETY

Hallberg, in collaboration with Dr Eva Marie Rigné from Linköping University, Sweden, has been researching the interactions between science and politics where CSA is concerned. This has recently appeared as a new term to cover all those aspects of inappropriate adult-child sexual relations that were previously known as, for example, sexual assault, sexual molestation and incest. According to Hallberg, claims presented in the mass media helped establish a perception of the large-scale and immediately threatening character of this ‘new social problem’.

Investigating CSA has led Hallberg to discover that a major health issue in one community may not be considered so in another. However, disparities in this regard can be addressed through changing public perception: “A central question in research concerned with social problems is how conceptualisations are spread and diffused; what appears to be a social problem in one country or continent is not necessarily seen as that elsewhere”. Hallberg’s research has led her to witness that the Anglo-American CSA issue is diffused in Swedish popular media by the transmission and popularisation of Anglo-American cultural products, such as literary fiction, TV shows, film and self-help manuals, based on the assumption that these are also relevant in Sweden.

Hallberg also seeks to compare antiquated societal responses with more recent ones, and determine whether the ‘new understanding’ of CSA helps society to prevent, detect and handle inappropriate adult-child sexual relations in better ways than before. However, due to methodological principles of neutrality and symmetry, the team’s studies seek not to produce recommendations for any particular action. However, Hallberg feels that it does seem clear that much intervention stems from reasons other than those based on critical-analytical research.

PERCEPTIONS OF ANTIBIOTIC RESISTANCE

Hallberg’s latest research project, also undertaken with Bragesjö, is looking at the outbreak of the Klebsiella pneumonia bacterium at the Uppsala University Hospital in Sweden: "This case illustrates that scientific results — her knowledge of antimicrobial resistance — are not in themselves sufficient to reach compliance to the required changes in local practices. Instead, a multitude of measures were necessary to create a new appropriate social order and culture at the Uppsala University Hospital".

The study has looked at published material from the 1940s to the present day. Hallberg has managed to identify trends in both medical journals and newspaper reports over the decades. Her research has found that different topics have been highlighted at various times and the intensity of attention to these questions has fluctuated greatly. One of the key questions asked by Hallberg’s team is whether these fluctuations correspond to changing attitudes towards science in a general sense: “One might think that when high trust in science is widely spread, confidence in the development of new antibiotic drugs is also prevalent and, likewise, if distrust in science for one reason or the other occurs, the faith in pharmacetics decreases”. However, before Hallberg’s team can draw any conclusions with certitude, further analyses need to be undertaken. These are currently underway.