

Timotheüs Christiaan Bolt, *A Doctor's Order. The Dutch case of Evidence-Based Medicine (1970-2015)* (Antwerpen/Apeldoorn: Garant, 2015, 466 pp., ISBN 9 789044 132 991).

*A Doctor's Order* is a rich and interesting book. It focuses on the growing influence of quantification and statistical-epidemiological reasoning in medicine since the end of the nineteenth century, culminating in the rise of evidence-based medicine (EBM) at the end of the twentieth century in the Netherlands. Through historical analysis, the author aims to shed light on the phenomenon of EBM itself, usually defined as: 'the conscientious, explicit, and judicious use of the best current evidence in making decisions about the care of individual patients.' Bolt emphasizes developments within the science of medicine which is rule-based. But what is usually called the art of medicine creeps back in the story in the last chapters. This in essence means that high quality medical care also needs discretion, tailor-made decisions taking into account the individual patient instead of the average patient.

In the introduction the author develops a (theoretical) *coat rack* and an (empirical) *floor*. His theoretical framework is based on the work of the historian Theodore Porter: *Trust in numbers* (1995). According to Porter, trust in inferential statistics, which he calls *mechanical objectivity*, has become the standard working method as a response to internal disciplinary weakness and external regulatory pressures, also called *disciplinary objectivity*.

Porter's work is complemented by that of Harry Marks, *The Progress of Experiment. Science and Therapeutic Reform in the United States, 1900-1990* (1997). Marks emphasizes the role of therapeutic reformers, 'individuals who sought to use the science of controlled experiments to direct medical practice' and thus adds agency to structure. The (limited) reference to the sociology of the medical profession is mainly based on the work of Eliot Freidson. In the early 1980s Freidson stressed that control within the medical community shifted to the upper layers of the profession, the professional 'elite'. The supervision of the 'rank and file' of the profession increased and was controlled by these elite members. Freidson speaks of the 'collectivization of medical control'. Ruud van Herk's dissertation, *Artsen onder druk* (1997) (Doctors under pressure) uses these Freidsonian insights and is also a source of inspiration for Bolts' analysis.

The (empirical) floor is based on a rich variety of sources, including an exhaustive analysis of *Medisch Contact* (1970-2014), the official publication of the Royal Dutch Medical Association (KNMG). This is a revealing source, as it is often considered to be the barometer of the medical profession in the

Netherlands. This is complemented with several interviews with therapeutic reformers such as leading clinical epidemiologists and policy-makers, including the late minister of Health, Els Borst-Eilers. Bolt chooses for an interpretative and hermeneutic approach.

In Part I the author looks at the theoretical origins of evidence-based medicine in mid-nineteenth century Paris. Developments after the Second World War are discussed, such as Randomized Controlled Trials (RCT's) as 'gold standard'; the rise of statistics and the growing importance of chronic diseases. This part of the book also engages with the problem of inter-physician variation and the initiatives already taken by the Dutch medical profession to enhance the quality of care, two issues that will return later in the book. The readers are also reminded of the criticisms on the medical profession in the 1970s (for example, McKeown, Cochrane, Illich). Economists in particular raised the question whether medicine offered 'value for money'. Much attention goes to the emergence of clinical epidemiology at McMaster University (Canada) and the development of the 'RCT and the systematic review movement' which became the British Cochrane Collaboration (1992). Both initiatives strongly influenced medical developments with respect to clinical epidemiology in the Netherlands.

In Part II the history of clinical epidemiology in the Netherlands is analyzed. A key figure in this development was Andries Querido, the founding dean of the new faculty of medicine in Rotterdam (1966). Against considerable odds, he established the first 'ordinary' chair of epidemiology at the new institute of epidemiology and biostatistics in 1969. It played a pioneering role in the development of EBM, clinical decision making and Medical Technology Assessment (MTA).

In the 1980s, – mainly because of economic considerations – the Minister of Education made *societally relevant* research the norm. This led, amongst others to a policy in which money, resources and manpower were concentrated on research and areas that were most likely to 'score' in top journals. The improvements in clinical epidemiology research could hardly have occurred in a more favourable period. Querido and others believed that medicine was an independent knowledge area with its 'own research questions' focussing on sick humans. Measuring illness required other research methods than those used in, for example, biochemistry and biophysics. As a consequence, the new research method Querido was thinking of had to be found within the developing clinical epidemiology.

In the third part, Bolt looks at the way various stakeholders, in particular the government and various sections of the medical profession, have defined and used EBM according to their own interests. Reforming the health care system was on the political agenda since the 1970s and the debate continued in the following decades. The rising costs of technological innovation and the autonomy of the medical profession seemed to put the

whole health care system in jeopardy. In 1987 a radical shift occurred from planned to market-driven mechanisms. These were considered a prerequisite for cost control and more cost-effective healthcare. In the new health insurance system a compulsory basic insurance for every citizen would be complemented with voluntary additional insurances, where competition would be possible. The question what should be included in the basic insurance package became a key question.

The most important advisory report *Medical practice at a crossroads* (1991) from the Standing Committee on Medicine of the influential Health Council with Els Borst-Eilers as chairwoman, focussed on the micro-level. In the report the issue of practice variations came once again to the fore. Not the insured package as such was a problem, but the often incorrect and inefficient use of it by physicians. This became a vital issue. Medical practice had to become more rational and efficient.

Borst-Eilers played a crucial role in enhancing the rationality and efficiency of medical practice first as vice-chair of the Health Council and later as Dutch Minister of Health between 1994 and 2002. She was trained as a medical doctor and stayed throughout her career involved with health care. But she never worked as a medical practitioner.

As Minister of Health she had to control public spending on health care within the context of a high-quality health care system. Borst-Eilers was aware that major reforms had to involve doctors, in order to legitimate and enhance acceptance. She thus enlisted the support of the scientific elite of the profession to develop EBM and clinical guidelines.

From 1970s onwards, leading figures of the medical profession had already been involved in developing various instruments for quality control, such as peer review, protocolling, consensus conferences and visitation of hospitals. These activities had their own dynamic and it would be wrong to assume that they were put in place only because of growing external pressure. Professional and scientific leaders felt responsible for the improvement of the situation. But as Bolt points out, it remains to be seen whether their response was representative for the profession as a whole.

Against the background of political debate about health care reform, efficiency gradually became an essential component of the professional definition of quality. In the instruments for quality control, formalisation occurred and clinical epidemiology became the main source of scientific data for the establishment of guidelines. In turn, guidelines were important for the management of the explosive growth of medical knowledge as well as for defending or reinforcing professional autonomy. Yet, doctors were critical of the decision of the Minister of Health to make them responsible to solve the problem of scarcity. Also Borst-Eilers link between EBM and MTA caused resentment because it entailed that non-clinicians could influence medical practice.

In the final chapter Bolt looks at the role and impact of EBM in the twenty-first century. As with the older instruments of quality control, problems emerged with the implementation of guidelines. Many physicians were not aware of the existence of guidelines or did not use them. Moreover, there were too many guidelines, since guidelines were not only determined by questions from practice, but also by interests of industry and scientists. The excess of evidence was compounded by unreliable evidence. Moreover, EBM was a doctor-centred approach in times where the patient became more powerful.

In a new report from the Health Council *From Implementing to Learning* (2000) it was noted that the individual patient did not equal the average patient. Consequently, a broader description was given to EBM. Apart from the integration of epidemiological data, it concerned pathophysiological knowledge, clinical experience and preferences of patients. Physicians always needed to make a translation of guidelines to the specific situation of the individual patient. And the goal was not the implementation of guidelines but the optimisation of patient care. Guideline developers and users had to go through a joint learning process. EBM and evidence-based guidelines became part of medical education and led to a change in attitude.

Following the introduction of a new health care system in 2006, the greatest danger could come from the insurers who were assigned a directing role in healthcare. How this would develop in the future was, at the time of writing up the research, too early to say.

At the end of the book, Bolt returns to his theoretical coatrack and applies it critically to the various parts of his empirical research. While endorsing the framework of Porter, he points out that there was a reformist movement within the profession that acted proactively, rather than because of external pressure. And with respect to part III, Bolt asks what was the strength of this external pressure. Was it rhetorically inflated by the leaders of the professional associations to urge the 'rank and file' to implement guidelines and protocols? Was it correct to consider the medical profession and the 'outside world' as separate domains while they were so intertwined? In the 2000s, with the emphasis on clinical experience and patient involvement, new forms of disciplinary objectivity developed. Bolt considers the work of Marks as useful because of similarities between the therapeutic reformers and the EBM movement, which could be seen as a political reform movement using rhetoric to influence developments. The medical background of these reformers considerably eased the acceptance of EBM. The introduction of EBM in the Netherlands contributed to 'abolition medicine' and lessened the problem of inter-physician variation, mentioned in the beginning.

The question remains why only the works of Porter and Marks were chosen as theoretical framework. The use of theory in *Doctor's order* is rather thin and, in the case of Freidson (2001), inaccurate. The substantial role of Van Herk's work in the analysis is barely acknowledged in the overall

conclusion. This study also contains many repetitions that are sometimes disturbing. Yet the book is based on thorough research which is also revealed in the lengthy footnotes. The complexity of the story makes it more interesting and more accurate, but makes the work also difficult to read.

Rita M.J. Schepers, University of Leuven