

## **FOREWORD**

### **2010 Edition**

All developed countries face similar economic difficulties, especially those related to the social protection system. Companies rightfully demand accountability for whether resources are being appropriately used to deliver the highest quality care possible.

The practice of medicine is changing. This change is so profound that it can be considered a real paradigm shift in the way medicine is practiced. The foundations of the new paradigm are based on developments in clinical research and the integration of the results of this research into the daily practice of doctors, and other health professionals. For this, it seems necessary to develop a more objective approach to medical decision-making.

Making clinical research and evaluation studies credible, through the clarity of the objectives, the rigor of the method, the usefulness of the results, requires time, skills and experience.

To face all these issues, the initial training of doctors is decisive, to initiate the professional reproduction -or re-creation- of the decision-making attitudes learned initially.

Twenty years ago, epidemiology was a totally new concept which aims and methods were unknown to doctors. As a result of the enthusiasm, skill and activity of epidemiologists, notions of causal reasoning from descriptive and analytical epidemiology, supported by solid methodological foundations, have now entered widely into the public domain of medicine.

Traditional medical education must prepare and give examples of this medicine “based on facts” (the Anglo-Saxons “evidence-based-medicine”). There are successive stages: precise definition of the patient's problem, information necessary to solve this problem, effective interrogation of the medical literature and selection of the best studies concerning the problem, determination of the level of evidence which qualifies them, extraction of the clinical message and application from this message to the patient's problem, ability to present to colleagues in a relevant way the logic of his reasoning with his strengths and weaknesses.

This book takes up this logical sequence and updates all the data, taking into account the practical experience of those who work in this field of clinical research, but also their educational experience (training of health professionals, post-doctoral training, and during master's courses...)

Several original features appear in this edition, in particular:

- the “extra-Lyonnais” expansion of the contributions of the authors to the drafting of the chapters of the book and the subjects dealt with;
- the interest of the content for medical students, given the implementation of “critical reading of articles” tests known as “LCA” (critical appraisal reading).

The authors are clinicians and methodologists with varied experiences. The majority of them received, a few years ago, additional university training in France and abroad. This last experience has the advantage of having been implemented in North American (USA, Canada) and Australian university centers as part of a unique and important educational experience, by its challenges and its objectives: the INCLLEN program (International Clinical Epidemiology Network). The Claude Bernard University and the Marcel Mérieux Foundation, as well as other institutions, have promoted the development of an identical experience for French-speaking countries by constituting the *RECIF: Réseau d'Épidémiologie Clinique Internationale Francophone*.

Our wish is that this book will allow a better understanding of these concepts, that it will promote the adherence of clinicians to this approach, and that it will allow the implementation of this new paradigm through a Socratic learning of the objectives, methods and discussion of clinical research results. May the initial teaching in French and French-speaking Medical Schools benefit from it.

Professor Yves MATILLON  
Professor of Clinical Epidemiology  
at Claude Bernard University-Lyon

Professor Hélène PELLET  
Honorary Dean  
of the Faculty of Medicine  
Lyon-Grange Blanche  
Claude Bernard University