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John Alexander Pinkston

# Evidence and Hypothesis in Clinical Medical Science

 Springer

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*In memory of my mother, Doris Jernigan  
Pinkston*

# Preface

I knew from an early age that I wanted to be a doctor, but it was during a humanities course as an undergraduate while otherwise immersed in premedical studies that I got hooked on philosophy. I went on to major in philosophy, but I had to temporarily leave formal study of the subject behind as I was off to medical school. This was followed by a period of military service, later to specialty training in radiation oncology, then to a career mostly as a radiation oncologist. Along the way, I got interested in epidemiology and statistics and did research and graduate work in those subjects, where it became apparent to me that philosophical concerns lie just beneath the surface of many problems that are approached in those fields, as well as in the broader area of clinical medicine itself. Only later would I find the opportunity to return to the formal study of philosophy and complete a doctoral program.

This book had its origins in a doctoral dissertation, and I am indebted to the many mentors whose influence has in some way made a contribution. Unfortunately, they are too numerous to mention here because they span my entire career. Special thanks, however, must go to those most directly responsible for helping me to see this project through to completion, and therefore, I wish to here acknowledge the help of Otávio Bueno, Edward Erwin, Kenneth Goodman, Ray Moseley, and Harvey Siegel.

In illustrating how evidence is gathered and used in the confirmation of the types of hypotheses that are commonly formulated in clinical medical science, and thus serving as background in my explication and defense of an approach to evidence that I am calling a “weight of evidence” account, I have made liberal use of examples and sources in the clinical medical scientific and philosophical literature. I would here like to express my appreciation to the numerous publishers and other copyright holders who have graciously given me permission to use previously published material. I have made every effort to properly credit or cite all sources used.

There have been instances where we have been unable to trace or contact the copyright holders. If notified, the publisher will be pleased to rectify any errors or omissions at the earliest opportunity.

Any mistakes in this book are entirely my own.

Birmingham, AL, USA

John Alexander Pinkston

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# Abbreviations

5-FU	5-fluorouracil
AE	atheromatous embolism
ATN	acute tubular necrosis
BCP	birth control pill
C.I.	confidence interval
CH50	complement
CMV	cytomegalovirus
EBM	evidence-based medicine
ECMO	extracorporeal membrane oxygenation
FARF	functional acute renal failure from dehydration
GN	glomerulonephritis
GTR	general theory of relativity
HIV	human immunodeficiency virus
HR	hazard ratio
IARC	International Agency for Research on Cancer
IN	interstitial nephritis
IRB	institutional review board
N of 1	sample size of one
NCCN	National Comprehensive Cancer Network
NIH	National Institutes of Health
NSABP	National Surgical Adjuvant Breast and Bowel Project
PSA	prostate-specific antigen
RCT	randomized controlled trial
TB	tuberculosis