Fair Testing: The Science And Politics Of Effective Health Care
by Daniel M. Fox

Testing Treatments: Better Research for Better Healthcare
by Imogen Evans, Hazel Thornton, and Iain Chalmers

This slim book is a trenchant guide to the methods, uses, and politics of “fair tests” of the effectiveness of interventions for preventing, diagnosing, and treating disease. By fair tests the authors mean research that evaluates interventions by identifying bias and taking proper account of the laws of chance. The authors avoid the ambiguous and often embattled phrase “evidence-based” in discussing this research.

The methodology of fair testing, elaborated over many years, has advanced especially rapidly since the 1970s. These methods are now being used globally to evaluate drugs, diagnostic and screening tests, and surgical procedures. In the United States, national policy to prioritize, subsidize, and disseminate the results of fair tests that compare the clinical and cost-effectiveness of competing interventions has recently become politically plausible.

The best-known fair-test methodologies are randomized controlled trials (RCTs) and systematic reviews. These reviews, which are currently the most rigorous fair tests, once only aggregated and evaluated data from RCTs. In recent years, however, reviewers have been taking account of data from less rigorous trials, as well as from observational and even qualitative studies. Other approaches to fair testing are evolving: for example, simulations, patient registries, and the development of evidence as a condition of coverage.

Effective Care in Pregnancy and Childbirth (ECPC), two volumes published in 1989, applied the methodology of fair testing to an entire field of patient care for the first time. Iain (now Sir Iain) Chalmers, a coauthor of Testing Treatments, was a principal organizer and author of ECPC. Several years later Chalmers took the lead in organizing an international collaboration to set standards for systematic reviews, as well as to conduct and publish them. More than 14,000 reviewers in about ninety countries now participate in the Cochrane Collaboration (named after Archie Cochrane, a pioneer of fair testing). In 1987, two years before the publication of ECPC, fewer than 100 systematic reviews appeared in the international literature of the health sector; in 2006, around 2,500 did.

Many other organizations also promote, conduct, and sponsor fair tests of interventions to maintain and improve health. For most of the 1990s the United States lagged behind Australia, Canada, and the United Kingdom in developing and applying the methods of fair testing. During the current decade, however, attention to fair tests in the United States has increased, especially among agencies of the federal government and the states, integrated delivery systems and insurers, nonprofit research organizations, and the pharmaceutical industry.

Testing Treatments is the best available introduction to the methods, uses, and value of fair testing. The authors draw most of their exam-

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amples from the United Kingdom, but they cite
considerable evidence from other countries,
including the United States. The book has
seven analytical chapters, a final “Blueprint for
Revolution,” and extensive citations to a rich
literature on the history, methods, and uses of
fair testing. In each analytical chapter the au-
thors lucidly present and support their argu-
ments. They assist readers by adding box in-
serts and summaries of key points.

Early in the first chapter, the authors de-
clare their profound respect for biomedical sci-
ence and its applications. “Modern medicine
has been hugely successful,” they write (p. 1).
But medicine frequently fails: “Some new
treatments have had harmful effects that were
unexpected whereas the hoped-for effects of
others have failed to materialize” (p. 79).

The next six chapters describe the causes of
this failure, how fair testing has mitigated
some of it, and why it is in the public interest
to spend more on fair testing. Chapter 2 offers
eamples of many “commonly used treatments
and screening tests” that have not been “ade-
quately evaluated.” Chapter 3 introduces read-
ers to “technical issues” in the methodology of
fair testing. In just sixteen pages the authors
present, elegantly, the scientific principles on
which the methodology rests. In the fourth
chapter they describe “some of the numerous
uncertainties that pervade almost every aspect
of health care and how to tackle them” (p. 80).
They also explain why “some prevailing atti-
dudes actually discourage [prospective] policy” requiring that treatments about which
there is insufficient information only be “of-
er[ed] within the context of a formal evalua-
tion” (p. 53).

Chapter 5 describes the characteristics of
good, bad, and unnecessary research on the ef-
feciveness of interventions. The authors end
this chapter with a horrific example of why, as
a matter of policy, “new research should only
proceed if an up-to-date review of preceding
research suggests that it is necessary.” Thou-
sands died after bowel surgery between the
mid-1970s and early 1990s because researchers
“did not review the accumulated evidence [of
the use of antibiotics] systematically, or pres-
ent the results of new research in the context
of an up-to-date review of all the relevant evi-
dence” (p. 68).

In later chapters the authors consider the
obstacles to fair testing and strategies for over-
coming them. They note that “much of the re-
search that is (currently) done is distorted by
commercial and academic priorities and fails
to address issues that are likely to make a real
difference to the well-being of patients” (p.
80). They explain why “improving tests of
treatment is everybody’s business” (p. 79) and
make a strong case for involving patients and
the public in setting priorities and research
questions for fair tests. The authors’ Blueprint
is a seven-point program to address these dis-
tortions.

Much of this program will be unobjection-
able to Americans who worry about scientific
misconduct and conflict of interest in the
health sector. But although many Americans
are eager to expand fair testing, and especially
testing the comparative effectiveness of inter-
ventions, they are likely to reject the authors’
recommendations about the redistribution of
funding for research. The authors complain
that the “portfolios of research funders and ac-
demic institutions are dominated by basic re-
search that is unlikely to benefit patients in
the foreseeable future, and by research di-
rected at maximizing profits for industry” (p.
100). It is likely to be smarter politics in this
country to promote increased financing for
fair testing without demanding that it be ob-
tained by redistributing current spending for
biomedical research. It will also be politically
wise for supporters of fair tests to argue that it
is desirable to maximize profits and the price
of the shares of companies that manufacture
drugs and medical devices, within the con-
straints of regulation, in the public interest.