

Week 8: Popular Articles

All the articles here concern the search for medical answers/causal sequences; and which have implications for our personal health trajectories.

a) Head Case: Can Psychiatry Be a Science?
Louis Menand (*New Yorker*), March 1, 2010

Louis Menand is yet another public intellectual;
Professor of English at Harvard

The article discusses how we treat depression
in general (the answer – badly)

He discusses the idea that “shyness” is a disease needing a drug to cure; he also details various placebo effects that may be obscuring our goal of evidence-based medicine

“Direct-to-consumer (DTC) advertising is encouraging people to demand pills to cure conditions that are not diseases (like shyness) or to get through ordinary life problems (like being laid off).”

“heart-burn” is now GERD (gastro esophageal reflux disease) to be treated with Zantac (and not just over-the-counter Alka-Selzer or Tums)

Shyness needs to be treated with Paxil (“the discovery of the remedy creates the disease”)

Placebo effects – you feel side effects; you conclude you got the real thing (and not the “sugar pill”); you believe that taking the pill will make you better; you feel better

There is mention of a wonderful old article by David Rosenhan (1973), “On Being Sane in Insane Places” – the inability of hospital psychiatrists to distinguish mentally ill patients from imposters

More generally, we can't distinguish biologically patients who are suffering from depression from patients who are enduring a depressing life problem

b) Talking Back to Prozac, Frederick C. Crews (*New York Review of Books*), December 6, 2007

This is very similar to the Menard piece; and actually discusses "Shyness" again as a disease that can be cured by Paxil

SSRI (selective serotonin reuptake inhibitors) is only a plausible theory; don't get seduced by mechanism (e.g., headaches are caused by aspirin deprivation)

In relation to the DSM: "reliability might just represent everybody together getting the same

wrong answer”; i.e., perfect reliability; no validity

condition branding – “coaching the masses to believe that one of their usual if stressful states actually partakes of a disorder requiring medication”

or “astroturfing” – fake grass-roots movement to promote the miracle cure (i.e., social anxiety disorder (shyness) to be cured by Paxil)

In the Letters to the Editor, there are a lot of conjectures mentioned that are taken as fact without much proof if any:

p. 187: “several recent, large nonindustry studies indicated that rates of suicide and suicidal behavior were actually reduced in children who use antidepressants, despite piteous anecdotal tales.”

Remember: the plural of anecdote is not “data”

p. 190: “serotonin-enhancing antidepressants can jeopardize one’s ability to fall in love”

p. 190: “medications that are likely to jeopardize mate choice, romantic love, marriage, and even fertility”

c) Do We Really Know What Makes Us Healthy?
Gary Taubes (*New York Times*), September 16, 2007

This is an incredible read; the emphasis is on the Hormone Replacement Therapy debacle, but the terms introduced have much wider applicability

healthy user bias:

The healthy user bias is a bias that can damage the validity of epidemiologic studies testing the

efficacy of particular therapies or interventions. Specifically, it is a sampling bias: the kind of subjects that voluntarily enroll in a clinical trial and actually follow the experimental regimen are not representative of the general population. They can be expected, on average, to be healthier as they are concerned for their health and are predisposed to follow medical advice, both factors that would aid one's health. In a sense, being healthy or active about one's health is a precondition for becoming a subject of the study, an effect that can appear under other conditions such as studying particular groups of workers (i.e. someone in ill health is unlikely to have a job as manual laborer).

compliance bias (adherer effect):

The adherer effect demonstrates that people who adhere to medical or lifestyle regimens end

up with better outcomes than those who don't, even if the regimens are nothing but placebo. A study of nurses will involve health-conscious, informed consumers who are more likely than average women to take the hormone as prescribed. This sort of person also tends to be thinner, to exercise more, to have fewer risk factors for heart disease and to be more educated and wealthier. Because these factors are associated with reduced risk of heart disease, the study may have given an unduly positive picture.

prescriber effect (eager-patient effect):

The interaction between certain doctors and some of their patients can exert a strong placebo effect. Doctors involved in research tend to transmit their interest and enthusiasm; the eager patient tends to ask for the latest product that the average patient would not have heard

of, so will tend to get onto the medication being studied. The eager patient also differs in other ways (more compliant, etc.) that may have an independent effect on the outcomes.

Errors in classification:

it is often difficult in observational studies to know precisely what patients are taking. And not just to know the medication of interest, but a whole range of other nutrients and products. In addition, in very large studies there will be difficulty in accurately measuring outcomes such as menopausal symptoms.

HRT fanned by Robert Wilson (1966), “Feminine Forever” – estrogen as a long-term remedy for the chronic ills of aging; menopause as a disease

Clinical trials invariably enroll subjects who are relatively healthy, who are motivated to volunteer and will show up regularly for treatments and checkups. As a result, randomized trials “are very good for showing that a drug does what the pharmaceutical company says it does,” David Atkins, a preventive-medicine specialist at the Agency for Healthcare Research and Quality, says, “but not very good for telling you how big the benefit really is and what are the harms in typical people. Because they don’t enroll typical people.

Law of Unintended Consequences:

In the social sciences, unintended consequences (sometimes unanticipated consequences or unforeseen consequences) are outcomes that are not the ones intended by a purposeful action. The term was popularized in the 20th century by American sociologist Robert K. Merton.

Unintended consequences can be roughly grouped into three types:

A positive, unexpected benefit (usually referred to as luck, serendipity or a windfall).

A negative, unexpected detriment occurring in addition to the desired effect of the policy (e.g., while irrigation schemes provide people with water for agriculture, they can increase waterborne diseases that have devastating health effects, such as schistosomiasis).

A perverse effect contrary to what was originally intended (when an intended solution makes a problem worse)

d) The Plastic Panic, Jerome Groopman (*New Yorker*), May 31, 2010

This is primarily about Bisphenol A (PBA), found in plastic things, and other chemicals as hormone disruptors

How about atrazine e.g., see the recent New Yorker piece on Tyrone Hayes, A Valuable Reputation, Rachel Aviv, February 10, 2014

The Groopman article is about Toxicology issues in general and the problem of inferring causality (i.e., just seeing an association doesn't mean a causal link has been identified)

Some connections take a long time to argue for convincingly, e.g., even low levels of lead and the drop in child I.Q.;

There is a discussion of the Bradford-Hill criteria to infer causality (as there also is in the SGEP book; Chapter 11, Inferring Causality)

epigenesis – passing on to future generations
environmental changes done to one's body now

e) John Rock's Error, Malcolm Gladwell (*New Yorker*), March 10, 2000

Malcolm Gladwell is a successful intellectual gadfly with great hair

This piece is about John Rock, the developer of the birth control pill; and conjecturer as to how birth control works

General issue: too much ovulation leads to a greater risk of ovarian cancer

Law of unintended consequences with the use of the pill and increased ovulation