Dr. Osler’s tongue-in-cheek, whimsical encouragement to use new drugs “early on” found modern support in a JAMA May 9, 2017 cohort study by Downing et al. From 2001 through 2010, the FDA approved 222 novel therapeutics (183 pharmaceuticals and 39 biologics). The authors found 123 new post-market safety events during a median follow-up of 11.7 years.
Results

- 3 drugs were withdrawn from the market: valdecoxib, an anti-inflammatory and tegaserod for irritable bowel syndrome, both withdrawn for CV issues and efalizumab for psoriasis, withdrawn for the risk of multifocal leukoencephalopathy.
- 61 drugs received boxed warnings (potentially life threatening or preventable safety effects)
- 59 drugs received safety communications (serious, but not life-threatening events)
- Safety events were more common with biologics than pharmaceuticals, (incident rate ratio \( \text{IRR} = 1.93 \)), psychiatric drugs (IRR= 3.78); and those drugs receiving accelerated approval (IRR=2.20).

What is happening

The FDA website indicates that the total patients studied in phase 1, 2 and 3 studies that bring new drugs to market ranges from ~600 to 3700. Duijnhoven et al in PLoS Med 10(3): e1001407 studied the number of patients who had been administered medicines at the time of medicine approval by the European Medicines Agency. On average, chronic medications were studied in a larger number of patients (median 2,336) than medications for intermediate use (median 878) or short term use (median 1,315). These authors conclude “the number of patients studied before approval is sufficient to determine the short term efficacy of new medications. It is insufficient to determine safety or long term efficacy.”

The graph (adapted from the JAMA study above) is instructive.

![Proportion of drugs approved by the FDA from 2001 to 2010 affected by a Post-Market Safety Event](image)

Note from the graph:
- The median time from the approval of the drug to the first post market safety event was 4.2 years.
- By 10 years after approval, of the 222 new drugs, 30.8% had had at least one safety event.
- The safety event curve does not flatten out until after 7 years!
Why are we where we are?

Until the early 1990s, our FDA was considered the premier organization in the world in evaluating and bringing new drugs to market. In 1992, Big Pharma became frustrated with the slow pace of new drug approvals and successfully lobbied Congress to create user fees to be paid by Big Pharma to the FDA for each new drug evaluated. On August 3, 2017, our Congress re-approved the Prescription Drug User Fee Act (PDUFA) for the fifth time.

Thus the FDA, designated as the gatekeeper for America’s prescription drug supply, remains pleasurably enmeshed in a huge conflict of interest with Big Pharma. Sidney Wolfe, M.D. former director of Public Citizen, a consumer advocacy group, “The FDA looks on Big Pharma as their client, rather than the public and public health, which should be their client.”

Europe’s equivalent of the FDA, the European Medicines Agency (EMA) meets regularly with the US FDA. EMA members (Annals of Oncology January 2014) are openly frank in their evaluations of the two agencies.

“The USA has a prevailing attitude to take risks in order to guarantee quick access to new anticancer treatments and at the same time withdraw products from the market more easily than the EU.”

“In Europe we build trust from zero to one hundred, in America they remove trust from one hundred to zero. In Europe we want to be sure, because we do not want to take the risks, maybe we are more into ‘let’s avoid risks’ in Europe and in the United States they are more ‘let’s take the benefits even if uncertain.”

The EMA’s observations are congruent with Dr. Wolfe’s comments. “Too many times now a drug comes up, there’s a safety problem and they (the FDA) say, well there’s a safety question, but we need to make the PDUFA deadline. We’ll approve it and do the study afterward.”

Public Citizens recommendation to both physicians and patients: “Do not prescribe or take a medication until it has been on the market for seven years.”

Is waiting 7 years to prescribe a new drug irrationally long?

Yes, the FDA is in bed with Big Pharma. It is time for the Congress to begin funding the FDA again.

Finally, Sir William Osler (1849-1919), “Do not rashly use every new product of which the peripatetic siren sings. Consider what surprising reactions may occur in the laboratory from the careless mixing of unknown substances.”

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