



## **The Prosecutor's Gambit**

### **(How to Statistically Pull a Rabbit from a Hat)**

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Participants who go through my lectures know I often incorporate a section called "Playing the Numbers Game" where I show how data can be manipulated in a misleading manner and yet the manipulators can truthfully claim the data are "real" – they get their cake and can eat it too. The undiscerning listener or reader gets duped with real data that is intentionally misleading.

Participants at my presentation at Churchill College at the University of Cambridge<sup>1</sup> got a large dose of "the numbers game" when I went through a variety of data manipulations showing how dishonest consultants can bamboozle their victims with "real" data which mischaracterizes reality.

In the last 36 months of the COVID fiasco, the WHO, CDC, and a multitude of other dishonest Federal and State-level organizations have been playing "the numbers game" in spades, to present a scenario that simply does not otherwise exist.

Before the loonies jump in, let me clearly state that the pandemic was real, the virus was real, real people died from the SARS-CoV-2 virus (albeit almost two orders of magnitude fewer than reported). However, the actual scenario is far from that perceived by the overwhelming vast majority of people on the planet.

So, let's play the numbers game that was used during COVID and we will see how a fallacy known as "the law of the transposed conditionals" can be used to weave a tale of false alarm, and using real data, make a minimal event look like a global catastrophe.

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<sup>1</sup> William Hartston "Hats: Top 10 facts about this often forgotten accessory" Daily Express (Mar 29, 2018)

The fallacy under consideration is sometimes known as “The Prosecutor’s Fallacy,” and it is very effective because, as shown below, it appeals to an intuitive step-wise flow from "data" to a desired conclusion. That intuitive aspect is one of the reasons the fallacy can be used to convince large portions of an untrained (or gullible) population who is not used to dissecting what they are told to believe.

The fallacy is also effective because at each step, the confidence trickster can legitimately claim that they are relying on objective data - and they are. The fallacy resides in the presentation and the purported interpretation of the data, which when unraveled, reveals the lie.

Here’s how it works:

Let's imagine a legendary Hollywood superstar named “Rock Montana” makes headline news when he dies from pancreatic cancer (which is prevalent<sup>2</sup> in the US at approximately 0.02% of the GP). Montana’s death is a global internet sensation which creates an [availability hyper-cascade](#) and there is a sudden widespread increase in the awareness of pancreatic cancer.

The sudden fear of the disease (which is real) creates a national concern – I’ll use the US in this example.

The U.S. FDA responds to the fear being generated by announcing it has approved a new early-detection PCR-based screening test for pancreatic cancer. The FDA announces the test is 95% accurate. The reported accuracy of the test is real, it is an honest assessment, and it means that 95% of those who are tested and have pancreatic cancer will be properly identified as such (a "positive test") and 95% of those who do not have pancreatic cancer will similarly be correctly identified as not having pancreatic cancer (they will have a "negative test").<sup>3</sup>

Also, the new test is a PCR-based test, and everyone knows, PCR is "real science." Thus, there is high public confidence in the validity of the test (and so there should be... because it's true). So far, so good.

The Federal Government, responding to the growing public fear, initially purchases a delivery of 125 million PCR test kits. Initially, the number of available test kits entering the market is minimal, but the availability of the new kits will gradually increase over the next few months (an important element, as will be seen in a moment).

The number of people submitting to the test quickly increases. After the first 50 million screening tests are completed, we look at the results. We have *a priori* knowledge that the test population (50 million) has an expected prevalence subset of about 0.02% with pancreatic cancer, or about 10,000 cases of pancreatic cancer in the screened population ( $0.0002 * 50 \text{ million} = 10,000$ ).

Therefore, we also have an *a priori* expectation that of the 50 million people screened, 49,990,000 **don’t** have pancreatic cancer.

Since the accuracy of the test is 95%, we know that 9,500 people with pancreatic cancer are properly identified (5% are missed, false negatives). Since the accuracy of the test is 95%, we also see that 2,499,500 people who do NOT have pancreatic cancer receive POSITIVE results (false positives). However, because of the increasing public alarm the (very real) Council of State and Territorial Epidemiologists (CSTE) advises the CDC that the definition of a "case" should include any positive test<sup>4</sup> out of an "abundance of caution." The CDC accepts this (disastrous) policy error (which appears to the public to be done in good faith.) The newly emerging constellation of signs and symptoms is called "Pancreatic Acquired Normalized Incident Cancer" (shortened to "PANIC" for ease).

As more and more tests are completed and reported, we see that the number of cases of PANIC begins to dramatically increase, even though the proportion of actual disease-state persons remains the same (that is, the prevalence of pancreatic cancer is actually the same as always). Very quickly, as more testing is performed, the number of false positives far exceeds the number of actual cases of pancreatic cancer. Since the results are "positive," they are reported as "cases." Thus, the number of "cases" of PANIC increases at a daily alarming rate which further feeds the fear, which compels more people to be tested, which results in an increasing number of false positives, which feeds the fear... and so on.

CNN, MSNBC, the Guardian, Atlantic and the other irresponsible news outlets jump on the results of the screening and announce, in never-ending headlines: "*An alarming 26,300% Increase in Pancreatic Cancer Cases in the US!*" This is actually true because of the definition of a "case," even though there is no increase in pancreatic cancer in the US. That is, the headline is "true" because the number of cases of PANIC is increasing, but it is also true there is no increase in the frequency of pancreatic cancers.

The news media go on to (truthfully) explain that in the last six months since screening started, there has been a massive increase in 2.5 MILLION new cases of PANIC (i.e. positive tests).

This sets off further fear and now, during the next six months, an additional 75 million Americans rush out to get the new screening test. This means that in addition to the 14,250 positive tests representing the 15,000 people who actually do have pancreatic cancer, the CDC now reports that the number of new cases of PANIC is increasing daily, has exploded and has now increased to 3,763,500 in just six months. As a result, the CDC declares a new epidemic of PANIC and everybody jumps onboard the rolling bandwagon because... well, "science."

That is, since the screening started (because of the screening), we now have 6.26 MILLION new cases of PANIC (this is derived from the 2,509,000 false positives from the first 50 million of pre-screened individuals plus the additional 3,763,500 false positives from the following 75 million screening population). The CDC announces that this time last year there were only 25,000 cases of pancreatic cancer in the same population sample. (In fact, of course, there are still only 25,000 people with pancreatic cancer in that population which is still 0.02% of the 125 million people screened, but it doesn't sound that way does it?)

Now, the FDA announces that to combat the explosion in new cases of PANIC, people should wear facemasks and get the newly approved anti-cancer vaccine manufactured by the small pharm company GenVax. The GenVax vaccine has been proven to be associated with lower death rates in the "new case" population, than that associated with other treatments in place prior to the pre-screening.<sup>5</sup> (If you are paying attention, you will see what just happened there – if you didn't catch it, you are probably one of the people who wore a face mask and got the COVID vaccine). Some of you reading this may also see where we could develop an argument for Simpson's Paradox; but I'll leave that for another time.

The Federal Gov. announces that since the new GenVax therapy is too costly for all Americans, at \$58 per dose, the Feds are going to buy a sufficient number of doses from GenVax to treat 80% of Americans (268,515,624 doses).<sup>6</sup> Since the Feds are buying the doses, they are going to mandate their deployment to save the US from the exploding pancreatic cancer epidemic.

Epidemiologically, illnesses can be categorized according to [manifestational](#) criteria or causal criteria.<sup>7</sup> The new criteria for reportable deaths is that "pancreatic cancer" is to be listed on the death certificate if a person has died within 24 months of receiving a positive screening test, or has any of the superficial symptoms of the disease in the absence of a positive test or clinical finding. As a result, the number of reportable deaths from pancreatic cancer begins to explode... the fear increases.

At the end of the fiasco, the number of people who have died *from* pancreatic cancer remains at roughly the same as it did before the pre-screening test, but the case mortality rate (the number of reported deaths of people who have died *with* PANIC) has sky-rocketed and increased by over 26,000%.

Eventually, fewer and fewer people are getting tested because a smaller and smaller portion of the US population is untested, and so the numbers of new cases begin to decrease precipitously and eventually flatten out. As frayed nerves are calmed, fewer and fewer people get tested, resulting in fewer and fewer false positives and the case incidence falls dramatically.

The policy wonks credit the rapid reduction in new cases to the success of facemasks and the GenVax therapy and they point to the falling incidence rate. Everyone who can't do math heaves a sigh of great relief that they have been saved by the various health departments involved and the crisis is coming to an end. Throughout all of this scenario, the number of people who actually died from pancreatic cancer remained the same before as after the [epidemic](#).<sup>8</sup>

This is exactly what we saw with the COVID fiasco,<sup>9</sup> and this is why we now see that the crude mortality rate for the US has not changed in a statistically significant way over the course of the last 5 years, and has continued to fall over the last 30 years.

During the COVID debacle, the WHO and CDC played the numbers game and won. The Prosecutor's Gambit paid off and nobody noticed that an innocent man (Joe Q Public) was hanged by the data.

If one sits quietly and ponders all this, one can hear Darrell Huff laughing from the grave.

Other COVID related discussions by CP Connell

[How I became a conspiracy theorist](#). Tiptoeing through the landmines of politically correct common knowledge.

[Ignoring science](#): The legacy of the Left

[Another Mask Paper Not about Masks](#). A review of Bagheria G, Thiedea B, Hejazia B et al "An upper bound on one-to-one exposure to infectious human respiratory particles" Nov. 2021

Evolution of a Scientist: [From Two-Handed Threat to Forked-Tongue Savior](#)

[Holding Science Hostage](#) - How the fearful and powerful corrupt science for political gain.

[Napoleon's Coffee - With or without a mask](#) Getting data to fit the Procrustean Bed.

[How to Peddle Backward](#) - What happened to the 2020 Flu Epidemic? A summary of the US Crude Mortality Rate's refusal to cooperate with the popular narrative.

[WHO thought this was a good idea...](#) (Comments regarding the December 1, 2020, "Mask use in the context of COVID-19".)

[The Failing Mask Cure Aid](#) a review of Bundgaard H, Bundgaard JS, Raaschou-Pedersen DET, et al, "Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers, A Randomized Controlled Trial" (Ann. Int. Med. Nov 18, 2020, <https://doi.org/10.7326/M20-6817>).

[Don't be a Maskhole, Karen](#) A review of Zeng N, Li Z, Ng S, Chen D, Zhou H, Epidemiology reveals mask wearing by the public is crucial for COVID-19 control. (Medicine in Microecology, <https://doi.org/10.1016/j.medmic.2020.100015>):

[Masks, and the new Doctor Schnabel von Rom](#): Review of Stadnytskyi V, Bax CE, Bax A, Anfinru P, The airborne lifetime of small speech droplets and their potential importance in SARS-CoV-2 transmission (Approved by PNAS May 2020: <https://www.pnas.org/cgi/doi/10.1073/pnas.2006874117>)

[Pathological Science](#) - Zhang et al and the PNAS: Zhang R, Annie Y Zhang L, Wang Y, Molinae M: Identifying airborne transmission as the dominant route for the spread of COVID-19 (fast-tracked through the PNAS on June 11, 2020)

[Defacing Mask Science](#) - Rossettie S, Perry C, Pourghaed M, Zumwalt M, "Effectiveness of manufactured surgical masks, respirators, and home-made masks in prevention of respiratory infection due to airborne microorganisms" *The Southwest Respiratory and Critical Care Chronicles* 2020;8(34):11–26

[Masks - Don't look behind the curtain](#): Review of Vivek Kumar, Sravankumar Nallamothe, Sourabh Shrivastava, Harshrajsinh Jadeja, Pravin Nakod, Prem Andrade, Pankaj Doshi, Guruswamy Kumaraswamy "On the utility of cloth facemasks for controlling ejecta during respiratory events "

[Size matters!](#) A Brief Description of filtering mechanisms and size.

[Materials v. Masks](#): A review of Konda A, Prakash A, Moss GA, Schmoldt M, Grant GD, Guha S "Aerosol Filtration Efficiency of Common Fabrics Used in Respiratory Cloth Masks" (American Chemical Society, April 2020)

["Junk Science: In Favor of Community Face Masks - a return to Lysenkoism"](#) A review of: Jeremy Howard, Austin Huang, Zhiyuan Li, Zeynep Tufekci, Vladimir Zdimal, Helene-Mari van der Westhuizen, Arne von Delft, Amy Price, Lex Fridman, Lei-Han Tang, Viola Tang, Gregory L. Watson, Christina E. Bax, Reshama Shaikh, Frederik Questier, Danny Hernandez, Larry F. Chu, Christina M. Ramirez, Anne W. Rimoin *Face Masks Against COVID-19: An Evidence Review* NOT PEER-REVIEWED | Posted: 13 May 2020

[Wishful Science](#) - A review of Anna Davies, BSc, Katy-Anne Thompson, BSc, Karthika Giri, BSc, George Kafatos, MSc, Jimmy Walker, PhD, and Allan Bennett, MSc *Testing the Efficacy of Homemade Masks: Would They Protect in an Influenza Pandemic?* (*Disaster Med Public Health Preparedness*. 2013;7:413-418)

[If Manikins Could Fly...](#) A Review of Eikenberry SE, Mancuso M, Iboi E, Phan T, Eikenberry K, Kuang Y, Kostelich E, Gumel AB "To mask or not to mask: Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic" (*Infectious Disease Modelling* 5 (2020) pp. 293-308)

[Review of](#) Cheng VC, Wong S, Chuang V, So S, et al "The role of community-wide wearing of face mask for control of coronavirus disease 2019 (COVID-19) epidemic due to SARS-CoV-2" (*Journal of Infection* April 30, 2020;16:13)

[Gassed Masks!](#) Reactivation of viruses and deoxygenation during mask wearing.

[Masking the Truth](#) - A discussion of aerosols and droplets

[We R0 New York City](#) - A discussion of the basic reproduction number.

[The epidemic of ignorance](#): Lessons from "Flattening the Curve" April 14, 2020

[Think Tanks!](#) The Dangers of Group-Think April 13, 2020

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<sup>1</sup> Connell CP *Sampling Strategies and Data Interpretation*, Churchill College, Cambridge University, England, May 2016

<sup>2</sup> The American Cancer Society, (2018) prevalence estimate 0.00017.

<sup>3</sup> In real life, of course the accuracy of the PCR tests for "COVID" was dismal and could range between 40% and 60%.

<sup>4</sup> In real life, of course, the CSTE went one step worse and included any apparent set of symptoms that could possibly be related to a viral infection. Thus, in this scenario, a stomach ache, ulcer, or a simple side stitch now becomes a "case" of pancreatic cancer.

<sup>5</sup> The FDA acknowledges that it owns 5% of the GenVax patent, but that's another issue.

<sup>6</sup> A steal at only \$15,573,906,192 and obviously good news for GenVax whose previous total annual receivables was a paltry \$20 million.

<sup>7</sup> The classifications are not necessarily mutually exclusive.

<sup>8</sup> As we saw with the Long Island Breast Cancer Epidemic of 1993 – see "[Holding Science Hostage](#)" for further information.

<sup>9</sup> With the exception of the actual deaths from a small number of people who died from the SARS-CoV-2 virus, which is estimated by the CDC to be about 31,670 per year (roughly the same number as those who have died from the common seasonal flu during the same period).