

# ***Thoughts on Science-Denialism and Nationalism at the End of 2018***

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**December 2018**

The confluence of science-denialism and nationalism is a dangerous and under-appreciated combination that threatens the health and well-being of millions. Here in the United States, for example, a growing number of American parents are refusing to vaccinate their children despite overwhelming evidence of vaccine efficacy and safety.<sup>[1]</sup> We see similar trends in much of the developed world; first-dose immunization rates are below the herd immunity threshold in France, Greece, Italy and the United Kingdom.<sup>[2]</sup> The anti-vaccine movement is particularly strong in Italy, where the central government recently fired its entire health expert board, saying it favored instead “other deserving personalities,” presumably those that match the government’s anti-vaccine and anti-science views.<sup>[3]</sup> These actions – along with alarming trends in dealing, or not, with climate change, women’s reproductive health and antibiotic immunity – all ignore undisputed scientific facts.

The global trend towards nationalism is accelerating the impact of science-denialism. Donor governments caught up in a nationalist fervor are questioning the importance of their global health investments and making decisions that run counter to what evidence strongly argues is the right approach to a given health challenge. An obvious example is the Trump administration’s withdrawal from the Paris Climate Accord and its determined roll-back of multiple Obama-era efforts to constrain and reverse climate change. The Fourth National Climate Assessment, released November 23, 2018, forecasts particularly dire consequences for Americans’ health, including thousands of premature stroke and heart attack deaths attributable to higher temperatures, and thousands more premature deaths and disabilities from poor air quality, with asthma rates and respiratory infection rates exploding. And, that doesn’t even account for more cases of Zika, Chikungunya, dengue, West Nile and other mosquito-borne diseases projected to penetrate further north as warmer temperatures extend the range of where mosquitoes can live, breed and infect. The current administration either ignores or diminishes climate change, and the issue receives relatively little media attention.<sup>[4]</sup> That should concern all of us. So too should the lack of attention paid to the possible retrenchment of donor governments away from recent global health gains and new challenges. Global development assistance for health dropped in 2017, a decline offset by growing health expenditures by developing countries.<sup>[5]</sup> Still, many countries in the developing world continue to rely on donor funds for specific programs, amplifying the effects when evidence-free decision-making influences those areas.

The Trump administration’s decision to reintroduce and extend the “global gag rule” is a sterling example of science-denialism. In its current form, the global gag rule prohibits most international, non-governmental organizations that receive any U.S. government development funding, including the President’s Emergency Program for AIDS Relief (PEPFAR) from providing, counseling or making referrals to abortion services, with exceptions for life-endangerment, rape, incest, and for care after a botched abortion. But evaluations of prior incarnations of the gag rule provide little evidence that the exceptions were understood or acted upon. Instead, the global gag rule leads family planning organizations to either restrict operations, including closing clinics, or to provide healthcare advice that fell far short of

full and accurate information.<sup>[6]</sup> Restricting family planning services is correlated to higher abortion rates and maternal deaths.<sup>[7]</sup> It also is correlated to less effective HIV/AIDS prevention and treatment approaches.<sup>[8]</sup> Clearly, the anti-choice ideology prevailed over the evidence that greater access to reproductive health choices leads to fewer abortions and maternal deaths and helps in HIV/AIDS prevention and treatment.

We also see the disregard of evidence in the Trump administration's current unwillingness to play a meaningful role in the global negotiations, led by Dame Sally Davies, the Chief Medical Officer of the UK, that seek to limit the over-use and unnecessary use of medications. While President Trump has questioned the validity of vaccine science, and has trafficked in anti-vaccine autism conspiracies, his White House has had no problem in continuing a wholesale embrace of antibiotics, antivirals, antiparasitic and antifungal drugs, in humans and livestock alike. The latter is a significant offender in antibiotic overuse. To be fair, despite World Health Organization (WHO) calls to the contrary, most countries around the world have not – yet – been willing to mandate more limited antibiotic use in their animal populations.<sup>[9]</sup> Yet, without constraints, overuse in animal populations will continue to lower efficacy in animal and human populations. As Dame Davies has warned, we're on a precipice of "The Drugs Don't Work"<sup>[10]</sup> being not a prediction but a reality around the world.

I'd like to continue living in a world where penicillin is a treatment option, where women can get the healthcare they need and where science, not ideology, drives decision-making by individuals and leaders alike. Unfortunately, that is not today's current context. I believe all of us who have backgrounds or interests in public health, medicine, science and research have an obligation to use those areas of expertise and interest to fiercely advocate for evidence-based debates and decisions, with family, friends, colleagues and our political leaders. We do not need to bring politics into the classroom or our research. We need to relentlessly bring the hats we wear as teachers and researchers into the public forum.

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[1] <https://www.cdc.gov/mmwr/volumes/67/wr/mm6740a4.htm>

[2] [https://ec.europa.eu/health/sites/health/files/vaccination/docs/2018\\_vaccine\\_confidence\\_en.pdf](https://ec.europa.eu/health/sites/health/files/vaccination/docs/2018_vaccine_confidence_en.pdf) p.8

[3] <https://www.newsweek.com/anti-vaccine-italian-government-sacks-entire-health-expert-board-1242759>

[4] <https://grist.org/article/media-fails-on-climate-and-extreme-weather-coverage-except-for-this-guy/>

[5] [http://www.healthdata.org/sites/default/files/files/policy\\_report/FGH/2018/FGH\\_2017\\_full-report.pdf](http://www.healthdata.org/sites/default/files/files/policy_report/FGH/2018/FGH_2017_full-report.pdf) p 15

[6] <https://www.guttmacher.org/gpr/2015/06/global-gag-rule-and-fights-over-funding-unfpa-issues-wont-go-away>

[7] <http://www.who.int/bulletin/volumes/89/12/11-091660/en/>

[8] <https://www.medpagetoday.com/meetingcoverage/iac/74284>

[9] <https://www.who.int/news-room/detail/07-11-2017-stop-using-antibiotics-in-healthy-animals-to-prevent-the-spread-of-antibiotic-resistance>

[10] <https://www.penguin.co.uk/books/256/256685/the-drugs-don-t-work.html>