



Scientists and physicians run for office in the USA

Frustrated by what they say is the US Government's disregard for science, more scientists and physicians are entering politics. Susan Jaffe, *The Lancet's* Washington correspondent, reports.

Scientists, physicians, engineers, and their supporters surprised many people—and maybe themselves—when they assembled in cities across the USA a year ago demanding an end to President Donald Trump's Administration's so-called war on science, which has attacked climate change, environmental protection laws, and funds for biomedical research, among other targets.

But, for some critics, protests are not enough. Instead of appealing to elected officials, now they want to take their place.

"In the last year, we have heard from over 7500 scientists, engineers, and physicists who are thinking about running for office", said Shaughnessy Naughton, a former chemist and breast cancer researcher. Naughton founded 314 Action—a non-profit advocacy organisation and its political action committee (PAC), named after the first three numbers of pi—shortly after Trump became the Republican nominee for president in 2016. The non-profit has grown to about 400 000 members and has raised roughly US\$2.5 million in the past 14 months to help candidates. It expects to double that amount by Election Day this coming November, she said. It also provides training and expert advice.

There are currently 13 medical doctors in Congress and one scientist, a Democratic physicist from Illinois. All but two of the physicians are Republicans.

However, this year, a record number of candidates who have careers in science, technology, engineering, and mathematics (STEM) are campaigning for seats in government, said Naughton. Some 200 STEM candidates are hoping to join state legislatures and about 60 are aiming for Congress.

"The March for Science, which, a year ago, really broke new ground, was

the first time that scientists in such large numbers announced they were stepping out into the public square and they felt it was appropriate to do so", said Rush Holt, chief executive officer of the American Association for the Advancement of Science and former New Jersey congressman. "More and more scientists realise that they have a place in society, and an obligation to see that the idea of science is defended, that evidence is respected, and that the conditions for science to thrive are respected."

"Somebody also has to stand up and say, 'I want to run because my values are not your values'..."

Many scientists and physicians who are first-time candidates are also women. There has been a substantial increase in women running for office across the USA, according to Victoria Budson, executive director of the Women and Public Policy Program at the Harvard Kennedy School of Government.

"The election of President Trump and his unconventional presidency have created an impression that there are fewer barriers to entering politics", said Budson.

A nuclear engineer for Congress

Elaine Luria, a nuclear engineer and ship commander who retired last year from the Navy and runs a small family business, is one of the congressional candidates 314 Action has endorsed. In her first foray into politics, she is running in a southern Virginia congressional district that includes Norfolk, home to the largest naval base in the world. If she wins June's Democratic primary, she will challenge Republican Representative Scott Taylor.

"I looked at everyone's anger and dismay at the votes he's taken", said Luria, particularly against the Affordable Care Act and some environmental laws, including a law that protects streams from coal industry pollution. She said Taylor's votes are consistent with Republican positions 97% of the time and he has earned a 6 out of 100 rating from the League of Conservation Voters.

Luria commends those people who are engaged in the political process—going to rallies, making phone calls, and writing postcards. But sometimes more is required.

"Somebody also has to stand up and say, 'I want to run because my values are not your values'", she said.

Virginia's coast is already experiencing a rise in sea level and recurrent flooding "which can be tied back to climate change", she said, threatening military readiness as well as the area's economy, which depends heavily on the naval station. To ensure that the military can continue to operate in Virginia for the next 50 years, it is time to find "engineering solutions and the resources necessary to be able to shore up our infrastructure", Luria said.



Nuclear engineer Elaine Luria running for Congress in southeast Virginia

"My experience is very hands-on in the engineering field, operating nuclear reactors and weapons systems on ships", she said. "I think that analytical ability can help lead to good legislation."

The 314 Action PAC has contributed \$5000 to Luria's campaign. They also provided help "getting out the message" and connecting her to "many people who are passionate about seeing people with an analytical science background serve in Congress".

Another doctor in the House?

Mai Khanh Tran, a paediatrician who has been working in a private practice for 25 years near Los Angeles, CA, participated in the March for Science and met with elected officials before Congress voted on the Affordable Care Act repeal.

"I would have been perfectly happy being a physician and helping my patients on a one-on-one basis, but I decided I really need to be able to reach more people and expand my ability to help people", said Tran, who came to the USA with her family from Vietnam when she was 9 years of age. She has also experienced the health-care system as a patient, being a breast cancer survivor.

Tran launched her first political campaign last year, to unseat Ed Royce in the US House of Representatives, where he has served for 25 years. Royce is one of 33 Republican House members, including Republican House leader Paul Ryan, who have decided not to seek re-election.

Tran is one of six Democrats vying for a chance to represent a district that is made up of 60% immigrants and 30% Asian-Americans, she said. Among the Democratic candidates, she is the only Asian immigrant, the only woman, and the only physician running. In addition to a \$5000 contribution from 314 Action PAC, its advocacy group has sent its staff to meet with her to discuss the basics of campaign operations.

Congress needs more physicians, because health-care reform is one of the most important issues facing the USA, said Tran. "The Affordable Care Act was the beginning, and we have to continue that work", she said.

"Often when you don't come from a traditional political background, it can be very hard to break into politics."

Other pressing issues, including gun violence and opioid abuse—both public health epidemics—require an in-depth understanding of health care and data to devise evidence-based solutions. "That's what we do daily when we see patients and when we have to approach an epidemic", she said.

Back to school

"I founded 314 Action to give folks from the greater STEM community a peek behind the curtain to [see] what's actually involved in running for office", said Naughton. In 2016, she ran unsuccessfully for Congress in a Philadelphia suburb. "Often when you don't come from a traditional political background, it can be very hard to break into politics."

The non-profit group recruits candidates to run against those incumbents it has identified "as really bad on scientific issues", said Naughton. It also holds intensive candidate training sessions where experts explain all aspects of political campaigns. Its website, 314action.org, offers online webinars and solicits recommendations for potential STEM candidates.

Candidate so-called schools are not a new addition to the political landscape. The American Medical Association (AMA) PAC (AMPAC), for example, has run annual candidate training workshops and other political education programmes for more than three decades, said an AMA spokesman. The training workshop is limited to physicians and their spouses, medical

students, and residents interested in entering races for local, state, and federal government positions.

Phil Roe, a Tennessee Republican and obstetrician-gynaecologist, learned how to organise and execute a campaign by attending the AMPAC training in 2008. Later that year, he won a seat in the US House of Representatives. He has been re-elected four more times and currently is co-chairman of the GOP Doctors Caucus.

When AMPAC officials asked Roe what advice he had for physicians trying to decide whether to take the plunge into politics, he was unequivocal: "I would suggest you become part of the solution instead of just sitting on the sidelines and complaining".

Some candidate training programmes are strictly partisan efforts, such as Physician Women for Democratic Principles, a private Facebook group with about 8700 members in all 50 states. They donate money to Democratic women physicians running for political office and to advocacy organisations, said Samya Mohammad, one of the group's administrators and a rheumatologist in private practice in Raleigh, NC.

The STAT Initiative, a PAC created by Representative Michael Burgess, a Texas Republican and obstetrician-gynaecologist, has contributed to the campaigns of Republican physicians, running as first-time candidates, as well as to the campaigns of those seeking re-election.

"It makes very logical sense that physicians would want to be further engaged in political life", said Budson, especially as Congress grapples with increasingly technical and complex legislation affecting health care.

"If those in government aren't getting it right, and physicians can see ways of closing those gaps—carpe diem."

Susan Jaffe