

## How Dr. Vladimir Zelenko's claims for his coronavirus treatment spread from a New York village all the way to President Trump.

By **Kevin Roose** and **Matthew Rosenberg** - April 2, 2020

Last month, residents of Kiryas Joel, a New York village of 35,000 Hasidic Jews roughly an hour's drive from Manhattan, began hearing about a promising treatment for the coronavirus that had been rippling through their community.

The source was Dr. Vladimir Zelenko, 46, a mild-mannered family doctor with offices near the village. Since early March, his clinics had treated people with coronavirus-like symptoms, and he had developed an experimental treatment consisting of an antimalarial medication called hydroxychloroquine, the antibiotic azithromycin and zinc sulfate.

After testing this three-drug cocktail on hundreds of patients, some of whom had only mild or moderate symptoms when they arrived, Dr. Zelenko claimed that 100 percent of them had survived the virus with no hospitalizations and no need for a ventilator.

"I'm seeing tremendous positive results," he said in a March 21 video, which was addressed to President Trump and eventually posted to YouTube and Facebook.

What happened next is a modern pandemic parable that illustrates how the coronavirus is colliding with our fragile information ecosystem: a jumble of facts, falsehoods and viral rumors patched together from Twitter threads and shards of online news, amplified by armchair experts and professional partisans and pumped through the warp-speed accelerator of social media.

Dr. Zelenko's treatment arrived at a useful moment for Mr. Trump and his media supporters, who have at times appeared more interested in discussing miracle cures than testing delays or ventilator shortages. Sean Hannity, the Fox News host, quickly promoted Dr. Zelenko's claims on his TV and radio shows. Mark Meadows, the incoming White House chief of staff, called Dr. Zelenko to ask about his treatment plan. And Rudolph W. Giuliani, Mr. Trump's personal lawyer, praised him in a podcast interview this week for "thinking of solutions, just like the president." Few people have been as hopeful about hydroxychloroquine as Mr. Trump, who has enthusiastically promoted it for weeks as "very effective" and possibly "the biggest game changer in the history of medicine" — even as health experts have cautioned that more research and testing are needed.

That has not deterred Mr. Trump's supporters, who have vilified public health officials such as Dr. Anthony S. Fauci, the head of the National Institute of Allergy and Infectious Diseases and the most outspoken advocate of emergency virus measures. Instead, some are pinning their hopes on Dr. Zelenko and his unproven treatment plan, which has now been seen by millions.

In a phone interview from his home, where he has been in self-isolation, Dr. Zelenko, who goes by Zev, described a dizzying week filled with calls from media and health officials from countries including Israel, Ukraine and Russia, all seeking information about his treatment. Some world leaders, including Brazil's president, Jair Bolsonaro, are also talking up some of the same drugs as a cure. "It's a very surreal moment," said Dr. Zelenko, who has been practicing medicine for 16 years. "I'm a simple country doctor, you know. I don't have connections."

The online spread of his treatment plan may have real-world consequences as countries consider testing the drugs he recommends on patients. Their popularity has also spurred shortages of hydroxychloroquine, which is used to treat lupus, rheumatoid arthritis and other chronic diseases. In New York's tight-knit Hasidic community, Dr. Zelenko's sudden fame has caused tensions. Shortly after he posted on YouTube, a group of village officials wrote an open letter pleading with

him to stop. They said he had exaggerated the extent of the coronavirus outbreak in Kiryas Joel, using a small sample of his patients to predict that as many as 90 percent of village residents would get the virus.

“Dr. Zelenko’s videos have caused widespread fear that has resulted in the discrimination against members of the Hasidic community throughout the region,” the officials wrote, disputing the figure. Critics have accused Dr. Zelenko of getting ahead of scientific research. Several small studies, including a controversial French one of 20 coronavirus patients, have found that hydroxychloroquine may be effective against the coronavirus. This week, doctors in China said it had helped to speed the recovery of a small number of patients who were mildly ill from the coronavirus. But other studies have contradicted those findings, or have been inconclusive.

“Anyone who tells you these drugs work, or don’t work, is not basing that view on science,” said David Juurlink, the head of the division of clinical pharmacology at the University of Toronto. “There’s reason to be optimistic, and there’s also reason to be pessimistic.”

Dr. Jeff Paley, an internist in Englewood, N.J., who shares some patients with Dr. Zelenko, said it was “irresponsible” for him to promote a treatment without warning people that the combination of hydroxychloroquine and azithromycin can cause severe side effects if not properly administered, especially in patients with pre-existing heart problems. “I’ve gotten numerous call from patients demanding the regimen, saying they believe Dr. Zelenko is magically curing his patients,” Dr. Paley said.

Dr. Zelenko, who learned two years ago that he had a rare form of cancer, was not the first doctor to recommend treating the coronavirus with hydroxychloroquine and azithromycin, though he was among the first to recommend that they be given to patients with only mild symptoms. He said that while he was optimistic, it was too early to tell whether the drugs would ultimately work.

But hopes for a miracle cure have ballooned as the coronavirus spreads, and Mr. Trump and his allies are not waiting for the clinical trials to finish. An analysis by Media Matters last week found that Fox News had promoted hydroxychloroquine and chloroquine as a coronavirus cure more than 100 times over three days. Tech companies have begun cracking down on hyperbolic claims about the drugs.

Last week, Twitter removed a tweet by Mr. Giuliani that said hydroxychloroquine as “100% effective” in treating Covid-19, the disease caused by the coronavirus.

Facebook, YouTube and Twitter this week took down a video by Mr. Bolsonaro claiming that the drug “is working in all places.” YouTube later took down Dr. Zelenko’s video, saying it violated the site’s community guidelines.

Dr. Zelenko, who said he supported Mr. Trump, declined to discuss his politics in detail, saying they were “irrelevant” to his medical findings. “It’s a very surreal moment,” Dr. Zelenko said. “I’m a simple country doctor, you know. I don’t have connections.” But he appeared to share the president’s initial skepticism about the virus. In early March, he posted several right-wing memes about the coronavirus on Facebook, including one that referred to the pandemic as a “Dem panic” and another that featured Hillary Clinton on a list of “things more likely to kill you than the coronavirus.”

“When I see something funny, I maybe in a juvenile way posted it without much thought,” Dr. Zelenko said of the posts. “I never thought that I would be in the public limelight.”

For more than a decade, Dr. Zelenko has been a fixture in Kiryas Joel, where a sign at the village entrance encourages visitors to “dress and behave in a modest way.”

Unlike most of the residents, who belong to the Satmar sect of Orthodox Judaism, Dr. Zelenko is part of the Chabad-Lubavitch movement and does not live in Kiryas Joel itself, which has made him something of an outsider.

Ari Felberman, a patient of Dr. Zelenko’s for years, called him a “phenomenal doctor” and said that if he had exaggerated the coronavirus threat in Kiryas Joel, it was only out of concern for his

patients' health. "When he spoke about how many people were affected, it was just to shake up the community and say, 'Don't take this lightly,'" Mr. Felberman said. Villagers began experiencing coronavirus symptoms in early March. Days later, after Dr. Zelenko began treating patients with his three-drug combination and saw many of them improving, he created a YouTube account and uploaded his video that addressed Mr. Trump. "At the time, it was a brand-new finding, and I viewed it like a commander in the battlefield," he said of the video. "I realized I needed to speak to the five-star general."

Hydroxychloroquine, which is sold under the brand name Plaquenil, has started selling out at many pharmacies nationwide. Some health systems have begun reserving their supplies for coronavirus patients, depriving those who take it for other conditions. At least four states have restricted hydroxychloroquine prescriptions to prevent hoarding. HCQ, as hydroxychloroquine is known, is generally considered safe for clinical use. But it can be risky if patients administer the drugs themselves. Last month, an Arizona man died after ingesting a type of fish parasite treatment that listed chloroquine phosphate as one of its ingredients.

"You don't want people stockpiling this at home," said Dr. Dena Grayson, a biotech executive who has helped develop drugs for Ebola and other epidemics. "If you do get sick, you need to take this under close supervision of a doctor to make sure you don't drop dead."

This week, the F.D.A. issued an emergency use authorization for hydroxychloroquine and chloroquine, allowing doctors to distribute them to coronavirus patients. The agency's chief scientist, Denise Hinton, wrote in the authorization order that the drugs "may be effective in treating Covid-19." New York also recently began clinical trials of hydroxychloroquine combined with azithromycin.

While dealing with his newfound fame, Dr. Zelenko, who has been practicing telemedicine from his home office, is working to keep his coronavirus patients alive. He said his team had seen about 900 patients with possible coronavirus symptoms, treating about 350 with his regimen. None had died as of Thursday, he said, though six were hospitalized and two were on ventilators.

He is worried about his own health. One of his lungs was removed as part of his cancer treatment, and chemotherapy has weakened his immune system, putting him in a high-risk category for the coronavirus. "I have eight children, and I want to live," he said. "I'm personally motivated to find a solution."

Dr. Zelenko said he understood the need for clinical trials but added that ignoring a hopeful possibility was also risky. "I'm a strong supporter of clinical trials," he said. "But they take time, and that's one thing we don't have. The virus is here, it's World War III, and not everyone has fully comprehended that yet."

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