According to the Global Risks Report 2024 by World Economics, misinformation and disinformation emerge as the most severe global risk foreseen in the next two years, followed by a warming planet, conflict, and economic uncertainty. Artificial Intelligence (AI) technologies are reshaping society, medicine & healthcare, popular culture, policy, and economics in ways both electrifying and disturbing. Generative AI like ChatGPT reached mass adoption in record time and offers many promises in modern aspects; however, they carry a significant risk for the mass generation of almost infinite health disinformation. I.e. the COVID-19 pandemic devastated the nation and caused over 1.2 million deaths in the U.S. Pivotally however, estimates found that more than 200,000 deaths were avoidable -  attributed to anti-vaccine disinformation spouted by digital/social media, and confusion over CDC guidelines. And because, we lack a single-payer national health insurance system, the data on the COVID-19 pandemic was often too late to inform health policy. E.g. in May 2021, the CDC said "Fully vaccinated people can resume activities without wearing a mask or physically distancing". In October that year, the former secretary of state Colin Powell, passed away from COVID-19; though he was fully vaccinated, his immune system had been weakened from multiple myeloma, a blood cancer that compromises the body's ability to fight infections. From 2020-2021, 17-18 million patients were living with cancer in the U.S. It is the responsibility of the nation’s people nation to those who are most at risk and vulnerable, and I decided to make a change. To deliver scientific health information to cancer patients in time, I analyzed the electronic health records of 100 million patients from a nationwide medical database, determining the real-world risks and outcomes for patients with common forms of malignant cancer based on an index of COVID-19 vaccination. My study showed that cancer patients though fully vaccinated, had a significantly increased risk for COVID-19 breakthrough infections and significant risk of mortality and hospitalization – and recommended patients to have enhanced caution and mitigation, including masking and booster vaccines, especially for those undergoing active cancer therapy. The study was published in JAMA Oncology in April 2022 and featured by various news outlets. Similarly, another unprecedented wave in the medical field was the medication Semaglutide (the active component of Ozempic and Wegovy), appraised as the Scientific Breakthrough of the Year. Though it stands as a great advancement in the treatment of both Obesity and Type II diabetes, it also introduced a plethora of uncertainty, unknowns, and complexities - creating a window of vulnerability to misinformation. I began my research in July 2023 after growing concerns were raised after anecdotes of possible suicidal risk from patients prescribed Semaglutide - prompting an investigation by European Medical Agencies and the FDA. Suicide is a leading cause of death in the U.S. and the second leading cause for children ages 10-14; in 2021, there were 48,183 cases of death from suicide. Given that millions of patients take Semaglutide, it was imperative to gather comprehensive real-world data to assess the potential suicidal risk associated with Semaglutide. I was able to determine that there was no substantial evidence supporting an association between higher suicidal risk and Semaglutide, but the contrary - the results instead pointed to a significantly decreased suicidal risk. 6 days following the publication in Nature Medicine, the FDA and EMA officially removed the association of suicide risk with Semaglutide, with the study cited as the main contribution to this decision. These experiences demonstrate the immense potential of advanced analytical tools such as AI technology, to provide real-world scientific evidence to guide public health policy. But, it also illustrated how pivotal it is to take initiative, to protect the health and livelihoods of other people, and to change the future.