Diabetes

By 2050, it is estimated that over 1.31 billion individuals worldwide may have diabetes, a disease linked to substantial morbidity, mortality, and comorbidities. The Lancet has reported that the increase in prevalence, up from 529 million in 2021, is predominantly due to the surge of type 2 diabetes, which is influenced by factors such as obesity and demographic changes.

https://www.news-medical.net

Heat-related deaths

Climate change poses significant health hazards worldwide, with Europe experiencing the hottest record globally and the second-warmest in Europe in 2023. The world may cross the 1.5°C threshold set by the Paris Agreement by 2027, and summer heat-related health consequences pose challenges for European society and public health systems.

https://www.news-medical.net

Covid-19

The National Vital Statistics System (NVSS) regularly releases provisional death data, including COVID-19 deaths. This report covers provisional data on mortality in the U.S. for 2023 and compares it to 2022.

https://www.news-medical.net

An mRNA vaccine to treat pancreatic cancer

A research team funded by the National Institutes of Health (NIH) has developed a personalized mRNA vaccine with partners at BioNTech, against pancreatic cancer, one of the deadliest forms of cancer in the U.S. BioNTech performed gene sequencing on more samples to identify neoantigens -- proteins that are unique to cancer cells – that may stimulate an immune response. In early clinical trials, patients received a drug that inhibits cancer cells from suppressing the immune system, then were given their personalized vaccine split in nine doses over many months. Eighteen of the 19 patients successfully had vaccines created for them and 16 were healthy enough to receive at least some of the doses, according to the NIH.

https://abcnews.go.com/Health/7-biggest-medical-breakthroughs-2023/story?id=105555925

AI boosts breast cancer detection rates

Artificial intelligence (AI) has been increasingly used in scientific trials, and a new tool developed this year is helping spot more breast cancer than human screenings. The tool, named Mia and developed by Imperial College London and Kheiron Medical Technologies detected 13% more early breast cancers. Across the two pilot phases and the live roll out, Mia detected 24 more cancers and led to 70 more women being recalled, according to a release from Imperial College London. Of the women who were recalled, additional cancers were found, which raised cancer detection rates by 13%. "These results have exceeded our expectations," Dr Ben Glocker, a professor in machine learning for imaging at ICL, said in a statement. "These results have exceeded our expectations. Our study shows that using AI can act as an effective safety net -- a tool to prevent subtler signs of cancer falling through the cracks. Seeing firsthand that the use of AI could substantially reduce the rate of missed cancers in breast screening is massive, and a major boost for our mission to transform cancer care with AI technology."

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