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Vision Zero in oncology

Call for a comprehensive master plan for preventing and treating cancer

While a cancer-free world may seem unrealistic given the increasing numbers of cancer cases, we need to reach a social consensus that cancer deaths are unacceptable and that everything possible must be done to prevent them. Leading cancer researchers around the world are calling for more investment in prevention research and cancer screening to move towards the vision of a near cancer-free world.

Prof. Dr. Christof von Kalle, managing director of the National Centre for Tumour Diseases (NCT) in Heidelberg until 2018, and current chair of Clinical Translational Sciences at the Berlin Institute of Health and Charité in Berlin.
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"We urgently need a paradigm shift in cancer medicine", says Prof. Dr. Christof von Kalle. "We need a social consensus that allows us to do things very differently and develop a master plan for preventing and treating cancer." Von Kalle, scientific director of the 5th "Vision Zero: Innovations in Oncology" interdisciplinary symposium that was held in Berlin in June 2019, helped establish the National Centre for Tumour Diseases (NCT) in Heidelberg, where he served as director for more than ten years. He now holds a full professorship at the Berlin Institute of Health (BIH) and Charité and is the founding director of the two institutions' joint Clinical Study Center. The Vision Zero initiative, which was launched in Sweden in the 1970s, is the model for the changes that von Kalle is calling for. In its original version, Vision Zero is about ensuring road safety. It refuses to accept that fatalities and serious injuries are inevitable consequences of global road transport. The facts show that seatbelts, airbags, improved car technology, speed limits and many other measures have reduced the death toll in Europe (including Germany) by up to 90 percent - even though traffic has increased many times over in the past few decades.

Cancer prevention and treatment

Prof. Dr. Michael Baumann, Scientific Director and Chairman of the German Cancer Research Center (DKFZ) in Heidelberg, spokesperson of the German Cancer Consortium (DKTK) and co-chairman of the strategy circle of the National Decade against Cancer.
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In contrast to traffic-related fatalities, cancer numbers are increasing. Prof. Dr. Michael Baumann, scientific director and chairman of the German Cancer Research Center (DKFZ) is certain that the number of new cancer cases will double over the next twenty years. In Germany, new cancer cases will increase from half a million to around 600,000 a year by 2030 and continue to rise thereafter. The expected rise in cancer cases is mainly due to an ageing society and unhealthy lifestyles. While 51 percent of men and 43 percent of women in Germany are diagnosed with cancer during their lifetimes, more and more people suffering from cancer are living with the disease. That said, one in four Germans still dies of cancer.

Forty percent of cancers are preventable through what is known as primary prevention, i.e. lifestyle changes and vaccinations. Cancer screening programmes help prevent many cancers or at least detect them at a stage where treatment can lead to a cure. These cancer screening programmes, along with primary prevention, could prevent up to 70 percent of all cancer deaths.

Smoking and obesity are the most important risk factors for cancer in our society. Baumann comments: "It is a scandal that Germany is the only country in the EU to block the ban on tobacco advertising." "Although high HPV vaccination coverage could potentially eradicate cervical cancers, the relatively low HPV vaccination rate is yet another example of the "lack of prevention intelligence" in Germany," says Dr. Christa Maar, president of the Network against Colorectal Cancer, referring to the reluctance to undergo preventive vaccination in Germany. In Germany, less than 40 percent of girls under 15 are vaccinated against HPV; HPV vaccination rates are virtually non-existent in boys. Maar believes that much higher vaccination rates could be achieved if the vaccine were administered in schools, something that has been done in Australia and Canada for quite some time, where HPV vaccination programmes have led to a dramatic reduction in the number of HPV infections. "Men are the most important spreaders of cancer-causing HPV infections," said Nobel Laureate Harald zur Hausen, who was

instrumental in developing a groundbreaking approach to an HPV cancer vaccine. "Boys and men who are vaccinated against HPV are also protected against a variety of other cancers caused by other types of HPV, including cancer of the oropharynx and anus. Around 1000 new cases of these types of cancer are diagnosed in Germany every year." Harald zur Hausen estimates that around 85 percent of all adolescents need to be vaccinated against HPV in order to break the chain of infection.

At the Vision Zero conference, reports showed what smart cancer programmes could look like. A number of years ago, the Netherlands implemented a national public screening programme for bowel cancer. The screening is done by testing stool samples. The test can detect any traces of blood in stool samples. Several million home kits are being sent out to virtually the entire population in the 55 to 70 age group. Participants use the kit to collect a sample and send it to the laboratory for analysis. The entire process – from an awareness-raising campaign, sample shipment to analysis and medical communication of the results – is a fully automated workflow. Approximately 70 percent of the Dutch population in the target age group send in their stool samples. After years of debate, Germany finally decided on 1st July 2019 to send out letters to people in the 50 to 65 age group, inviting them to participate in stool screening programmes. The procedure is complicated and the official education materials give the impression that early detection is of little use. Early detection programmes - including costly and highly reliable colonoscopies - have, however, led to a reduction in the number of bowel cancer cases. Nevertheless, with 25,000 deaths annually, bowel cancer is still the second most common cause of cancer-related deaths. As Christof von Kalle points out, this is about the same number as those killed in road traffic accidents in 1970 before the Vision Zero programmes were launched.

Inherited bowel cancer in young adults is a neglected issue. As Christa Maar points out, one case of cancer in a family increases the risk of disease several-fold compared to a family with no cancer. In the 25 to 35 age group, the bowel cancer incidence rate is rising by an alarming two percent annually. Nevertheless, no adaptation of the prevention guidelines is currently envisaged.

National Decade Against Cancer

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In 2019, the German Federal Ministry of Education and Research launched the National Decade Against Cancer initiative, which brings together a broad coalition of actors from government, healthcare, cancer research, research funding, business and society. The aim is to prevent cancer where possible, increase the lifespan and quality of life for those affected and improve the chances of recovery through new therapies. Michael Baumann, co-chair of the initiative's strategy group, points out that the group's major goal is to counteract current trends by reducing the number of cancer cases by ten percent over the next ten years. The researchers also aim to increase the general five-year survival rate from 62 percent to 75 percent. For the first time, prevention and early detection are being given a central role in the fight against cancer. The focus is on breast, bowel and lung cancer, which are the most common cancers. Dr. Christa Maar and Prof. Dr. Hermann Brenner, head of Clinical Epidemiology and Ageing Research at the DKFZ and one of the world's most cited cancer researchers thanks to his expertise in evaluating cancer prevention measures, are the "godfathers" of this thematic topic. One of the initiative's goals is to extend personalised prevention, for example by developing effective methods of risk-adjusted cancer screening for people at increased risk of cancer.

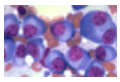
Personalised medicine is also playing a major role in the initiative's other major areas of interest, i.e. improved diagnosis to improve the chances of recovery and more effective treatment, including the development of more effective therapies.

"None of this comes for free", says von Kalle. Innovations in oncology and improvements in patient care and treatment cannot happen without investment, especially in the context of an ageing population. Von Kalle cites a few figures to counteract potential concern about the huge financial burdens we are likely to face in the future: in 2017, total health expenditure in Germany amounted to 376 billion euros, equalling 11.5 percent of Germany's gross domestic product (GDP). The lion's share (58 percent) is covered by statutory health insurance. However, only ten percent encompasses costs for treating malignant diseases, and only five percent of that is put aside for cancer treatment, which is tremendously expensive. Von Kalle also points out that Germany only spends around one billion euros per year on oncological treatments (0.003 percent of Germany's GDP). Few things are more cost-effective than prevention measures, considering that the return on investment means a long life with good health and quality of life. For comparison, the societal costs of road fatalities in the US are estimated at several million dollars. Since the launch of the Vision Zero initiative in the 1970s, astronomical sums of money have therefore been saved. Christof von Kalle believes that "the time has come for a Vision Zero in oncology, because a drastic reduction in deaths can be achieved here too."

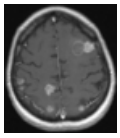
Article

02-Sept-2019
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