

iPAAC policy brief in cancer prevention

Table of Contents

1	Basic facts about cancer prevention	3
2	Improving prevention – social dimensions	5
2.1	Interventions to reduce human exposure to known cancer hazards	5
2.2	Public health policies are collective societal activities.....	6
3	What works in cancer prevention?	7
3.1	Evidence-based messages about preventing cancer	7
3.2	Innovations from new ideas to everyday inventions	8
3.3	Public sector takes health in all policies approach	9
3.4	Best buys	10
3.5	Towards environmentally healthy policies.....	11
3.6	Integration of guidelines and action plans – tackling inequalities	11
4	Summary	12
	References.....	13

This report arises from the Innovative Partnership for Action Against Cancer Joint Action, which has received funding from the European Union through the Consumers, Health, Agriculture and Food Executive Agency of the European Commission, in the framework of the Health Programme 2014-2020. The European Commission is not responsible for the content of this report. The sole responsibility for the report lies with the authors, and the Consumers, Health, Agriculture and Food Executive Agency is not responsible for any use that may be made of the information contained herein. The authors are not responsible for any further and future use of the report by third parties and third-party translations.

1 Basic facts about cancer prevention

Prevention is the most cost-effective long-term strategy for cancer control. About 4 in 10 cancer cases can be preventable. Tobacco smoking is the most preventable cause of cancer. After tobacco, alcohol is one of the leading risk factors of premature mortality. In addition to alcohol, excessive body weight, lack of physical activity and unhealthy diet (low fibre, high processed meat) are important contributors to the cancer burden in Europe.

The strong scientific evidence on risk factors and on the potential of prevention has grown, also numerous national and international evidence-based guidelines and strategies have been launched. But with the understanding of common behavioural risk factors many of the guidelines and strategies deal more generally with integrated prevention of noncommunicable diseases. Since the prevention of noncommunicable diseases deals with influencing health related lifestyles and environment, the task of prevention goes far beyond health services. In addition, strong economic interests and commercial environments define our lifestyles (1).

Health at a Glance: Europe report series is published every other year. In December 2021 new country profiles were published. In the European Union, there is diversity between Member States in prevention. In general, investing in prevention within health systems is very low, with an EU average is around 2%. The newest data also confirms that in many countries COVID-19 disrupted preventive services and access to primary care (2).

Example 1. Possibilities of preventing cancers (France) and comparison of effective tobacco control policies in Europe

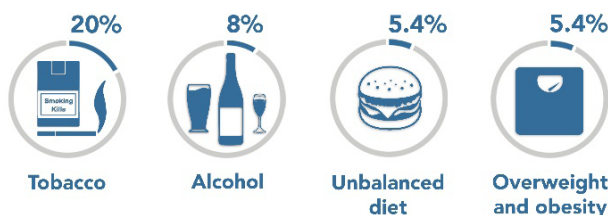
International Agency for Research on Cancer



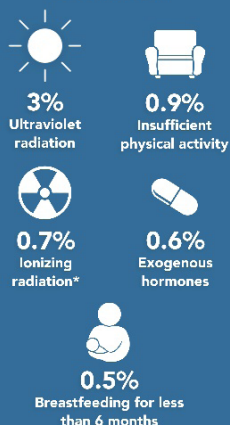
142 000
cases of cancer could have
been avoided in France



Proportions of cancers attributable to
the main risk factors in Metropolitan France

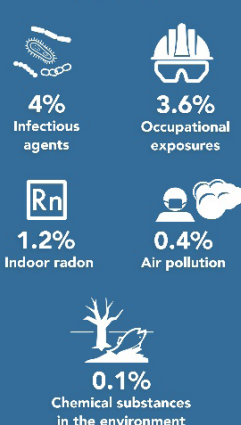


Other lifestyle
risk factors:



*From medical sources (e.g. diagnostic tests)

Environmental
risk factors:



© Designed by IARC Communications Group

TOBACCO CONTROL SCALE 2019



How does your country rate on tobacco control?

Score	2019 Rank	2016 Rank	Country
80	1	1	United Kingdom
74	2	4	France
73	3	2	Ireland
70	4	3	Iceland
66	5	5	Norway
62	6	6	Finland
61	7	new	Israel
59	8	28	Slovenia
59	8	9	Hungary
58	10	8	Spain
58	10	17	Belgium
57	12	7	Romania
54	13	31	Greece
53	14	9	Netherlands
52	15	9	Sweden
52	15	13	Italy
51	17	9	Turkey
51	17	13	Malta
51	17	23	Croatia
50	20	15	Portugal
50	20	35	Austria
50	20	17	Ukraine
49	23	15	Poland
49	23	26	Latvia
49	23	31	Czechia
49	23	21	Estonia
48	27	19	Bulgaria
48	27	26	Cyprus
47	29	17	Russian Fed.
47	29	28	Lithuania
47	29	23	Denmark
46	32	30	Slovakia
45	33	23	Serbia
44	34	33	Luxembourg
41	35	21	Switzerland
40	36	33	Germany

Joossens L, Feliu A, Fernandez E. The Tobacco Control Scale 2019 in Europe. Brussels: Association of European Cancer Leagues, Catalan Institute of Oncology; 2020.

SOURCES:

The proportion of cancers attributable to lifestyle and environmental factors in 2015 Lyon: International Agency for Research on Cancer. Available from <https://gco.iarc.fr/projects/paf-france-en>, accessed 20 December 2021
Joossens L., Feliu A., Fernandez E. The Tobacco Control Scale 2019 in Europe. Brussels: Association of European Cancer Leagues, Catalan Institute of Oncology; 2020. Copyright © 2020 ECL <https://www.tobaccocontrolscale.org/> accessed 20 December 2021

2 Improving prevention – social dimensions



Three levels of cancer prevention:

- Primary prevention aims to reduce the incidence of disease by personal and population efforts.
- Secondary prevention aims at early detection at a stage when curative treatment is still possible.
- Tertiary prevention means long-term focus in the use of treatment and rehabilitation to improve health of those affected by cancer. (3)

Health promotion:

- Health promotion is the process of enabling people to increase control over, and to improve their health. Health promotion represents a comprehensive social and political process. (4)

2.1 Interventions to reduce human exposure to known cancer hazards

Interventions refer to any action aimed at reducing the incidence of cancer in humans. Primary prevention interventions include increasing human exposure to known cancer preventive agents, reducing human exposure to known cancer hazards, providing means to reduce the effects of exposure to cancer hazards, or otherwise intervening on human pathological states that cause cancer. Examples of interventions: regulating exposure to carcinogens, vaccinating against cancer-causing infections, modifying the environment (e.g. planting trees or constructing shade structures in areas of high ambient levels of solar ultraviolet radiation), or promoting personal or societal action to increase the prevalence of healthy lifestyles.

Primary preventive interventions can be applied across a continuum of:

1. the general population (often circumscribed by age and sex);
2. subgroups with particular predisposing host characteristics, such as genetic susceptibility, precursor lesions, or particular diseases other than cancer, or with high exposure to environmental, occupational, or behavioural risk factors; and
3. people with a history of cancer who are at high risk of a further primary cancer

2.2 Public health policies are collective societal activities

Public policies are societal and complex activities. For instance population-based screening programmes to reduce cervical cancer are public health measures, not just a screening test but chain of actions including political commitment to start a screening programme. Screening programme also requires societal support and legislative measures to succeed.

By definition, public health is the organized activity of society to promote, protect, improve, and – when necessary – restore the health of individuals, specified groups, or the entire population. It is a combination of sciences, skills and values that function through collective societal activities and involve programmes, services and institutions aimed at protecting and improving the health of all people. (4, 5)

3 What works in cancer prevention?

3.1 Evidence-based messages about preventing cancer

The International Agency for Research on Cancer (IARC) has in 2021 published recommendations for sustainability and monitoring of the European Code Against Cancer (ECAC). It includes seven recommendations for future edition of the code and four recommendations on research (6).

Example 2. Recommendations about updating the European Code Against Cancer



Source: Dr Carolina Espina's presentation at the iPAAC final conference, 13 December 2021. (6)

3.2 Innovations from new ideas to everyday inventions

Both innovations in medicine and public health policies improve cancer prevention and health promotion, ideally supporting each other.

Social innovations can be entirely new ideas, emerging social practices like sharing online opinions, experiences, photos or peer-to-peer advice (7). They can also be everyday inventions that are improving existing practices (8), for instance how to keep appointments and take medicines.

Taking an example from cervical cancer screening, innovative prevention has occurred twice in the 20th century: the diagnostic value of pap smear tests and the development of vaccines to prevent certain types of Human Papilloma Virus (HPV). Both can prevent cervical cancer entirely. But in order to succeed in its eradication, social innovations are needed.

There are at least three different levels in innovations:

- goods, equipment, tests or services
- process innovation
- applicability according to specific criteria of the process

These innovations might stay local unless mapped and distributed across borders. With their social context, some social innovations are not easily transferable, even if they are necessary for implementation.

New, emerging practices like food circles or community gardening could introduce more healthy diets. Citizen engagement, collaborative or co-creational practices and patient reported outcome measures are examples of social innovations aiming towards more patient-centric approaches (9).

3.3 Public sector takes Health in all policies approach

Example 3. The Europe's Beating Cancer Plan takes Health in all policies approach to cancer prevention and policies on tobacco, alcohol, nutrition and physical activity, and environmental protection. Creating the Plan has involved negotiations between the various Directorates. (10)

Common aspect of addressing important lifestyle determinants through structural means, typically requiring intersectoral negotiations so as to include health aspects in the decisions

- availability
 - for tobacco restrictions on entering the market, restrictions on selling including sales licensing, restrictions on age, restrictions in places of use.
 - for nutrition availability of healthy foods in public catering
- price
 - higher taxation for harmful products (tobacco products, alcohol, sugar etc) and lower taxes/subsidies for healthy
- quality
 - regulations on ingredients, production and preservation
- information including marketing and labelling
 - for tobacco and nicotine products restrictions on marketing and advertisement, packaging, mandatory health warnings, visibility of products in shops
 - for alcohol mandatory information on the carcinogenic nature of alcohol, on energy contents and nutritional qualities, and restricting marketing.
 - for nutrition mandatory lists of ingredients, regulations on health claims, marketing ban on fast food for children, information to facilitate evaluating the nutritional value

SOURCE

Dr Eeva Ollila (2021): Health in All Policies in cancer prevention, iPAAC report Cancer prevention in the 2020s
<https://www.ipaac.eu/res/file/outputs/wp5/cancer-prevention-in-2020s.pdf>

3.4 Best buys

The World Health Organization has identified so-called best buys in preventing non-communicable diseases. They are effective interventions that are suitable to interventions globally. These best buys are also applicable as cancer control recommendations.

Reducing tobacco use

- Increase excise taxes and prices on tobacco products
- Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages
- Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship
- Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport
- Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and secondhand smoke

Reducing alcohol use

- Increase excise taxes on alcoholic beverages
- Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media)
- Enact and enforce restrictions on the physical availability of retailed alcohol (via reduced hours of sale)

Reducing unhealthy diet

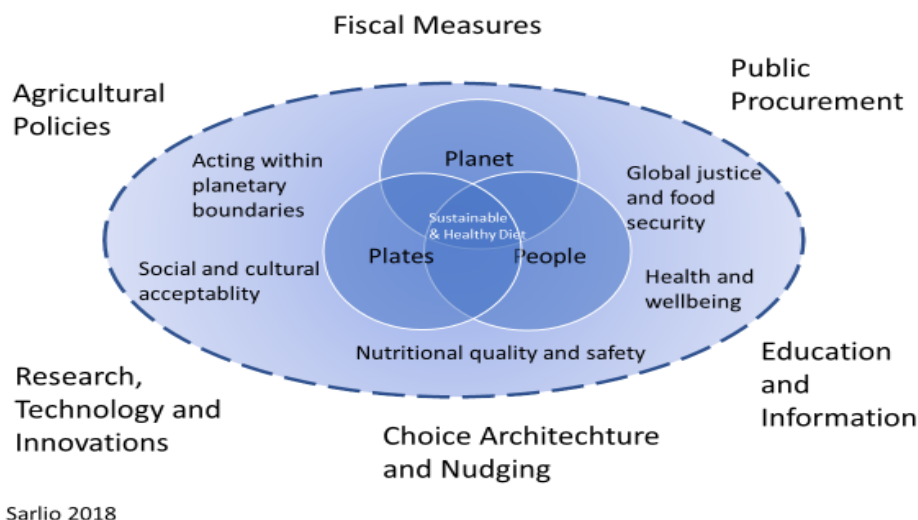
- Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals
- Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided
- Reduce salt intake through a behaviour change communication and mass media campaign
- Reduce salt intake through the implementation of front-of-pack labelling

Reducing physical inactivity

- Implement community wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community-based education, motivational and environmental programmes aimed at supporting behavioural change of physical activity levels (11)

3.5 Towards environmentally healthy policies

Example 4. Nutrition policies are a good example of combining policy options to promote both the health of people and the planet.



SOURCE

Sarlio Sirpa, Towards Healthy and Sustainable Diets, <https://www.springer.com/gp/book/9783319742038>, and Heli Kuusipalo et al, Healthy sustainable diet in the prevention of cancers in Cancer prevention in the 2020s, <https://www.ipaac.eu/res/file/outputs/wp5/cancer-prevention-in-2020s.pdf>

3.6 Integration of guidelines and action plans – tackling inequalities

Currently, there are several public health policy initiatives of cancer and cancer control in the European Union. Integrating the guidelines and action plans in cancer control is ongoing. This is especially important when addressing, for instance, social inequalities and vulnerable populations. Synergies with several initiatives of the Europe's Beating Cancer Plan and Cancer Mission are in use and included in the implementation plans.

The European Union has numerous commitments in global health policy. This is the case with the Framework Convention on Tobacco Control, Sustainable Development Goals and global efforts to reduce the burden of noncommunicable diseases which are some of the most important frames for integration.

4 Summary

1. Europe's Beating Cancer Plan – Health in All Policies

- Systemic change of our society
- Provide truthful information, improve health literacy
- Equity: even though individual behaviours define most of the (preventable) cancer risk, the whole society support is needed to make the healthy choices easy and possible

2. Tobacco and alcohol policies are cornerstones of cancer prevention

- FCTC > tobacco free Europe – similar approach needed for alcohol
- Obesity is an increasing challenge

3. Cancer prevention has synergies with the prevention of other NCDs

- Tobacco - alcohol - physical activity - diet

4. Sustainable development goals

- Ecological approach > health of the people goes hand in hand with the health of the planet

5. Research

- Prevention of cancer and other NCDs can be based only on good science

SOURCE

Dr Pekka Jousilahti in the final conference of iPAAC 13 December 2021.

References

1. Puska P, Chapter 2 Sustainable development for global health and Chajes et al, Chapter 3 Reducing the cancer burden in Europe – what needs to be done now in Jousilahti et al (2021) Cancer prevention in the 2020s, iPAAC WP5 task 5.3 conference report, <https://www.ipaac.eu/res/file/outputs/wp5/cancer-prevention-in-2020s.pdf>
2. Health at a Glance: Europe, Country profiles 2021 and EU State of Health Companion Report (2021) doi:10.2875/835293 https://ec.europa.eu/health/state/glance_en
3. dos Santos Silva I, ed. Cancer epidemiology: principles and methods. Lyon, IARC Press; 1999:355–380 <https://publications.iarc.fr/Non-Series-Publications/Other-Non-Series-Publications/Cancer-Epidemiology-Principles-And-Methods-1999> and about tertiary prevention also in Albrecht T, Kiasuwa R and Van den Bulcke M (eds) European Guide on Quality Improvement in Comprehensive Cancer Control Chapter 7 Survivorship and rehabilitation: policy recommendations for quality improvement in cancer survivorship and rehabilitation in EU Member States https://cancercontrol.eu/archived/uploads/images/Guide/042017/CanCon_Guide_7_Survivorship_LR.pdf
4. Health promotion glossary (2021) Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO. ISBN 978-92-4-003834-9 (electronic version) accessed 20 December 2021
5. Nutbeam D and Muscat D (2021), Health promotion glossary, Health Promot. Int. (2021), doi: 10.1093/heapro/daaa157
6. Espina C et al (2021) Cancer Epidemiol., 72 (2021) Sustainability and monitoring of the European Code Against Cancer: Recommendations <https://doi.org/10.1016/j.canep.2021.101933>
7. Warnke P, Cuhls, K, Schmoch U, Daniel, L, Andreescu, Dragomir, B, Gheorghiu, R, Baboschi, C, Curaj, A, Parkkinen, M, Kuusi, O (2018): 100 Radical Innovation Breakthroughs for the future (RIBRI), Brussels.
8. Taipale I (ed) 100 social innovations from Finland (2013) Finnish Literature Society; Second Revised Edition edition, Falun
9. Cancer: foresight on demand brief in support of the Horizon Europe mission board, pp. 21-32 (2021), accessed in December 2021 https://ec.europa.eu/info/publications/foresight-reports-missions-horizon-europe_en
10. Ollila E, Health in all Policies in cancer prevention, pp. 22-28 in Jousilahti P et al, Cancer prevention in the 2020s, iPAAC WP5 task 5.3 conference report, <https://www.ipaac.eu/res/file/outputs/wp5/cancer-prevention-in-2020s.pdf>
11. World Health Organization. (2017). Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. <https://apps.who.int/iris/handle/10665/259232>. License: CC BY-NC-SA 3.0 IGO