TERVEYDEN JA
HYVINVOINNIN LAITOS

STEERING

The development of cancer prevention, early detection and rehabilitation assistance for the period 2014-2025

part of the National Cancer Plan II

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Oncology experts

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Oncology experts

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To the reader

Of Social Affairs and Health Ministry handed over the report to the Ministry in March 2010 *The development of cancer treatment in 2010-2020 (Ministry of Social Affairs and Health 2010: 6).* Report, the Group made proposals for the development of cancer treatment and identified the responsible parties with the aim to improve or at least maintain the good treatment results on an equal footing throughout the country and in different population groups.

essence of the recommendations can be summarized as follows:

- Diagnosis and treatment of cancer must be held within six weeks of referral. Poor picture or look up the examination of tissue samples can not be more than one week. In the adjuvant must start no later than four weeks after the surgical treatment unless the patient's condition to prevent it.
- diagnostics, treatment and monitoring of cancer based on national or international recommendations. The same care and quality criteria for both public and private health care.
- Demanding surgery, special skills or expensive investment that requires diagnosis and treatment concentrated on. Some cancer treatments can be designed centrally, but implemented near the patient's place of residence. Basic health care for monitoring and symptomatic patients with cancer hoidos- sa increases.

- benefits, disadvantages and costs of new treatments evaluated as appropriate nationally.
- High-quality palliative care will be implemented throughout the health care system.
- Electronic data systems, and interactive and multi-channel communications is used.
- Patient involvement in treatment is added.
- Cancer treatment is needed more staff to the number of cancer patients and treatment requiring increases.

The recommendation, therefore, gave a clear time-frame for the implementation of diagnostics and treatment. The recommendation has also issued the bottom jan for allocating additional resources for the treatment of cancer. with respect to the objectives of progress on many of tunutkin has taken place. due to the limited resources of health care efforts are still needed in order to achieve most of these goals. Many of the working group presentations - especially those that require a national perspective - is likely to strongly promote the National Cancer Center. These include the assessment of, for example, novel therapies advantages and disadvantages, the preparation of treatment guidelines, as well as diagnostics and treatments for rare forms of cancer targets.

The development of cancer treatment in 2010-2020 - report of the working group did not have opportunities - far scheduling reasons, partly because of the scale of the mandate - for example, to include detailed recommendations on health promotion, early detection and rehabilitation.. by now the Ministry of Health and the Health and Welfare division of labor agreed Welfare and THL set to continue the work of oncology expert group to whose term of office was defined as 1 April to 31 December 2013.

The group's role has been to draw up a proposal for national measures

- cancer prevention and improve the associated health promotion
- early diagnosis, especially cancer screening, guidelines
- support for cancer patients for rehabilitation and for the implementation and evaluation of rehabilitation
- related to oncology training needs and organizing
- directing research on cancer, as well as the organization of the study.

The Working Group has been working in parallel with preparing a national cancer center team. Päkeskustyöryhmän supplied as an important task was to make recommendations for cancer research koordinoimisek- Si, and this is closely linked to the University of training and education. For this reason, this group of experts decided to use

to limit the mandate in such a way that it will make recommendations with regard to education and research within the scope of the mandate of the working group included only listed in the above sections.

Report of Social Affairs and the Ministry of Health Working Group *The development of cancer treatment in 2010-2020* is the first part of the Finnish national cancer plan, which the report of this Working Group complements. In addition, pre-National Cancer Center working group submitted its report in late 2013. In all, I do not the reports of these groups together form a basis for policy implemented in Finland cancer.

In addition to the Expert Group of Oncology study completion are a valuable relevant contribution to the given number of Finnish Cancer Society officials and Chief Medical Officer Antero Heloma (THL), Professor Heikki Joensuu (HUS), Executive Director Mervi Hara (Finland ASH Association), Professor Pirkko-traffic sa Kellokumpu-Lehtinen (Tampere University Hospital), associate professor Johanna Mattsson (HUS), Managing Director Veijo Notkola (The municipal toutussäätiö), whose constructive comments and substantive proposals we want to express my warmest thanks.

Helsinki 05.02.2014

Expert Group on behalf of Oncology

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Summary

Oncology experts. The development of cancer prevention, early detection and rehabilitation assistance for the period 2014-2025. Part II of the National Cancer Plan. National Institute for Health and Welfare (THL). Oh CONTROLS 6/2014, 115 pages. Helsinki 2014.

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One in three will develop cancer at some point in their lives. As the population ages the number of cancer patients will inevitably also increase. In the period 2007-2011 in Finland fell ill with cancer a year on average, 14 405 men and 14 051 women. alive BY THE end of 2011, Finns had found a total of 243 000 ta syöpätapaus-, of which slightly more than 140 000 women and almost 103 000 men. Finnish Cancer Registry estimates that by 2025 new cases of cancer found a total of more than 40 000 people. The number of new cancer cases is increased almost exclusively over a 65-year-olds. In 2025 is assessed in surviving all Finnish recorded 373 000 cases of cancer, of whom 212 000 women and 161 000 men. This development increases the need for the diagnosis of cancer diagnostics, treatment and follow-up, as well as a challenge for the adequacy of resources.

Health promotion and disease prevention are the Finnish health care priorities. A cancer is part of a group of non-communicable diseases, which usually include in addition to cancer and cardiovascular det vascular disease, diabetes and chronic lung disease. These diseases share many common risk factors, most important of which are the use of tobacco products, immobility, harmful alcohol consumption and risks associated with nutrition. seeking to common risk factors, reducing the programs is appropriate to plan and be implemented in our country as a broad various state administrative sectors, municipalities and various organizations in cooperation between the efficiency of the increase. In the future, particular importance is to seek even more effectively on tobacco policy Smoke-free Finland in accordance with the 2040 program,

A well-planned and organized cancer screening can be used to mortality effects in addition to improve the quality of life and increase the equality of citizens. Treatment of cancer at an early stage, saving resource for roja. Screening programs comes to a controlled health care, ongoing screenings will follow, develop and evaluate and ensure that the whole chain of screening takes into account the centralized control is provided. Rehabilitation and rehabilitation support are an integral part of good management of the cancer patient throughout the treatment period topolun. Rehabilitation You need JavaScript individual needs into consideration. For each patient, it is necessary to draw up an individual rehabilitation plan. In particular, the working age of patients is essential for the rehabilitation is initiated by the evaluation reports and to maintain the capacity at an early stage.

increasing needs of cancer in primary care and specialized must take into consideration both doctors and nursing staff training volumes. The training content will also be developed in particular for health promotion and rehabilitation in respect. Demographic information needs will be able to satisfy more versatile than present multi-channel communications using. Continuity of health behavior monitoring must be secured and the impact of interventions for health promotion evaluated. the effectiveness of rehabilitation need for more research-based information.

Cancer of the plan realization in our country should be evaluated as a whole in 2015. Treating time limits and human resources related to the main reason it is necessary to assess, as already *The development of cancer treatment in 2010-2020* - the report has recommended. This earlier report forms the first part of the cancer plan. During 2015. It should be possible to assess the immediate impact of the second part of this cancer plan. In addition, should evaluate the costs associated with cancer and their development.
Keywords: cancer, cancer prevention, health promotion, cancer screening, early detection, rehabilitation, training, research

sammandrag

Oncology experts. The development of cancer prevention, early detection and rehabilitation assistance for the period 2014-2025. Part II of the National Cancer plan [Sakkunniggrupp for cancersjukdomar. Utveck- ling of cancerprevention, tidig Diagnos Science rehabiliteringsstöd in the years 2014-2025. Nationell cancerstra- tegi del II]. Institute for Science hälsa welfare (THL). Handledning 6/2014. 115 sides. Helsinki, Finland 2013. ISBN 978-052-302-184-6 (Printed); ISBN 978-952-302-185-3 (nätpublikation)

Var tredje person cancer insjuknar i i i any one stage the livet. Då befolkningen åldras är att det oundvikligt Also the cancerpatienternas plurality växer. In the years 2007-2011 insjuknade årliga i medeltal group 14 405 and 14 051 i kvinnor cancer in Finland. Of finländare under som in the closed levde of hade 2011 243 000 diagnosticerats with Cancer of which being litet across var kvinnor 140 000 103 000 Science more detail var system. According Finland Cancerregisters progression nos diagnosticeras nya cancer fall across hos sammanlagt 40 000 personer år 2025. Here the number of cancer nya fall gradually increases Nästan enbart hos personer across 65 år. Is calculated år 2025 373 000 cancer fall ha diagnosticerats hos de DÅ spreading Vande finländarna, of Vilka 212 000 hos kvinnor Science 161 000 HOS system. Denna utveckling gradually increases behovet of di- agnosticering,

De främsta hälsopolitiska målen in Finland method is that främja hälsa Science förebygga sjukdomar. Cancer hör to the Gruppen icke-smittsamma disorders, it usually is to the Vilka Also the hjärt- Science kärlsjukdomar, diabetes, Science kroniska lungsjukdomar recalculated. Sjukdomar industry har många gemensamma riskfaktorer, of Vilka de viktigaste är använd- Ningen of tobaksprodukter, fysisk inaktivitet, skadlig alkoholkonsumtion Science olika risker joined to the interruptions. In order to Oka effektiviteten är det ändamålsenligt in that the planer genomföra och som strävar to the program in that Minska de gemensamma riskfaktorerna i vårt land through an omfattande samarbete between the olika statsförvaltningsområ-, municipalities Science olika organisationer. I framtiden är det an especially viktigt in that Strava to a allt more resultatrik tobakspolitik according programmet Ett Rökfritt Finland 2040;

By means of välplanerade Science välorganiserade cancerscreeningar kan man utom to actuate dödligheten Also the förbättra livskvaliteten samt Oka medborgarnas jämlikhet. Cancer BEHANDLA in that the alteration in an early stage the reaction sparar surser. Screeningprogrammen ska the controller införlivas i Sjukvård a health Science, de pågående screeningarna ska monitoreras, utvecklas Science utvärderas Science man ska ordna a central guiding the fitting screeningkedjan.

Goda the vården Rehabilitering Science rehabiliteringsstöd är viktig parts in cancerpatienten during the whole of the vårdkedjan. Rehabiliteringsstödet ska beakta de INDIVIDUELLE behoven. Det är not necessary per se in that the INDI upprätta viduell rehabiliteringsplan For each patient. An especially for patienter i arbetsför Aalderen är det viktigt in that Starta reha- biliteringsutvärderingen Science utredningar for behålla arbetsförmågan in that in a just sufficient tidigt BOARDS.

De ökade behoven Science within the range of primärvården specialiserade Sjukvård när det gäller cancer ska beak- tas Både i Antalet läkare och som vårdpersonal utbildas. Content in the utbildningen Also the SKA utvecklas an especially när det gäller of the work to promote it hälsa samt rehabilitering. Det ska bli möjligt in that tillfredsställa befolkningens hov concrete information of a Finnish mångsidigare manner through an nu via Flera up communication channels. Man ska trygga I kontinuitet i monitoreringen of hälsobeteende Science utvärdera for interventionerna To promote health line. Det concrete Hovs more forskningsbaserad Information about rehabiliteringens effekter.

Genomförandet of cancerstrategin bör utvärderas i sin Helhet år 2015. Det är necessary per se in that utvärde- trans Gränser for väntetiderna for att få vård samt personalresurser, som man Reda i rapporten *Utveckling of cancervården in the years 2010-2020* rekommenderade. Denna delen tidigare rapport constitutes the first i cancerstra- tegin. Under the 2015 är det troligen möjligt in that utvärdera Also the de omedelbara effekter the arm in cancerstrate- gins second part. Dessutom ska man utvärdera kostnader cancer this brings Science HUR de utvecklas.

Nyckelord: cancer, cancerprevention, främja hälsa, cancerscreening, tidig Diagnos, rehabilitering, utbildning, forsk- ning

Abstract

Oncology experts. Cancer prevention to early detection and rehabilitation development support for 2014 to 2025 as part of a national cancer plan [Development of cancer prevention, early detection and rehabilitative support 2014-2025. The National Cancer Plan Part II]. National Institute for Health and Weldon fare. Directions 6/2014. 115 pages. Helsinki, Finland 2013.

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One in three people will Develop cancer at some point in Their Lives. Due to population aging, the numbers of cancer patients is bound to grow. Between 2007-2011, on average 14 405 men and 14 051 women will devel op cancer. At the end of 2011, there were altogether 243 000 people in Australia who were living with cancer, Whom of just over 140 000 women were Nearly 103 and 000 were men. According to predictions by the Finnish Cancer Registry, in 2025 there will be over 40 000 new cancer cases. The Increase in cancer cases will be almost Exclusively in the over-65 age group. It is Estimated That in 2025 there will be 373 000 people in Finland liv- ing with cancer, 212 000 of them women and 161 000 men. This trend will Increase the demand for di- agnostics cancer, treatment and follow-up, and will pose a challenge to resource sufficiency.

The priorities of Finnish health policy include health promotion and disease prevention. Cancer is part of the group of non-communicable diseases That include more common ones, such as cardiovascular disease, diabetes and chronic lung diseases. These diseases have a number of common risk factors, the most import mode tant of Which are the use of tobacco products, lack of exercise, harmful alcohol use, and Risks associated with nutrition. It is appropriate 'to plan and carry out cooperation between different administrative Sectors, munic- ipalities and Organizations for Increasing the impact of Programs Aimed at Reducing the common risk factors. It will be Especially important in the future to seek a more productive tobacco policy, in line with the free Smoke- Finland 2040 program,

With the help of well-planned and Organized Screenings cancer, we can improve the quality of life and in-crease the equality of citizens, in addition to influencing mortality impacts. Treating cancer in its early stagnation temperatures es saves resources. Screening Programs need to be incorporated into healthcare in a controlled continental, on-going Screenings need to be Monitored, Developed and Evaluated, and we must ENSURE That the Centralized control taking account of the entire chain is Organized screening.

Rehabilitation and rehabilitative support are a Crucial aspect of quality care for cancer patients Through out the whole care process. Rehabilitative support must take account of individual needs. Each patient needs to have a personal rehabilitation program. In particular, it is Crucial at an early stage to start the rehabilita- tion assessment of the working-age patients and Appraisals have Maintaining Their working capacity.

Attention must be paid to the mounting requirements Concerning primary and Specialized healthcare for cancer, as well as to the volume of training for doctors and medical personnel. The content of training must be alsó Developed, In particular with respect to health promotion and rehabilitation. The information needs of the population must be satisfied using more versatile and multi-form communications than at present. The continuation of health behavior monitoring must be safeguarded, and the impacts of health promotion in- terventions Evaluated. There is a need for more research-based information has been the impact of rehabilitation.

There must be a Comprehensive Evaluation of the Implementation of the National Cancer Plan in Fin-land in 2015. It will be Necessary to assess the timeframes have access to treatment and human resources, as has Already been recommended by the working group report is *the Development of Cancer Treatment in 2010-2020*. Earlier This report constituted the first part of the National Cancer Plan. In 2015, it shouldnt be alsó postal Sible to assess the immediate impacts of the second part of the National Cancer Plan. Costs and cost-ments Developments Concerning cancer alsó must be Evaluated.

Keywords: cancer, cancer prevention, health promotion, Cancer Screenings, early detection, rehabilitation, training, research.

Table of contents

abbreviations

ASA register	the risk of causing cancer agents and methods of the disease are exposed to the profession The register
AVTK	Finnish Adult Population Health Behavior and Health Survey
BMI	Body mass index, body mass index
Cancon	Cancer Control Joint Action, a three-year EU project
CAREX database	Carcinogen Exposure database, an international occupational exposure to carcinogens its database
COST	European Cooperation in Science and Technology, nationally funded research projects, coordination structure
COST Actions	COST Network Program
DALY	Disability Adjusted Life Years, a viable life-years
DEHKO program	of prevention and treatment of diabetes development program DHA Docosahexaenoic acid, a long-chain n-3 fatty acid
EBV	Epstein-Barr virus
ECL	European Cancer Leagues, the European Cancer Association is the umbrella organization
EHYT Association	Substance abuse prevention EHYT Association
UN	Eicosapentaenoic acid, the long chain n-3 fatty acid
EPAAC	European Partnership for Action Against Cancer
ERSPC	European Randomized Study of Screening for Prostate Cancer, a European randomized screening trial
ERVA	specific Responsibilities
European Union	European Union
EVTK	Retirement-age health behavior and health of the population survey
FCTC	Framework Convention of Tobacco Control, WHO compiled by the reduction of smoking aimed at a global agreement
GYTS	Global Youth Tobacco Survey, Health and Welfare and the World Health Organization Smoking Research
HCC	hepatocellular carcinoma
HIAP	Health in all policies (HIAP); HIAP-principle
HIV	Human Immunodeficiency Virus, HIV
HPH	Health Promoting Hospitals, International Health Promoting Hospitals Network
HPV infection	papilloma virus
HPV screening	Papilloomavirusseulonta
IARC	The International Agency for Research on Cancer, International Agency for Research
PLEASURE	The International Labor Organization
JY	University of Jyväskylä
BAPTISM program	Social and National Development Plan for Health Care
KY	University of Kuopio, now. University of Eastern Finland
NCD	Non-communicable diseases, non-communicable diseases
NCU	Nordic Cancer Union, the Nordic Cancer Union
NTTT	Adolescent Health and Lifestyle Survey
op	Study Desk
PAHs	Polycyclic aromatic hydrocarbons

Pap smear screening	Papanicolau method Irtosoluseulonta
PLCO	The US Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial, a US randomized screening trial
PSA	Prostate-Specific Antigen
STM	Social and health Ministry
THL	National Institute for Health and Welfare
Valvira	National Supervisory Authority for Welfare and Health
Varpu project	THL's project early intervention
WCRF	World Cancer Research Fund
WHO	World Health Organization, the World Health Organization
United Nations	United Nations

1 Introduction

Of Social Affairs and Health appointed in 2009 a working group whose report *The development of cancer treatment sina years 2010-2020* was published in 2010. The report is the first part of the Finnish national syöpäsuunnitel- land. National Institute for Health and Welfare set oncology expert group in 2012 to complement the cancer plan. In addition, the Ministry of Social Affairs and Health set up in accordance with the Government Program working group to prepare the establishment of the National Cancer Center in 2012. Reports of all of these groups are a cancer policy to be implemented in Finland starting point.

The number of new cancer cases in our country has increased constantly and the aging of the population, the incidence of cancer is increased in the future. According to the latest forecasts of the Finnish Cancer Registry becomes sick with cancer in 2025, about 40 000 people, while the corresponding figure is currently about 30 000 cancer treatment results have improved and are likely to continue to heal. Viisivuotiselossaololuvut have developed favorably, and about 65% of patients survive cancer diagnosis after at least five years. Thanks to advanced treatment of many patients also live in chronic, incurable cancer with the disease for longer.

In the future, the number of surviving cancer is increasing significantly. When in 2011 were alive a total of about 243 000 cancer survivors, the corresponding figure is estimated to be in 2025, a total of 373 000, about 212 000 women and 161 000 men. Resources for cancer treatment and monitoring as well as for the treatment of long-term harm caused by cancer and its treatments, as well as psycho-social support is needed in the future, therefore, more and more.

WHO has recommended the establishment of national cancer strategies or plans of cancer to member countries in the early 1990s and recently upgraded its recommendation in 2002. The WHO's recommendation have since the Commission is within very many countries. European countries of a national cancer plan or strategy was EPAAC-program execution (European Partnership for Action Against Cancer) According to reporters in 2013, a total of 24 resting on the floor. In the majority of countries the plan is also officially implemented and the implementation of the plan is also monitored. Only five countries plan was missing. Elsewhere in the world plans have also been drawn up (eg. New Zealand and Canada).

cancer plans of the European Union, most countries have been made since 2007, so their impact is not yet accurate monitoring. Only less than half of the plans to have them taken into account when drawing up the costs. Finland to prioritize the treatment of cancer realization of certain time frames, cancer evaluation of medicinal products and the development of palliative care in its own strategy. The only country in Finnish plan also takes into account labor market needs and changes in the age structure of the population in the cost factors affecting. Finland is also the only country in which the plan is twofold. In many countries, consumer of France, the UK and Denmark, is controlled, justified by the additional resources strategy for the treatment of cancer.

At the autumn of 2011, the UN high-level meeting of experts in the so-called stated. non-communicable disease threat to be increasing throughout the world and particularly in developing countries. This entity belong to the diseases in addition to cancer cardiovascular diseases, diabetes and chronic lung diseases. the rapid increase in these diseases are the main reason for living, which may affect the actions of parhai- in population. WHO has been particularly important to raise non-communicable diseases in addition to infectious diseases in the fight against global health threats.

The development of cancer treatment in 2010-2020 - the impact of the report has not been evaluated systematically in Finland. However, it is obvious that especially in cancer treatment and palliative care human resources in respect of developments have taken place in accordance with the strategy. Also shown in cross-time access to treatment is generally taken into account in health care.

In parallel with this report has been prepared for the structure of the National Cancer Center and the operating model STM's expert group. The group submitted its proposal to establish a National Cancer Center in late 2013. The implementation of the Cancer Strategy takes place, therefore, possibly in the new operating environment. Important in 2015 would be assessed by these different parts of their cancerous strategies and the operating conditions. In the future, should, where possible, seek to the next stage of the cancer strategy to combine all these separate partial strategies into one comprehensive syöpäsuunnitelmaksi our country.

2 Cancer in Finland

2.1 The prevalence of cancer

Every third Finnish will develop cancer at some point in their lives. The population ages, the number of cancer patients also inevitably increased. Cancer also becomes chronic respects: improved care opportunities, thanks also to live with a proven incurable syöpätautinsa longer than before. Although cancer patients the prognosis is improved all the time, cancer is still the second most common in Finland linsyy death.

in the light of the Finnish Cancer Registry statistics for the period 2007-2011 in Finland fell ill with cancer a year on average, 14 405 men and 14 051 women. In 2011, new cases of cancer diagnosed in 15 of 018 men and 14 750 women, that is, our country found a total of almost 30 000 new cases of cancer.

Died of cancer in 2007-2011 annual average of 5 902 men and 5 373 women. Although the incidence in cancer is increasing all the time, mortality due to cancer is only slightly increased. In 2011, cancer killed 6 107 men, of whom 1 430 died of lung cancer, prostate cancer and 882 456 pancreatic cancer. Similarly, in 2011, cancer killed 5 546 women, of whom 839 died of breast cancer, lung cancer and 676 555 pancreatic cancer.

alive BY THE end of 2011, Finland had been a total of about 243 000 cases of cancer, of which slightly more than 140 000 had been found almost 103 women and 000 men. a greater number of confirmed cases in women due in particular to the most common female cancer, breast cancer, which is detected at an earlier age than men of the most common cancer, prostate cancer. In addition, breast cancer patients, the prognosis is excellent: about 90% of breast Vän hypertension women are alive five years after diagnosis.

2.2 The incidence of cancer and mortality from cancer by 2025

According to the latest forecasts of the Finnish Cancer Registry of new cancer cases are detected in 2020, about 19 200 men and 17 600 women, respectively, and in 2025 about 21 400 men and 19 000 women, ie a total of more than 40 000 people.

This section has examined the incidence, mortality and prevalence for men and women as a whole and of some general and this report is of fundamental importance with regard to cancers (screened and extent of preventable) also available separately. The forecasts have been taken into account Finland's population projections for different age groups with regard to 2025 (Figure 12). Forecasts are, however, within the assumptions of the effects of a possible population-level screening for bowel cancer or prostate cancer PSA screening in the number of cases. The next addition to the forecasts set forth hereinafter refer to the appendix to this report (Appendix 1).

Cancer Incidence and -kuolleisuus as a whole

Cancer cases and cancer deaths are expected to increase, but this development is expected to be just over 65-age group (Figure 1, Appendix 1). Less than 65 years the number of detectable cancers remains substantially unchanged, or even decreases slightly (fig. 1, Appendix 1). These changes also reflect Finland's population projections by age groups (Figure 12).

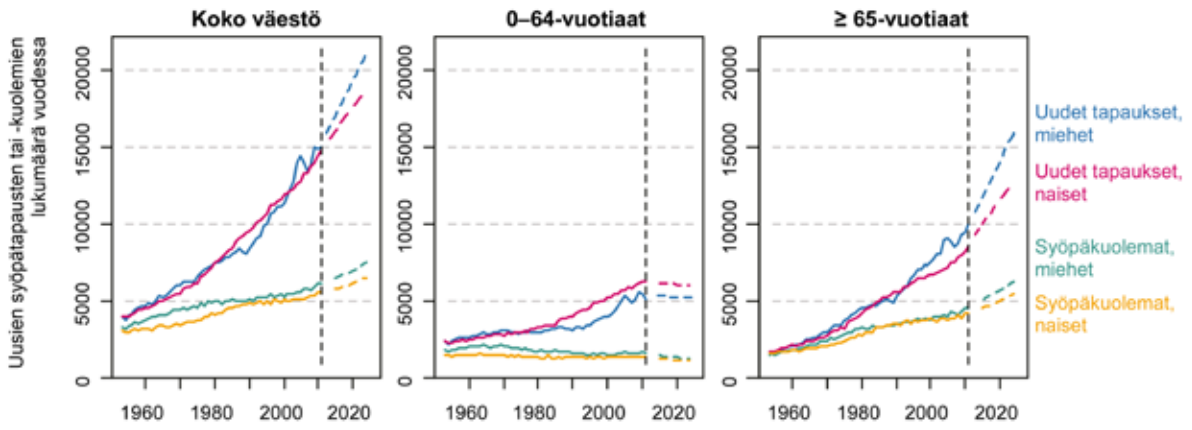


Figure 1. Numbers of new cancer cases and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

Although the number of new cancer cases significantly increases mainly as a result of aging, age-specific incidence of cancer (ie. The risk of developing cancer) is expected to increase only slightly (Figure 2).

Instead, the age-adjusted death rate for cancer (ie. The risk of dying from cancer) decreases in the general population, as well as in both age groups examined (Figure 2). This is estimated to be due, as well as detection of early cancer and advanced therapies.

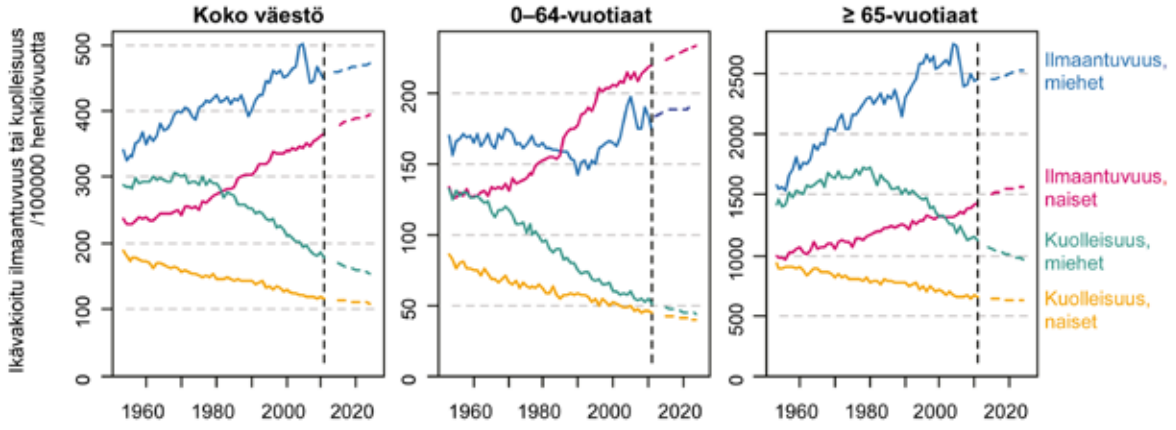


Figure 2. Finnish age-adjusted cancer incidence and -kuolleisuus 100 000 per capita in the years 1953-2011 and the forecast of development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

The incidence of breast cancer and prostate cancer, and mortality caused by them

Breast cancer, prostate cancer and the increase in the number of cases in the general population. This is due to the incidence of cancer from increases of more than 65 years of age (Figure 3). Less than the number of cases of 65 years is predicted to remain relatively stable for cancer, which reflects the 45-65-year-old large decrease in the proportion of the population ages, generation-specific (Figure 12).

According to forecasts, in 2025, states in our country 7 000 prostate cancer, of which 1 500 children under 65 years of age, and females, respectively, 6 400 new breast cancer, of which 2 800 children under 65 years of age (Table 1, Appendix 1).

Breast and prostate cancer deaths are increasing more than 65 years of age a little bit. Children under the age of 65 breast and the number of prostate cancer deaths, however, are expected to decline. (Figure 3, Annex 1.)

Breast cancer, prostate cancer and age-specific incidence is expected to continue to grow throughout the whole population ages and both separately (Figure 4).

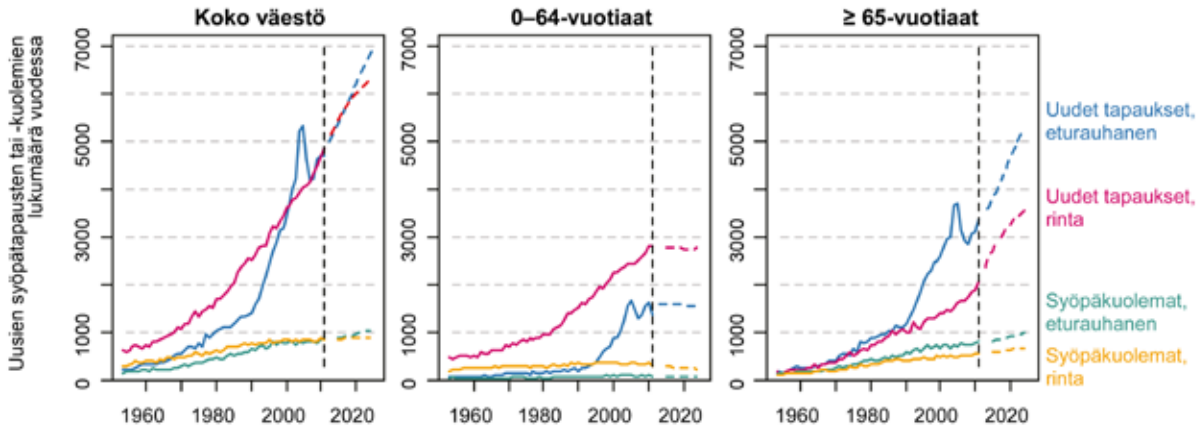


Figure 3. The new prostate and amounts cases of breast cancer and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

The incidence of prostate cancer is both age groups, a clear spike caused by the increased use of the PSA test in the 2000s. After this incidence has leveled off. Age-adjusted incidence of breast cancer has increased in recent decades, both under and over-65 age group. (Figure 4.)

Age-standardized mortality rates of breast and prostate cancer has decreased in the general population, and this trend is expected to continue in the future (Figure 4).

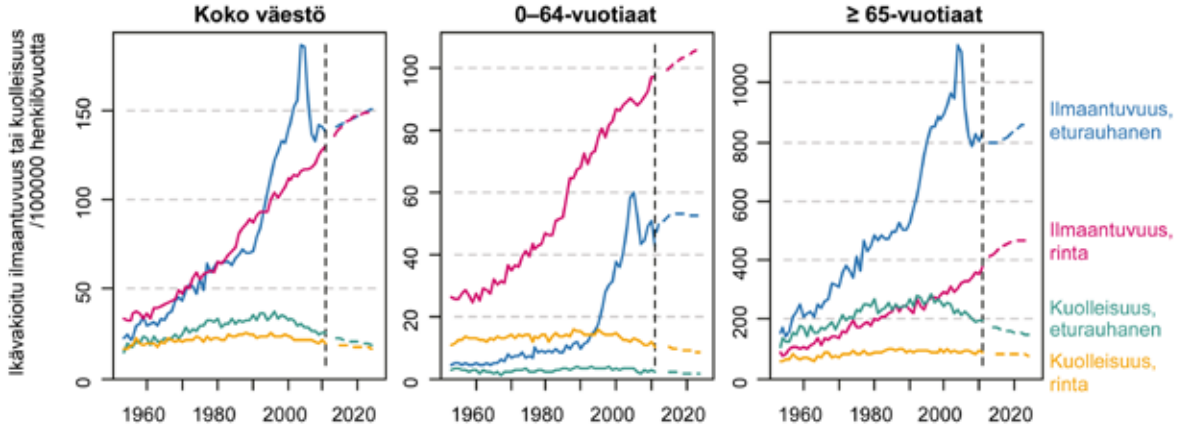


Figure 4. prostate and breast cancer incidence and mortality from cancers per 100 000 person-years of the period 1953-2011 and the projected development until 2025 in the general population, both individually and 0-64-
≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

The incidence of bowel cancers, and cancers caused mortality

Colorectal cancers (colorectal cancer in combination) the number of cases is expected to increase throughout the whole population, and this is mainly due to the increase in the number of cases over 65 years of age group (Note 1). The most noticeable change is in men over 65 years of age. the amount of bowel cancer deaths is also expected to increase Both the men's and women alike (Table 1).

Intestinal cancers, age-specific incidence is expected to grow, particularly in men. The growth of this heutuu almost exclusively in the incidence of the increase in men over 65 years of age. (Figure 5.)

Colorectal cancers, age-specific mortality rates are expected to decline in both sexes throughout the whole population, as well as examined in both age groups (Figure 5).

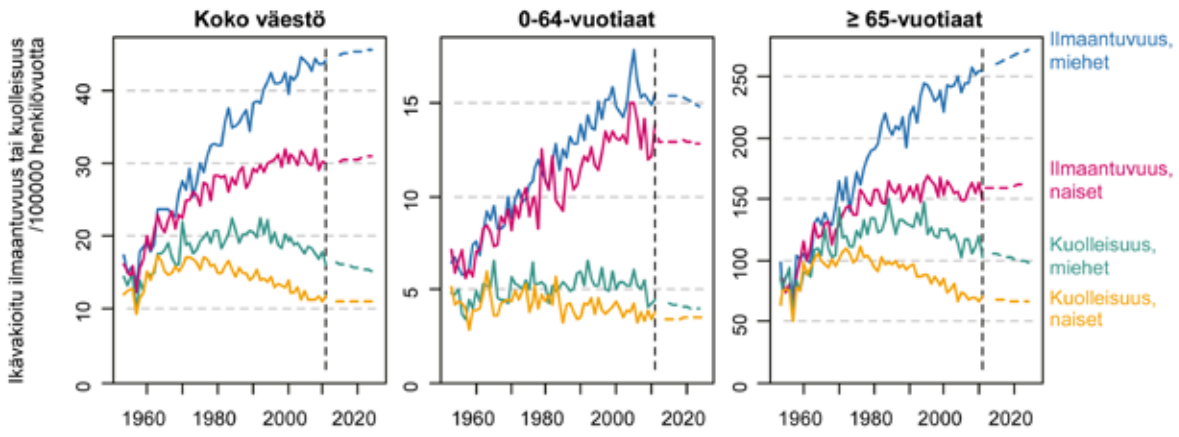


Figure 5. Colorectal cancer incidence and mortality from cancer per 100 000 person-years of the period 1953-2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

The incidence of lung cancer and mortality from cancer

Of lung cancer cases in men and reduced correspondingly increasing in women, reflecting occurred in men and women, smoking habits changes (Table 1).

Lung cancer, age-adjusted incidence and mortality due to cancer in men and reduced respectively increased in women. The incidence and mortality for both sexes almost the same because of lung cancer patients with poor prognosis. (Figure 6.)

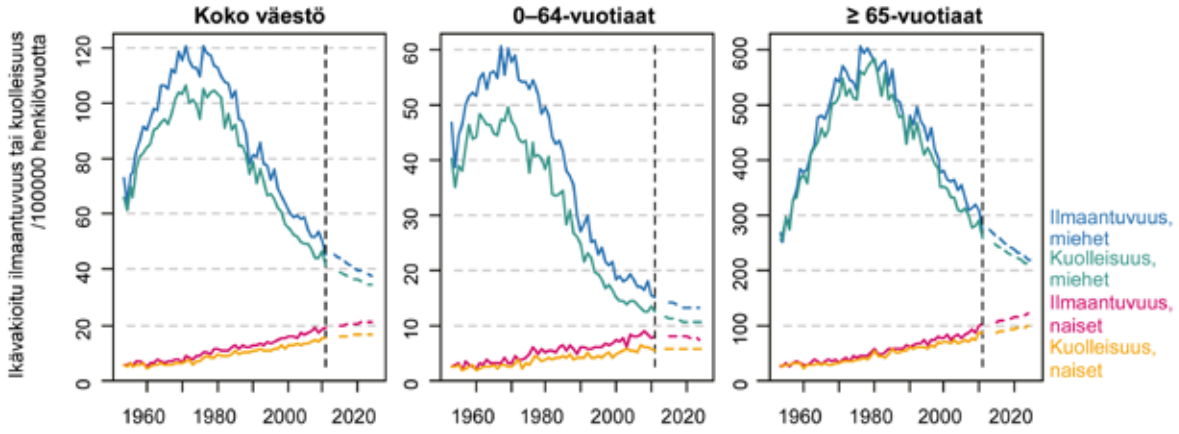


Figure 6. The incidence of lung cancer and mortality from cancer per 100 000 person-years of the period 1953-2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

The incidence of cutaneous melanoma and mortality caused by cancer

Skin cancer cases in the general population are clearly increased in both men and women. It is worth noting that the increase in the number of cases both under and over 65 years of age. (Table 1, Appendix 1)

Age-adjusted incidence of cutaneous melanoma also grow significantly in both sexes. The appearance steerability is expected to grow by 2025, particularly in women under 65 years of age and over 65 years of age men (Figure 7).

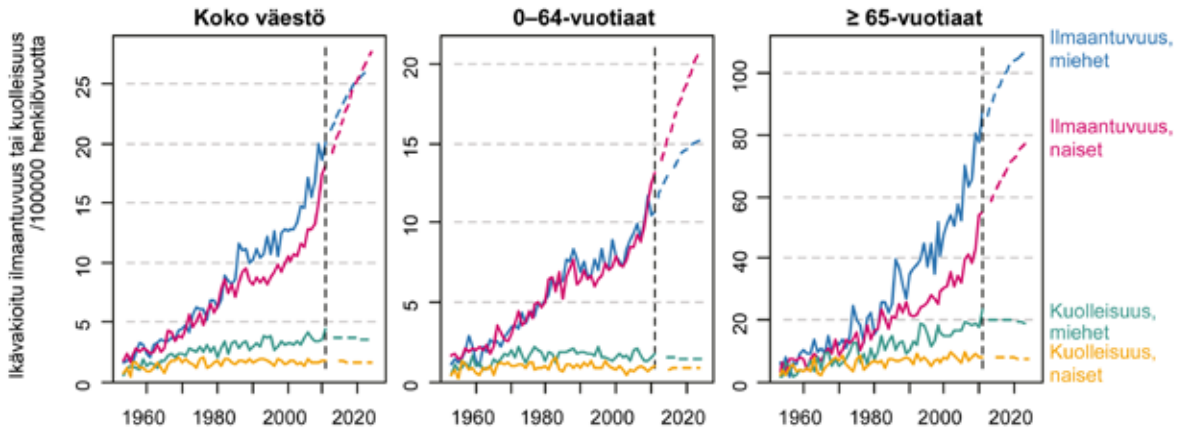


Figure 7. cutaneous melanoma incidence and mortality from cancer per 100 000 person-years of the period 1953 to 2011 and predicted to development by 2025 the entire population, both individually and 0-64- ≥ 65-flux tiailla. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

Table 1 number of new cancer cases and cancer deaths in amounts of 2011 and forecasts for the years 2015, 2020 and 2025. The amount of cancer cases and cancer deaths are shown separately below and above 65 vuotiail- Ic is given in Annex 1.

When you look at the number of cases in both men increase prostate cancer and breast cancer among women. Overall, the incidence of cancer increased amounts in men as compared to the 2011 level of 42% and women 29%. Very prominent is the increase in melanoma cases: the projection for diagnosis in 2025. In total, 300 new cases 2, which is in women and 77% men, 68% more than the current (1 to 300 in 2011).

Cancer deaths are expected to increase by more than 14 000 cases per year, while the corresponding figure in 2011 was about 11 650.

Table 1. Numbers of new cancer cases and cancer deaths in 2011 and projections for the years 2015, 2020 and 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Brackets are marked with the predicted percentage change from 2011.

	Gentlemen							Ladies						
	2011	2015		2020		2025		2011	2015		2020		2025	
Cancer Cases entire population														
Prostate	4718	5400	(14)	6200	(31)	7000	(48)	-	-		-		-	
Breast	-	-		-		-		4869	5500	(12)	6000	(24)	6400	(31)
Intestinal	1489	1700	(13)	1900	(29)	2200	(45)	1314	1400	(9)	1600	(20)	1800	(34)
Lung	1562	1700	(6)	1700	(9)	1800	(12)	815	910	(12)	1100	(29)	1200	(46)
melanoma	651	790	(22)	970	(48)	1100	(68)	660	800	(21)	1000	(52)	1200	(77)
all cancers	**15024**	**16900**	**(13)**	**19200**	**(28)**	**21400**	**(42)**	**14734**	**16000**	**(9)**	**17600**	**(19)**	**19000**	**(29)**
Cancer Deaths entire population														
Prostate	880	880	(0)	950	(8)	1100	(22)	-	-		-		-	
Breast	-	-		-		-		839	850	(2)	870	(4)	900	(8)
Intestinal	552	620	(12)	690	(24)	760	(38)	597	590	(-1)	650	(8)	720	(20)
Lung	1430	1500	(5)	1600	(9)	1600	(14)	677	740	(10)	850	(26)	970	(44)
melanoma	148	140	(-7)	150	(1)	160	(10)	76	79	(4)	83	(9)	85	(12)
all cancers	**6104**	**6400**	**(5)**	**6900**	**(14)**	**7600**	**(24)**	**5547**	**5700**	**(3)**	**6100**	**(10)**	**6600**	**(19)**

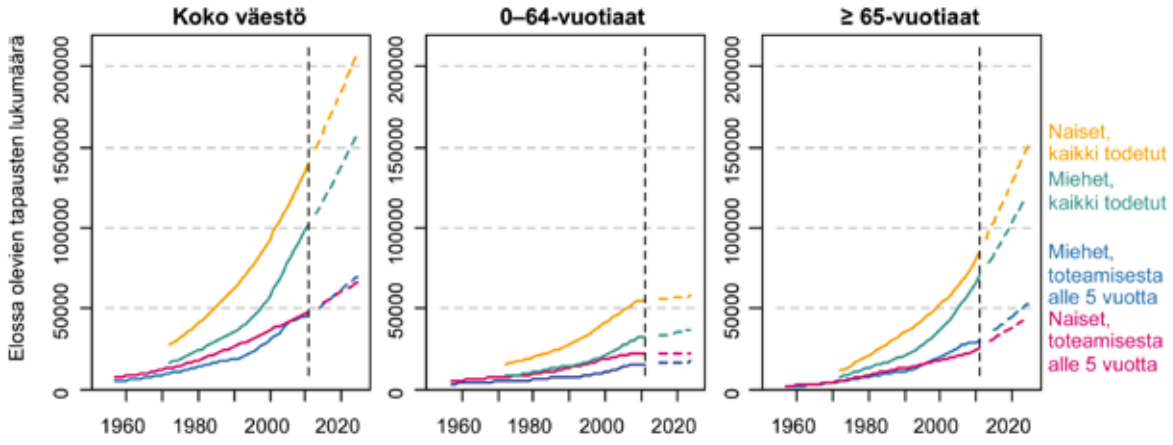
2.3 of cancer prevalence by 2025

the number of surviving cancer (prevalence I. prevalence) is expected to grow significantly in the future. BY alive at the end of 2025, the Finns is expected to total 373 found in 000 cancer

pätapausta, of which 212 000 women and 161 000 men (Table 2). Since the majority of patients, found numerous cancers, the number of surviving cancer patients slightly lower. Figures and tables usten shown syöpätapa-, however, the text refers to the number of cancer patients for reasons of clarity in the future.

In particular, the increase in the number of surviving cancer in individuals who have suffered over 65 years of age. This produces mainly an increase in heutuu hyväennusteisten cancers (breast, prostate and colon cancers) and, especially, in older age groups and the change in population structure (Figure 12). the surviving cancer who had suffered a number of less than 65 years of age is expected to remain relatively stable (Figure 8, Table 2).

At the end of 2025 is estimated to be about surviving cancer survivors 66 900 women and 71 200 cancer survivors man, whose illness is less than 5 years (Table 2). This is a group of patients, trapped by the sorbent will need a lot of specialized resources due to cancer treatment or follow-up.

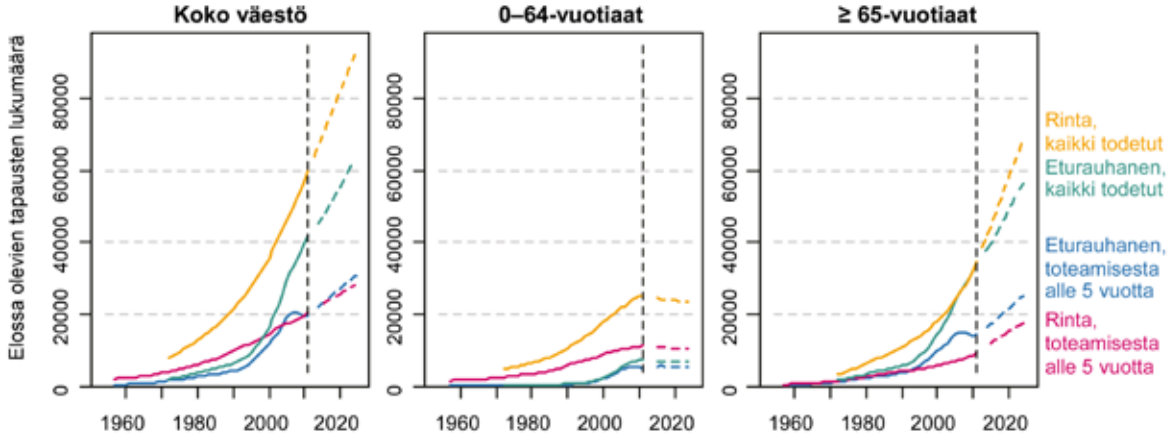


Picture 8 of surviving cancer cases from 1953 to 2011 and the amounts projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

of surviving breast and prostate cancer patients amounts

of surviving in breast and prostate cancer patients, increasing amounts (Figure 9, Table 2). This is due almost exclusively for more than 65 years the number of breast and prostate cancer patients increased.

All in all, at the end of 2025, our country is estimated to be alive in 94 600 breast cancer survivors women and 64 700 men for prostate cancer sairastanutta. Of these 28 women 300 men and 31 200 is evaluated infected within 5 years of the preceding i.e. the period 2021 to 2025 (Table 2)..



Picture 9 of surviving prostate and breast cancer cases in quantities of 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

The number of surviving bowel cancer patients

the number of surviving intestinal cancer patients is estimated to increase, this resulting from increases in the number of cases over 65 age group. Under the amount of bowel cancer patients aged 65 to increase only slightly (Figure 10, Appendix 1).

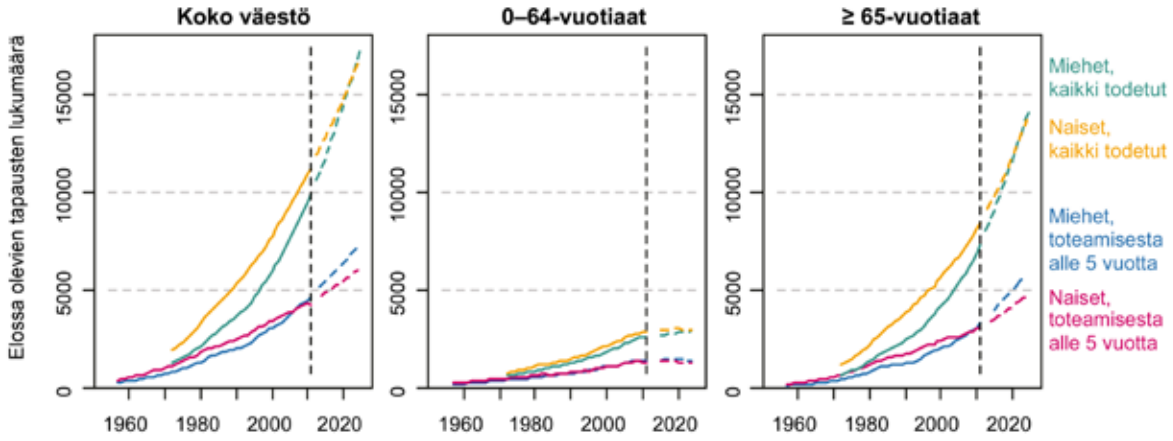


Figure 10. Those who are alive bowel cancer cases from 1953 to 2011 and the amounts projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

The number of surviving lung cancer patients

Number of surviving patients with lung cancer remains almost unchanged, reflecting the poor prognosis of lung cancer. All in all, at the end of 2025, our country is estimated to be slightly over 5 000 people in lung cancer survivors, while the corresponding figure today is just over 4 000 (Table 2).

The number of surviving ihomelanoomapotilaiden

The number of surviving ihomelanoomapotilaiden clearly increased among both men and women. Unlike in the case of other types of cancer described above, the addition of states, and less than the 65-year age group over (Figure 11).

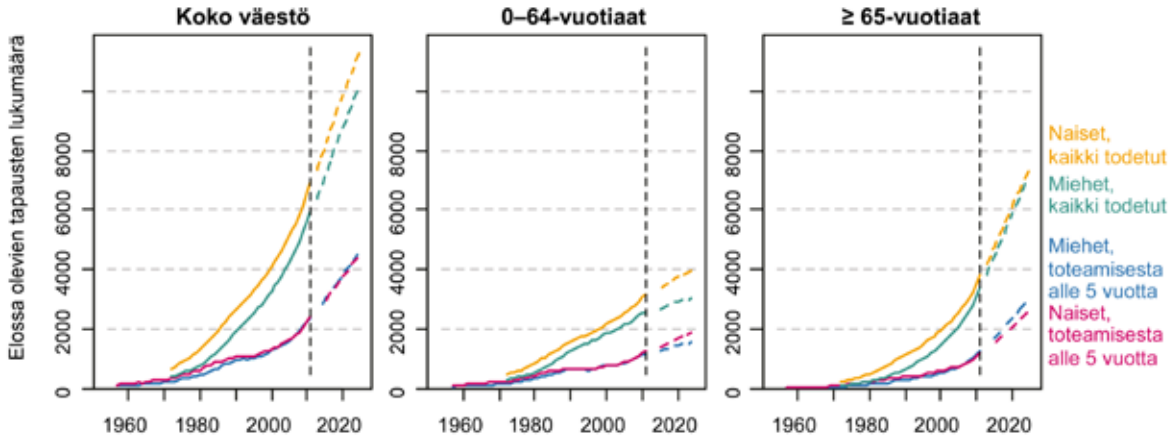


Figure 11. Those who are alive ihomelanoomatapausten volumes from 1953 to 2011 and the projected development until 2025 in the general population, both individually and over 0-64- ≥ 65-year-olds.

Table 2 of surviving cancer incidence rates are shown at the end of 2011 and forecasts for the years
At the end of 2015, 2020 and 2025. Since the majority of patients (approximately 10 percent) state during the lives of cancer, more than one, the number of predicted cancer cases slightly higher than the survival of cancer patients Number of.

The number of surviving cancer is increasing by more than 50% compared to the 2011 numbers of patients among both men and women. In particular, the cancer is increased in excess of 65 years old with a number, for which an increase of 2011 compared to the figures of 76% in males and 80% females (Appendix 1).

2. Table of surviving cancer cases amounts at the end of the year 2011, and forecasts at the end of the years 2015, 2020 and 2025 in the general population, as well as separately for 0-64 and over 65 years of age when accompanied by are A) cancers, a finding which is less than 5 years and

B) all recorded cases of cancer. Brackets are marked with the predicted percentage change from 2011.

	Gentlemen				Ladies			
	2011	**2015**	**2020**	**2025**	**2011**	**2015**	**2020**	**2025**
A) detection of cancer less than 5 years								
Prostate	19433	23000 (18)	27200 (40)	31200 (61)	-	-	-	-
Breast	-	-	-	-	20484	22800 (11)	25800 (26)	28300 (38)
Intestinal	4627	5400 (16)	6400 (38)	7400 (59)	4263	4800 (13)	5400 (28)	6100 (43)
Lung	1641	1700 (5)	1700 (5)	1700 (4)	1048	1200 (17)	1400 (38)	1700 (59)
melanoma	2386	3000 (24)	3800 (60)	4600 (95)	2438	2900 (19)	3700 (54)	4600 (87)
All cancers	**45407**	**52600 (16)**	**61900 (36)**	**71200 (57)**	**48394**	**53700 (11)**	**60400 (25)**	**66900 (38)**
B) All cases of cancer identified								
Prostate	41486	46500 (12)	55500 (34)	64700 (56)	-	-	-	-
Breast	-	-	-	-	59659	69200 (16)	82000 (38)	94600 (59)
Intestinal	9902	11800 (19)	14400 (46)	17400 (75)	11178	12700 (14)	14700 (32)	17100 (53)
Lung	2518	2600 (1)	2600 (3)	2600 (4)	1700	2000 (16)	2300 (38)	2700 (59)
melanoma	5934	7100 (20)	8800 (48)	10300 (74)	6964	8100 (16)	9900 (42)	11400 (64)
All cancers	**102743**	**117000 (14)**	**138000 (35)**	**161000 (57)**	**140294**	**159000 (14)**	**185000 (32)**	**212000 (51)**

Procedures

Syöpäilmaantuvuuden, mortality and -vallitsevuuden forecasts for the years 2012-2025 was carried out in Norway After filling in the register on Nordpred-developed statistical software (Møller et al. 2002 and 2003). The program evaluates age, calendar period, and birth year effect of the detected data using a statistical model, which is projected is obtained by extending the linear trend calendar period into the future.

The trend was estimated type of cancer based on the history of the last 6-35 years. Since syöpäilmaantuvuuden the age-specific morbidity and mortality trend was believed to be regularized over time, observed a linear cut with the trend in the forecast quarter of the years 2017-2021 and the year 2022 onwards.

The case projections of volumes made by the Center of Statistics projections Finnish population vuosil- le 2012-2060 was used.

Since the majority of patients, more than one cancer are alive in the number of cancer patients in reality a little less than the amount found in these patients the incidence of cancer, which illustrate projections. For example, the alive forms at the bottom of the 2011 men have found 102 743 cancer in women and cancer 140 294. Of these, 11% have been found in people who have already been diagnosed with any cancer. These figures lands is treated only with invasive cancer, in situ carcinoma and actinic keratoses have been left out.

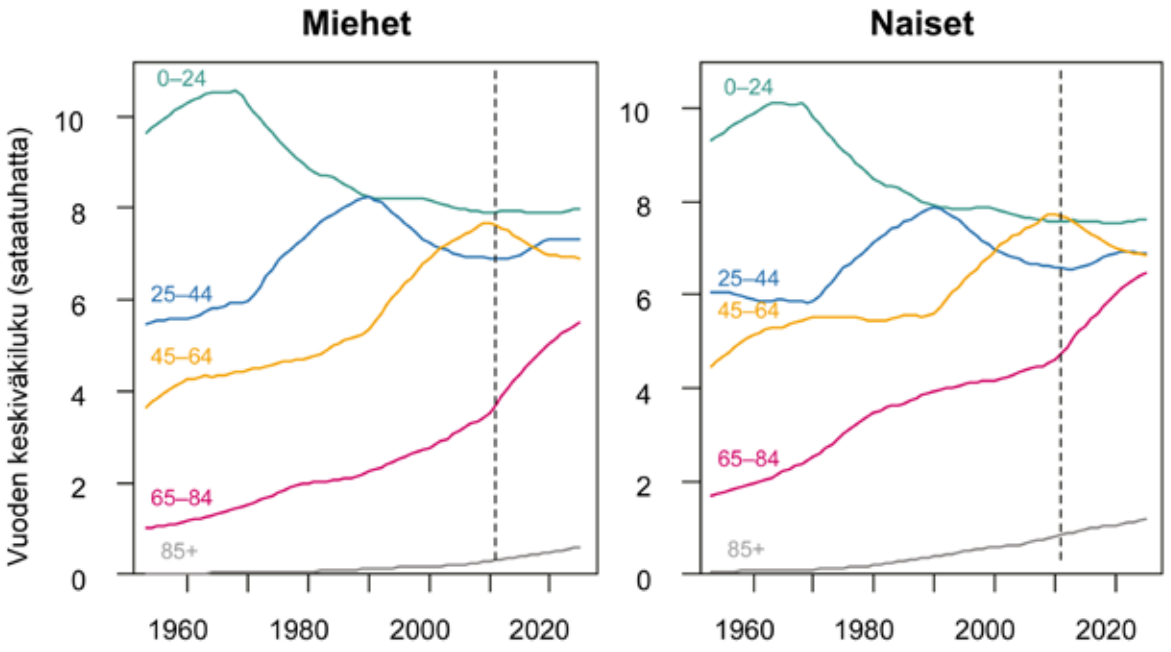


Figure 12. Finland's population by age group in 1953-2011 and forecast until 2025.

2.4 The cost of cancer

the cost of cancer treatment

The development of cancer treatment in 2010-2020 - report estimated in 2020 the cost of cancer treatment to be approximately EUR 1.5 billion. According to calculations by the actual treatment costs in 2015 to nearly 900 million in 2020 to about 1 300 million. In the same estimate the cost of rehabilitation was estimated to increase by 6.8 million to EUR 10 million. Screening costs were estimated in 2015 OLE van 19,1 million and EUR 26 million in 2020. The remainder of the growth was estimated to be due to the cost of productivity, but e.g. the amount of lost labor inputs not included in the assessment.

The calculation assumed when the number of outpatient care will increase by 5-10% per year, as well as perusterveydenhuol- Lossa that specialized medical care. As a result of inflation, unit prices was estimated to increase by 2% and therapies tilting specialized medical care by 3% per year. The calculation does not take into account possible changes in screening changes. the cost of health promotion and cancer prevention was not evaluated.

after the publication of the report of the Nordic Cancer Union (Nordic Cancer Union, NCU) commissioned study, which compared the cost of cancer treatment in the Nordic countries has been published. It stated the unit costs of cancer treatment in Finland slightly smaller (about 5%) than in Sweden, Norway and Denmark, but made it difficult to compare Finland with regard to health inpatient care, the importance of which the viewpoint of the costs had to be taken into account separately. Still, the treatment was less expensive than the cost of treatment in other countries. Most of the cost is related to the cost of breast cancer, bowel cancer and prostate cancer, and particularly breast cancer, costs were also boosted productivity costs and costs of screening.

Nordic estimates that the cost increase was slower than in the Finnish study. The difference was thought to be due to a variety of cancer vallitsevuusennusteista and in that the NCU's Norwegian study evaluation is not included in the cost of treatment rising assumptions.

NCU's study, based on cancer vallitsevuusmuutosten calculated costs to rise Messa protected by 2025 around 21% since 2007 and a prevalence increase by 28.9% in the same time na. NCU's estimate, the cost of cancer care in Finland in 2025 is EUR 743 million.

NCU method used in the study was different from the study Mäklin and Rissanen, wherein the corresponding estimate for the year 2015 was 850 million euros. The difference is due not only to cancer vallitsevuusarvioiden difference between the increase in the estimated cost of the drug. In any case, these give a clear indication of the fact that the cost of cancer treatment will increase in the future.

Cancers caused an estimated cost of over EUR 750 million in 2011 in our country. In health care direct cost of this amount was EUR 623 million and EUR 135 million cost of productivity. The growth has been in our country, however, more moderate than previously expected, particularly with regard to drug costs. The drug affects the costs mm. the fact that the patent protection of many drugs railway ettua drug costs have been reduced. On the other hand the market has become and coming up with many new and expensive drugs, so the actual cost is difficult to predict. Anticancer share of total drug expenditure is about 20%. Most of the cost of the specialized generated at the beginning of treatment and on the one hand and metastatic disease with palliative stage.

In 2004, prostate cancer costs amounted to approximately EUR 180 million and breast cancer costs about EUR 70 million. The latter costs were expected to grow by 2015 to more than 110 million euros per year, even if the missing chapter of specialized outpatient treatment costs and rehabilitation costs. These types of cancer treatment costs are likely to continue to grow, although the drug cost growth slowed down the game. Nordic study, colorectal cancer is increasing the most cost years tea 2025 (1.7%) and 1.1% of prostate cancer. In this calculation, the proportion of breast cancer in costs due to reduced slightly; By default, the prevalence is slower growth than the average eaters. However, Preva- lenssien growth in the Nordic countries is different, so the calculation is uncertainty.

Projections show the incidence of bowel cancer is growing rapidly in Finland, especially among 65-year olds the men over. Less than a 65-year-olds is not a corresponding increase to be expected. Figures non-, inside the effects of further screening. All in all, the prevalence of colorectal cancer will increase by nearly 50% by the year 2025. Colorectal cancer costs in 2004 were less than half the cost of breast cancer, while those stated at the time of about 2 300 breast cancers and about 4 000 per year. Ilmaantuvuu- of prostate cancer, the prediction has proved to be difficult, but it is assumed that the population will continue to grow still aging. Prostate cancer treatment would result in large costs, particularly vuodeosastohoi- do not need to because of it.

Of this report, it is essential to examine in particular the rehabilitation and screening for cancer, as well as conditional käisyn development costs. in the light of new information Cancer Registry is obvious that the overall development support lee previously presumed to be in accordance with: women with breast cancer and prostate cancer, men dominate the incidence vuustilastoja. They are also two of the most costly cancer.

the cost of screening and HPV vaccination

Screening costs were estimated in 2015 to be 19.1 million and EUR 26 million in 2020. These figures include only the statutory screenings based on the call and include only the cost of screening visits and screening tests for, but not eg. Cancer precursors medical costs. Screening nan cost share the cost of all cancer is small, about 2%. Organized screening cost nusvaikuttavuus is probably a reasonably good level in our country, but cost-effectiveness in order to improve is important to reduce the opportunistic screening.

Expected changes in screening may increase the cost. of Colorectal cancer screening program would increase the cost estimated at about 7-8 million, if the screen was performed by 60-69-year-olds, such as 4 is described in more detail in chapter. The prospective prostate cancer screening of costs is more difficult to assess, but it is probably more expensive than a bowel cancer screening.

the cost of cervical cancer screening can be reduced in the future, especially if the screening tatiheyttä can be reduced to a life term tests reduced. The possible transfer Pap screening rather than HPV-screening may also affect the cost of follow-up and treatment, since the HPV screening to find all the precursors of more than a pap test. HPV vaccination in the prevention costs are about 2 million Euros per year higher than current costs.

Screening can often find cancer at an early stage and asymptomatic, wherein the cost of treatment of the cancer diseases are smaller than they would be without screening. This will take into consideration when assessing the cost of screening.

the cost of rehabilitation support

Rehabilitation costs are estimated at 6.8 million in 2015 and 10 million in 2020. The share of the cost of rehabilitation has been so smaller screenings, only less than 1% of cancer related to the overall cost. Cancer prevalence increases, the importance of rehabilitation can grow, even though the incidence of cancers in people of working age does not appear to appreciably increase. However, rehabilitation is also needed to support the aging tyvien groups.

It is estimated that about 20% of cancer patients would benefit from rehabilitation, which would mean about 8 000 rehabilitation client, the client by the year 2025. This represents a considerably large resources need arises. Often rehabilitation support also needs to close. Today, the Social Insurance Institution and the Cancer Society organized by the Rehabilitation and about 2 000 clients annually participates in the adaptation and, the total cost of group activities are about two million a year. Also, hospitals provide rehabilitative activities to their customers, as well as hospitals and the Cancer Society of avomuotoista activity recently with cancer sufferers. Some of cancer patients require scale facility and medical rehabilitation, which form the majority of the cost Come rehabilitation.

Timely and correct type of rehabilitation work supports the return of people of working age, as well as contribute to the survival of older patients' everyday challenges, and thus reduce the need for hospital care. All in all, rehabilitative activities may be regarded as resources-saving society.

Cancer prevention costs

the cost of health promotion has been estimated to be approximately 1-2% of the total cost of health care. However, cancer prevention and health promotion could reduce cancer incidence and mortality and thus also the costs. The best example is lung cancer, whose incidence is relatively rapidly decreased among men. This cost impacts have been considerable. the effects of the adult population's smoking cessation appear quickly, rather than the effects of a reduction in youth smoking appear slowly, until decades later.

Preventable cancers include cutaneous melanoma, whose incidence is growing rapidly in particular among the more than 65 years of age for men and women under 65 years of age. Melanoma mortality does not seem to grow, but the prevalence therefore increasing rapidly. Surviving the melanoma sufferers estimated in 2025 to be almost 50% higher while now. This is likely to have effects in particular, the costs of cancer monitoring.

the effects of changes in health care costs is difficult to predict. Primary care outpatient share growth is predicted for the development in 2010 of cancer treatment, which reviews the reports acetate, but its implementation with regard to cancer therapy has not been evaluated. Specialized medical cancer are currently treated quite effectively, and at least the NCU in the light of the report's more cost-effectively than in the other Nordic countries.

RECOMMENDATIONS

- It is estimated the cost of cancer in 2015.
- evaluation of the cost is taken into account, as well as the direct costs of cancer (screening, diagnostic ka, treatment, rehabilitation, follow-up) and indirect costs (incl. disability).
- To monitor closely the development of cancer costs, taking into account epidemiological trends, as well as the development of diagnostics and treatments.
- Produce forecasts of changes in the cost of utilizing the Finnish Cancer Registry produced information on trends in cancer incidence, cancer mortality and prevalence.

- When assessing the cost of cancer is estimated also brought about by health promotion and screening nan with treatment costs savings.
- assessing the rehabilitation costs are taken into account also possible tuottavuuskustannus- of reduction (eg. increased return to work after cancer), as well as the possible need for institutional care decline.

the assessment of cancer-related know-how costs are particularly THL in Tampere and Eastern Finland in universities and the Finnish Cancer Registry. knowledge of these operators utilized in the evaluation of the cost of cancer.

3 Cancer prevention and health promotion

3.1 Objectives of Health Promotion

The World Health Organization's Ottawa document dating back to 1986 and the Jakarta Declaration of 1997 define the health criteria for the promotion of public health (health promotion). They deal mainly in health policy objectives, review of strategies and methods. The aim of health promotion is to increase the opportunities for people to influence their own health and their environment. A stimulating health can be affected by increasing people's health literacy, by making decisions that promote health, improving health care operations, developing health standpoint safe environments and ensuring conditions for the health of communities. WHO's Health for All

- from the perspective of the program focuses specifically to creating more healthy years of life.

Health promotion and disease prevention are the Finnish health care priorities. Social Affairs and Health Ministry has a general responsibility for the control and monitoring of health promotion. Health promotion is based on public law and is part of public health work. Health promotion also provides the Communicable Diseases Act, the Tobacco Act and raittiustyölaissa. The responsibility for health promotion practice can carry out their activities generally include the municipalities. Finnish health policy emphasis is on during the last ten of the year was to bring health into all policies, "health in all policies" principle (HIA). The point of departure is that health is not affected only the social and health care functions, but also in numerous other ways, such as transport, environment, housing and agricultural policy.

health promotion and disease prevention a central role in people's own lifestyle and living conditions. Important elements that may be affected include disease prevention of exercise and healthy dietary means. the risk of harm caused by alcohol consumption, drugs and smoking, aimed at preventing a by influencing the routine use of and access to harmful substances.

factors affecting the health of the living environment include. The purity of air, water quality and noise. Environmental töterveydenhuollon task is to ensure that the living environment factors cause harm to human health it. Vaccination and good hygiene program has been thwarted most of the infectious diseases and contagious diseases, especially among children.

specific tasks of health promotion at work are public health

- the health status of the population and the factors influencing monitoring and evaluation of development
- health services: health counseling, health checks, health clinic services, school and student health care, occupational health care, screening tests and health protection as well as ympäristötervey- Primary health care

- lifestyle counseling and health education
- Expertise in health promotion and health Speaking on behalf of the
- health ex-ante evaluation
- cross-functional cooperation to achieve the objectives for health promotion.

A more concrete approach to health promotion is the prevention of diseases, ie preventio. It refers to ways to strengthen their own human resources and seeks to minimize the drawbacks caused by the disease. Disease prevention is based on the idea that by preventing the genesis of the disease can be minimized by treatment of the disease, and it may even partially redundant.

health promotion is not necessarily a question of launching new activities or the creation of new organic organization's existing ones. The issue is health concerns into

different sectors of administration in action, setting common goals and systematic monitoring and evaluation of implementation misesta objectives, implementation, and draw conclusions on the basis of the evaluation. To accomplish this function along with the municipalities play an important role also has a sports and health organizations.

3.2 Cancer prevention by means of health promotion

Cancer cases is expected to increase in the future in our country, particularly the so-called. living cancer such as intestinal cancers, breast and endometrial cancers, and cutaneous melanoma. The risk of these cancers, we can influence our own habits, not smoking, low-risk alcohol use, as well as its healthy nutrition, adequate exercise and maintaining normal body weight by means of melanoma in respect of a reasonable aurinkokäyttäyty- milling. It is estimated that approximately 30-40% of breast cancer cases could be prevented by lifestyle choices. In practice, this would mean in our country for more than 10 000 cases of cancer per year.

The clearest example of preventable cancers are caused by smoking, eating. Globally smoking causes one-third of all cancer cases, and, for example, about 90% of lung cancers are caused by smoking. Finnish level, this means that not smoking could prevent about 2 400 of all the country today that observed approximately 2 700 lung cancer cases. Breast cancer to participate estimated that approximately 20-30% of breast cancers could be avoided by means of a healthy lifestyle. This with gentle estimates would mean at least 1 000 breast cancer a year.

in the light of future trends, in particular cutaneous melanoma are increasing the number of cases substantially its entire population, both men and women. It is noteworthy that the number of cases will increase both under and over 65 years of age. This development associated with the increased population of UV exposure, and this type of cancer should be evaluated by the almost completely (over 90 percent) preventable rational solar behavior and by avoiding exposure to UV solarium. In practice, this means more than 1 000 cases of cancer per year. Measures will is needed especially in the younger age groups.

In the future, the proportion of overweight and immobility cancer risk factors is emphasized even further. TA Therefore, it is necessary to increase health promotion also act as a cancer prevention point of view, in order to maintain normal body weight, as well as the promotion of health and healthy nutrition. This is natural to take as part of non-communicable diseases, namely the so-called. NCD prevention of diseases (non-communicable diseases) to do the job.

in terms of the standard of living of many types of cancer research is needed on the effectiveness of interventions in different health promotion. Today, for example, is unknown the kinds of policies and the effectiveness of elintapoi- Hin syöpätaakkaan. On the other hand, certain interventions directed at individuals (eg. Screening, health checks and medical follow-up), may affect the lifestyle of those individuals.

3.3 Cancer prevention as part of the non-communicable disease prevention

The extent of non-communicable disease epidemic

Non-communicable diseases often include cardiovascular diseases, cancers, diabetes and chronic lung disease.
Non-communicable diseases worldwide, about 36 million people died in 2008, which is 63% of all deaths. If the prevention of chronic diseases is not increased, they die WHO estimates in 2030, some 52 million people each year. About 80% of deaths in non-infectious diseases occur in central and in low-income countries. In developed countries, non-communicable disease epidemic has been commonplace for decades.

Each year, more than 9 million people die of non-communicable diseases before the age of 60. Cardiovascular disease in the world die each year 17 million people, 7.6 million of cancer, a respiratory uksiin 4.2 million and 1.3 million people with diabetes. These four groups of disease causing 80% of deaths due to chronic diseases zwitterionic.

In Finland, cancer deaths (nearly 12 000) the proportion of all deaths was 23% in 2011, when it was globally about 13% of all deaths (total of approximately 57 million). Morbidity with regard to the search for reliable estimates are not available, but it is known that non-communicable diseases is on the rise, and in terms of DALY meter (Disability Adjusted Life Years a viable years of life) have already cause considerably more health losses in the developing countries than in infectious diseases.

These non-infectious diseases are several common risk factors are well known. Among the most important are the use of tobacco products, immobility, harmful alcohol consumption, and nutrition-related risk-kit. Risk factors include indicators. obesity, elevated blood pressure, a large proportion of fat in the diet and increased cholesterol. Smoking, alcohol consumption, and immobilization can be measured as such. Risk factors are plenty of others, but the four biggest helps to explain most of the morbidity. The screen for these factors has strengthened all the time.

Risk factor management

Measures to reduce the risk factors is geared tautiryhmälähtöisesti often, but in recent decades has been prepared packages with a uniform policy, it is possible to affect the prevention of many diseases.

Action has been to many countries, including Finland, profitable. As a result of illnesses caused by tobacco policy allocation on tobacco have decreased, especially in men with lung cancer and contributes to coronary artery disease. As a result of Exercise of Political hobby exercise is even to some extent replaced the everyday physical losses. Alcohol policy in Finland has succeeded in reducing alcohol consumption, but consumption structure change is currently happening. Nutrition policies for enhancing the nutrition of the population has changed the health of the more favorable, although recent changes in nutrition may increase the risks to health caused uttamia.

programs aimed at the management of risk factors have contributed to many chronic diseases morbidity and mortality at the same time. In addition to Riskitekijäperusteisten programs in many countries, especially in Finland, has highlighted the fact that health is promoted in all policies. It is not only a health issue but belongs to everyone. many different public authorities and the activity of the various players needed to prevent eating particular. was founded in Finland aimed at preventing the general public health diseases NCD network that aims to make it easier for various organizations as well as organizations and public authorities and other actors of cooperation.

European programs to non-communicable diseases curb

In addition to national programs in Europe have been previously implemented mm. European Union program "Europe Against Cancer", and currently (2011-2014) is in progress, "The European Partnership for Action Against Cancer" (EPAAC). one part of the latter program is an assessment of the national cancer strategies. "Europe Against Cancer" focused on the one hand, a common cancer code (European Code Against Cancer) for communicating the same in all European countries, and on the other hand small-scale research and development activities. EPAAC is a diverse EU's joint action program. the impact of programs is not very well able to monitor the country, but they are signals common efforts to reduce the threat of cancer.

Non-communicable has launched a number of interventions, of which perhaps the most extensive to mention the World Health Organization to reduce disease risk factors: smoking, compiled by the reduction look- ing global agreement Framework Convention of Tobacco Control (FCTC), a unique legal level agreement.

Non-communicable diseases perspective of the national cancer plan

Cancer of the strategy should be consistent with the direction established in order to prevent a number of other major diseases, with plans to increase efficiency. Objectives mm. diabetes prevention and management of development programs

man (the so-called. DEHKO Program) with have many aspects in common, as well as heart disease and prevention keuhkosairauksi- I do not have lines of parallel perhaps with some exceptions (eg. alcohol).

However, the cancer-specific programs are also needed to include the prevention of cancer. in order to reduce work-related system as carcinogenic resources, in order to prevent health hazards caused by radiation, as well as some infektiosairauksi- not prevent.

Oncological recover after a number is growing. Today, our country is alive for nearly neljännesmil- joona cancer survivors people. Their risk of developing cancer again is slightly larger than other den, and they have often been due to an illness loading the treatment, which increases their risk of contracting eg. Artery disease and diabetes. the promotion of health should therefore also take care of this a number of health conditions. A special group in this respect have recovered from children and young adults from cancer, which elimistöl- le treatment may have caused the damage, which occur for years or decades later.

The aim of health promotion is not just to reduce risk factors for various diseases, but to take care of the fact that people have the best possible position to take care of their own and neighboring communities and environmental healthiness of the environment. This requires society's effort to continue to reduce cancer risk factors uttavia caused people's environments, at work, at home and during leisure time. Members of the public will be available up to date information about a variety of health-promoting opportunities and health threats. Social welfare and support for health care professionals needed treatment but also in health promotion.

RECOMMENDATIONS

- Finland will take over the active use of programmatic identifier "Health in all policies", which mukaises- ti takes into account non-communicable diseases, namely the so-called. NCD-disease risk factors.
- Programs aimed at non-communicable disease risk factors to reduce planned and implemented in our country-wide NCD network of co-operation.
- As part of this network of cooperation to implement projects aimed at reducing cancer and cancer mortality NCD risk factors influencing.
- health promotion is carried out broad cooperation between different sectors of the state administration, local government, kansanterveysjär- organizations and other actors.
- drawn up in Finland in the future common NCD action plan of the WHO NCD accordance with the strategy.
- Promote and support research related to health promotion interventions.

3.4 The use of tobacco products

Tobacco policy developments in Finland

The tobacco policy means the measures relating to the administrative and related tobacco and authorities, communities and other interest groups, economic or health issues. Social Affairs and the Ministry of Health, the tobacco legislation principles is to prevent the initiation of tobacco products, to promote an end to their use and to protect populations from exposure to tobacco smoke.

Tobacco The goal is toxic to humans cessation of tobacco use of products containing and addictive. The Act applies to products made of a tobacco plant, or containing. The law is applied to payments to tobacco smoking means, and imitation products.

Content of the Tobacco Act covers

- The provisions on the composition and the marketing authorizations of tobacco products
- sales and import restrictions for minors in the country
- ban tobacco advertising, promotion and display of
- General conditions of employment or restaurants SMOKING
- Acts guidance, implementation, monitoring and sanctions.

Finland was the world's first country to whose legislation (Tobacco Act 2010) target has been set to end of the use of tobacco products.

Next steps 2000s

Until the 1960s, the tobacco policy aim was to increase income tax-related state and ensure the production of tobacco marketing and profitability. Both of these goals were achieved simultaneously with an increase in the consumption of tobacco. When the tobacco health hazards became known, state Nossa also required of the public health impact of admission. Tobacco policy, this became apparent most clearly, adopted in 1976, the Tobacco Act.

The central passages:

- Smoking was banned on public transport and in public buildings (eg. In schools and in the majority of public premises, but not at work).
- The cigarette packages and tobacco products became obligatory warning about the dangers of smoking to health.
- sale of tobacco products to persons under 16 were banned.
- Tobacco tax proceeds of 0.5 per cent was assigned for use in control activities.
- Nicotine, carbon monoxide and tar were set maximum limits.
- Advertising was restricted in 1977, and it was banned in 1978.

The law has been successfully implemented its key aspects, and it has also had an impact on smoking reduction miseen population level. However, the law shortcomings were observed, and the requirements to protect workers from passive smoking increased in the 1980s. Also, the law is upheld the ban on advertising on-tuivat. The reform of the Tobacco Act became topical in the early 1990s.

Reform of the Tobacco Act came into force in 1995, despite the opposition of the tobacco industry. Lakiuudistuk- its essential elements were

- tobacco products, indirect advertising and sales promotion of all forms of denial
- tobacco purchase age for lifting from 16 to 18 years
- ban on smoking in schools, playgrounds
- ban on smoking in the workplace (excluding separately ventilatable smoking rooms, and the individual offices)

- Act extension in all workplaces, not including restaurants and bars.

From the 2000s to the present day

Turn of the millennium when entering a restaurant with smoking was created to deal more effectively and, forbid which started to be implemented. extension of the 2000 Act within the framework of a three-year transitional period of at least half of the restaurants and bars in the area had to be non-smoking and smoking was banned at the counter. In 2006, became the new glass kimuutos, with smoking banned in restaurants, public indoor areas with the exception of separate insulated ventilated smoking booths. because of the high cost of construction of smoking booths Restaurants moved largely on the interior of the fully smoke-free, smoking when the restaurant moved to the streets and patios. However, Ravintoloit- pullulan is possible to ban smoking on the terraces.

The next time the Tobacco Act was revised significantly in 2010. The aim of the new Act is to support cessation of tobacco products in Finland by 2040. This is aimed at preventing in particular the initiation of children and young people from smoking. The methods of tobacco products marketing and supply restriction of everyday life, particularly for children, sales of tobacco products and the release of a full ban on bottom-old, banning the import of a minor and possession of tobacco products and the determination of the age limit for tobacco products seller for at least 18 years. A key amendment had tobacco products and their marks in the display of the ban on retail outlets beginning of 2012.

The law was also expanded with regard to snuff. Snus to import, sell and otherwise protected disclosure is prohibited Messa. Snuff may be imported for personal use, when you arrive from abroad and carry or transport

it yourself with it. Purchasing and Receiving snuff-mail or in any other way outside Finland is prohibited, so the ordering of snus from the internet is also illegal. The tobacco dispensers prohibits the years 2015 platform.

international development of tobacco policy

Europe waking up legislative tobacco control took place in the early 1970s. In Norway, the law regulating tobacco products came into force in 1975, in France a year later and after keen and more in Europe and worldwide.

In 2004, the WHO's member states adopted the Framework Convention on tobacco (Framework Con- subsidization is Tobacco Control, FCTC), which Finland ratified in 2004. In 2013, 177 countries had ratified the progeny. The framework agreement has been a wide-ranging effect, because according to WHO, tobacco consumption has declined in countries with extensive and sustainable tupakkapolitiikat has been prepared FCTC hen leaning. FCTC requires the complete elimination of tobacco smoke in the environment. As a result, for example, Ireland työpaikois- to, including restaurants and pubs, became non-smoking. Several other countries, such as Italy, Norway and Sweden soon followed closely matched.

to reduce the population of smoking tobacco policies have generally used a variety of strategies such as smokers, smoking behavior, and limiting the influence smoking environments. WHO's comprehensive tobacco policy covers the use and prevention measures in tobacco products, the monitoring are, to protect the environment of the population exposure to tobacco smoke, support for smoking cessation, the risks of using tobacco products, warning, tobacco advertising and sponsorship, and tobacco product promotion denial and tobacco tax increase.

According to the WHO overall tobacco policy can be implemented for example. by the following means:

- Economic policy: the price of tobacco products is faster than the general prevailing rate of inflation. It is used to return the return part tupakoinninvähentämistoimiin.
- Information policy: tobacco advertising, tobacco products, promotion and sponsorship prohibits, all tobacco products are included in large-scale health warning labels, counter-advertising and health education will be invested and school health survey, the Adolescent Health and Lifestyle Survey, as well as the Finnish Adult Population Health Behavior and Health informed of the results of the studies.
- Protection of the surrounding tobacco smoke: the people are protected from the surrounding tobacco smoke through the establishment of smoke-free public places.
- the contents of tobacco products are regulated.
- Tobacco dependence treatment is offered.

While the World Bank has estimated the reduction in demand for tobacco intervention measures aimed at effective; these include.

- Raising taxes on cigarettes
- all cigarette advertising and offers, the prohibition of
- banning smoking in public places
- Demanding strong warning texts and messages on all tobacco product packaging
- better consumer awareness through public information campaigns, media coverage and the publication of research results through

- improving the availability of smoking lopettamispalvelujen.

Finnish and international tobacco policy comparison

In the late 1970s the first Tobacco Act, the Finnish comprehensive tobacco legislation was clear frontrunners. Despite the fact that price and tax policies were outside the law, tobacco policy in different areas was designed to support each other. Furthermore, the 1995 law reform had a significant, when the smoke-free workplace law in 1995 became one of the first countries in the world. As a result of this

passive smoking was significantly reduced within a year the implementation of the Act. In spite of the reform of the 2000s, Finland lost a pioneering role mainly for the following reasons: In Finland, it was possible to build a smoking area of non-smoking in the workplace, we do not have smoke-free legislation on restaurants and in 2003 the restaurant smoking a restrictive law was divided Smoking and non-smoking areas, where tobacco smoke to score easily spread from smoking areas in non-smokers areas.

published in 2014 in the European assessment of tobacco policy in Finland was ranked 9 above were the United Kingdom, Ireland, Iceland, Norway, Turkey, France, Spain and Malta. The evaluation was based on the 2013 situation. Finland got a high score on a comprehensive advertising ban, moderate score of public spaces tobacco kointikielloista and treatment of tobacco dependence directed resources. Weak points Finland received health warnings and is the only country among the top ten list, which is devoid of pictorial health warnings on cigarette packs. Although the prices of tobacco products have been increased regularly, tobacco products prices are still far from the prices of the top countries.

Finland, like other EU countries, the tobacco legislation is based on common regulation of the Union. It covers the composition of tobacco products, quality control, import and sales and advertising restrictions. The key legislation comes from two Directives:

- Directive 2001/37 / EC of the European Parliament and of the Council of the manufacture, presentation and of the laws, regulations and administrative provisions of the Member States concerning the sale of tobacco products (Eur-Lex)

- Directive 2003/33 / EC of the European Parliament and of the Council on the approximation of laws, regulations and administrative provisions of the Member States relating to sponsorship (Eur-Lex) and the advertising of tobacco products.

EU institutions has been in the pipeline for a long time the new Tobacco Products Directive, whose main aim is to prevent the initiation of smoking among young people. Key elements of the new Directive are as follows: graphic health warnings must occupy at least 65% of the cigarette packet in the front and rear of the area by the year 2016, and the characteristic flavors, such as menthol, is prohibited by the year 2020. rules on medicinal products for electric cigarettes, if they are reported to help stop smoking. In other cases, the treated tobacco cigarettes, electrical products. The EU's new Tobacco Products Directive adopted on 29.04.2014. Member States shall apply the Directive into national law within two years of its entry into force.

Smoking Trends in Finland

Finnish monitoring of smoking began shortly after the adoption of the first Tobacco Act 1976, the flux na 1977 launched the Adolescent Health and Lifestyle Survey (NTTT), which carried out a directed ages 12-18 survey every two years. The following year began an annual task of the Finnish adult population veyskäyttäytyminen health and health survey (health behavior), which covers the population aged 15-64. AVTK's laajennukse- na older (65-84 years) use of the health of the population has been monitored since 1985 every other year pension-age health behavior and health (EVTK) survey. Studies to further carried out according to the same principles.

Of the adult population smoking

General trends in mind Finns smoking has declined in the past three decades. Among men, smoking has been falling steadily. Women's smoking increased at the beginning of the monitoring period, then remained at the same level for a long time and has declined strongly since the mid-2000s. In 2013, the working age population were 19% and 13% of women smoke daily. Young people (15-24 years), 12% of men and 9% of women stated that they smoked on a daily basis.

There are significant differences according to educational group with smoking. In general, smoking is more prevalent at lower than in the higher educational groups. Educational differences in smoking have increased both

sexes during three decades. Smoking has increased or remained at the same level in the three lowest level of training, but decreased in the two upper group.

smoking among young people

Smoking among young people, as well as experiments that daily smoking are reduced, especially during this millennium. The 2013 data show that the tobacco had tried the 16-year-olds, less than half, when at the beginning of this chapter 2000 figure was up to three out of four. Accordingly, at the time a quarter of a daily smokers aged 14-18, the current latest number is 12% without any major sex differences. Parents aged 16-18 slightly less than a fifth of daily smokers.

Young people daily smoking varies markedly view, success at school and school-career model. In general, the less doing well in his studies the young smoked more than the fare better in their studies. 16-18-year-olds on a daily basis to smoke more, those who are not in school or studying in vocational School in. Smoking is clearly less common among high school students.

smoking cessation discusses extensively already among secondary school age. More than half of smokers kinds of secondary school would like to quit smoking, and two of the three have tried quitting in the past year. More than 80 per cent of smokers in secondary school types are already some signs of dependence is shown. You can see this done among young people 13-15 years of age report for Health and Welfare and the World Health Organization, smoking survey (GYTS).

Retirement-age smoking

Retirement ages 65-84 years men smoke more than women despite the fact that their päivittäistupa- kointinsa has gradually declined over the last three decades. Women's daily smoking, has remained essentially the same at a low level. In 2009, the retirement age of women by 5% daily smokers and 10% of men.

The youngest (65-69 years of age) retirement age, daily smoking is most common, and it has even increased in the recent times. Instead of smoking has decreased more than 70 years of age. It is reasonable to estimate that cigarette smoking reduced the age group of parents in the future also, because of the adult population developments will remain with aging.

The future use of tobacco products in Finland

In Finland, the future of smoking can be assessed and the basis of existing legislation and the development of research on smoking. In 2010, the main objective of the Tobacco Act is unambiguous ending of the use of tobacco products in Finland by 2040. It is essential, particularly for children and young people to smoking prevention. the achievement of the objective of the Tobacco Act is conditional on the reduction of smoking about 10 percent annually at the level of the whole population. In general, this objective required for access to no-smoking campaigns and effective price policy, which has been out of the Tobacco Act. The key to achieving tupakattomuuden is, however, a comprehensive tobacco policy.

Smoking enabling architecture has undergone a non-smoker in terms of positive developments, broadly legislation. Smoking Environments have been substantially reduced, and smoking in public and in public areas is remarkably limited. generalized development, which implies non-smoking habitats support a positive attitude towards the population smoke-free and smoking cessation and reduce the interest of young people to tobacco products, the smoking role models are lacking. In part, this may be guided by smokers, such as snus, herbal cigarettes and electric cigarettes, as users of smokeless tobacco products. New products have a particular appeal to minors. However, these restrictions will also be the prevailing attitude is becoming more and more negative toward smoking.

the future of smoking in mind, it is estimated that the main challenges are smoking on balconies and cars, as well as exposure to tobacco smoke at workplaces where the regulatory framework is still limited. Other focus areas are the support of smoking cessation as well as insufficient restrictions on smoking control. Reducing the frequency of sale of tobacco products are presented as a new political opening for tobacco.

The use of snuff and other tobacco products

Today, the vast majority (80-90%) consumed tobacco products are cigarettes. However, it can be estimated that the situation will change in the future. Especially among young people is visible to other tobacco products used popularization of environment, and in particular the use of snus has increased. The same situation is also "new" tobacco products in electronic cigarette and waterpipe, the case. Although their regular use is rare, experiments are common. The reasons for this may be a kind of novelty, as well as attitudes and cultural change such a way that cigarettes are not fashionable.

Snus import, sale or other transfer is prohibited in Finland. Despite the prohibitions eTEN use of each young snus has increased in the 2000s. There is a clear gender difference in terms of snuff: among the men is clearly more common than in women. The use of snuff is most common in the youngest age group.

Finnish Adult Population Health Behavior and Health (health behavior) study, men use snus has increased slightly throughout the population of working age and is most common in the youngest age groups. Use is highest in the age group of 25-34 years, in 2012, of which more than 13% of snuff daily or occasionally. Older age, male 45-64-year-olds, among snus use again is clearly scarce. For women, the use of snuff is very rare.

Tried snus has increased from the beginning of the millennium. 18-year-old boys snuff glycols by experiments had more than one in three. boys occasionally or daily snuff, the proportion increased to the highest level in 2011, when 18-year-old boys nuuskaajia was 14%. However, the 2013 data show that the use of snus may be leveling off. Girls snorting is still rare, but snuff experimenting with increasingly also girls. Military service, who started the use of snuff in men more than doubled from 5% to 12% in 1999-2010. According to a recent Defense Forces, Filha ry on the basis of a survey conducted by the Cancer Society and among the army of start-snorting is even more common than cigarette smoking. According to a survey conducted Pilottivaruskunnassa start-sniffing army spent nearly a third.

Tobacco products other young people have studied the electric cigarettes and water pipe. The vast majority had not tried e-cigarettes, and the number of times of use were uncommon. Every tenth the first tobacco trial focused on sähkösavukkeisiin. The most commonly sähkösavukkeissa was used nicotine-containing liquids. The majority of young people have never tried water pipe. Experiments have remained at the same level in recent years, and the number of times of use were uncommon. The most common water pipe tobacco is burned mixture containing nicotine flavored.

Tobacco products and Diseases

WHO tobacco Framework determine tobacco products of the advanced products which cause and maintain dependence. Tobacco products is pharmacologically active and toxic substances, as well as improved lamistuotteina that in itself cause a variety of diseases such as cancers. Smoking is a major risk factor for many diseases, and it exacerbates existing diseases.

Smoking is the main avoidable cause of mortality. Globally smoking causes each year about 5 million premature deaths. In Finland, on the basis of estimates, smoking causes about 5 000-6 000 deaths each year. Approximately 20% of all deaths and one-third of cancer deaths. On average, smoking shortens life of eight to ten years. It also causes a large number of chronic disease and disability. Approximately every second smoker will die as a result of a smoking TINSA, if not stop in time.

Several lung diseases are linked to smoking. Tobacco abundant and long-term use increases the risk of developing chronic obstructive pulmonary disease and chronic bronchitis. COPD chloride tobacco smoke damaged by the alveoli break down and will expand, resulting in keuhkolaajentu- and thereby impaired respiration. The prognosis is substantially improved if smoking stops. Moreover, it is a chronic bronchial inflammation or irritation that almost all smokers. This "the tobacco cough" is due to mechanical irritation of cigarette smoke in the lungs.

Smokers have about double the risk of developing heart disease or stroke. Smoking worsen arterial monkovettumatautia and subjected to type 2 diabetes. In addition to tobacco snuff is harmful to the circulatory pocket and expose the circulatory system diseases. Tobacco products, nicotine raises blood pressure and increases in heart rate, which increases in particular cardiovascular diseases suffering from acute risks. Tobacco carbon monoxide reduces performance. Smoking also causes gastric ulcers, impotence and osteoporosis. In addition, smoking weakens the skin, teeth and oral health. Environmental tobacco smoke called. Passive support in the form of anti-smoking also causes health hazards.

Tobacco addiction refers to the physical, mental and social addiction in a formed syndrome caused by smoking. Nicotine addiction using nicotine refers to waste the amount of change in the central nervous system and the activity of nicotinic receptors, which as a result of cessation of use will result in physical withdrawal symptoms.

The most common adverse health effects of smoking (other than cancer diseases) are summarized in the following table.

Heart and circulatory system	Coronary artery disease, myocardial infarction, sudden cardiac death, high blood pressure, intermittent claudication
Lights	Chronic obstructive pulmonary disease, chronic bronchitis
Mouth	Gingivitis and periodontal tissue diseases
Pregnancy and childbirth	Pienipainoisuus the fetus, fetal death, organ damage, premature birth, sudden infant death syndrome, the child's delayed growth, learning disabilities, increased psychiatric morbidity
Fertility	Impotence, infertility
The child's exposure to tobacco smoke Allergies, recurrent infections	
Other health problems	Diabetes, premature aging of the skin, wound slower healing, diseases associated with post-surgery, degenerative disease of the eye, stomach and duodenal limakalvovaurioriskin growth, osteoporosis, worsening of thyroid insufficiency, vertebral disc degeneration, and earlier menopause

Tobacco and cancer

Cigarettes and cancer

Tobacco smoke contains thousands of different chemical compounds. Of these, more than a hundred are known to be harmful compound, which are classified as carcinogens than forty. The most important contaminants of tobacco smoke are the particles, nicotine, carbon monoxide, nitrogen oxides, tar, and various volatile hydrocarbons. Some of the hazardous compounds in cigarette smoke is derived from the tobacco plant itself. For example, the nicotine is classified as very toxic chemicals legislation and the environment as a dangerous substance.

The tobacco plant may grow up to suck up the environment from dangerous substances such as heavy metals (e.g. cadmium and lead), if it is grown in an area with a lot of industry and transport. In addition to binding the tobacco plant materials therein by the combustion of tobacco, there will be new hazardous compounds, among others. tar, which is a mixture of various organic compounds such as PAHs (polycyclic aromatic hydrocarbons), nitrosamines and

aromatic amines. Many of these tar contained in the compounds is a carcinogen. Ambient tobacco smoke has been classified as carcinogenic in Finland.

Cancer diseases associated with smoking, at least the following diseases increased risk of cancer:

- lung cancer
- bladder cancer
- laryngeal cancer
- the mouth and lips cancer
- esophageal cancer
- pancreatic cancer
- stomach cancer
- liver cancer
- cervical cancer
- breast cancer
- kidney cancer
- colon cancer
- acute myeloid leukemia.

The clearest link between smoking and cancer is a lung cancer case. Approximately 90% keuhkosyövis- s caused by smoking. Lung cancer is affected each year 1 600 men and 750 women.; the number of women is still increasing. Lung cancer is currently in our country die each year from around 2 100 people, of whom about 1 450 men and 630 women.

In recent years, new information has been obtained from. Tobacco potentiating effect of HPV infection Al unresectable cancers (cervical canal cancer and many oral cancer). Since smoking caused cancers will develop over a long period of time, currently detectable cancers are the consequences for at least a couple of decades earlier s prevalent habit of smoking.

Snus and cancer

Snuff is found in up to 2 500 chemical compound, some of which are known carcinogens. Snuff also contain further considerable amounts of heavy metals such as lead and cadmium, as well as remnants of the plurality EXEMPLARY toxic pesticides. substances contained in the snuff, in particular nicotine absorbed into the bloodstream through the oral mucosa.

The use of snus, particularly at a young age increases the oral cavity, throat and nasal cancer in the region. As nuuskas- buffers are cancer causing agents are in direct contact with the mucous membrane, the risk is highest in those regions where nuuskamälliä commonly held. The risk increases with increasing operating time.

Studies of cancer precursors is observed, so-called. Leukoplakia, up the side of snuff users. Their mucous membranes s begin to appear after a few years of use. About 5-10% of pre-cancerous lesions varies in over the years, the cancer tumor. on the basis of the available scientific evidence can not be aukottomas- ti say how much the use of snus increases the risk of oral cancer. Studies have often been too small or short connection between snus and oral cancer exploration. According to current research results would result to be danger is not so great as the smokers' risk of lung cancer (which is about 15-20 times). The results did not show on the other hand, that no danger should not be. One study found that the risk of developing oral cancer nuuskaajien is 4.2 times higher than non-snus. It is also associated with the use of snuff also increased The feeding katorvi-, stomach, and the risk of pancreatic cancer. the cancer risks posed by snus in other parts of the body does are not enough research data.

Environmental tobacco smoke exposure Health Hazards

Passive smoking is the exposure of non-smokers by cigarette smoke carcinogens, teratogens, as well as irritating and toxic substances due to the smoking of others. This is also called tupakansavul- environment le (secondhand smoke) exposure. Due to the different longitudinal combustion of many harmful substances

higher levels of sidestream smoke as the mainstream in the lungs retractable smoke. tobacco smoke residues can be found in the surface materials, textiles and indoor dust for a long time after the cigarette has been smoked. Facing materials residues are released into the air again later and cause exposure to harmful substances. This exposure is called the third stage of smoking or savujäämäksi (third hand smoke).

There is strong evidence that passive smoking causes a number of public health major diseases and contribute to their exacerbation. In children, passive smoking increases middle ear infections, lower respiratory tract infections, asthma and sudden infant death syndrome. In adults, passive smoking causes asthma, chronic obstructive pulmonary disease, lung cancer and cardiovascular diseases. Pregnant exposure to second-hand smoke leads to fetal growth failure and can lead to organ systems developmental disorders and miscarriage.

About one in ten children and young people are exposed to tobacco smoke in the car, where the Finnish Tobacco Act is not maintained. 84% of the Finnish population in favor of banning smoking in private vehicles in the presence of minors. Based on the study are in favor of the ban, particularly children under 25 years of age (96%) and general support, regardless of their level of education or place of residence. This was revealed by TNS Gallup Oy survey, which was attended by 1 127 people in August and September 2013.

The main Finnish tobacco legislation aims to reduce smoking and tobacco due to health hazards. The law also seeks to protect the new generations tupakalta, as well as to guarantee that nobody other hand, strategic intent of exposure to tobacco smoke. Smoke-free breathing air is a fundamental right of every Finn. However, children and young people involuntarily exposed to tobacco smoke in homes, on balconies and in cars. The aim should be that no one is involuntarily exposed to cigarette smoke harmful compounds.

promote non-smoking in health care

Health care measures can effectively promote smoke-and the cessation of smoking in the population. Cessation of support could also be furthered by reaction of nicotine replacement therapy Kela compensation silicon Register. In the following will be discussed in more detail of the measures listed above.

- **Smoking cessation Current Care guideline are implemented efficiently and promote smoking cessation population.**

Tobacco dependence and tobacco withdrawal fair treatment of the latest updated version of the Recommendation is to year 2012. The population in stopping smoking cessation support services are offered significant. Which is the sixth health center does not offer any support services to smoking cessation. the offer of free support services is much more common than the paid (free of charge services are offered by 61% and paid 4% of health centers).

In 2007, Finrisk study, it was found that a call to the doctor for smoking cessation is realized still poorly understood. The majority of smokers (65%) did not receive the invitation for smoking cessation doctor or nurse dealings. The situation was changed only slightly since 1997, when the corresponding figure was 70%.

- **Smoking recognized in the customer's health report and explains the risks of smoking.**

According to 2012 survey, almost all health centers (96%) reported that they have adopted smoking However the principal entry of patient reports. However, nonconformances are not nationwide, and in the light of earlier surveys, it is expected that the health care staff does not always record the customer's smoking in accordance with the principles of the Health report.

Health care personnel and in particular the call to the doctor for smoking cessation is of paramount importance in smoking cessation.

- **Healthcare will support more active role in smoking cessation and willing to organize personal and group-specific help.**

Health Centers reports a 68% control of tobacco withdrawal. Individual guidance is provided by 63% of the control group and 23% of health centers. The largest municipalities, as well as individual and group counseling is offered the most, while the medium-sized municipalities tobacco is the situation with respect to implementation of weaning the worst.

- **Nicotine addiction, drug therapy may be within the scope of the Social Insurance Institution compensation gradually starting arterial disease or in patients with diabetes.**

Nicotine addiction treatment Kela-compensation has been addressed, for example in 2010-2012. Ministry of Social Affairs under the leadership of the various organizations which have been composed of a group. In addition, the issue has been debated in parliament. Price Board and Kela continues to consider that the tobacco detoxification is not a treatment of a disease and therefore will not be eligible for drug reimbursement. Substitutability is also deemed too costly to implement.

MAIN OBJECTIVES OF WORK AGAINST TOBACCO:

1. Preventive measures focus in particular on children and young people from smoking in order to protect young people smoking favorable development in recent years.
2. Adult smoking cessation support intensified. Currently, smoking cessation support may not be necessary attention to the health care system.

RECOMMENDATIONS

- **Promotion of tobacco smoke-laws (** Tobacco, tupakkave- layer of law, the EU's tobacco directive, the WHO Framework Convention on Tobacco Control)
  - o The development of the tobacco legislation is included in every government program.
  - o the availability of tobacco products is restricted.
  - o Tobacco Law Enforcement intensified.
  - o Tobacco excise taxes will be increased.
  - o Tobacco Legislation will be developed so that the smoking ban applies to all public facilities.

- **Tobacco Act 1 § 2 mom and EU tobacco directive and the implementation of measures to be imposed, as well as for the development of tobacco policy**
  - o establishing a national, short-term (1-2 years) Operational Program
  - o drawn up a long-term (3-5 years) Operational Program
  - o Smoke-free English- measures are taken and the municipality Smoke-free within the framework of projects
  - o implementation of the operations is assured through adequate funding.

- **Reinforce measures, in accordance Smoke-free Finland 2040 project**
  - o Smoke-free Finland is a project in which health influential actors have contributed to the Tobacco Act
    Smoke-free Finland in accordance with the 2040 targets.

- **Enhance Smoke-free municipal operational programs will**
  - o Smoke-free municipal operational program covers all Finnish local government organizations as well as other
    public funding organizations in such a way that they would also all smokeless mia employers by 2015.

- **Strengthening health care measures**
  - o Smoking cessation Current Care guideline are implemented efficiently and
    promote smoking cessation population.

o Generate new business models and tools for occupational health care in smoking vieroituk-
and the health care operators will be activated to-speech and smoking tobacco detoxification to launch more generally.
o Smoking recognized in the customer's health report and explains the risks of smoking.
o Health is actively supporting smoking cessation and willing to organize
personal and group-specific help.
o Nicotine addiction, drug therapy may be subject to a gradual loss starting KELA
arterial disease or diabetic patients.

MONITORING INDICATORS

- Adolescent Health and Lifestyle Survey (NTTK), School Health Survey and the WHO's school survey project (Global Youth Tobacco Survey, GYTS)
- Finnish Adult Population Health Behavior and Health Survey (health behavior)
- Retirement-age population health behavior and health survey (EVTK)
- Separate research projects and studies.

The main key players are THL, Ministry of Social Affairs and Public Health and the sports organizations. Measures can promotes the cooperation between the public, local authorities and organizations over a wide range. Key actors must operate Together as executors and followers of the recommendations.

3.5 Alcohol

Alcohol policy in Finland

Alcohol policy refers to the public authorities to act to prevent the social effects of alcohol, health and social disadvantages. Alcohol policy control and developed by the Ministry of Social Affairs and Health. Alcohol policy is based on the Government Resolution for 2003 and THL coordinate the Alcohol Program. Alcohol policy outlines the government program. Alcohol Act, the reform is currently under preparation at the Ministry of Social Affairs and Health. Alcohol excise duties have been raised gradually after the 2008 tax cut. The overall growth in consumption has at least slowed down as a result of the price policy.

The Alcohol Program is the name of co-operation, which is done to reduce alcohol-related harm. The alcohol program state, local authorities and organizations erecting forces together, because only the common can be accomplished by the binding of substance responsible policy.

A number of alcohol policy measures have been in social debate in recent years. Even long-Nor is estimated mm. the impact of changes III-alcohol content of beer on health. According to some estimates the reduction of the alcohol content percentage of alcohol would reduce about 350 deaths per year. Children and young people against the so-called. Reducing the advertising image has proved difficult political governance ti. Administratively, the simplest solution would be to prohibit the advertising of alcohol altogether. Currently, there are legislative pressures to reform the Labor Code sobriety.

The cornerstone of Finnish alcohol policy has been a reduction in the total consumption. Total alcohol consumption has been demonstrated in many studies of the disadvantages in connection with the whole scope. Overall consumption reduction efforts have been made especially price policy and the availability of regulating. Prior to joining the European Union regulation was simpler than today. Alcohol taxation lightened ION in 2004 increased the consumption significantly and caused the expected increase in health problems. Also, alcohol advertising is an ongoing debate, and it is limited in such a way that it is subjected to children and young people.

The consumption of alcohol in Finland

Total consumption of alcoholic beverages in Finland has decreased since 2007. In 2012, the total consumption of 9.6 liters of absolute alcohol per capita, for the first time in almost 10 years less than 10 liters of 100 percent alcohol per capita. About 20% of this figure is the unrecorded consumption. the share of Raittii- decreased since 1982, the beginning of this millennium, but has since remained at the same level. In 1982, 15% of men and 31% of women reported that they had used alcohol at all during the past year. The corresponding figures in 2013 were 13% (men) and 14% (women). In 2013, the crew s 23% of women and 5% reported drinking at least once a week for six doses of alcohol or more at any one time.

change in consumption patterns have been observed for a long time: soft drinks, such as beer and wine, the proportion of consumption of spirits has increased and decreased. alcohol consumed in 2012, 46% was consumed as beer, distilled spirits 23% and 19% wine. Consumption is divided diagonally in the general population: a fifth of the greatest uses drinking half of all alcohol consumed. Men drink more than women, but women's consumption has increased. Older people use more alcohol, particularly 65 to 74-year-old men and women, consumption has increased. Youth drinking has decreased somewhat in recent years.

Alcohol and cancer

Alcohol is the IARC classification found to increase the risk of cancer as early as 1988. Since then, the display of many of the types of cancer has been further strengthened. Alcohol causes oral cavity and pharynx, and larynx cancers, squamous cell cancer of the esophagus, liver cancer, bowel cancer and breast cancer in women.

Alcohol is possibly the most important addition to obesity, a known cause of cancer tobacco, chronic infections and. It is estimated that alcohol would result in about 4% of all cancers in Finland, which would mean about 1 200 new cancer each year. Alcohol is known to cause a large number of other ailments such as alkoholisa- irauksia, accidents and damage to the fetus.

Head and neck cancer is 2-3 times more common in people who are using 50 g (over 4 alcohol doses, one dose 12 g) in absolute alcohol or more per day compared to an alcohol-users. Smoking increases the risk significantly.

Women's breast cancer As regards the research evidence of the importance of alcohol has been strengthened in recent years. A meta-analysis based on assays in women who drink more than 45 g of alcohol per day is 1.5-fold risk of developing breast cancer as compared to a woman who does not use alcohol at all. in the light of research already one of the liveliest days dose of alcohol increases the risk of developing breast cancer by about 10%.

increase in risk is not large, but since it concerns the most common form of cancer in women, is the role of alcohol as a risk factor for breast cancer significant.

Colorectal cancer increases the risk 1.5-fold if the drink more than 50 g of alcohol daily compared to regular alcohol and less unused lanes.

Risk of cancer is directly proportional to the dose

Heavy use of alcohol increases the risk of cancer more than a little, but the threshold is not todennäköises- ti no. The dose-response relationship is linear. Thus, e.g. the risk of breast cancer is expected to increase by 7-12% each daily alcohol drunk per 10 grams. Smoking increases the risk of cancer caused by alcohol many times. Alcohol-induced cancer risk decreases very slowly after cessation of drinking tube.

Small (1-2 doses / day) amounts of alcohol drinking is estimated to protect certain cardiovascular diseases.

Effect of alcohol on the mechanisms of cancer pathogenesis

Effect of alcohol on the mechanisms of cancer pathogenesis is not precisely known, but it seems that the resulting metabolic product of alcohol, acetaldehyde has relevance. It is a toxic substance and probably carcinogenic. there are genetic differences in alcohol-cleaving enzyme. Another possible explanation is the influence of alcohol the creation of oxygen radicals, and they in turn can cause damage to cells.

with regard to breast cancer in women is also considered as a significant alcohol effect on hormone levels. Alcohol raises blood levels of estrogen and therefore increases the risk of breast cancer.

Alcohol consumption more abundant in the prevalence of overweight and obesity, which in turn increases the RAA system as carcinogenic in many ways. This can partly be explained by the high energy density of alcohol, giving generous alkoholinkäyt- onment predispose to obesity.

Alcohol can also prevent cancer protective factors in the body, and one-sided nutrition is often associated with heavy drinking can increase the risk of cancer.

Recent drug research has been looking for in particular, the effects of acetaldehyde-eliminating solutions. Al- other substances contained in alcoholic beverages as acetaldehyde relevant to the pathogenesis of cancer has been studied to some extent, but the effect was small.

RECOMMENDATIONS

- Intensify efforts to reduce total alcohol consumption. The main measures for reducing consumption seen as a III-alcoholic beer reduction of the content. If the current-III beer replaced by 3.5 percentage-public beer, an overall reduction would be from about 1 l / head / year. This would have been significant drawbacks that reduce the impact.

- Limiting the retail sale of medium-strength beer.
- Raising awareness of the dangers of alcohol cancer
    - o social and health care professionals at the level of
    - o at the population level.
- To ensure a positive trend occurred among young people
    - o further limiting alcohol advertising
    - o by enhancing in particular children and young people to rely on alcohol advertising controls.
- Increased communication risks associated with increased alcohol consumption among older people.
- Directed education the most consuming, general cancer risk in exposed populations (incl. Smoke).

responsibility for the regionalization of the key players

Alcohol policy, sale and dispensing, as well as the monitoring of pollution and population-level terveysvies- tinnässä are many players in our country. The following are listed on the major players and their responsibilities:

- Alcohol Act, monitoring and control of the control belongs to the STM to an Valvira.
- control of retail and dispensing of alcoholic beverages belongs to the Regional State Administrative Agencies.
- THL provides information on alcohol-related harm and to coordinate practical operating of the Alcohol Program mia prevent alcohol-related harm, particularly in municipalities.
- Occupational Health directs and develops alcohol-related harm prevention measures at work.
- Substance abuse prevention EHYT Association and coordinated by the Substance Abuse Prevention Network, as well as other national and santerveysjärjestöt actors seek to influence health through the promotion of reducing alkoholihaitto-.

- The Cancer Society bring out communications, alcohol cancer risk, as well as generating statistics and research related to alcohol syöpävaarallisuuteen.

3.6 Nutrition and weight control

Nutrition is an important cancer risk factor, particularly the so-called. the standard of living of cancers, such as colorectal cancer, breast cancer and for prostate cancer. However, it is necessary to take into account that nutrition is an entity in which the importance of one single factor, it is difficult, if not almost impossible to assess.

Nutrition is a cancer of the importance not only as an independent risk of cancer increase or decrease by the means of weight control. In addition, this entity is necessary to take into account also ensure sufficient and varied physical exercise.

scientific evidence on nutrition and cancer prevention based mostly observational and epidemiological studies on the human cancer cell lines in the understanding of biological mechanisms experimental studies in laboratory animals and. Randomized, controlled intervention studies, which are typically used for reliable evaluation of efficacy and safety of drugs, are well suited for the settlement of vitamin supplements cancer effects, but poorly between cancer and nutrition assessment.

The development of cancer typically take up to several decades and includes a variety of steps. Food and compounds likely to be affected in different ways, so the implementation of an intervention in various stages of cancer, wherein the cancer over time and mechanistic assembly could be reliably taken into account, it is in practice impossible.

This section has examined the factors that in the light of scientific knowledge either increase or decrease the risk to fall ill with cancer, and their mechanisms of action. The recommendations given as the main frame of reference operate at WCRF (World Cancer Research Fund) recommendations and the underlying scientific evidence. The recommendation has been taken into consideration the recent scientific literature.

Energy Excess intake and obesity

Energy excessive intake leads to increased amount of fat tissue in the body and thereby overweight and meat dence. Research evidence supports the conviction body mass index, and thus precisely the body rasvapitoisuu- of us with increased cancer risk. Particularly harmful are considered with respect to cancer keskivartaloliha- vuutta, since the accumulated around visceral fat is metabolically active.

the amount of body fat is linked most strongly esophageal, pancreatic, colorectal, endometrial, kidney, and post-menopausal breast cancer risk. The BMI increases, the risk of cancer increases each type of cancer. When the body mass index exceeds the threshold of obesity (BMI> 30 kg / m 2) Pariska cancer is significantly increased, to about one-fifth of normal weight (BMI <25 kg / m 2) compared to. To severe obesity (BMI> 40 kg / m 2) involves more than 1,5 times the risk of developing cancer.

FINRISK -terveystutkimuksen 2012, the average weight of Finns of working age men in body mass index was 27.1 kg / m 2 and for women 26.0 kg / m 2. Two of the three men (66%) and about half of the women (46%) were overweight (BMI of 25.0 - 29.9 kg / m 2). Every fifth Finnish was fat. The average weight of the population has increased markedly in recent decades, so the importance of overweight and obesity in the number of cases of cancer in the future is emphasized.

The use of alcohol is the most well-known factors that increase the risk of cancer. This may in part be explained by the alcohol at a high energy density, when exposed to heavy use of weight gain and thus increasing the risk of cancer. Alcohol significance for the relevant cancer is treated in more detail in the relevant chapters.

However, obesity seems to reduce the risk of developing lung cancer and premenopausal breast cancer. Breast cancer, however, should bear in mind that only a small proportion of breast cancers found in pre- menopausal stage, so breast cancer in terms of maintaining a normal body weight is desirable in all ken of age.

background obesity and cancer is probably several mechanisms. Obesity mm. leads to an increase in an increased insulin level and the amount of blood drawing to increased insulin-like growth factor in the bloodstream. This results in increased proliferation of tumor cells, decreased cell death Both the tumor angiogenesis.

Another key mechanism associated with fatty tissue produced by adipokiineihin, such as leptin secretion increased, which in turn promotes the distribution of tumor cells, reducing cell death and increases tumor tissue angiogenesis. Obesity is also associated with low-grade chronic inflammation and increased oxidative stress, which is thought to be important for the development of cancer.

the importance of overweight and obesity in the background cancer is growing all the time. thorough recent estimates la overweight causes in the United States for more cancer deaths than smoking. As a result, overweight and obesity prevention should pay attention to early childhood.

greases

in the light of the latest research dietary total fat, animal fat or saturated fat are not associated with an increased cancer risk. Fat is between energy-nutrients, and it is known that fat intake is strongly correlated with total energy intake. Energy liikasaannilla and obesity while each maintaining a strong link to cancer risk, which may explain previous research findings fat link to increased cancer risk.

It is still uncertain extent, the importance of fat quality and in particular the intake of individual fatty acids on cancer risk. the effects of fish long chain n-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), have suffered a considerable amount of colon, prostate and breast cancer animal models. The results support a rare consistently that the fish fats prevent the development of these cancers. Instead of n-6 fatty acids in the light of studies add to the formation of tumors. According to some estimates, it is important to pay attention to the n-3 and n-6 fatty acid ratio.

Strong evidence of the protective effects of fish oils and fats of animal experiments and explaining the biological mechanisms has led to studies investigating the safety and efficacy of fish fatty acids mm. colon, breast and prostate cancer.

Red and processed meat

Red flesh is classified as beef, pork, goat and sheep meat and flesh, in turn, a processed meat that is preserved by smoking, curing or other preservatives, such as nitrite. The ham, bacon and various sausages are typically classified as a processed meat.

Research evidence is convincing in the fact that the extensive use of red and processed meat increases the risk of fall ill colorectal cancer. According to recent studies, increased risk of disease kymmenyksel- DO red meat and the meat processed by a fifth comparison of the largest groups of access to the smallest intake. The dose level, this implies that the risk is increased 7-17% for each consumed 100 grams of red meat and 17-18% each of consumed per 50 grams of the processed meat circadian.

the risk associated with dose level varies a lot more red meat than in the case of processed meat. All in all, the context of research display of processed meat to increased colorectal cancer risk is more consistent than red meat.

It can not be ruled out the possibility that at least a part of the trials, the connection seen with the addition of the red and he colon cancer due to confounding factors related to lifestyle. Those persons who eat plenty of red and processed meats, including smoked more often, use more alcohol, eat less vegetables, are more often obese and engage in less physical activity.

Red and processed meat may contribute to cancer, a variety of mechanisms. When the meat is prepared at very high temperatures, frying or grilling, there will be carcinogenic and heterocyclic amiine- and polyaromatic hydrocarbons.

By eating large amounts of red meat at a time of the protein of meat can not be absorbed in the small intestine but to maintain the large intestine, in which bacteria produce proteins of the meat harmful to the N-nitroso compound. Red he heme iron and lithium nitrite salt of processed meat products, and can contribute to N-nitroso compounds in the formation of the intestine.

Fish

Rich in fish and fish products is the use of a number of population studies found associated with a reduced cancer risk, but the results have not been entirely uniform, which is due. difficulties in reliably measure the use of the fish. Fish containing almost exclusively of fish long chain n-3 fatty acids, EPA and DHA as well as vitamin D which may be particularly important in the colon and breast cancer prevention.

Dairy products

Recent studies indicate that dairy products and in particular the use of milk is connected in reduced risk of colon cancer. The use of cheese instead has not been found to be associated with cancer risk. Dairy products are by far the most important source of calcium both in Finnish and many other cultural infrastructures in the diet. Just calcium intake has been estimated to explain the association between the use of dairy products tyneeseen reduce colon cancer risk. Cancer is considered as a protective mechanism of action of calcium any harmful substances (eg. A bile acid), a chelating effect on the gut. Sour milk products, there is insufficient evidence in cancer prevention.

Some there is also the direction of data on the excessive intake of calcium increases the risk of prostate. In this case, it comes to recommendations (800 mg / day) significantly higher calcium intake (more than 1 500 mg / day). It is also worth remembering that the milk fat is the main source of saturated fat ruokavaliossam- we are, and this is why it is important to promote non-fat dairy products.

Vegetables

The use of vegetables and cancer risk

One of the main findings of the research is that the abundant use of vegetables reduces the risk of developing many different types of cancer. This is particularly evident in case-control studies, the basis of which a first WCRF report in 1997 concluded that fruits and vegetables protect against cancer convincingly. cohort studies in 2000, Finland was an la made use of vegetables and fruit has still been reversed in connection types of cancer risk, but the second report in 2007 WCRF dropped its estimate of fruits and vegetables on cancer risk relationship by stating that they are likely to protect against cancer.

Recent meta-analyzes have confirmed that the use of the assessment of the risk of cancer, and the overall total of vegetables and fruits, as most users, there is a tenth of a lower risk of developing cancer compared to those using the least. The same is true if you look at separately, for example, colon cancer or breast cancer.

It is also shown that the ratio of the vegetable cancer risk is not necessarily linear, but that there is a threshold value of approx. 100 g / d. Here are indications, in particular with regard to colon cancer if consumed vegetables less than 100 g / day, the risk of cancer is much higher than the more than 100 g / day using vegetables. And on the other by between 100 g / day - 500 g / day risk does not happen much, ie, in particular, very little vegetables will make use I do not want to add their spending even a reasonable level.. In this case to be investigated we need more research data.

WCRF has reported that vegetables and fruits as a whole are likely to reduce the risk of developing mouth, throat and larynx, esophageal and gastric cancers, and possibly colon cancer. Heavy use of the fruit may also reduce the risk of lung cancer.

PLANT PRODUCTS cancer-suppressive effects manifest in many ways. Plant products are good dietary fiber as well as vitamins and minerals sources. They contain the entire set of bioactive phytochemicals-proliferative, such as polyphenols, isothiocyanates and allium compounds, which may have an important role in cancer prevention. The new nutrition recommendations is also recommended of nuts and seed the inclusion of nutrition. With plenty of nut use may have protective effects against cancer. Cancer in terms of mechanism of action and dose-response relationship is still open.

cancer of different plant products from the preventive properties

WCRF (2007) evaluated the relationship between the various vegetables and cancer scientifically estimated as follows:

- Bulb vegetables (especially garlic) are likely to prevent gastric and colon cancer.
- vegetables contain folate are likely to prevent pancreatic cancer, and possibly cancer of the esophagus and colon.

- vegetables containing carotenoids are likely to inhibit the mouth, pharynx, larynx and esophagus cancer, and lung cancer.
- vegetables contain lycopene are likely to prevent prostate cancer.
- vegetables contain vitamin C is likely to prevent esophageal cancer.
- vegetables contain vitamin E to prevent any of the esophagus and prostate cancer.

vegetables contain folate

Folate is especially rich in dark green vegetables such as parsley, broccoli and lehtivihan- neksissa. during absorption from the gastrointestinal decompose of tetrahydrofolate, folic acid, a vitamin of the active form in the body.

Foolihappolisistä not, however, appear to be beneficial in the prevention of cancer, at least not if the diet provides the recommended amount of folate. There are even indications that the extensive use of folic acid supplements may increase colon cancer, breast cancer and prostate cancer risk. The body's folic acid metabolizing enzymes is a lot of polymorphisms, which can contribute to the related intake of folic acid on cancer risk. There is some evidence indicating that folates dietary intake and supplements of folic acid in the body to behave in a different way, e.g. absorbed at different rates, which may account for their different contacting the cancer risk.

The mechanism is shown an impact on DNA synthesis, cell division and differentiation. There is also evidence that folic acid prevents specifically with early stage cancer, advanced cancer, but it is no longer to be effective, or that it may, in some cases up to promote the already existing tumors, cancer growth.

vegetables contain carotenoids

Carotenoids, particularly beta-carotene intake is reduced in connection with lung cancer risk and intake of short-kopeenin, in turn, reduced the risk of prostate cancer. Breast cancer has been shown in relation to an inverse relationship between the blood kokonaiskarotenoidien, beta-carotene, alfakaroteenin and cancer risk.

Beetakaroteenilisistä not, however, be useful in cancer prevention. In some cases, dietary supplements, has been the also harm; there is convincing evidence that the use of beetakaroteenilisän increases the risk of lung cancer smoker.

vegetables contain vitamin E,

E vitamin is called the group of tocopherols, of which alpha, gamma and delta occur most commonly in food, mainly vegetable oils. foods containing vitamin E to prevent any of the esophagus and prostate cancer. Vitamin E has been studied, particularly in relation to prostate cancer prevention. The results of vitamin E ratios are partly contradictory. Used high doses of vitamins E has not been found to benefit in the prevention of cancer; alfatokoferolilisän in some cases, have even been found to contribute to prostate cancer. As used in small doses with vitamin E has been shown to lung and prostate cancer preventive effect on male smokers, as set in the Finnish study, it was found.

dietary fiber

Initially, the dietary fiber determined by the cell walls of plant structures which do not melt and absorbed in the small intestine. Chemically, dietary fiber has a variety of compounds, typically polysaccharides and gums, such as

cellulose, hemicellulose and lignin. the most important sources of dietary fiber in the Finnish diet are whole grain cereal products, especially whole grain rye bread, as well as fruits and berries.

The latest research evidence shows convincingly that access to high dietary fiber protects colon and rectum lisyövältä. on the basis of the dose-response analysis for each obtained daily and 10 g of fiber per colon and rectal risk of colorectal cancer is reduced by about one tenth. As regards the European population is estimated that, when, the daily intake of fiber doubles as low as 15 g to about 30 g, the risk of developing colon cancer is reduced by almost half.

Taking into account the different sources of fiber, intake of cereal fiber explain the reduced risk of cancer the most. Whole grain products are major sources of dietary fiber, particularly in northern Europe, and also the intake of whole grains is reduced in connection with colorectal cancer risk in such a way that the most whole grain users, there is a fifth lower risk than using the least.

The fiber can be prevented by the colon and rectum cancer in several different ways. The fiber increases stool volume and thus the speed up stool mass transit time in the gut. At the same time the mass contained in the stool carcinogens and harmful substances are diluted and do not come into contact with the intestinal epithelial cell.

The intestinal microbial flora of the fiber used to feed on, so that the fiber has an important role in maintaining the balance of intestinal bacterial flora. the resulting bacterial fermentation of fiber in the lumen of the colon generated mm. short-chain fatty acids that can prevent the growth of cancer cells.

The fiber quality also plays a role. Research on the basis of the display rapidly fermentable, soluble fibers do not necessarily helpful in cancer prevention. In experimental studies have demonstrated an abundant amount of ET by the fast-fermentable fibers such as pectin, even promote the formation of intestinal tumors.

Vitamin D

Mean 2012 survey by the Finnish main intake of vitamin D from food sources are fish dishes, as well as fortified dairy products and fat spreads. Milk products are 25-44 years of age even by far the most important source of vitamin D (40% intake), while the older age group (55-74 years) vitamin D is obtained from dairy products and fish-based as much, or about one-third. Yellow fat spreads kaik- ki age groups receive approximately a quarter of vitamin D saannistaan. Vitamin D also provide significant amounts of vitamins that are used in 33% of men and 55% of women.

Contact vitamin D intake on cancer risk has been actively studied in recent years, and is quite promising evidence that adequate intake of vitamin D and blood 25-hydroxy-vitamin D levels are reduced in connection with colon cancer risk. This, as well as dietary supplementation with vitamin D obtained has a favorable effect. On the other hand, in some studies, the use of vitamin D has lead to large blood of 25-hydroxy vitamin D levels (> 80-100 nmol / L), which have been linked to increased risk of cancer.

Vitamin D is also possibly a protective effect on breast cancer, but the prospective results are few and they are partly contradictory. Vitamin D prostate cancer, the protective effect is lacking. Some studies have even been a slight indication of the risk of cancer-enhancing properties.

Is now recognized that vitamin D may play a role in the progression of cancer, and even in mortality. More research evidence is needed, however, for example. to determine where and to what cancers of carcinoma nogeneesin that is important and what is the correct vitamin D dose level and concentration of the fed Pariska vitamin D.

Selenium

Selenium thought likely to prevention of prostate cancer and possibly colon cancer. WCRF the basis of the meta-analysis of prostate cancer and the intake of selenium is a non-linear relationship Optionally, up to the U-shaped curve.

Se supplements, which therefore is usually clear recommendations for greater selenium, does not seem to benefit in the prevention of prostate cancer. Today, however, it is still unclear what kind of selenium and which mechanism of action of selenium prevents prostate cancer. Further studies are necessary.

Food salt (sodium chloride)

The use edible salt and preserved by salting of foods is likely to increase the risk of gastric cancer. Large salt lamäärät damage to the gastric wall cells and may contribute to *Helicobacter pylori* - bacterial growth, which is known to be an important risk factor for gastric cancer.

Finnish recommendation is to use a salt of at most 5 g / day.

Summary

Vegetable-weighted, high fiber diet is now widely recognized that cancer protective. Vegetables rich in polyphenol-containing food and fiber, which has protective properties against cancer. This also includes a recommendation to restrict excessive use of red meat and processed meat products.

A healthy, varied diet is also advantageous for cardiovascular disease, diabetes and many brain diseases perspective.

Nutrition Recommendations for cancer prevention point of view, are identical in early 2014 released with the new Finnish nutritional recommendations, which are based on the end of the year 2013 published the bottom joismaisiin nutrition recommendations. the realization of the nutritional nutrition recommendations can best be monitored by means of Mean Study.

Cancer, who had suffered a nutritional recommendations after the treatments are the same as recommendations for cancer prevention point of view of the syn set.

RECOMMENDATIONS

- Promote kasvispainotteista, high-fiber diet, which is now widely recognized that avoid cancer protective.

- Supporting a healthy diet means of taxation.
- Strengthening communication cancer-protective diet, which is in line with our Nordic and national nutrition recommendations.
- Message to a healthy diet in cooperation with other NCD network operators.
- Healthy nutrition and weight management integrity efforts utilized THL Obesity decline - the operational content.

3.7 Exercise and immobility

Sports policy in Finland

Exercise of Political History

The Finnish sports culture and policy of health thinking and daily exercise have been emphasized since the 1990s, more and more. 2000s sports point of view is further expanded to include all physical activity, and particular attention has been paid to the risk of having. The state has been supporting physical activity as early as the 1920s onwards. Physical health benefits have been known for decades, but only in the 1960s began to pay attention to the condition of the entire population, apart from supporting the athletes. Health-enhancing physical activity is a well-established part of the operation of courts in connection with the reform of the Sports Act in 1998.

Health-enhancing physical activity is the state administration developed primarily for two ministries - the Ministry of Education (Ministry of Education until 2010), as well as the Ministry of Social Affairs and Health - in cooperation. Connecting the municipal promotion had long been the responsibility of the Ministry of Education. Social Affairs and Health Ministry activated the area of physical activity gradually since the 1990s, when the promotion of physical activity became part of the social and health policies. background activation was the increase in understanding of the health risks of low mobility that undermine the health of both the individual and society welfare. Navigating understood toiminnak- si, which can not be replaced by other measures.

Sports policy today

Ministry of Education and the Ministry of Culture aims to promote exercise and physical activity, racing and top-level sports and related civic activities, to promote well-being and health of the population and to support the growth and development of children and young people through sports. Social Affairs and the Ministry of Health a key target for you is narrowing health inequalities in the health of different social groups and different parts of the Finnish resident would have to carry the same good.

Today, the Ministry of Education and Culture and the Ministry of Social Affairs and Health is a highly convergent aims are health-enhancing physical activity in the area. Weighting The difference is that the health sector highlights the traffic municipality as a tool for health, among other factors influencing factors (eg. Smoking, eating habits). Exercise administration, in turn, is emphasized as an absolute value physical activity: a source of joy, effort and social experience.

understanding the importance of physical activity in society can continue to see challenges. Nokuntoisen poor and too little share of the mobile population increases, public-sector cross-sectoral co-operation Chamber of Commerce and the resourcing level is needed more and more. perspective of promoting the movement must be more strongly penetrates the actions and määrärahakoh- redundantly designed in different sectors and actors. For example *The State Sports Administration health-enhancing physical activity as a whole* - the release of the recommendations, in cooperation administrative sectors should make greater use model in which the State Sports Administration supports the objectives of other administrative sectors that produce by-product of the TAA physical education and health.

related to sports and its promotion of laws in the Sports Act, a public health law and municipal law. The goal is to exercise policy as part of the different branches of government integrative welfare policy. Exercise policy and recommendations of treated mm. the following: the Ministry's Health 2015, The resolution on policies promoting physical activity (Ministry of Education 2009), Principle of health-enhancing physical activity and structural development policies nutritive portion (STM 2008), as well as the new health-enhancing physical activity agendas.

Health 2015 is a long-term health policy program, the aim of which is to increase healthy life years mintakykyisten and the second and the health differences between population groups in the gap. the starting point for the implementation of the ECP program is health in all policies, that is, it seeks to promote the well-being and health, as well as in health care and in all other areas of society. The program realize their various stakeholders, including local authorities, businesses and organizations. The program is the World Health Organization's Health for All program.

New health-enhancing physical activity guidelines - Change on the move!

Education and Culture and the Ministry of Social Affairs and Health have developed a new health-enhancing physical activity guidelines, which extend to 2020. The guidelines contain health-enhancing physical activity a program of actions. Outlines the vision is for Finns to move more and sit less.

The new health-enhancing physical activity alignments used for health and well-being to promote the concept of physical activity. This means covering the different stages of life of all physical activity, which is not only health, but also the wider well-being of sustaining and enhancing effects without the side effects of excessive exercise. This new concept is a content-rich, when the meanings of the different sectors of administration and operational actors is easier to identify with and commit. The term is also expanding in the direction of discharge of immobility it is revoked.

the development of physical activities that promote health in the 2000s has been the cross-administrative co-operation Hon, which is now on the alignment through the work should be even stronger. physical activities that promote health-principle decisions (2002 and 2008) have served as a good basis for a nationwide health-promotion work.

In the vision, the key aspects are as follows:

1. The role of exercise and physical activity is understood the individual and society, health, well-being and competitiveness in a basic condition.
2. The different administrative sectors and organizations to create opportunities for physically active life.
3. Promotion of physical activity is based on partnerships between stakeholders, the effectiveness of the structures and sound management.
4. factors of gender equality and equality is identified and influenced effectively.
5. Individuals adhere to the improved opportunities to increase everyday movement.
6. Finland is a model country stronger physically active culture in Europe.

exercise to develop that promote health and well-being has chosen four orientations:

1. everyday sitting in the reduction of the life course
2. Increased physical activity across the life course
3. Increasing physical activity as a key element in the promotion of health and well-being and to prevent diseases in the prevention, treatment and rehabilitation
4. Strengthening the role of exercise in Finnish society.

The policies are targeted specifically to the health and well-being of sufficiently activating a moving operation, and cultures of different organizations liikunnallistamiseen different stages of the life of the passage.

promote health and well-being of physical activity guidelines and their implementation will complement and deepen the already existing Government efforts to promote health exercise. The purpose of the guidelines is to provide strong support for the Government's policy of comprehensive health exercise.

The Finns and exercise

Health 2011 survey, 90% of Finnish does not meet the recommendations for healthy living. Almost every third does not do any recreational sports. Approximately half of the working population travels in health recommendations according to the amount of resistance to exercise, but only a tenth is also engaged in muscular fitness recommendations licenses at a minimum level, which is two times a week. The Finns are in poorer condition at a younger age, so the future health prospects are disturbing. In addition, obesity as a clear inverse shape of the contact resistance were observed: the weaker the condition of the grade is, the higher the proportion of the obese kuntoluo- cash.

FINRISK -terveystutkimuksen 2012, the increase in leisure-time physical activity The biggest changes occurred in the 70s and 80s. Subsequently, changes in leisure-time physical määräs- SA have been limited. Leisure-time physical activity is clearly linked to age and level of education: the most physically active young people and highly educated. differences between educational groups in sport are considerable.

The mere primary pass, having employee status report small household income less than a higher physical education, position or having a higher income Finns. The low level of education people have often accumulated immobility in addition to other unhealthy lifestyles. On the other hand the physical strain of work is the highest in the least skilled and lowest in the most educated. Socio-economic health differences are, for example, the prevalence of obesity in adults: obesity is most common in the least educated males and females.

Adult addition, there is reason to be concerned about the movement of Finnish children and young people. The Finnish Children are always moving primary school at the age of international comparison a lot, but with increasing age, investment falls, and 15 years of age Finns are already among the least mobile. As many as half of all children aged 11 to 12 is not associated ku rate according to the exercise recommendations, and approximately 10% hardly moves at all.

It should also be noted that the estimates of the number of Finnish movement still based largely on questionnaires lytutkimuksiin, who often overestimate the amount of actual physical activity. Unfortunately, therefore, the Finns moving the rubber volumes are likely to be even more disturbing than the survey results suggest. Lytutkimuksien the questionnaire in support of and in addition badly in need of an objective (eg. Accelerometer) measured data at the population level.

In the last few decades has led to developments in our everyday passivation yhteiskunnas- sa. In spite of leisure time physical activity increase in the amount of total physical activity has decreased. Everyday and the number of active commuting is reduced, and physical activity is increasingly less common. Total population activity is in serious decline. In addition, the screen time both at work and leisure time is further significantly grown.

Negative developments in a timely and disturbing manifestation is an increase of sitting, which is a major current area of study. According to the results it is normal to sit more than 7 hours per day
- sedentary make up more than 10 hours a day. Most young men are sitting. Even daycare-aged children planted VAT in place 60% of adults and 80% of their waking hours. Sitting increases health risks, such as elevated in blood pressure, obesity and abdominal obesity in which sporting activity is not enough to compensate.

If everyday life is mainly physically passive, non-compliance with the recommendations of health exercise during leisure time, therefore, necessarily health point of view even enough. to stop the harmful effect of development is essential to intervene in dismantling passive practices. Merely adding physical activity is no longer enough: in addition to the importance of stopping and sitting combination of movement and everyday activities. IN THE EVENT OF Arkias- kareissa energy consumption is particularly important for those who would not otherwise fondest enough for scheduled workouts.

Current exercise recommendations do not yet tell how long a day should not be passive, in place of the time. Nonmoving time is known to be hazardous to health, but the passivity of the amount is not additionally comprises surveys have found that the risk limit. Recently, it is increasingly questioned whether more essential to promote the movement or to try to reduce immobility.

Over-sitting harmfulness has been understood for a short time, and, therefore, measures to solve this problem have so far been scarce. The new health-enhancing physical activity agendas the aim is that people of all ages would reduce the daily istumistaan. In addition to increased physical activity of the daily life of all age groups are still needed.

the benefits of exercise and immobility disadvantages

Physical health-promoting effect has been recognized for a long time. Exercise plays an important role in the prevention of many diseases such as duties. Physical activity is a major risk factor for cancer, as well as independent as a factor reducing the risk of cancer to support the weight management through effect.

In addition to too little movement in recent years, concerns have been raised more and more sitting, completely passive for the time reproduction. Although the health benefits of exercise are aware, sitting harm to health is not generally at the level of citizens' awareness. The current sedentary lifestyle is a key factor affecting mortality globally. Immobility is the WHO estimates that globally already quarter si the most important risk factor for lifestyle diseases caused by deaths. Insufficient physical activity is estimated to have already made like smoking and obesity, chronic diseases which may be a risk factor.

Current living conditions have changed physically less burdening the people and it will still passively, plenty of part-fitting and almost immobile. An active lifestyle is no longer present in modern high tech world and a normal part of life, but do require active choices. Excessive sitting is not just a lack of exercise, but independent of other lifestyle

Besides contributing factor. Even the sporting activity is does not protect against adverse health effects if the way everyday life is much sedentary.

Regular, moderate exercise

- people of working age will help to maintain the ability to work until retirement age
- to help build and maintain bone, muscle and joint function
- help control weight
- prevents the development of high blood pressure and can lower blood pressure in hypertensive patients
- reduces the risk of developing type 2 diabetes
- lowers the risk of heart disease mortality
- reduce the symptoms of depression and anxiety and improves mood
- lowers the risk of premature death
- reduce the risk of certain types of cancer
- improve health-related quality of life.

The new recommendations of health emphasizes the fact that exercise is important for an individual's comprehensive physical, mental and social well-being and a healthy and safe growth and development.

Sitting and passivity

- Sitting harmfulness is based on universality, continuity, as well as sitting in the disease-enhancing effects.
- Sitting on the more back problems, neck and shoulder problems as well as weakening of bone density, muscle strength, coordination and balance sures
- Sitting is one of the key reason for the obesity epidemic (coupled with diet gained the extra energy).
- related to obesity mm. diabetes, cardiovascular disease and many cancers.

Exercise and diseases

2000s immobility has become According to WHO, the fourth most common cause of death. Studies have estimated that worldwide immobility 6% cause of cardiovascular disease, and 7% of type 2 diabetes, the burden of the disease, 10% of breast cancer and 10% of colon cancer burden.

Immobility estimated to 9% of premature mortality, which corresponded to 5.3 mil- lion premature deaths in 2008.

The new health and welfare-enhancing physical activity recommendations of physical activity becomes a central element in the promotion of health and well-being, disease prevention, treatment and rehabilitation.

Exercise and Cancer

the importance of physical activity in the prevention of cancer

Exercise has been shown to be particularly important in breast cancer, colon cancer and uterine cancer, as well as in the prevention of prostate cancer, ovarian cancer and lung cancer prevention. In addition, exercise is kutusyhteys is difficult to cancers, which increases the risk of obesity time.

Based on studies can not yet say with certainty what is the exact mechanism of action, which through a divalent physical activity affect cancer risk. In the background, however, is apparently a number of factors. Regular exercise in hormonal levels, and regulates the levels of insulin-like growth factor, and also affects THIRD inflammation and immunity. Moving to accelerate the digestion and reduce the carcinogenic substances

transit time in the gut. In addition, physical exercise along with a balanced diet to reduce the amount of body fat and support weight management.

Most research on the relationship between physical activity and cancer is the power of cancers, namely breast, bowel and prostate. Regularly and abundantly risk of colon at least moving at a moderate load of men and women in the incidence of cancer is lower than the passive physically. The risk estimates vary between 10 per cent up to 40 per cent.

Resistance to physically postmenopausal women with breast cancer risk of emergence is at least 20% lower than the exercise little or not at all enthusiasts in women. A recent more than 70 000 women comprising study showed that breast cancer risk is less than 25% for at least 7 hours in a week compared to moving only slightly moving; an effective cancer protective physical form of the standard walking proved that about half of the participants in the study was the only form of exercise.

Endurance exercise enthusiasts in premenopausal women with breast cancer risk is no different from the appearance of certainty sports enthusiasts from the corresponding risk for women smokers, but the overall risk, it is important to maintain a mobile lifestyle and normal body weight throughout life.

in terms of prostate cancer in the display is less than the breast and bowel cancers, but in the light of some studies, a wealth of physical exercise enthusiasts in men is less poorly differentiated cancers.

However, research-based information is not yet as to whether a form of exercise is better than physical exercise or how to be good to divide. Recent studies have also been aired in a passive way of life of the disadvantages in terms of cancer.

Importance of exercise in cancer In patients with

In addition to the prevention of cancer through exercise is the light of current research relevant to cancer prevention and renewed casing comprises. In particular, patients with breast cancer who have suffered the obviously important mechanism of action is the decline in estrogen levels decrease in fat tissue in the body due to physical activity. Increased physical activity has reduced the risk of breast cancer and renewed on the basis of various studies, 20-30%, some studies VA- Lossa up to 40%.

undergoing treatment and disease survivors of exercise training also improves the quality of life, cardiorespiratory fitness and physical function and reduce symptoms of fatigue, and it also has a positive effect on mood. This is discussed in more detail in the rehabilitation and recovery support currency processing section (figure 5).

Physical rehabilitation and training can be combined with the treatment of the disease and thus create a holistic approach through a cancer patient's health care. E.g. advanced breast cancer patients' rehabilitation supporting physical model includes as an essential element in every section of the preceding step seurantavai- in powder of the same, and patients are related to the promotion of the health information.

Exercise also reduces the risk of developing arterial disease in many patients with cancer, derivatives of the thanks of treatments increased risk of developing these diseases. Most research-based information is breast cancer.

Exercise recommendations for different age groups of the population

Children's physical activity recommendation

Early childhood physical activity recommendations (2005) describes how children's holistic growth, development coating, learning and well-being to support physical activity and play help. Children under school age children should be according to the recommendation to move at least 2 hours a day.

recommendation for physical activity in school age (2008) is the minimum recommendation of health, and it is allocated to all school-age children and young people in health point of view: 7-18 years 1-2 hours per day in a versatile and age-appropriate manner. More than two hours of sitting for long should be avoided, and on-screen entertainment time sitting in front of the media must be no more than 2 hours a day.

Of health recommendation for adults

UKK Institute to develop Liikuntapiirakkaan (2009) is encapsulated in health recommendation for adults. All of 18-64 years of age or whether a brisk endurance exercise at least 2 hours 30 minutes a week or strenuous activity for one hour and 15 minutes. 30 minute exercise can be divided into more of silicon, at least 10 minutes duration.

Elderly exercise recommendation (over 65 years)

Older people in health recommendation is based on Liikuntapiirakkaan. Endurance condition, the recommendation is the same content as those of working age. And working-age people over 65 years of age is shown in weighting recommended exercise, weekly exercise pie such that the central portion of the pie has increased muscle strength, balance and notkeut- of recommended activities carried on 2-3 times per week.

Recommendations to avoid sitting for all ages

While some of these recommendations, to take a position on recommended continuous sitting in the total amount of actual women istumissuositukset Finland still missing. The new nation-wide health and well-being to promote tävissä policy guidelines state that is drawn up at the national level to limit the national recommendations of sitting, containing the functional and structural designs as well as essential practical measures for different ages for individuals and communities.

Exercise Recommendations for cancer prevention point of view,

Cancer prevention point of view, the recommendations are quite consistent with the traffic municipal health and well-being to promote the recommendations. It is also important in terms of cancer is increased physical activity, increasing the daily life of sitting in the reduction of physical activity, as well as a key element in the promotion of health and well-being. in the light of research findings abundant physical activity for cancer prevention is an additional benefit. Recommendation was recommended by international guidelines is to move at least 30 minutes of brisk daily (Word Cancer Research Fund / American Institutes te for Cancer Research, 2007). Recent recommendations have also been disclosed by the fact that it is necessary to avoid the excessive sedentary.

Health benefits will be even greater, if practiced daily for 60 minutes or 30 minutes of brisk tiring workouts. Half an hour of daily exercise recommendation is based on research data itself exercise anticancer effects. The additional quantity recommendation is based on the knowledge that overweight and obesity cause certain cancers and normal weight management is better achieved by moving an hour a day. On the other hand already little bit does the addition of physical activity has beneficial effects for example. growth factors such as insulin and insulin secretion, which are relevant in terms of cancer.

Exercise Recommendations In patients with cancer

Exercise and physical activity are safe for most patients with cancer. Physical training can be combined to treat the disease and thus create a more holistic approach to a cancer patient to health care and rehabilitation.

In patients with cancer already, there is no separate exercise recommendations, but their exercise is recommended to follow the same recommendations as the recommendations made healthy cancer prevention point of view. An additional benefit will be happy to receive by moving an hour every day.

For all who have suffered from cancer also recommended at least to avoid immobility.

RECOMMENDATIONS

- Exercise becomes a central element in the promotion of health and well-being, as well as the prevention of diseases.
- Added to the school sports educational programs and school environments.
- Encouraging physical activity and locomotor everyday chores always early childhood and school age onwards.
- Exercise benefits and drawbacks of immobility message to the population from the perspective of cancer prevention.
- Exercise is seen as an important part of cancer prevention with weight management and healthy nutrition Treaty.
- Exercise recommendations and recommendations to avoid excessive sitting for cancer are similar to those prepared in the prevention of other diseases NCD, and of these, the message together with other NCD network operators.

MONITORING INDICATORS

- surveys, and other research projects
- intervention studies
- Measurements by objective methods (e.g., accelerometers, pedometers).

NUTRITION AND EXERCISE RECOMMENDATIONS TO REDUCE CANCER RISK applied to Finnish practices

1. Follow normal weight (BMI 18.5 to 24.9 kg / m2).

2. Exercise regularly for 30-60 minutes a day.

3. Limit the use of energy-rich foods and drinks (sugary drinks, fatty and sugary products, snack foods).

Avoid added sugar and sugary soft drinks, sweets and pastry making use of plentiful, because they contain a lot of energy, but little other a nutrient. Excessive energy intake increases the risk of obesity and thus the risk of cancer. On the same grounds avoid high fat and often also salt-containing snack products such as potato chips and French fries, heavy use. Favoring fat as a source of fish oil, rapeseed oil, having cancer (and cardiovascular verisuonitauti- I), preferred fatty acid composition for the prevention (eg. Rich in n-3 fatty acids). It is recommended to eat fish at least twice a week, ranging from various channel lalajeja.

4. Eat plenty and diverse plant products.

Eating vegetables, fruit and berries daily salads, meals lämpimi- as patches, snacks and dessert. Plant products containing highly vitamins, minerals, dietary fiber and a variety of phytochemicals. All of the above has been shown to be relevant to cancer prevention casing comprises. Prefer a wide variety of different colors and vegetables as possible, Teja as tomatoes, onions, carrots and cabbage plants. Use fruits and berries as snacks and favored by domestic horticultural and forest berries.

A generous intake of dietary fiber protects colon cancer. Finnish eminent source of fiber are rye bread, so its use should be favored. All change breads, cereals and muesli made from wholemeal cereals also are good sources of dietary fiber.

5. Limit the use of meat products and processed red meat.

Red flesh is classified as cattle, swine, sheep and goat meat. Processed thereby at Incarnate classified mm. ham, bacon and different sausages. A generous use of red woman and processed meat increases the risk of colorectal cancer. Si single clear instruction is that of red or processed meat may have about four days a week main meals.

6. Limit alcohol use.

Use of alcohol as little as possible or not at all. Cancer risk from the perspective of alcohol there is no safe dose level.

7. restrict the use of the salt (max. 5 g per day).

Heavy use of table salt is associated with a higher risk of gastric cancer.

8. The dietary supplements are not useful in cancer prevention.

The exception is the use of a vitamin D supplements according to the recommendations. because of the position of the northern Finland synthesis of sunlight stimulated by vitamin D within the body in winter is low. In order to ensure a sufficient intake of vitamin D are those recommended vitamin D to follow the recommendations in accordance with the new Nordic nutritional recommendations. Adequate vitamin D prevents cancer. Recommendations to the larger vitamin D supplements benefits and risks of cancer prevention is not enough evidence, so they are not recommended.

Nutrition and physical activity RECOMMENDATIONS CANCER sick for

- Cancer, who had suffered a nutritional recommendations after the treatments are the same as those described for the prevention of cancer.
- Who have suffered from cancer are recommended to follow drawn up for the entire population exercise recommendations. An additional benefit will be happy to get moving hours a day. Suffering from cancer agents is recommended to avoid immobility.
- Health promotion is particularly important for chemotherapy and radiation treatments among the infected.

- supporting healthy lifestyles should be closely integrated into the follow-up care for cancer patients and follow-up.
- cancer patients who have suffered from adequate dietary intake is important huoleh- thia during treatment.

- The physical rehabilitation and training can be combined with the treatment of the disease and thus advance a holistic approach to the cancer patient's health care.

3.8 Work-related exposures

Ratings of work-related cancers share of the total syöpäsairastuvuuteen vary significantly evaluator and the evaluation of the population has been the subject model. It is estimated that the work would have caused in the 1990s each year about 500 cases of cancer, which is 2-3% of all cancers. Second evaluation according to v. 2000 occupational cancers would have been in Finland for approx. 2% of all cancers. In men, work-related cancers is generally (about 4% of men with cancer) than in women (less than 0.1% of female cancers).

The most common work-related cancers are lung cancer and pleural cancer. In addition, the confidence työaltistuminen causes bladder cancer, leukemia, nose cancer and skin cancer. The most common work-related cancers are almost always relatively quickly fatal. Thus alirekisteröitykin työperäis- number of cancer deaths in Finland exceeds 2.6-fold of fatal accidents amount of a job. Working conditions may also increase the risk of other than the actual occupational cancers.

is carried out in Finland in 2001, a broad assessment of work-related mortality and also cancer-specific mortality (professional work-related cancers and cancers) amount on the basis of the 1996 mortality statistics. Estimate ended up being surprisingly high number: more than 800 cancer deaths per year was estimated as occupational. This mortality estimate moisture ki 22 cancer location, and the only cases resulted in death were calculated.

Due to the ever increasing in part cancers improving the current treatment means, can work-related cancer morbidity in reality be higher than expected. On the other hand this study causes and rates of assessment pohjau- tui old exposure produced by cancers. A recent risk assessment later is tarkennet- tu, for example, the amount of asbestos cancers is calculated to fall to about one over one hundred new cases of cancer per year.

Basically, all work-related cancers are preventable. Work-related cancers usually occur remmalla young age than adults eat an average, and therefore the loss of years of life caused by them is significant.

Cancer Hazardous chemicals and physical factors

Cancer-producing chemicals known as industrial products and hundreds of nature. The World Health Organization (WHO) International Agency for Research (IARC) has so far published riskinarvi- 1-99 ointimonografioissaan estimated total of more than 900 substances or other factors in cancer risk. These 70 individual chemical or physical agent, a mixture of 16 and 19 ympäristöolosuhdetekijää has been found to humans carcinogen. The majority of these 105 risk factors present in the work or the working environment.

The main work environment can afford cancer causing exposures are environmental tobacco smoke, chromium VI compounds, nickel, asbestos, benzene and several other reactive industrial chemical, plastics, some chemicals, medicines to treat cancer, quartz dust and diesel exhaust fumes.

In addition to cancer-causing chemicals wood dusts, radon, and other native ion present in the work environment nisoiva radiation, UV, and optionally also the electromagnetic radiation, viruses, bacteria and protozoa.

Legislation and Registration

A wide-ranging and sustained work-related cancer prevention based on the legislation, to seek the abolition cause system as carcinogenic raa author's work. However, this is not always possible either the technical or the memory of reasons.

Finland has ratified the International Labor Organization Agreement on occupational cancer prevention (139/1974) and transferred the ILO Convention and the EU's cancer directive (90/394 / EC) and its amendments (97/42 / EC and 99/38 / EC) the contents of Finnish legislation: Government decrees 716/2000 and 245/2002 concerning the prevention of work-related cancer risk, the Act carcinogens

substances and methods professionally exposed to register (717/2001), as well as the Ministry of Social Affairs and Health Regulation of carcinogens 1014/2003 amending the Annex to the Ministry of Labor decision of factors. The latter is attached to periodically review the so-called. ASA-list, which now includes more than 170 exposed. In addition, the Government Decree on carcinogenic, mutagenic and reproductive prohibitions and restrictions on dangerous goods 623/2004 regulates the risk of cancer prevention.

Occupational Health maintains a profession to carcinogenic substances and methods exposed tuvien a register of workers (ASA) and the CAREX database. based on the CAREX database, in 2000, exposed to the carcinogenic actions of employees totaled 450 000, which represents about 26% of the employed labor force. The most common individual carcinogens of UV radiation, which was exposed to approximately 000 to 130 outside the regular work of workers engaged (6% of the employed). Environmental tobacco smoke was assessed exposed to approximately 100 000 people (5%).

The reformed Tobacco substantially reduced the number of exposed after 1995 and the 2000s, edible after the Loita Tobacco Act into force. Crystalline silica stone industry and the construction industry exposed was estimated to be 75 000 (4% of the employed), and wood dust of about 55 000 (3%).

The largest exposed groups mentioned above are in addition to wood dust exposed puuteollisuus- and at the same hatyöntekijät and exposed to radon in the workplace, as well as diesel exhaust gas are exposed to repair and kuljetustyön- factors. The risk is considerable small industrial and building groups of employees who are exposed to known cancer prone to you, such as benzene, asbestos, arsenic, chromium, aromatic amines, quartz inner and hardwood places very abundant.

Occupationally exposed to ionizing radiation Radiation monitoring center portion leading to a total extent of 11 to 700 employees mainly in health care and nuclear power plants. Approximately 20% of the radiation is exceeded noksen recording threshold of 0.1 milli Sievert / mm nuclear workers and 0.3 mSv on the other occupations. Space is exposed to radiation in airplanes of 2 600 employees. The main radiation cancers are leukemia and exposure to radon-related lung cancer.

Work-related cancers

In principle, any human cancer, with some few exceptions, can be työperäi- of. Also working conditions may increase the risk of cancer caused by other factors, and other factors as set työperäi- may in turn affect the occupational cancer risk. Work-related cancer does not usually clinically separated tu non-work-related tumor.

In practice, work-related cancer focuses on only a few cancers, most notably lung cancer, mesothelioma, bladder cancer, skin cancer and leukemia, and less frequently sivuontelosyöpä kidney, liver and larynx. Diagnosis of occupational cancer in the concentration of these bodies is important. Detection of an occupational cancer is based mainly on employment and occupation on the exposure information.

The following table (page 58) is listed in the register of Occupational diseases reported as occupational cancers (v. 1964-2002).

The majority (approx. 90%) found in Finland on work-related cancers is asbestos-caused lung cancers. Although the asbestos demolition license is required, exposure to asbestos in the work vehicle may be still a problem, especially, in buildings, which is not of the proper mapping of the asbestos. Other possible cancer hazard to the construction predisposing factors are quartz and wood dust. Earth construction is also exposed to diesel exhaust gases. The risk assessment is to be noted that a cancer-inducing agents to be exposed to the risk begins to increase from zero-alkyl tistustasosta and a dose-response relationship is assumed to be linear. This means that, that the working vähäisen- also under exposure to workers subject to some degree of statistical additional risk, and only the elimination of exposure to whole can not fully protect the employee caused by the exposure syöväl- s. public health significance of exposure to any of several working environment can be quite small, but the risk to exposed workers, but great. Examples include asbestos, diesel exhaust gas, quartz and nickel, le joil- calculated by a person exposed to the risk of lung cancer than one percent.

Occupational Health declared in the register of work-related diseases as occupational cancer cases v. 1964-2002 (adapted from Kauppinen 2002).

Cancer and declared the cause	cases
lung cancer	1105
• Asbestos	1084
• Quartz	6
• Hydrocarbons (PAH etc.).	3
• Radon	2
• Other, unknown	6
Pleural cancer	412
• Asbestos	410
• Other, unknown	2
Peritoneal Cancer	18
• Asbestos	18
bladder cancer	11
• aromatic amines	6
• Other, unknown	5
Leukemia	9
• Ionizing radiation, radon	4
• Benzene	2
• Other, unknown	3
nose Cancer	7
• Nickel	3
• Wood dust	2
• chromium compounds	2
laryngeal cancer	6
• Asbestos	2
• Other, unknown	4
Other cancers	28
• Asbestos	9
• Ionizing radiation	3
• Welding fume	2
• Other, unknown	2
All of cancers	1598

Cancer Hazard prevention must also consider the time between exposure and cancer occurrence of legal reeton latency period (eg 5-20 years in leukemias and other cancers 15-40). For example, ascorbic caused by Best's cancers often appear 30-40 years the start of the exposure, and smoking increases the risk of work-related Raisen asbestos lung cancer many times over.

Although the absolute number of work-related cancers, the number of cancers occurring in the general population as compared with is relatively small, work-related cancer risk in certain occupational groups (asbestos workers, benzene exposed workers, wood dust exposure and rubber workers) disproportionately large and the work-related cancer causes, for example, the most exposed to asbestos workers overall mortality rate of more than 50 %.

Epidemiology and occupational medical research and experience shows that only about 20 to 30 cancer types will be significantly raised ammattisyöpinä. However, Syöpäepidemiologia constantly brings new types of cancer including work-related cancers to the list. Finland has published a wealth of work-related physiologic studies on the epidemiology of cancer in different professions or työaltisteista. Amounts hazard ratios for the risk of cancer-causing ammateis- SA is 1.4 to 20. collected information from other Nordic countries almost the same professional groups refer to the same level of risk.

Examples of currently occurring in construction work on dangerous cancer of exposure in the work of demolition of old structures of any asbestos, PCB and coal tar pitches. In new construction and renovation to the workers exposed to Tua stainless steel welding chromate and nickel, treatment of creosote impregnated wood sootille, chromate and arsenic, parquet installations hardwood and sometimes ruiskumaalaukses- sa kromaattipigmenteille.

Old moisture and water insulation unloading workers are exposed to dust, with coal tar pitches. Coal pitch is carcinogenic polycyclic aromatic hydrocarbons. Stainless steel welding may be exposed to chromate and nickel. With concrete and a stone dust is classified quartz dust as a carcinogen (IARC class 1).

Work-related lung cancer

The most common work-related cancers of the lung, which is due to the fact that the lungs are a plurality of air-occurring substances and carcinogenic mm. asbestos fibers, exposure to radon, PAHs (polycyclic aromatic hydrocarbons), metallihuurujen etc. the most important route of exposure. According to various estimates from 13 to 40% of all cell lung cancers can be obtained in connection with work exposure. the United States has been estimated to cause work-related factors, 15% of men and 5% of female lung cancers.

In Finland, the main cause of lung cancer risk of industrial chemicals, are chromium VI compounds, nickel and its inorganic compounds, asbestos, polycyclic aromatic hydrocarbons, cadmium and compounds thereof, acrylamide and arsenic and inorganic compounds, crystalline silica, radon, and diesel exhaust. In addition, cigarette smoke causes not only independently lung cancers also potentiate the effects of other exposures, and more particularly lung cancer risk by asbestos many fold.

Work-related mesothelioma

Mesothelioma is the second most common work-related cancer in Finland. It is uniquely linked to asbestos exposure to. Asbestimesotelioomia can occur not only in the lungs and other parts of the retroperitoneal space mesenchymal kyymikudoksessa.

Work-related other cancers

Melanoma generated by sunlight or other ultraviolet light source. Excessive sun's UV radiation at work more outside the risk of cancer. UV exposure also increases the basal cell cancer and squamous cell cancer risk.

Nose and sivuontelosyöpään associated with exposure to formaldehyde, nickel and wood dust. Hard wood species, such as oak and beech, for example hardwood processing installation and may be exposed to abrasive dust, hardwood, which is classified as carcinogenic. It is estimated that up to 30% sivuontelosyövästä caused puupö- lyaltistuksista.

Bladder cancer previously appeared in dealing with an abundance of colors and rubber industry workers who were exposed to aromatic amines or azo dyes.

Part of leukemias and lymphomas have been suspected of exposure to benzene, chlorinated phenols and phenolic noksihapoille and ionizing radiation.

Hepatic and pancreatic cancer occurs in use where exposure to chlorinated hydrocarbons, certain plastics and rubber industry raw materials, butadiene and vinyl chloride.

Kidney cancer occurs in petrol and number of workers exposed to solvents.

RECOMMENDATIONS

- The risk occupations (repair construction and demolition) self-monitoring of protection against development of more effective. The reporting obligation occupational safety and health authority should be considered.
- Continuing and updating the risk of cancer-related contaminants in the monitoring of people exposed to.
- Targeted prevention measures (education, guidance and counseling) occupations most at risk.
- emphasizes the importance of occupational health and safety already part of professional training in the areas where there is a risk of exposure to carcinogenic agents.
- Occupational Safety and Health Supervision is applied to areas where exposure to carcinogens or the risk of developing cancer is most likely to occur.
- Systematically deducted from the employees' karsinogeenialtistusta (use carcinogen terminate DING, carcinogen replacement with another compound, modification and automation of working methods).
- Smoking cessation support is significantly enhanced occupational health services in areas where the risk of exposure and developing is greater than usual.
- Employers should be supported to stop smoking, especially in situations where smoking significantly increases the risk of further cancer worker who is also a second, causing the system as carcinogenic work-related raa exposed.

follow-up to the recommendations is responsible in particular for Occupational Health. Information obtained by means also of studies, reports and joint projects, which can be utilized in health care registers.

3.9 Infections

The main viruses of cancer are caused by the papilloma viruses (HPV), which is associated with increased cervical and other cancers of many of the risk of hepatitis B and C viruses, which carry a risk of liver cancer, as well as Epstein-Barr virus (EBV) associated with nasopharyngeal Finland carcinoma and lymphomas. The bacteria most significant cause of cancer is Helicobacter pylori, which is associated with increased risk of gastric cancer. In the following is discussed in more detail in those cancers associated with infections that may be prevented. The most significant group of preventable cancers are caused by HPV viruses are eating.

HPV and cancer

When in the early 1960s, it was found more than 400 new cervical cancer, is the corresponding figure in the light of the latest titanium spatulas about 150 new cases a year. cancer of the cervix duct papilloma virus is associated with diminished in our country, especially thanks to successful screening. It should be remembered, however, that the improved papilloma virus carcinogenicity is not limited to cervical cancer. Men have an equal risk of developing improved cancer caused by the papilloma virus.

a report published in the International Research on Cancer (IARC) in 2012, according ti is adequately convey evidence that HPV type 16 in addition to causing cervical cancer of the vulva, vagina, sperm converter, anus, oral cavity, oropharynx and tonsil cancers. It is estimated that 43% of vulvar cancers, 70% of vaginal cancers, half of penile cancers, 88% of anal cancers worldwide and 39% of oropharyngeal cancers in Western and Northern Europe may have been caused by Human Papillomavirus in 2008.

Estimate of HPV caused the cancer cases in Finland

If the shares presented above would be directly applicable to Finnish population, our country would be on the basis of the Finnish Cancer Registry estimates recorded during the five-year period 2006-2010 more than 180 women, HPV induced vulvar cancer, vaginal cancer, nearly 70, 100 anal cancer, more than 40

oropharyngeal (including the base of the tongue and tonsils) cancers in men and less than 70 HPV-induced penile cancer, more than 70 anal cancer, oropharyngeal cancer and 140 for a total of almost 700 new cancer cases in five years, or about 140 a year. In addition, cervical cancer was found during this period of 750 women, or 150 women per year.

About half of HPV-caused cancers other than cervical cancer

The incidence of oropharyngeal cancers in women increased by the end of the 1980s to the late 2000s, a three-fold in men and 2.6-fold. Anal and penile cancer incidence rates have been on the rise milder. Vulvar and vaginal cancers incidences have remained virtually unchanged.

there is no great difference in mortality between the EU and due to some other reason, cancers, in 2006-2010 killed an estimated more than 500 employees, or about 100 people a year for HPV: If you mentioned, HPV-induced cancer. About half of these deaths were caused and half of cervical cancer caused by other types of cancer.

Finland in 2013 has been initiated HPV vaccination in girls. National immunization program
Since 11.01.2013 will receive the vaccine for girls in 6th grade and 7th-9th grade girls in the vaccination program, as two first na year. In many European countries there is a lively debate about the HPV vaccination to boys. Australia vaccination of boys is already the official vaccination program. the importance of vaccination against cervical canal cancer prevention is discussed in the section on screening (Chapter 4).

Other infections and cancer

In Finland, lymphoid and haematopoietic cancers (non-Hodgkin's lymphoma, Hodgkin's lymphoma, myeloma, and leukemia) are affected each year about 1 200 men and slightly more than 1 000 women. Of these, the largest group of patients is non-Hodgkin's lymphoma suffering from the disease, which has a total of almost 1 200. inflammation is estimated to be relevant to the pathogenesis of hematological cancers. As one example, the Epstein-Barr virus, which involves in particular African Burkitt's lymphoma and square. Epstein-Barr infection from the risk associated with nasopharyngeal carcinoma also increased. Unfortunately, there is currently no effective for opportunities to prevent these cancers.

In Finland, primary liver cancer are diagnosed annually nearly 300 men and 170 women. Ikävakioi- tu incidence of the 50's about tripled. The main primary liver cancer is hepatocellular carcinoma-linear (HCC), which becomes more common with age, and the peak incidence reached 70 years of age. HCC is usually formed by a damaged liver, and the most common predisposing factors of liver damage are holimaksakirroosi alcohol, and hepatitis B and C viruses. Finland liver cancers in respect of the vast majority of cases the labels on ologisena factor is the high consumption of alcohol.

Worldwide, hepatitis viruses (particularly in Asian and African countries) is a major risk factor for liver cancer, but the etiological factor significance of hepatitis virus for liver cancer is expected to be minimal in Finland. In addition, recently has the Western world alongside alcohol was emerging as alcohol aiheutumaton inflammation of the liver, leading to cirrhosis of the liver and increases the karsinoomariskiä. This is usually associated with obesity as well as diabetes and hyperlipidemia. Hepatitis and, in particular related to it through chronic hepatitis liver cancer are preventable with vaccination of newborns. Worldwide, hepatitis vaccination is a significant way of preventing cancer of the liver.

HIV infection associated with the risk of developing certain types of cancer, among others. Skin Kaposi's sarcoma and non-Hodgkin's lymphoma. Finland were diagnosed in 2012, a total of slightly more than 150 HIV-infected. Before one distelmälääkityksiä HIV-infected incidence of Kaposi's sarcoma was about 200-fold and the risk of non-Hodgkin's lymphoma in approximately 80-fold compared to the general population. Increased risk of cancer associated with weakening of the immune defense. An early diagnosis and early start-up the combination therapy systems have reduced the incidence of these cancers. Kaposi's sarcoma states in Finland today, only about 15 cases a year. Instead, Hodgkin's lymphoma, melanoma, as well as anal and colorectal cancer incidence in HIV-infected has increased in the 2000s. Also related to the HPV virus syöpi-

I, such as the incidence of cervical, anal, vaginal and oral cancers has also increased in recent years in HIV-infected. Overall, the importance of our country HIV infection by the etiological cancer, however, is quite low.

Stomach cancers are found each year about 380 men and 280 women. Stomach cancer incidence in age-adjusted decreases continuously. the risk of gastric cancer is reduced living standards rise. Risk factors include. atrophic gastritis, pernicious anemia, gastric ulcer, postoperative stub stomach, gastric polyps and intestinal metaplasia and dysplasia. Helicobacter pylori infection is related with about six times the risk of stomach cancer ki, which may be either intestinal or diffuse. Due to increased risk of stomach cancer risk considered to be the cause of chronic gastritis caused by H. pylori. It is estimated that helikobakteeripositiivisen gastritis prevalence in adults in developed countries is 20-65%, but only less than one percent of infected will develop stomach cancer.

What is certain way gastric cancer prevention is not, but the fruit and vegetables abundant intake of ravinnos- may be important. It should also look cuisine, which is made of säilöntämenetelmil- conventional method, such as salting and smoking. a risk factor for gastric cancer generous use of salt has been identified. Large amounts of salt damage to the gastric wall cells and promote the growth of H. pylori. The various preservatives can also be associated with nitroso compounds of the increased risk of the formation. Helicobacter pylori eradication therapy may reduce the risk of gastric cancer.

RECOMMENDATIONS

- To ensure a high-quality population-based cervical cancer screening continues.
- Continuing the initiated HPV vaccination program for girls.
- Assess the cervix channel screening of new research methods (eg. A Pap smear vs. HPV screening).
- Identify criteria and the opportunities for boys to start HPV vaccination in our country during the next few years.
- Enhance infection prevention, in particular by means of health communication.

MONITORING INDICATORS

- vaccination program realization (THL)
- Mass Screening Registry statistics screenings
- Cancer Registry statistics cancers and precursors
- Research display.

The key actors are THL and the Finnish Cancer Registry and the underground Mass Screening Registry.

3.10 Radiation

UV radiation

Skin cancer has become more common in recent times, and the same trend will continue in the future in the light of the Finnish Cancer Registry recent forecasts. Approximately 90-95% of skin cancers, is linked with UV radiation exposure. The most common types of skin cancer are basal cell carcinoma, squamous cell carcinoma and dark, or melanoma. Basal and squamous cell carcinoma are usually quite benign and evolve as a result of prolonged exposure mostly older people. They occur mainly on the face and the hands, which are continually exposed to solar radiation.

Skin melanoma typically develops in the skin of the body or limbs. Repeated burning of the skin in childhood or adolescence increases the risk of developing melanoma. Sunburn or tanning salon more melanoma in the light of research Mariska approximately doubled. the risk of melanoma also increases other abundant solar koaltistus or use the solarium without burning the skin.

Skin melanoma has for decades been one of the fastest growing cancers in the western world. Western Europe, it has become more common every year about 3-5%. The annual age-adjusted incidence of melanoma has been in Finland in recent years, men 13.9 / 100 000 women and 13.8 / 100 000 in Sweden and the other Nordic countries, the incidence is somewhat higher in Australia and the white population compared to about 2-3 times the Nordic countries .

The incidence of cutaneous melanoma focused on younger age groups than other skin cancers. Every year in our country states about 1 300 melanoma, roughly equal in men and women, and to die an average of 190 people per year. Melanoma sick five-year survival rate has improved steadily, and it is currently in Finland in men 83% and women 88%. Considerably more people fall ill of basal and squamous cell carcinoma, but to die each year from just over 40 people.

Melanoma risk factors

- Light readily combustible, type I skin.
- High number of moles. The relative risk of melanoma will increase by approximately ten times the number generated by the number increases by 50 to 120 C. abundant pale skin sun exposure, especially before puberty increases the amount and risk of melanoma eyelids.

- Clinical grounds over 4-5 atypical luomea (dark, irregularly pigmented, with a diameter of more than 5 mm in size, the asymmetric and irregular borders pigmenttisoluneevus) to increase the melanoma risk of illness from about 12 to 15 times compared to the general population.
- Previously excised primary adds a new primary tumor risk about ten times.

- observed in more of your close relatives melanoma increases significantly statistical risk of melanoma.

Solariumaltistus and melanoma

Of UV radiation is roughly equivalent to the sun's UV spectra (95% UV-A radiation). Sola riumit of the population are a major source of UV exposure. The sunbed caused by UV exposure is also an intensive methods, because it can be compared to sunbathing in a short period of time. Mild skin combustion reaction commonly occurs with the use of Sola- bilirubin.

UV radiation is a known carcinogen. Of UV radiation is classified as a class I human carcinogen the flux na 1992 (IARC). Susceptibility to skin cancer and sensitivity to the action of UV radiation vary greatly within the population, primarily in skin type.

Finland solariumlainsäädäntö has changed in such a way that, from 1.2.2012 solariums is no longer authorized for sale under the age of 18 years, starting from 1.1.2013 solarium on site is supposed to be the safety instructions and information on UV radiation harm. removed from 01.07.2015 itsepalvelusolariumit, where there is no responsible person to spot.

Luomitarkastustoiminta and health

Luomitarkastustoiminnan Cancer Society began in the 1990s. Most provincial cancer YH discount rate MICRO- ENTERPRISES offer luomitarkastustoimintaa either the campaign-or throughout the year, and the activities carried out by trained nurses and doctors. A similar luomitarkastustoimintaa also offer many private clinics.

Skin changes concerned citizens can come to show you has created, whereby trained medical attendant to do a preliminary review and guide the customer, if necessary, the physician's judgment either for its own control center of health care, occupational health care, and private physician according to the patient's wishes. Luomitarkastustoiminnan

in connection with the customer is given information about healthy sun behaviors. This is the so-called. low threshold to a readily available service.

RECOMMENDATIONS

- Message to the dangers of sun exposure for the general population, as well as separately for different age and target groups
    - o child health clinics
    - o school health and health education in schools
    - o young adults
    - o South globetrotters
    - o melanoma risk groups.
- Sets the objective of ending of completely non-medical use of tanning.
- key messages
    - o Avoiding sun exposure
    - o skin protection garments
    - o powerful enough to use sunscreen
    - o do not use a solarium.
- To ensure low threshold luomitarkastustoiminnan and the availability of this combined terveysneuvon- wall.

radon Radiation

Radon is present in homes and workplaces in the indoor air of an invisible and odorless radioactive noble gas. Radon generated in the crust of uranium and thorium decomposition product. About half of the Finnish receiving a radiation dose comes from radon in indoor air.

Long-term living in high radon concentration increases the risk of developing lung cancer. Suomes- sa about 300 people each year get lung cancer from radon. The work and the workplace from radon gas in Finland is exposed to annually approximately 50 000 employees (2% of all employees). The average concentration of radon in the Finnish laisissa housing is about 96 Bq / m3, which corresponds to about 2 milli Sievert radiation dose per year. Radiation and Nuclear Safety Agency estimates that radon radiation levels of Finnish homes are as follows: radon concentration> 200 Bq / m3 (220 000 units),> 400 Bq / m3 (59 000 units) and> 800 Bq / m3 (11 000 flats). Radon properties in Finland are higher than in many southern European countries, but the same level as in Swe- den and Norway.

Maximum level of 400 Bq / m3 in excess homes and jobs can not be everywhere in Finland, but the highest probability for finding them are in southern Finland and Pirkanmaa region. This integrated area inner jaitsee nearly 80% of all homes in excess of the maximum value. Most of these radon in homes can be found in the ridge or evening Salpausselkä-formation. The largest identified radon concentrations in homes were more than 30 000 Bq / m3 (average for the whole year). Momentarily place of residence or work spaces have been measured up to 100 000 Bq / m3 higher than about radon concentrations.

Radon is classified as a carcinogen after smoking and is the second leading cause of lung cancer. Exposure to radon in homes can be reduced and at the workplace, for example, well-ventilated, radon wells or -imureilla. The most effective way to reduce the average radiation dose of Finns by reducing the concentration of radon in indoor air. Soil in Finland favors the transition of radon inside buildings premises. What uraanipitoisempaa the soil is, the more likely and higher concentrations of radon can move to the indoor air. It is indeed essential to know your dwelling or the radon concentration in the workplace. Construction stage will be possible to find radon exposure to the construction site and construction to eliminate radon sun travel indoors.

Of Social Affairs and Health Ministry's decision 944/92, the home of indoor radon concentration should initially not exceed 400 Bq / m3. New housing will be designed and constructed so that the radon concentration does not exceed 200

Bq / m3. Radiation Regulation (1512/1991) the limit values of radon concentration of jobs is set. The radon concentration at the workplace may not be regular work exceed 400 Bq / m3. This measure also applies to the value of schools, kindergartens and other public spaces.

RECOMMENDATIONS

- the determination of the concentration of radon in buildings should be considered mandatory at least in areas where known to be abnormally high radon concentrations.
- adequate ventilation of buildings base floor must be ensured and the migration of radon indoors only prevents e.g. by sealing the areas where the soil can be released radon.
- Strengthening communication radon health hazards of indoor measurement of the radon concentration and short-kei butter construction in areas where the radon is a problem.
- Indoor radon concentration of the maximum permitted levels in Finland will review the current stringent.

Electromagnetic radiation

Radon and ultraviolet radiation in addition has in recent decades been extensively studied electromagnetic radiation caused by the road of field and electric field and its potential health effects in humans. All electrical equipment and cause the electric field around the magnetic field. Particular attention has been given power line work, but their health effects have not been unequivocal certainty. Finnish tutkimussarjas- detected no children or adults at elevated risk of cancer in the vicinity of power lines. However, for example. The building industry in the immediate vicinity of power lines is prohibited.

Mobile phones and their base stations, is suspected of causing radiation, which has effects on health. Ly doubt has been based on studies which proved that phone cause thermal effects on the brain tissue. the effects of radiation to recover so far are unclear. has not been shown to increase the risk of cancer as a result of the use of mobile phones studies and meta-analyzes performed to date. Examination of the case is difficult and the follow-up times far too short to draw conclusions.

International recommendations and Finland, the Radiation and Nuclear Safety Authority's recommendation to invite varovaisuusperiaat-tea compliance. If you want to protect against possible risk, it is good to use a hands-free device (radiation much less than the phone), hold the phone a little further away from the body (radiation decreases with the square of the distance) and to limit children's use of the phone. It is possible that the radiation is greater risks of the resulting cell phone talking controlling the vehicle.

4 Cancer Screening and Early Detection of Cancer

4.1 of cancers, a number of checks, namely cancer screenings

Cancer in the aim of identifying early-stage cancers hidden or few symptoms, when treatment is healing disease and death caused by cancer can be prevented. screening for cervical cancer searched for precancerous lesions, which can be prevented by managing the emergence from the cancer.

Hallmark of a good screening has improved patients' quality of life. The screening effect on quality of life would be an excellent indicator of effectiveness, but its measurement is difficult or even impossible. It is also possible that the impact of mortality and quality of life impact of conflict arises.

the effectiveness of cancer screening is often seen as an indication milestones, such as the discovery of cancer cases or their precursors. It is also common for cancer patients eloonjäämisosuu- found in screening of comparison with those of other patients. Such väliosoittimet are inadequate screening of the influence of the measurement of, and may give a false idea of the benefits, even if the screening would be decided with regard to the objectives of the functionless.

The screening program must be based on scientific knowledge havaintoperäiseen set operational targets effects. Screening conditions help the evaluation of criteria has been drawn up, based on the guidelines already drawn up in the 1960s. In summary, the criteria comprise the following essential components: The importance of the disease to be screened is large and its natural course known; disease is asymptomatic or mild symptoms, the phase that can be detected by a suitable screening method; diagnosis and treatment of the disease there are means and resources; of disease treatment guidelines are clear; The screening program is developed and implemented in a systematic and continuous control program, and the total cost is reasonable compared to other health care facilities.

Cancer Screening can also be achieved other benefits in addition to mortality effect. A well-de- signed and arranged the program adds the equality of citizens and to reduce regional disparities. Other benefits include reducing the suffering of patients improve with treatment, saving cuts and Adjuvant therapy reduced the need. Society of early-stage cancer treatment to save resources, because patients' treatment time is shorter and lighter than the treatment of advanced cancer care. Subjects were correct negative test result gives a sense of security and reduce anxiety.

Screenings is always associated, however, also disadvantages. Screened are generally healthy when harm minimization is particularly important and their importance and should take into account the extent of the screening programs at startup. False positive screening results give rise to concern and anxiety that the subjects, but in general, the effect is rapidly passing. On the other hand a false negative result to the test gives a false sense of security, which may delay the diagnosis of cancer. Serious damage can occur as a result of tampering with the follow-up after the first positive for the test. An example of this is done after a positive fecal blood test intestinal endoscopy, which in extreme cases can even lead to death of the subject.

Serious adverse reactions have also screening inevitably resulting overdiagnosis, ie screening finds well as cell hidden cancers or cancer precursors that would not have affected the untreated person's health emergency of a lifetime. In particular, screening for cervical cancer precursors overdiagnosis occurs because only part of the precursors is progressing. Severe precursors have to be served, because we can not know which ones are progressive and which are not. A good screening program seeks to minimize the disadvantages of screening in such a way that the achievement of the benefits is not compromised. For example, the screening medium is determined so that the unnecessary frequently repeated, the sizing and the resulting drawbacks such as overdiagnosis, can be minimized.

Harm and benefits to balance and improve the cost-effectiveness of the EU Council has recommended in 2003 that cancer screening should be carried out only in well-organized väestöpohjai-

Sissa screening programs, ie. the spontaneous or opportunistic screening should be avoided. EU recommendation applies to the target dunkaula-, breast and bowel cancer screening. Although there are ongoing cervical cancer and breast cancer screening programs and bowel cancer screening in accordance with the recommendation of the pilot phase, the recommendation has not been realized yet in our country very well, because we have very much also opportunistic in addition to the organized screening TAA screening. the possible introduction of other screening will be preceded by a sufficiently reliable evidence of effectiveness, cost-effectiveness and an acceptable balance of benefits and harm sustained by weight of a randomized screening studies.

screening Chain

Screening consists of a chain of different measures of health care and often also different actors. Action chain is sensitive to disturbances - the weakest link failure can destroy the whole operation. The screening program is a package of several different activities, service process, which has been carefully considered when and what will be done the previous step basis. Operational elements of the determination and identification of the target population, screening of calls for transmitting, in performing a screening test and analysis, supply answers, arranging the necessary follow-up studies, the treatment of cancer or precursor and further monitoring, as well as the recording of data relating to the screening of whole tea and transmission of registration.

tendering and simultaneous screening hash functions has led to situations where the whole program is not to manage. If the health care chain is not organized as a whole, necessary treatment can ääritapauk- Sissa remain completely without. Failures arise due to lack of understanding, but also health care barriers due to, for example, as a result of the obstacles or imperfect data protection acquis competitive tendering. One problem has been the fact that the authorities have organized screening is called as part of the examination and the operation of preventive health care, however, to further examinations and treatments take place in a special part of the medical treatment. Thus, uniform screening chain can fall apart. Screening program must be designed and operationally and in respect of sufficiency of resources in advance functional entity,

statutory screenings

In Finland, local health care must be arranged at (1326/2010, Section 14) and the Government of the screening Regulation (339/2011) on the basis of the national territory in accordance with the screenings of the screening program, which subjects is free of charge. Statutory screenings include cervical cancer screening for women 30-60 years of age every five years and breast cancer screening for women 50-69 years of age at intervals of 20-26 months. Breast cancer screening program expansion for more than 60 years of age relates to women in 1947 and women born after. Cervical cancer screening primaaritestinä is in most cases of cervical bulk cell test (the so-called. Pap test) and for breast cancer screening breast mammography.

Cervical cancer screening program

Cervical cancer screening program was launched in Finland in the 1960s, and it was expanded nationwide by the end of the decade. start screening program was not based on randomized trials to give evidence and not designed for randomizing the start. However, the program evaluated screening aieanalyysin (intention to screen) allows almost simultaneous to the control. EFFECTIVENESS evaluated by a 58% reduction in the incidence of cervical cancer. Later estimates based on monitoring screening operations were slightly effect. Ratings higher, and generally the effectiveness is 80%.

The incidence of cervical cancer in the 1990s has started to rise in young women, and seulontaoh- program the minimum age has been proposed to count. However, research evidence does not support a decrease seulontaiän its pre- vailing age of 30 because young women screening more harm (self-healing mild precursors of states

especially young people) and a cure for effectiveness. Instead of lifting seulontaiän 65 years can be justified tu, because an increasing number of cancer found in old age, and women live for a long time.

As part of cervical cancer screening program in the late 1990s started exploring the new technologies in a randomized setting. The study surveyed both automaatioavusteista Pap test readout (Papnet®) that the human papillomavirus (HPV) test is pointing. Papnet® test did not seem to improve the effectiveness of the screening as compared to the traditional way. So far not yet possible to say what is the effectiveness of HPV testing in cervical cancer screening. on behalf of the sensitivity of HPV test works just as good vin than the traditional Pap test, but has the disadvantage of larger precursors overdiagnosis.

The traditional interpretation of the Pap test is based on the availability of relevant personnel specially qualified. Smear preliminary examiner qualification requirements of the Polytechnic institute or school degree (e.g. biological or medical laboratory analyst) and the resulting smear required special esitarkastamiseen. Both the sample holders that interpreters are regularly involved in an installation-based induction and maintenance training.

participation in screening for cervical cancer has declined, especially among young women. Improving the participation steerability in a screening program for the target population replay calls and the home itself to be taken through the sample (self-sampling) is an experiment in the form of ongoing, funded by the Academy of Finland research project. HPV vaccines in the national immunization program in November of 2013, and this is taken into account in the future sa screening program implementation. However, the necessary program changes are not urgent, but require a controlled and systematic plan. Vaccinated girls come to the screening of age at the earliest after 10 years, and unvaccinated cohorts in need of a screening program for several decades.

Girls vaccinated for cervical cancer risk, and thus the effect of vaccines female population at risk of cancer comes up very slowly, because the cancer is very rare in young women. A first step of vaccination is expected to inhibit the mild to moderate incidence of cancer precursors, or active screening drawbacks by reducing unnecessary treatments of cancer precursors. Screening the future of the program rokotekat- also affected by availability and the number of unvaccinated women in different age groups. It is estimated that the screening program is necessary for at least the next 40-50 years, although the protective effects of the vaccine would be verifiable. open questions related to HPV vaccination are the duration of the vaccination efficacy, as well as a possible supplement to The urge vaccination.

Breast Cancer Screening Program

Breast cancer screening program was launched in Finland study design, in which part of the target population received a first screening invitation a few years later than the second part. The launch of the background research was musnäyttö several randomized screening trial. Pre-waiting were the basis of the fact that a quarter of breast cancer deaths could be prevented. situational evidence of breast cancer screening and subsequent start-up routine implemented based on the monitoring display are almost the same, about 20%.

Almost the entire period of activity in breast cancer screening has taken place about the benefits and drawbacks of discussion. have been raised mortality screening effect of reducing the magnitude of the estimated from a variety of screening and disadvantages such as a slow-growing cancer tumor and local overdiagnostics. A recent report has gathered together research findings, as well as the screening effect of the magnitude of the amount of overdiagnosis concerned. According to the report conducted every three years, the breast cancer screening effect on mortality of about 20% called, the higher the participants. Every two years, sieved 50-69 years it has been found about 25% reduction in mortality. Breast cancer mortality has been reported to decrease significantly the raft screening will be extended to 74 years of age. Overdiagnostics was estimated to be 11-19%.

Mammography screening has been shown to be started earlier, or more than 40 years of age onwards. Although there is some evidence of mortality from breast cancer screening in 40-49-year-olds for reducing the influence of, it should be noted that breast cancer deaths in this age group is relatively low and breast cancer

because of the tightness of the tissue screening tests should be done frequently, every 1-1.5 years. Research-disputed aid has not yet been obtained to support the decision, and based on mortality screen satunnaistetuis- of investigations are missing. On the other hand parents, screening more than 69 years of age have been proposed, because women live for a long time, and the cancer becomes more common in old age.

Finland at this stage is arrived at first to complete the current expansion seulontaiän to all 60-69-year-olds, which will be implemented by 2017. Screening parties critical of algae doubt the impact of the program, in particular the improvement of cancer treatment outcomes contribute. Cancer Registry joukkotar- kastusosasto will continue to examine the effectiveness of screening, with emphasis on the 2000s screenings throughout the country. Then came the changes not only to the screening age (extension to 60-69 years of age), but also technology, when levykuvantaminen and soon also in direct digital imaging displace conventional analog mammography. However, examination of effectiveness is not unbiased, as the comparison with the unscreened population is not available, but all women age group have been screened for a long time.

Descriptions of the X-ray screening tekevällä manager must have experience of clinical mammografiakuvauk-, and they must receive continuing education within the meaning of the description of the screening, which, for example, Finnish Association of Radiographers arranged. For screening as interpreters are always two radiology specialist physicians with experience in mammografiatoiminnasta. At least one doctor who has special qualifications seulontamam- tomography. Radiology specialist operator may indicate screening erityispätevyyten- The weather certificate issued by the Finnish Medical Association, or the Radiological Society of Finland specific qualifications of the Advisory Committee.

Colorectal cancer screening implementation for

Colorectal cancer is the third most common cancer in Finland and the second most common cause of cancer deaths. Colorectal cancer often shows no symptoms in the early stages, or the symptoms are so vague that studies lähtemis- s postponed. Colorectal cancer screening is found to influence the stool occult blood, either by examination or the signal moideoskopiaa initial screening test using.

The mortality rate is reduced by the screening of the call over the controls about 16% of the fecal occult shown miseen based screening. With newer immunochemical tests compared to the conventional test guajak- kipohjaiseen higher activity and found to participate more cancer precursors is achieved. Mortality reducing effect of the amount of new tests, however, no data, and that of estötutkimukset is mainly made of the conventional test. Also, the screening interval may be new tests longer than the traditional test.

Sigmoideoskopiaan population-based screening effectiveness is of the same order of magnitude as hystyksiin TA may be referred to only about half the target population. Endoscopic screening could potentially decrease the incidence of bowel cancer when used to treat precancerous lesions. Colonoscopy effectiveness on initial screening tool is not yet available in the effectiveness of information. Also, a new det fecal genetic tests are basically interesting prospects for development, but so far without influencing vuusnäyttöä.

In Finland, population-based screening program for bowel cancer was launched to municipalities as a volunteer in 2004. The screening test is the stool occult blood test measures the guajakkihartsipohjainen, and it is repeated every two years. Screening of the target population are 60-69 years of age men and women. The program was initiated in a randomized so that half of the population is called the screening (screening group) and half inhibition captured by our target controls. Screened proportion of the total target population is increasing gradually, so that after five years the entire target population is within the scope of the program, but only half of the screen called a group. TA I on the other hand to ensure a fair and equal start-up and on the other hand allows for a reliable evaluation of the program and unbiased. Also, health care resources, particularly endoscopic tysten adequacy, are manageable. Start-up arrangement can also be stopped in a controlled manner, the result set if the conditions so require.

The screening has been expanded to cover about 40% of the target population. Monitoring should continue for now, but it has been decided to make interim analysis of the mortality effect with regard to support health policy. Possibly in the future it is necessary to consider another primaaritestiä, because the traditional test the effectiveness of experimental studies have been relatively small.

Prostate cancer screening

Prostate cancer is the most common cancer in men in Finland as well as in many other developed countries. The quality and European multi-center study (ERSPC) the effect of screening on mortality was launched in the early 1990s. Screening test of the serum prostate specific antigen (PSA), the use of general Tyi in Finland since the early 1990's.

The screening study mortality result is updated and the results of 11 years of follow-up has been published in 2012. The study found that the mortality caused by prostate cancer could be reduced seulonnal- la 21% compared to the control group. This means that in order to avoid one prostate cancer death comes to call 1 055 men and 37 for screening prostate cancer treated over 11 years. Finland, examination by the proportion of large, half of the whole set of subjects. Finnish data reduction in mortality was not statistically significant, about 15%.

A recent Cochrane review finds that the effect of screening on mortality has not been indisputably identified five randomized screening trial meta-analysis. This is mainly due to the fact that the US been random screening test (the US Prostate, Lung, Colorectal and Ovarian [PLCO] cancer screening trial) and European for the test piece (ERSPC) gave contradictory results and assayed in a single screening beneficial effect no longer statistically costs OL significant.

Organized screening program for prostate cancer is not recommended to be started, even though the mortality screen is there. Treatment-related quality of life of prostate cancers disadvantages are significant, as almost all the active treatments are associated with long-term factors deteriorating quality of life, such as urinary incontinence, virtsankirve- mill, erectile dysfunction, in particular intestinal irritation associated with radiation therapy. Also quite abundant ylidiagnos- policy (finding cancers that do not cause deaths and which would not otherwise be detected at all) may have a significant adverse PSA testing.

The concern is that the PSA tests taken with a high public health care and in health care. The situation is challenging because disorganized and screening the wild-type activity does not produce the same benefit in the organized screening but rather to emphasize the screening of disadvantages compared with the uniformly arranged in the national program.

Other cancer screenings

Lung cancer is the leading cause of cancer death in both Finland and worldwide. It is generally known that the main causal factor for lung cancer is smoking, which is also strongly associated with lung cancer consequent mortality. Lung cancer screening using a standard X-ray examination does not reduce mortality caused by lung kosyövästä. Instead of screening test in the United States found that screening for low-dose computed tomography reduced lung cancer mortality by 20% and kokonaiskuollei- suutta 6.7% compared to the screening of a chest X-ray. The target population was long on smoking, and screening was repeated annually for three years. Screening resulted in numerous Further studies, the test was positive in the first screening, in particular a lot of time. Lung cancer screening is recommended in the United States, for example, the risk of groups of a long-term smokers, and otherwise in danger suurentunees- sa, such as certain risk for work-related factors (such as asbestos) exposed. This screening method is a problem of high cost. In addition, in connection with a possible withdrawal from the screening should take into account the support of tupakas-.

Several studies have been going on, and they seek to find out the screening and smoking in the expira- tion of connections, as well as the effectiveness of screening in a situation where the control group not at all screened to. Challenges related to the organization of screening and the screening of harm and risk population to identify. Because

Smoking is a strong risk factor for lung cancer, a reduction in smoking is still the primary health policy instrument in the fight against lung cancer. Despite this, a large number of quit smoking or tobacco smoke, or other risk factors exposed could benefit from screening.

oral cancer screening in a large area at risk of cancer With the (smoke, to employ a high alcohol) reduce the mortality from cancer. Ovarian cancer screening is not on the other hand not been found to have reduced mortality caused by the disease with.

Although skin cancer, especially melanoma of the skin, to reduce the risk created by examining, not the effectiveness of the operation is no conclusive research evidence. Also, screening for gastric cancer have been tried in Finland in Vantaa and Kotka male population in 1994-1995. the results of the screening experiment mahasyöpäkuol- leisuuteen not yet been published.

Recommendations on cancer screening

New screening programs should bring in a controlled and controlling Finnish health care. It is possible that the new approach does not work at all a normal part of health care in the same way as koetilan- apparatus, the resources and control activities are centralized.

Today, cancer screenings carried out mainly as an outsourced service. Boards are ultimately responsible for the implementation of the seulonto-, and the Municipality Union has a role in controlling the operation. Tendering and conclusion of the purchase of the service is challenging, as it requires a detailed content of the service, as well as screenings and tendering contact the knowledge of the regulations. the acquisition in question screening is purchasing an entire service process. In the quality of each stage must be high and special attention must be paid to the flow of information. Cancer screening is all about action lines, screening chain, which is different from a screening test or -tutki- mus. Screening chain has a number of different actors and also provides various functions, which must be part being a working single entity.

The national steering role has been taken care of in due course Medical Board, but after its disappearance and keen there is no comparable instantiate. In late 2003, the lack of place on the STM was established in the screening tatyöryhmä, a task list is constantly growing. Ministry of Social Affairs is responsible for the approval of screening programs.

Cancer screening experience and know-how is concentrated in the Finnish Cancer Register, which also handled means of a nationwide screening programs, registration, quality control and evaluation of effectiveness of screening cation. Finnish Cancer Registry also conducts research related to screenings for our country. So far, all the new screening programs have been launched in co-operation Finnish Cancer Registry and the municipalities and the Finnish Cancer Association with the support. Screening Steering spreading in the early 1990s changed the previously prevailing centralized operating model.

It is recommended to restore the centralized controlling the function of the body to which should also be entrusted with the task of new existing program planning, development and evaluation of the operation until the mortality effect. A successful operational mode is an example of intestinal cancer screening program randomized start, wherein the treatment of the municipalities its part screening embodiment, but the structure, control and evaluation of the program by the Finnish Cancer Registry.

The following challenges are prostate cancer and lung cancer screening if they are launched will be held on topical health economic aspects as well as the benefit-risk ratio estimates. Both with regard to mortality scientific evidence in favor of screening, but the quality of life and harm factors are the most significant gray. possible start-up and implementation for both of these must be planned carefully, and be implemented as controlled. This provides opportunities to identify the hazards and benefits of the program and the means of measuring control and management. If necessary, it can be terminated no effect or an adverse action if the results give cause to do so.

RECOMMENDATIONS

- New screening programs will need to bring a controlled and controlling Finnish health care.
- The statutory screening programs is also continuously monitored, evaluated and developed in order to ensure the effectiveness of the operation.
- Identify the criteria and possibilities to start screening for lung cancer in our country during the next few years, combined with an increased level of smoking cessation support.
- Cancer screening devolution of responsibility has challenged the quality of the operating entity. Consequently, a national centralized control should be organized to safeguard the impact of cancer screening. Natural to have that here take care of the Finnish Cancer Registry, where knowledge and experience is over dozens of years.

o Finnish Cancer Registry is responsible for implementing, operating, and the quality of the statutory screening

on the effectiveness of operations:

- proposes the screening of organizational development and improvement actions
- take a position on the target age group for focusing.

o Finnish Cancer Registry is responsible for research related to screenings for the display:

- makes health research in Finnish health care and follow foreign studies
- take a position on the new screening tests
- suggest new screening programs for consideration
- draw up a start-up implementation plans so that the effectiveness of the force be to find out as part of the health care activities.

4.2 Early detection

the importance of early detection

early detection of cancer is probably almost always beneficial in terms of cancer treatment. If the cancer is found before it has spread locally or metastatic, treatment will provide better results. Early to-wheel team may, in some cases (e.g. prostate cancer), however, leads to a situation in which the treatment may cause more harm than untreated failure. The pursuit of early detection of cancer is, however, generally appropriate.

Early detection can be improved by increasing the awareness of the population in the early stages of cancer in legal circles, on the one hand by improving the skills of health care professionals in early detection. It is also important to ensure that adequate health care resources, particularly in primary healthcare.

Today, there is no accurate information available on how any cancer, early examinations delay the initiation of treatment, but some cancers are concerned, this is a prognostic importance. A related research would be needed more.

The provision of information is increasing and the data becomes fragmented

changes in the communication environment is also affected by cancer, and information on the supply-side of its early detection. Turn of the millennium were published in newspapers and magazines Articles an average of about 5 000 Kelia cancer per year. Today, it is impossible to assess cancer articles on the whole network.

Social network is also a wealth of information on cancer, but its appropriateness varies greatly. is central to the population in terms of conceptualization of reliable information sources. Health Library and Cancer maintained by the organizations pages are also useful in early detection of this ratio.

cancer-related advisory services

Apart from raising public awareness must take care of people's opportunities to get expert advisory vontaa on cancer issues. In addition to this health care advice have ensured After filling in the kingdom of covering the entire Organization will advice network as well as through a nationwide telephone counseling.

Counseling services as a key element in addition to the informational support is a psycho-social support. These are discussed in more detail in the section of rehabilitation aid (Chapter 5).

Luomitarkastustoiminta

In addition to counseling is arranged in a service that aims to reduce concerns about cancer. Luomitar- audit activity Cancer Society began in the 1990s, and the operation is also evaluated. Functioning as a primary aim has not been to find a new skin cancers, but the reduction concerns, as well as healthy and safe sun behavior for advice. Trained nurses and doctors have audited the tens of thousands already created, and expertise on the subject has also increased among the population. For this the operation is discussed in greater detail in section comprising radiation.

Periytyvyysneuvonta

The vast majority of cancer cases arises from the combined action of the genome and of external factors such as environment and lifestyles. Current estimates of the susceptibility to hereditary accompanied by a small portion, or about ten percent of common cancers, such as breast, prostate and colon cancers. the risk of hereditary cancer can find out the Cancer Society periytyvyysneuvonnassa, which is organized by the provincial cancer organizations and cancer organizations nationwide counseling service. Periytyvyysneuvonnan purpose is to find out if cancer susceptibility person worried inheritance worth further exploring.

Cancer Organizations periytyvyysneuvontatyötä to make educated nurses. Surveys of family counseling in cancer cases, and based on them drawn in the tree, which illustrates the risk of hereditary cancer. the need for future reports, estimated familiar with the Cancer Society periytyvyysneuvontaan asiantuntijalääkä- ri, which is a genetic disease or cancer specialist. If the family data refer to the average higher susceptibility to cancer, follow-up report by a technical expert doctor makes the client a referral university hospital clinical genetics unit. Periytyvyysneuvonnan connection is also provided related to the promotion of health education.

related to the actual susceptibility to cancer genetic counseling gives genetics clinical genetics unit. He will also take a position on whether the client to assess the risk of cancer geenitutkimuk- the public, and will work with the customer how his case of cancer could be prevented or recognized as an early stage.

The role of primary health care and early detection of occupational health care

One example of the early detection of activities aiming is the introduction of the PSA test, for example. occupational health care. The test is not suitable in itself very well for the early detection, but because the test is there, it has also been used in abundance. Also, the test patterns and the recommendations made on the basis of the results of health care disposables measures have changed over time. It is unclear whether the use of the test was the impact of cancer mortality, morbidity, but it has had a lot effect.

This PSA example shows a potentially broader prospects: when genetic testing improves the availability, many people believe that it is possible to at least improve their own awareness of the risks. TA system can also lead to early detection of improvement, but it is also possible that this does not happen. One problem of genetic testing in the information in its specificity is low, if people only testipositiivisista

a relatively small part of the receiver in the screening of apparent disease. In this case, the test generates a lot of unnecessary further investigation and action. On the other hand, if the changed gene is very rare, population-based screening is not out of the question, but the target demographic of the tests should be limited to eg. The risk of genera.

Primary care skills early detection and identification of possible symptoms and renewed misessa will improve training. If a large part of the follow-up of cancer therapy specialist level goes to the medical care, increasing the number of cancer patients in primary care, mineral EV can affect the level of knowledge. Currently, follow-up is arranged in varying degrees in different parts of Finnish. Part of the country cancer treatment center for transfer controls at an early stage to basic health care. In other centers is again planned to take advantage of new technological tools for monitoring, when the reception operations can be targeted to those patients who need it most. Thus, the resources and expertise will be utilized in the best possible way.

Today, primary care physician face of a cancer patient at least relatively rarely because of cancer. Early diagnosis and prevention of cancer is on the other hand use those features that impact has never been assessed at endpoint level and the advantages and disadvantages been systematically evaluated. For this reason, the not always possible to inform patients of the population or individual people to the benefits and disadvantages of very reliable operation.

5 support rehabilitation and psycho-social support

Cancer is the aim of rehabilitation capacity regeneration or healing and rehabilitation work at different stages of cancer pähoitopolun. related to rehabilitation support cognitive and psycho-social support as well as peer support is designed in different forms is to support the individual's mental, physical and social resources, as well as the promotion of interaction between the individual and the community. Also important is the support the adoption of healthy lifestyle acids, everyday life and working life as well as survival osallistumismahdollisuuksi- and I support the employment of well-being.

Rehabilitation is an integral part of good management of the cancer patient. the need to support and rehabilitated sufficient to ride out the ability to change the situation caused by the disease varies individually. Support the need to affect not only the nature of the illness and treatments, as well as their mental and physical problems caused by the rehabilitee family soonallisuus, personal abilities to cope with the crisis, private and loved ones life and the world of work associated tyvät questions. From family, from nearby, and the amount of aid received from colleagues affected by the need for other forms of support.

Today, only a few cancer patients receive rehabilitation support and adaptation training. Part of the reason the TA, he may also be the fact that patients do not know the possibilities of rehabilitation assistance. on the basis of the Cancer Society towards the end of 2013 a report by the preliminary results of the patients' knowledge on rehabilitation and rehabilitation support is minimal. For example, about a quarter in the treatment of cancer patients has not received any information in rehabilitation, and those who had received the information, the data in various forms of rehabilitation aid was limited.

This section analyzes the situation of cancer rehabilitation in Finland, various forms of rehabilitation on stocks as well as cancer rehabilitation guidelines for the future.

5.1 Cancer Rehabilitation and rehabilitation support in Finland

Cancer patients for rehabilitation and sopeutumisvalmennustoimintaa country sort Institution, and additionally provides Cancer sopeutumisvalmennustoimintaa ATM assistance from the association. Also part of the medical circles arranged rehabilitation activities.

Organized by the Social Insurance Institution rehabilitation included rehabilitation and sopeutumisvalmennuskurs- sit, the objectives of which are slightly different from each other. The goal of rehabilitation is to improve or maintain the capacity of the physical, psychological and social work and Lisen. Courses for self-guided proper maintenance tämiseen. One goal is to support the capabilities as a full life despite illness or injury. This is aimed at mm. providing information about the condition and its impact on survival and supporting with the disease. For cancer patients held in Kela courses have adapted misvalmennuskursseja. (Www.kela.fi.)

The main objective of sopeutumisvalmennuksen provided by the Cancer Society is to provide an activity that promotes the patient's psycho-social rehabilitation. Sopeutumisvalmennuksen is also intended dose of the TAA information and support to life with the disease, as well as to increase the patient and those around her resources. Lisäk- si activity seeks to promote the adoption of healthy lifestyles, as well as in rehabilitation to assist in finding the means by which he can actually influence well-being.

Action can be carried out either in open rehabilitation or laitoskuntoutuksena or a combination of these. The loan toskuntoutus allows for closer grouping and interactions with other rehabilitation kans- SA, and the operation carried out in rehabilitation centers and units where rehabilitation and their relatives are able to break away from the home circuit and working life. Open rehabilitation can be arranged to a full or part time entities. The courses are fixed in groups, which requires the person in rehabilitation and around her commitment. (Www.cancer.fi.)

Also, hospitals and hospital districts for their customers rehabilitative activities and hospitals, as well as After filling in Organization will avomuotoista activities (incl. First-hand information courses) recently cancer sufferers. Some of cancer patients also need to scale facility and medical rehabilitation is carried out in general medical rehabilitation in accordance with the principles of licenses. Further information on these forms of rehabilitation may be the Social Insurance Institution website.

Rehabilitation should take into account the needs of special groups. As examples may be mentioned e.g. a patient with brain neurological and neuropsychological rehabilitation requirements and the special needs of suolistoavannepotilaiden. In addition, the following cancers of the head and neck of treatment often requires very diverse in terms of nutritional rehabilitation FINANCING, talking and skin care. Some of these patients also need personal support and guidance.

Rehabilitation and sopeutumisvalmennustoiminnalla have been found positive effects on the improvement of the quality of life of cancer patients and their families and maintaining physical function.

The most significant Sopeutumisvalmennustoiminnan role and benefits of peer support, psychosocial support and access to information. These factors are relevant to the entire cancer care path for the duration always diagnoosivaihees- of palliative and hospice care. The following are considered different forms of rehabilitation aid in more detail.

informational support

All the apparent need for cognitive support for cancer sufferers. The affected persons require among other things, information about the disease, its treatments and therapies caused by the drawbacks. Information is also desirable for professional and economical problem. Data needs have been found in the infected partner, the members of the family.

Cancer patients survival and adaptation, it is of paramount importance to transmit information to patients as well as to involve patients in their own care and hoitopäätöksiinsä. If the patient and his family do not get sufficient information, the physical and psychological resources related to life management must be patients' pathways at different stages of the direction of the search for a cancer awareness, clarification, implementation and responsible persons, as well as self-care, it Clear progress in the implementation of treatment.

the assimilation of knowledge in terms of a crisis of a cancer patient is important to get written instructions, so that he can come back later on the things that are unclear. Important sources of information are also so-called. ensitieto- groups, as well as Internet and telephone support services. This information should also be obtained in various formats (incl. Verbal information, writing the material of network and audio-visual material). the need for evidence-based information resources in the future An e-based, for the patient, is increasing.

Psychosocial support

Rehabilitee psycho-social support

Psychosocial support can be defined as actions designed to improve the patient's mental and social capacities of the different stages of the disease. It includes social support, a lack of access cancer mortality has been shown in various studies. Psychosocial support includes psychotherapy various forms. Psychosocial support can aim at activating the patient's resources and coping strategies, social networks or listen to strengthening the use of conventional receive support.

Cancer patients psychosocial needs of affected diagnosis, treatments and recovery from illness. The most common disease problems are triggered by anxiety, fear and crisis reactions as well as cancerous disease caused by psychological distress. The need for psychosocial support for cancer patients is also linked to physical and emotional well-being. The disease can cause changes in everyday life, the tissue of managing at home, work capacity, economic livelihood, children or other relatives hoitokysy- myksiin and relationships. Patients and / or authorities must be able to discuss life situation experts with whom.

International large-scale studies and meta-analyzes, as well as domestic studies show that the multidisciplinary, psychosocial interventions that take into account the patient's personal needs, have proven effective in kuntoutusmuodoiksi cancer patients and their families.

The main sources of the cancer patient's psycho-social support are close to him and his family, as well as in health care professionals. The advantage of group-based psychosocial rehabilitation of peer support is in addition to mahdollistuminen professional support. mechanisms of action of psychosocial support is estimated to be multiple: for example, reduction of fear and depression may improve nutrition and sleep, as well as further adjust the active exercise.

Risk of cancer normally affects the patient's sexuality. The effects are very individual and depend a lot on the patient's own disease picture. Typical symptoms include persistent unwillingness to sexual and operational difficulties, resulting from both treatments that physical and mental situation. Sexual importance of industry varies widely across the human. Sexual self-image is the situation of the disease to be returned to the level prior to or even above it.

Mental well-being is an important part of the quality of life for the cancer patient with advanced way, the patient having the physical and psychological symptoms. Advanced cancer patients is not necessarily in death fear, but often a great fear of uncontrolled pain, loneliness and dependency on other people. Psychosocial support and non-urgent discussions are valuable for the patient's care path at this point.

Relatives and family psycho-social support

In recent years, more and more attention spouses and loved ones rehabilitation activities and support. According to some studies, the spouses will experience masentuneisuus- and anxiety symptoms even more than suffering from cancer. The spouses are also described by financial difficulties, stress, changes in family relationships and contacts, as well as the need to get information about the other spouse became ill with cancer.

Based on studies, has been found to be beneficial for couples psychosocial support, as they have been able to focus on their own needs and solve their problems while providing resources for cancer patients to support. The benefits of this kind of rehabilitative activities may be even larger than the nearby yourself suffering from cancer.

The spouse is found to be the most important support for the sick. Spousal support is more important in light of research of female than male patients. Spousal support, good and faithful marriage and other forms of social support dot are ways to have a protective effect on the sick, and which has even been shown to reduce mortality rate by.

An adult must be ill often care for the children and their family's income re-evaluated. The age and maturity of the child should usually tell you honestly it causes cancer and of changes in the life. Also taking care of adequate support for the child's father or mother has fallen ill is extremely important.

The child became ill, it is important to help the child to live a normal life as possible. A child or young adult cancer ren can understandably cause sudden changes in the family everyday life. Tuneen cancer sick child but the parents time should, however, try to spread to other children and spouse.

Peer support

Peer support is a psycho-social support, which gives a sense of intimacy and humanity and the courage to talk about the disease as well as help you understand the disease as part of their own life. Peer support is an additional support, special assistance and emotional support. It is the person in rehabilitation and a nearby first-hand experience of internalized knowledge, tacit knowledge to cancer and living with it at various stages of the treatment path.

symptoms and changes induced by the disease created by sufferers and their loved ones need to meet others in the same situation. Peer support is also often the patients' and their families the most important expectation and anti rehabilitation activities. with peers sharing of reciprocal feelings are considered extremely relevant for alongside family and professional support. During Sopeutumisvalmennuksen rehabilitation and closely set will receive resources to live the life existing health, through no cancer.

Peer consultation with others with similar stories to help patients find that their situation is not alone, but others share the same concerns. A well-designed and implemented a peer support activities to help patients improve their own health management and reduce problematic health behaviors Both the giving opportunities to help others in the same situation.

Peer support psycho-social support to reduce problematic health behaviors and help patients adhere to eg. Prescription and dietary and physical activity programs. Peer support has been shown to have an effect on illness. Social support can also be reduced, inter alia, physiological consequences of stress. Also, the kinds of support groups is shown to improve patients' mood, reduction of pain, and adjust to increase the cell's quality of life and improve the prognosis.

Peer support can also ease the feeling of loneliness and provide opportunities to share experiences of and feelings about the illness. The peer contains many impressive elements of empowerment such as its unbiased interaction, a sense of belonging, cooperation, support and care.

Rehabilitation work and return to work support

Currently, the evaluation of rehabilitation and prevention of reports of incapacity does not start sufficiently an early stage. Co-operation and rehabilitation work capacity evaluation between different operators is too low, which contributes to the rehabilitation affect performance. Rehabilitation and the need for more co-operation in promoting a majority of working capacity and disability prevention system also with regard to cancer patients between occupational health care. Rehabilitation Assessment of need is also recognized in the health care law.

Early intervention policy is one part of the evidence-based social work, and the idea spread to social and initiated and coordinated by the Ministry of Health in 2001-2005 Varpu-project. BAPTISM-commands over the serial for 2012-2015 narrowing of well-being and health inequalities aims at prevention work and early support. Development work is also aimed at the formation of specialized medical care, primary care and social care integrated package.

the realization of rehabilitation timeliness affects not only related to the timing of the patient's disease treatments, as well as his personal, psychological its processing in the changed life situation. If either or both are still in process, not the ability to not return to work. Right-aikaisuu- of the transaction is subject to the patient's life situation overall understanding. Because the rehabilitation which is divided into a number of different management areas, and into the various service systems of the patients is asiakkaa- na simultaneously in more than one service system.

Without early rehabilitation counseling deficiencies will become part of the human personality and identity, leading to eläkehakuisuuteen. Is essential to respond to the customer's situation, when his working life bonds are still there and he has a desire to return back to work. The patient's own motivation and change toshalukkuus are essential for professional rehabilitation plan at the time.

rehabilitation Research

As part of the assessment of working capacity can be used in rehabilitation research. Rehabilitation Research process usually starts in such a way that a doctor and a social worker or a rehabilitation counselor will meet the patient separately. Tapaamisis- design assesses the patient's educational background, professional history, work in different occupations, current job description and job opportunities, as well as change in the patient's own vision of illness and functional limitations effects on the ability to work. In addition, mapping of family and housing situation, the resources, the need for social support, as well as previous changes tosvalmius social security and rehabilitation measures. Contact the workplace, occupational health care or rehabilitation personnel, if necessary, supplement the overall picture.

The point is raised by the patient's own point of information, the treating doctor's assessment of the ability to work in cancer patient's disease and the effect of the treatments, as well as occupational health physician, the patient information necessary to the work of standards, the basis of which shall be assessed globally.

Working Life Experiments

Clinical interventions (eg. The development of outpatient rehabilitation of breast and prostate cancer patients) is evidence of the effectiveness of the objectives parallel. Return to work increased by ten per cent and improved quality of life and functional capacity after rehabilitation intervention. Results remained after the termination of the intervention and to some extent strengthened up to six months of follow-up.

Disability pension

If illness prevents work completely, the question may be filing for disability pension. Disability pension may also be acquired as a temporary rehabilitation assistance for the duration of the applicant's treatment or rehabilitation.

Kela in the light of the statistics at the end of 2013, Finland had a disability pension of 153 609 people. Of these, the biggest groups were the diagnosis of mental and behavioral disorders (more than 88 000 people), musculoskeletal disorder (nearly 24 000 people) and neurological disorders (nearly 14 000 people). At the end of 2013, the tumor diseases due to a disability pension had 2 470 employees. Of these, almost to half of breast cancer patients. All in all, a diagnosis of cancer is therefore very rarely and disability in the background.

medical rehabilitation

Medical rehabilitation to complement medical treatment. Health centers and hospitals provide medical rehabilitation as part of medical treatment.

rehabilitation included

- rehabilitation counseling
- the need for rehabilitation studies have
- functional cure for Employment and
- rehabilitation periods
- utility services
- adaptation training
- rehabilitation counseling.

Health care in rehabilitation works in cooperation with social welfare, employment offices, schools, public pension institutions and insurance companies. Coordination in the municipalities of rehabilitation client service cooperation group. Medical rehabilitation is statutory activities.

The medical rehabilitation of patients with cancer (incl. Physical therapy, tools) and to maintain the physical condition of the essential part of the cancer cases. Particularly essential rehabilitation of these forms are e.g. in the treatment of cancers of the head and neck surgery, and extensive reconstructions and osteosarcoma.

Functional forms of rehabilitation

Exercise and healthy living to support rehabilitation

Cancer treatments often have negative effects, particularly on physical function, body weight and cardiovascular health. Similarly, physical activity and healthy nutrition training, as well as provide a lot of health veyshyötyä and may also reduce the risk of developing a cancer patient, for example, from other chronic diseases, such as diabetes or heart disease. Physical activity appears to be the effect of the symptoms associated with the treatment ton of skeletal and muscle fatigue, for example, as well as a reduction in symptoms. In particular, breast, bowel and prostate cancer patients, exercise, and weight control also reduce the risk of recurrence of the disease.

Exercise and physical activity are safe for most patients with cancer. Physical activity promotes cancer patients' recovery and survival. Physical training also clearly improve the quality of life, and it has a positive effect on mood. Physical rehabilitation and training can be combined with the treatment of the disease and thus create a more holistic approach to the cancer patient's health care. E.g. advanced breast cancer patients to support the rehabilitation exercise is included in the model as an essential element of the section taken always follow the previous step to step, and at the same time patients are related to the promotion of the health information.

The majority of cancer patients are interested in getting a hospital or rehabilitation center in the condition of a desired disease counseling immediately after the treatments. Many are interested in getting any exercise program, and desired to op immediately start to move. Exercise instructions and recipes should be drawn up by a professional exercise or physiotherapy peutin and, if necessary, based on the cancer care team for advice. At the time, can give individual instructions, as well as to assess the needs of cancer patient individual rehabilitation outpatient or laitoskuntoutuksena or riittää- unique twist r omaharjoitteluohjelma.

In addition to physical activity, it is necessary to emphasize the importance of other healthy lifestyles, particularly in support pakoimattomuuden, healthy nutrition and weight control.

Cancer patients are suitable for the same guidelines as healthy citizens.

The various forms of culture in the rehabilitation support

Culture is an individual's well-being and the health-promoting effect. various forms of culture can improve self-esteem, well-being of mind, relevance, quality of life and the dignity of a difficult stage of life and physical well-being.

Culture, health effects include stress level reduction as well as improvement in the quality of life and social together- presence. taken in everyday life, a unique artistic and cultural activities to promote the well-being of the human Overall risk better than randomly arranged recreational activities.

Music, as well as the visual arts, used as a key tool for interaction individually in order to achieve the required objectives set. The aim is to facilitate the rehabilitation client's creativity and thus the mental well-being.

Music therapy has been found positive effect on depression, anxiety, tension and stress conditions, ventilatory support, the patient's self-expression, a sense of work, quality of life, patient and inter-relation with the strengthening and also for pain control.

Rehabilitation of music and visual arts are utilized as part of a rehabilitation intervention. New innovative methods that enable peer support, promote well-being and functional capacity are also drama, books joittaminen and literature, as well as hand-crafted goods (such as crafts and cooking).

5.2 of problem areas and development areas of rehabilitation support

Today, only a few cancer patients receive rehabilitation support and adaptation training. Cancer patients, most services are used by children under 65 years of age and those with cancer is diagnosed at a young age, and those with any chronic disease in addition to cancer. Ways have to consider in particular the case of cancer patients who do not get support or help, even if you have the need. The regional coverage of rehabilitation and different disease groups and patient's individual needs into consideration rehabilitation does not work in an optimal way.

Currently, cancer therapy focuses on rehabilitation path generally follow-up phase and is realized mainly peutumisvalmennuskursseina cell. During the treatments for cancer patients and their families in need of rehabilitation more than they currently receive. Difficulty presented by the fact that cancer treatment is done keskussairaalatasol- la and rehabilitation while largely outside the hospital organization. An unbroken kuntoutumisketju require good coordination and seamless cooperation of many different actors.

treatment established cancer sufferers and rehabilitation chains, intended to guide the rehabilitation of best practice and to ensure appropriate services to cancer patients. Care and Rehabilitation chains for most of valtasyöville (eg. Breast, prostatic, intestinal, pulmonary and gynecological cancer patients).

Each treatment chain described processes in which the various forms of support for each cancer, possibly with the Vita. These should be designed, implemented and evaluated a professional in order to obtain the maximum with an extensive description of the various options for rehabilitation.

The current problem from the perspective of rehabilitation is the fragmentation of cancer treatment planning, implementation and follow-nan overall perspective, as well as the entire syöpähoitopolusta - including rehabilitation, coordination
- numbness of the corresponding expert.

development areas

Cancer rehabilitation and rehabilitation support is necessary to develop, taking into account the problem points described above. The main areas for improvement are

- evidence-based and impact on cancer rehabilitation approaches, treatment and rehabilitation process development Sien
- cancer rehabilitation, cognitive, psychosocial and physical well-being of assistance in various forms to assess and development and their integration into the planned cancer patient's treatment path
- aiming at the promotion's return to viability or the improved operating development work and hittäminen
- cancer, the incidence of disease challenges, and attention to the diversity of life in the assessment, planning and implementation support necessary to
- profession-cancer rehabilitation, education and sharing and the development of excellence and the development of ASI antuntijaverkostotyön
- more efficient use of multi-disciplinary and multi-professional co-operation
- development and utilization of the information society and technological development applications
- science, technology and art of different forms of effective networking
- research related to rehabilitation and rehabilitation support.

5.3 The model for the future of cancer rehabilitation

The above described problems and cancer patient kuntoutumispolun fragmentation. The following has been presented in measures which could contribute to rehabilitation and support a holistic approach that takes into account the individual needs approach. The measures are patients' ability to work and function, or improvement in the recovery from the various stages of cancer treatment path as well as the employment of support.

1. Draw up an individual rehabilitation plan

Each person in rehabilitation, it is necessary to assess the need for rehabilitation aid together with the patient, relatives and the multidisciplinary and multi-professional working group of experts and in consultation with them. Composition of multi-professional group varies according to the needs of the patient, and it may contain, among others. doctor, syöpäsai- raanhoitaja, physiotherapist, social worker, psychologist, psychiatrist or psychiatric nurse, dietitian, speech therapist or other expert in the specific area.

A preliminary needs assessment is necessary to do before the start of the treatments. At a later stage, no later than the end of the treatments, the cancer patient is a need to develop a comprehensive rehabilitation plan. As the plan drawing a key role in the rehabilitation of equivalent or coordinating the person holds. Least patients attending doctors and nurses will be needed for the rehabilitation of the data.

Cancer patients should be offered to their individual needs and resources for rehabilitation that takes into account or cell peutumisvalmennustoimintaa, which can be implemented either plant or open rehabilitation. Also, the flow of new development and introduction of exploiting tuaaliteknologiaa methods are important. Rehabilitation and sopeutumisvalmennuksessa should be considered informational, different forms of psychosocial and peer support. Listen individual rehabilitation needs assessment would also be needed new assessment tools.

2. The person responsible for the rehabilitation works Rehabilitee

Since the problem of fragmentation of patient care and rehabilitation, it is necessary that each patient to show the person in charge of rehabilitation, "rehabilitation pilot" which may be the patient's individual needs rehabilitation considerations, e.g. instructor of rehabilitation, physical therapist, social worker or syöpäsai- raanhoitaja.

The person responsible for the rehabilitation works of a cancer patient and those around her rehabilitation, support staff and coordinator of the entire cancer care path time and, if necessary, organize a rehabilitation client he needs support and I will evaluate the impact of rehabilitation at different stages of the cancer care pathway (Figure 1). Rehabilitation of asiantuntijuut- is discussed in more detail in the section on education.

3. Rehabilitation using new innovative approaches and tools

Cancer Rehabilitation should be versatile take advantage of new functional and innovative kuntoutumismuo- Toja, such as physical activity and different forms of art. Rehabilitation planning and implementation will take advantage of new SIA technological innovations, such as the Internet and social media opportunities. Internet opportunities can be exploited, particularly with regard to intellectual support.

Rehabilitation and peer support right allocation can be enhanced with new ICT-based tools.

4. assessment of rehabilitation effects and effectiveness are developed

assessment of the impact and effectiveness of rehabilitation is carried out as an integral part of rehabilitation to action, and the resulting information is used in planning rehabilitation. Research data also enables rehabilitation activities targeting more and more patients 'and their families' needs. Assessment of the level of effectiveness is discussed in more detail in Chapter 7.

5. Rehabilitation of cancer is seen as a process and an integral part of a cancer patient's treatment path

Adaptation training and rehabilitation should be seen as part of a solid cancer treatment path for each step, not only the single intervention e.g. adaptation training or rehabilitation.

As early as the time of diagnosis should take advantage of the available screening methods, in order to assess da patient and their family and individual rehabilitation needs. Information and rehabilitation support should be offered to all stages of the cancer patient's path and in several forms, taking into account the patient's individual features and needs.

the effects of rehabilitation will also keep track of an individual's level using valid methods of measurement. If necessary, should be amended rehabilitation plan and enhance rehabilitative efforts.

Future diverse cancer rehabilitation is modeled Scheme 1. The model describes the implementation of the Regulation syöpäkuntou- and service the customer's point of view. In order to rehabilitation a reality as early as possible, the future of cancer rehabilitation model is described from receiving the cancer diagnosis of a variety of professional people and a variety of support groups, whose services and forms of support for cancer rehabilitation can be used for cancer patients and their significant others as necessary during the entire cancer care path.

6. Support for cancer patients return to work

Rehabilitation Evaluation and reports the prevention of incapacity for work is started at an early enough stage. This requires the cooperation of rehabilitation and work capacity evaluation between different actors, as well as the lack of an early model according BAPTISM program. Is essential to respond to the customer's situation when he has yet to working life, and there is a desire to return back to work. If necessary, the use of rehabilitation research as part of the assessment of fitness for work and working life experiments.

RECOMMENDATIONS

- Define kuntoutumisketjut and responsible parties as part of cancer treatment chains.
- Providing rehabilitation assistance at all stages of cancer care path.
- Added to the knowledge of the possibilities of rehabilitation of cancer patients support.
- Rehabilitation rehabilitee changes are taken into account, and close family and utilizes peer support opportunities for rehabilitation.
- the need of the patient, relatives and family support evaluation should be individualized and take into account the nature of the patient's cancer, other diseases, as well as their own loved ones, and resources.
- Rehabilitation assistance should include awareness of health promotion and operating juur- ruttamista (exercise, healthy nutrition).
- Rehabilitation changes can be utilized in various forms of music, literature and the visual arts.
- In the future, it is necessary to invest more internet-based, patients tarkoitettui- hin and evidence-based data repositories.
- support for cancer patients who have suffered from health to pay more attention. In particular, are taken into account as a child and young adult cancer survivors and persons.
- Let's rehabilitation and to support related research and interventions.

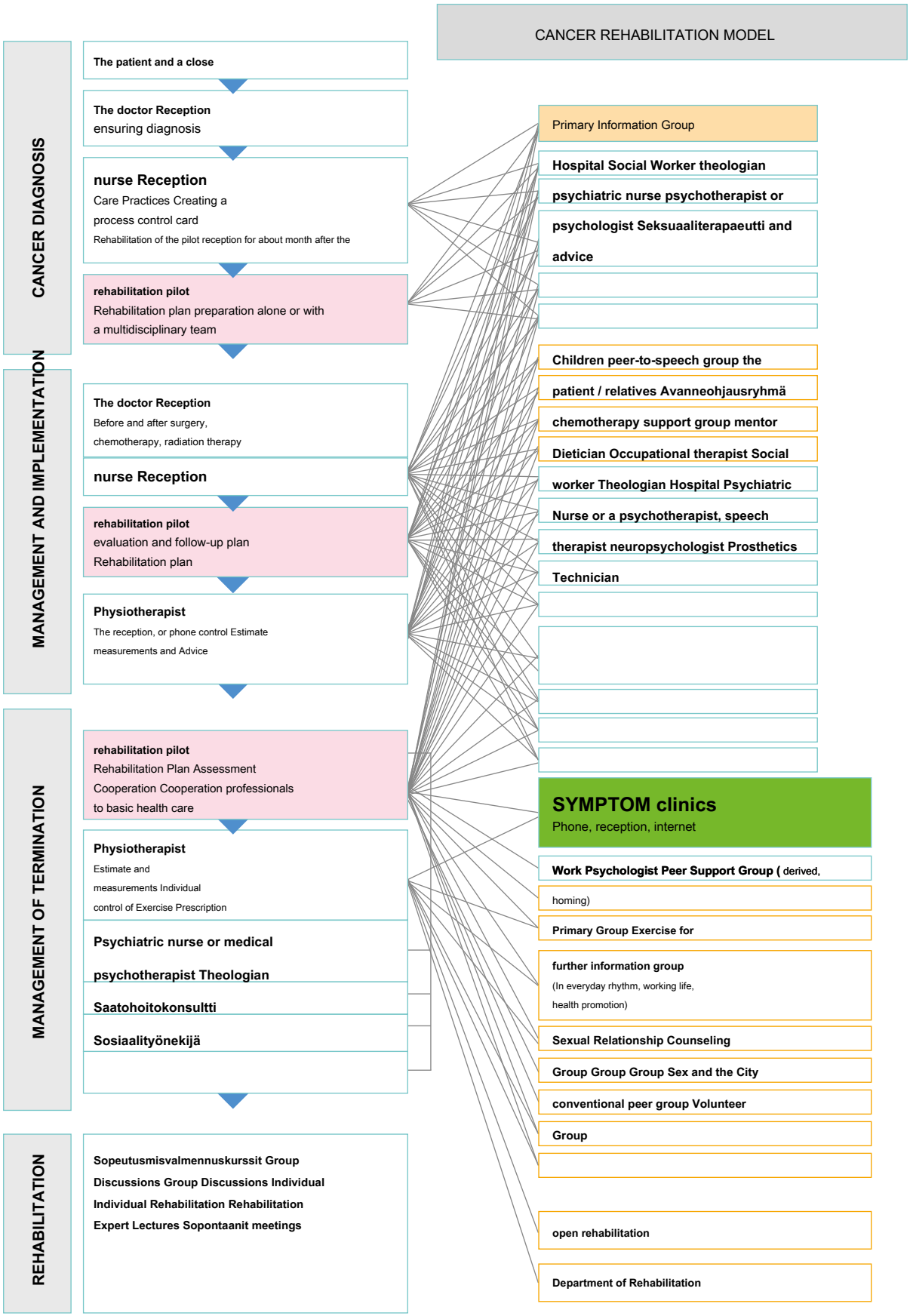


Figure 1. The cancer rehabilitation model (Adapted from Vainio 2013).

6 Training

This section looks at education, especially for health information and health literacy of the population from the perspective of Suvivuon et al. (2011) on the basis of a report. In addition, the estimated quantitative and qualitative needs in oncology point of view of both doctors and social and health ysalan staff training. A special attention has been directed to the training needs of key themes, namely health promotion and rehabilitation of this report.

6.1 The level of knowledge of the population

Health education in different levels of education

Health became a subject taught in primary school and high school in 2004. The comprehensive school health education in grades 1-6 is integrated with other teaching, and grades 7-9 it is learned as a separate substance. In high school, is one of the compulsory and two optional courses of health information. In particular, the high school textbooks are extensive health and promoting entities. Is the Student Health tracts general studies, which are currently selected by the write times toward the approx. 6 000 abiturientti. The substance is a popular choice for other real substance. Health education has been studied and found it to be interactive and interesting to the boys. The teaching is essential terveydenluku- development skills. Vocational schools are taught about health much less, and it is mainly related to the working field being studied.

General education of health information content of the health expertise consists of both The healthy ystiedoista knowledge and skills related to health and diseases attitudes and values. The aim of health education is to develop the knowledge and skills about health, lifestyle, health habits and disease. Additionally it develops the capacity to take responsibility and act to promote both their own and others health. Lu Kion health education health and disease, as well as health promotion and disease prevention is examined more broadly the individual, family, community and societal perspectives.

on disease prevention and health promotion material is rich in teaching high school textbooks in accordance with the plan for. Specifically, the sections relating to cancer in all textbooks. They also deals with the prevention of cancer, the most common cancer in brief. Cancer epidemiology are given basic information. Cancer diseases are teaching alongside other public health problems. Proposal is being drawn up then the new high school tuntijaoksi and preparing a new curriculum, which can cause changes in the priorities of teaching.

Health information generated by the level of information has not yet been measured, but the Board of Education has made tasomitta-uksia the last grade of primary school, which should be possible to get an idea of the level of health information. The Student Scripture has been a question also of cancers, but more detailed information about the level of response measurements are not available. Ten years is a health education received about half a million young people in primary school.

Vocational schools health education is more erratic than in high school textbooks, and progress has been slow. About realization of the teaching is not available.

literacy of population health

the level of population health data or, in particular cancer diseases is hardly measured with the exception of individual mm. queries made by the Cancer Society. information and experiences on health and cancer diseases is nowadays essentially more available than eg. a decade ago. People's awareness of some of the risk factors of cancer is at a good level, but others risk factors are less well known. Smoking effects of a known key, instead obesity and alcohol use connections cancer risk for humans are less clear. Nutrition and cancer is a lot of information available, but the information is variably quality. The radiation hazard risks of ultraviolet radiation is known in the population better. The work events va exposure to carcinogenic substances probably other risks are better controlled, and information relating to it is transmitted directly to the employees.

information on cancer is therefore available in abundance. Reliable rest on a scientific basis of the information from well (eg. Terveyskirjasto, THL, Cancer). At the same time, there is much more available, particularly information based on experience, which is more difficult to interpret. In the media are becoming more common just focus on the individual's experience of single subjects, which often find attached information material is compacted. The ability to do the generalization of experience-is an important part of health literacy in today's world. Policies ratios are distorted readily reductionist communications to small details can make a disproportionately large meanings. Thus probably gone mm. communications relating to food additives, at least in terms of cancer.

The debate on cancer is more common during. In particular, screenings and fundraising cam- paigns have cancer arkisemman debate on the topic, as well as many common cancers improved treatment results. Individual reports of cancers of improvement create a more positive mental pictures of the whole disease group and thus also disseminate information on cancer.

In the general population, there are many different groups, access to which data can vary greatly. Education affects health veydenlukutaitoon and level of knowledge. The offered information is often generated assuming a trained user of the information a human being. However, there are a large number of people who do not have secondary education. Within this group the largest age group is more than 65 years. In the oldest age group is also the most are those people for whom the acquisition of information on the Internet is not working days. Cancer occurs precisely in the oldest age groups more than others, so the provision of information to different population groups have sought out and so far, other methods.

6.2 Medical Education

basic medical training

Doctors in training curricula differ slightly in different universities. The studies are divided in many universities, however, preclinical, and clinical kliinisteoreettiseen parts. These include elements relating to the promotion of health in varying degrees. Faculty of Medicine, University of Helsinki, the health of the promotion includes "prevention and public health diseases," under the title. This title has a teaching
1.25 credits (cr) in a preclinical stage, and 7.5 cr clinical stage. Course for Health Promotion is also possible to select optional or voluntary courses. University of Eastern Finland respectively is compulsory 5 cr of public health science course requirement.

teaching health promotion is undoubtedly also in the content of other courses. The same applies to oncology, where instruction is in Helsinki 3.3 cr. The proportion of clinical oncology studies is approx. 1% share of the health and the promotion of public health by 2.1%. This tells a very scattering of teaching in small packages, which there are plenty. Students' estimates, health education instruction had to incomplete about half of the Helsinki, Oulu and Turku University medical student, Eastern Finland and Tampere universities respectively about a third. However, the situation had improved in the early 2000s.

Rehabilitation is not a separate subject content mentioned in the curriculum, so the teaching of it included in other clinical studies. The doctor training has been added on in recent years. the interaction of education, which increases the capabilities and capacities for health promotion.

Finnish Cancer Society survey carried out by the early 2000s it was found, respectively, that the specific oncology teaching is a relatively short duration, but in all universities reported in classroom teaching content of carcinogens contained in other specializations.

In health visitors about 4 percent is a type of cancer, but the number of visits only about 2% are due to cancer. It is clear that the health center doctor face a relatively rare cancer, despite the prevalence of the disorders. Education and training should on the one hand to aim for early diagnosis possibilities, and on the other hand the post-monitoring and rehabilitation of different koissairaanhoidon.

Doctors in training for health promotion, rehabilitation and cancer screening, it is relatively vähäis- s. However, increasing the possibilities of education are not very promising. It is likely the basic tellumpaa seek to increase health promotion and rehabilitation of the contents of other teaching.

Specialist in Education and Continuing Education

The development of cancer treatment in 2010-2020 - the report was made some estimates of treatment required in respect of personnel kilöstökapasiteetin. In this case, the predicted incidence of cancer served as a basis. The greatest need for training for doctors was in addition to oncology, pathology, radiology and general medicine fields. See involves measuring the report concerned in particular the need for care in the coming years.

According to the latest studies show that education is the need for training in the field of oncology specialist fields, the third largest, are geriatrics and physiotherapy above. Nordic studies show that Finland is one of oncologists toward cancer cancer patient somewhat less than in Sweden and Norway.

at the heart of this report include health promotion, early diagnosis of cancer and rehabilitation related to an areas of expertise. Oncological special education also includes these koulutustavoit- you, but also the importance of general medicine doctors and occupational health doctors emphasized. These specializations in education and rehabilitation of health promotion is a significant proportion. . In 2011, doing Aine et al report the sufficiency of satisfaction with health education and prevention training in specialist training at a relatively high level: more than 60% considered it appropriate. In assessing the osaamistarpei- of continuing education and medical work was found in general medical practice in the field of interaction associated with the greatest needs as a whole, which included the promotion of health.

health promotion and rehabilitation-related training not only need to take care of cancer specialist doctors, but also in primary health care and occupational health care doctors are working. In addition to different doctors koistumiskoulutuksen is organized in-service training, the content of the interaction and basic and specialized cooperation are key. Training needs have been highlighted in the healthcare reform deliveries and NCD policy developments.

Social Affairs and various professional groups in health education

estimates the need for and the supply of health service workforce of Social Affairs and will indicate clearly, ET s service offering according to the service needs of development can not be secured without any major services and their productivity on the reforms and the recruitment of workers in the sector outside Finland.

Even though all labor needs and education of foresight conditions (eg. Labor productivity is improved of at least half a percent per year, premature retirement will be reduced, social and health development lon service concepts progresses, personnel structure, dimensioning and job descriptions, as well as the related competence requirements are renewed, the permeability of education is improved) materialize fully, by 2025 the social and health services sector generated nearly 20 000 person workforce shortage. If none of the set's settings conditional not met, the deficiency rate of 59 000 people. The labor shortage is already the case now and will be even worse, particularly child care, social work, special assignments and the Department of doctors and nurses, basic and practical nurses work in health care and social services.

Graduating nurses' actual work placement is information, and only in proportion to the number of graduates does not anticipate the need for labor in full compliance. For example, the Oulu University Hospital, the special responsibility of nurses in labor demand by 2025, the number is 4 600-5 000 nurses. the number of graduating nurses in Northern Ostrobothnia hospital districts area is 500 each year. The need and the need is met will vary by region, but the trend in the same direction. Based on the current training uptake, penetration of degrees and each year the number of graduates it can be said that the hospital in various social and professional groups, including health care. the need for nurses in primary health care or specialized medical care will not be able to cover.

Finland has launched a broad polytechnic education reform in 2014. Social and various professional groups in health education programs continue to emphasize the social and health care service society detonator role in guaranteeing the human living environment and his well-being and security of both basic and specialized medical care.

Health promotion is an integral part of social and health care training and will cover every field of professional groups. Today, however, there are significant differences between those implementing the extent of participation of the studies (range 1 credits - 15 credits).

Cancer diseases, disease, treatment, and rehabilitation of the support and palliative treatment or palliative care will be included in the current ranging from 1 cr - 5 Cp social and health care training (Applied, the second
degree). held annually in cancer diseases, as well as palliative care and 30 ECTS credits post-degree continuing education related to palliative care in Finland. The need for additional on-going training is a controversial ton of development needs, both nationally and regionally defined to guidelines.

training for various professional groups, health and social welfare have been examined in more detail below in particular from the perspective of health promotion and rehabilitation.

6.3 Expertise in Health Promotion

Health promotion in basic and specialized training

expertise in health promotion are described Suvivuon et al. (2011) on the basis of a report. Health Promotion requires the content and methods of health promotion and management These kinds of anticipation. affecting health promoting methods, there is evidence. the prevalence of most major national health problem and inconvenience caused by them can be substantially reduced with lifestyle and health choices by affecting. information on health promotion and is used for the management of client work insufficiently, which creates significant challenges for management and promotion of health education.

Health promotion is central to medical care and rehabilitation and is thus an integral part of primary health care and specialized medical care. various trade groups in health care have a special responsibility in promoting health. Health care professionals face on a daily basis, patients of different ages, and every encounter is a chance to take the health-promoting, patient resources for subsidies. obligation for professionals in the health sector is to hamper the patient's health habits across, to inform the patient of the risks and to encourage her positive solutions for health.

International Health Promoting Hospitals (HPH) networks offer the know-how and good practices to promote health. promote health hospital idea work culture to include the idea of patients and conditions for their loved ones, a hospital worker, hospital environment, as well as the promotion of the health of the population. The health of the promotion of health care includes curative, palliative, rehabilitative, preventive and well-being to increase employment.

in the light of research findings, it seems that the training of health promotion is an additional need. In particular, the tools related to management of health promotion is needed. National and regional vinvointi- good health and filming tools are available, but their use requires more

training so that they could be utilized more. Health Promotion requires amplification also with regard to the competence of trainers.

Nurse training curriculum includes health promotion skills perustutkin- non level. It is the basis for a Master's degree in health promotion training program entitled the knowledge generated, where HEALTH PROMOTION is deeper and wider than the basic degree.

Health Promotion special knowledge (Master's degree)

The upper polytechnic degree in health promotion training program is currently the most extensive as an independent 90-credit degree program. According to the statistics of 2013, a training program for health promotion offers twelve polytechnics in Finland. The education program has been offered a postgraduate degree as an experiment since 2002 and made permanent to a degree program since 2005.

training program for the Master's degree in health promotion studies aim to provide students with a broad and in-depth knowledge in the field of health promotion necessary for the development of working life and the necessary theoretical knowledge in demanding expert and leading role between the health promotion for the operation. In addition, the studies provide an in-depth picture of the area of health promotion, the role of employment and social importance, as well as the capability for the sector research information and professional practice to follow developments in the specification. The other of the upper Sciences programs (eg., And social development and management of health, clinical expert, rehabilitation training) corresponding to the previous knowledge requirements, but the substance knowledge jelmittain The training ranges.

The studies produce the capacity for lifelong learning and continuous development of their own professional skills, as well as providing communication and language skills required for working life and the ability to participate in international interaction and vocational activities.

All in all health promotion in the Master's degree is completed for about 840 students. They are located in specialized, primary health care, the third sector and private service expert, training and management positions. the tasks of health promotion experts of equivalent are needed, particularly in primary health care and specialized medical care.

Health promotion specialist knowledge produced by science colleges

Health Promotion special skills training is available in various faculties and departments. Examples include the University of Eastern Finland Faculty of Health Sciences Department of Nursing Science preventiivi- take the nursing training program and the University of Jyväskylä, Faculty of Sport and Health Sciences take the Department of Health Promotion and Health Sciences Master in health education. These training programs have been implemented since 1998 (preventive care science / KY), 1984 (JY health education training) and 1990 (Health Education JY).

Preventive nursing in directional studies specific objective is to train health to the promotion of health sciences masters degrees, which is knowledge-based capabilities, inter alia, monitor and evaluate national SIA and international health promotion and health policies as well as actions for health promotion specialist positions in multidisciplinary teams in health care, the third sector and other health promotion activities courses . In addition, as a result of training the student has the capacity to carry out research and development of health promotion and multidisciplinary collaboration to participate in health promotion and social debate on health policy and their own field development tämiseen.

After graduate studies science universities offer scientific postgraduate education the opportunity to also carry out health sciences doctoral degree in health promotion in the region. All in all, the field of university degree (Master, Doctorate) has carried out an estimated 300 people.

Doctors' training with regard to health promotion is relatively low, and increasing opportunities for education are not very promising, as described above. It is likely to be more justified to seek by integrating content and perspectives into other teaching health promotion.

Discussion and conclusions

Defined content-Rautio and colleagues, published in 2006, health promotion and menetelmällis- s share of the social and health education on various levels to evaluate the release of development needs are still topical. The most important, common to all development requirements relating to the definition of health and health promotion, to determine the responsibilities and roles of each sector of health promotion, management methods, especially for health promotion communities and the environment and reducing health disparities with regard to, concretisation of national and international programs based on each sector and the public health thinking and social the strengthening of view.

Cooperation between the education sectors and levels will require further development in order to research data and good practices to be more widely utilized. Competence relating to the promotion of health trainers, also requires should be adopted. However, through education changes happen slowly, so continuing education is the promotion of health in strengthening the public health knowledge of major challenges.

Basic competence health promotion part of every health professional group of business operations. It should set a goal and a priority in the development of specialized medical personnel. It is important that special expertise in health promotion can be found in specialized medical care.

Education is a means of safeguarding know-how. in order to increase knowledge of health promotion systematic training is required for the anchoring of guidelines and recommendations into practice, as well as practical implementation of good practices between different organizations and within specialized medical care. The development of expertise on appraisal methods is also necessary, so that the level of skills and training needs of the staff could be determined by them and respond.

What is important is not only to strengthen health promotion skills, but also to standardize operating practices, development velop early intervention methods as well as to establish cooperation and seamless service chains over sektorira- lines. cooperation in basic and specialized health care should be developed.

the development of information and communication technology, opportunities to promote the health of the population, equality and well-being, as well as to provide solutions to social and health services to current and future challenges Increasing labor. Customers' opportunities to choose for her the most suitable services are improved, and a well-functioning network services can reduce the demand for health care services.

Mobile technology can also be used to increase customer awareness of healthy lifestyles and the prevention of social problems, listen.

The health promotion viewpoint should be extended to all service production of specialized medical care described elsewhere in different segments of society. In particular, measures to reduce health inequalities are necessary, since the health of the population can not be promoted without taking this aspect into account. Health promotion is intended to enable the realization of a good human life. The individual is always in their own health veysvalintojensa factor, but he has been linked to the environment and society, and of the opportunities offered. These opportunities should also specialized medical services and working in their field of activity of professionals capable of contributing, on the basis of their own knowledge and skills.

6.4 Rehabilitation Expertise

The rehabilitation of the education status quo

Social Affairs and Health Ministry guideline, the cancer, the treatment and rehabilitation expertise deepening post-degree training requires consistent development of cancer rehabilitation osaamiskokonai- opportunities nationally important areas of weight (STM 2012). the number of cancer patients increases, and

cancer prognosis improves, the number of people rehabilitated and the need for special expertise in cancer rehabilitation is growing in all organizations providing health care services and the third sector.

For cancer patients, the focus is rehabilitation rather than medical rehabilitation psykososiaalises- sa rehabilitation, which includes a resource-centered frame of reference and the utilization of rehabilitation in the forms of new and innovative. This also poses challenges to implementing the rehabilitation professional experts the skill.

Today, the organization of cancer rehabilitation education is fragmented and limited. Rehabilitation training for rehabilitation implemented in polytechnics instructor polytechnic degree, and referred to as the upper polytechnic degree. The degree gives qualifications rehabilitation work planning, control and development tasks in the rehabilitation of various fields, such as social and health care, disability, patients and public health organizations, educational activities, rehabilitation centers, insurance companies, työvoimahal- administration also, the Social Insurance Institution, projects or entrepreneur. The Master's degree deepen and expand rehabilitation expertise.

During the basic studies in teaching doctors of rehabilitation is low. Doctors Nor Particular specialist training or special qualifications rehabilitation. The majority of operating in the field of medical rehabilitation käreistä is a physiatrist, and cancer-specific rehabilitation is utilized especially in oncology, surgery, psychiatry and inner sätautien spesialiteetti distributing informational support.

associated with rehabilitation training is mainly focused on the advanced treatment and nursing care of cancer patients, as well as various professional groups, sector specific expertise in the further training. Syöpäkuntou- Regulation specialized expertise to strengthen the education supply is scarce. organizations providing rehabilitation care also partly related to the rehabilitation of self-training and continuing education, in which case the overall responsibility for cancer rehabilitation is a professional know-how itself, as well as the organization as part of a competence management and the management of the TAA.

related to the rehabilitation of the training needs

the future of cancer rehabilitation training target can be set the fact that all cancer treatment and rehabilitation of viable health care organizations and the third sector is the future of cancer rehabilitation, a special area of knowledge of one or more experts, whose functions are described below.

Cancer Rehabilitation Specialist

- acts as a cancer patient and those around her rehabilitation, support staff and coordinator of the entire cancer during the treatment path
- organizes rehabilitant her the necessary support
- assess the impact of rehabilitation at different stages of the patient's cancer care path
- works multisectoral and multidisciplinary expert networks
- acts as an expert and developer of cancer rehabilitation in specialized medical care, perusterveydenhuol- funnel and / or the third sector
- designs, implements, evaluates and develops evidence-based and different types of support services to cancer rehabilitation as part of a cancer patient's treatment path, together with a multidisciplinary and multi-professional group of experts
- to develop communication and forms of communication in various forms of support of information technology solutions for use being made.

The aim is to contribute to education and training to create a regional cancer rehabilitation expert networks. Education targeted at cancer treatment and rehabilitation in different health care settings and in the third sector carried out by professionals, especially nurses, physical therapists, rehabilitation counselors, social worker, psychologists, sports, social welfare and health experts.

Training can be carried out after the polytechnic degree or university degree in cancer rehabilitation additional in-depth training. It is natural to the training of professionals will remain responsible for

of applied sciences in collaboration with the hospital, as well as the treatment of cancer and cancer rehabilitation specialists multidisciplinary collaboration. Education planning and implementation of the importance of close cooperation between hospital districts and universities. Cancer rehabilitation training can also be developed in one of many of the other NCD-related diseases (such as cardiovascular disease, diabetes and chronic lung diseases) with the development of rehabilitation.

RECOMMENDATIONS

- for cancer treatment in primary health care and specialized medical care are increasing training needs are taken into account in polytechnics and universities intake amounts.
- Health promotion and rehabilitation is clarified with regard to the roles and made clear tehtäväku- vauksia various professional groups.
- Health and Social Care basic qualifications, as well as doctors in primary education and, where applicable, also a specialist degree courses are included more in health promotion and rehabilitation studies. Doctors, it is probably justified to try to get additional content integrated in other instruction.

- Rehabilitation training will create a regional cancer networks and the rehabilitation expert training is carried out in close cooperation with all the parties involved in rehabilitation.

7 Research

7.1 The research related to health promotion

the promotion of health research organization of our country

Health promotion research is multidisciplinary. Different disciplines studied on its own merits health and health promotion. Special importance is given. medical, behavioral and social sciences perspectives. Also, the conditions for health research is essential: health economics and the environment, many studied disciplines are also important in terms of health promotion.

for the promotion of health research are the cornerstones of epidemiological studies to assess the population's health-related behavior and its changes. Finland is exceptionally well positioned to do this, and we monitored with both the adult population (health behavior, Finrisk) that young people (school health survey, the WHO's school survey) Health behavior in many dimensions. These studies also allow assessment of the impact of interventions at the population level.

The University of Jyväskylä has set up in the early 2000s research center for health promotion, which produces multidisciplinary research. The Academy of Finland Research Program was on health promotion in the 2000s. University of Eastern Finland is a health science facility, which is done plenty of research related to health promotion. Department of Health and Welfare has produced. municipal-level metrics to support health promotion and participated in numerous interventions, in addition, that the body responsible for population-level health monitoring of a number of studies. Folkhälsan rf has its own Health Promotion Research Unit. In addition, a number of universities and polytechnics are individual researchers and research groups, with subjects of research were related to health promotion.

Health promotion research areas of research and future challenges

health promotion research has increased since the 1960s and structured gradually. the most important cancer prevention point of view, research into risk factors is extensive and long term. An example of a single risk factor, smoking, says a study on the needs and the development of research. Nin a smoking tobacco and health effects were studied since the 1940's, and although the results showed harmful effects of tobacco to health in the 1950s and 1960s, in particular, no research data resulted in social activities calculations before a couple of decades after this. After the basic information is needed for research in mm. smoking, the addictive nature of the termination of psychology, effects of advertising tobacco, tobacco for economic and environmental impact of the cultivation of the meanings of tobacco.

One adversely affect the health of the author's research has since expanded to a whole area for the tutkimusalu-, which have been published in thousands of studies. Health effects of smoking has been shown quite pickling cantly. on the other hand Interesting research topics have recently been associated with smoking-related genetics studies, and smoking cessation studies. Innovations smoking cessation support in order to rapidly reduce the health hazards of smoking.

Even more extensive research is probably related to nutrition. In general, nutrition is expected to be particularly significant impact on health entity, but it has proved difficult to interpret the impact of nutrition-related factors of the individual. A typical example are the vitamins that have been studied very much. Still, arrived to give a very cautious recommendations on the use of vitamins. A lot of research

Black has also been made in food additives and health effects of contaminants. The basis of the research results have been drawn up norms and recommendations.

Nutrition possibilities for the prevention of cancer still require more research. Ravitsemustutki- mus could increase the possibility of reduction of all NCD diseases, because the reduction of obesity would be particularly important for people in many diseases. It is possible that in some populations, the increase in obesity is at least slowed down. Research data on alcohol carcinogenic potential has been strengthened in recent years, although the ultimate mechanism of action is not known with certainty. Research is needed mm. the role of acetaldehyde in carcinogenesis.

Importance of exercise in reducing the risk of cancer and several other diseases have been shown to more and more ammissa population surveys. Of particular interest has been the so-called. passive lifestyle research area, because this way of life has spread rapidly in different knowledge work increases. It is obvious that more research is needed to further, but it seems that it is possible to reduce physical exercise at the recommended forums and by reducing sedentary risk of many cancers. Interventions have so far been limited, and their results are not perform- ing certain tasks to conclusions.

Radiation health effects are known especially for large radiation doses, but further research is needed to mm. to clarify the meaning of electromagnetic radiation. the effects of UV radiation on skin and immunological response is still being investigated, but in terms of health promotion in adequate information on the effects of solar UV radiation is already available in the design of interventions. The need for research is directed to the use behavior modification opportunities skin tan appreciative atmosphere.

The extensive vaccine studies have allowed the introduction of HPV vaccination in girls. More research is needed boys in the vaccination of additional benefits. School health education is already thought to have contributed to
mm. the sexual behavior of young people positively, so it is possible that the amounts of some cancers volumes will be reduced in the future.

the impact of health promotion interventions is difficult to assess because of cancer diseases develop slowly and often require a number of simultaneous or successive exposures synergies. Cause and effect relationships are laborious and shows, as between the amount of the future factors is large, and the required tracking time long service life. Long-term intervention studies, funding has proven to be difficult. Health promotion studies have only rarely as cancer-specific to be granted significant scholarships eg. Cancer Foundation grants. An exception has been both vaccine research that sekundaaripreventiotutkimus physical effects of a breast cancer recurrence.

RECOMMENDATIONS

- Ensuring continuity of health behavior monitoring.
- Let's NCD interventions mapping and parsing.
- Seeking to take advantage of the study of health promotion founded in Finland NCD network.

- Let's do and will support actions to promote health research, particularly in the following areas:
    - o smoking cessation research
    - o Intervention studies to reduce the life of the passive
    - o Intervention studies to reduce the UV radiation exposure
    - o study of the economic impact of health promotion.

7.2 Screens to research related to

Epidemiological and Statistical cancer research is an essential basis for a cancer in a nationwide le healthcare planning. drawn up by the Cancer Registry forecasts are an example of how data can be used to assess due to cancers of the future cancer burden and influencing factors in.

Mass Screening Registry attributable to the Finnish Cancer Register is the only Finnish Cancer Screening and Their responsible for the development of the body, which makes the research activities in the prevention of cancer, and early finding of the effectiveness and functionality of organized screening in order. The study requires a long-term, up to several tens of years. Mass Screening Registry is indeed crucial, as well as the national statutory teisten the development and screening of new screening methods to study the introduction, evaluation, and application for Finnish conditions for new forms of screening (eg. Suolistosyöpä- and prostate cancer screenings). The on-going projects and suolistosyöpä- eturauhassyöpäseulonnasta are areas of the world's largest.

Areas of research and future challenges

Evaluation of screening programs is ultimately based on changes in mortality, so the duration of investigations is particularly long, and on the other hand the necessary research population is large, because the effects are generally small, about 20 to 30% reduction in mortality. assessment of cervical cancer screening must be attempted on the one hand the functioning of the screening (e.g. paging protocols and their development) and the renewal of the tests (such as HPV testing acetate, digital mammography) and on the other hand the actual effectiveness of mortality. Screening for changes in the environment kohdeväes- age groups are constantly under pressure, and changes in the tasks will be to set up a study on the screen.

the expansion of breast cancer screening invitation to the age group of 50-59 year olds 50-69 year olds are currently in stages so that the whole age group is covered by the invitees in 2017. It is important to monitor changes caused by enlargement of the age group call screening effectiveness. In addition, the treatment of breast cancer has changed significantly over the last 20 years. Research data is needed in particular on whether the treatment don trend was similar for the different parts of the country. In addition, information is needed on whether the effects similar screening and screening outside in established cancers.

Screenings are allocated mainly to healthy subjects, so the effects of screening the target population's lifestyle and quality of life are important. It is even possible that by screening terveystae effect can reduce the other beneficial effects of screening. research related to quality of life and lifestyle has been launched Cancer Registry from 2010 onwards. The study is ongoing and suolistosyöpä- that breast cancer screening on the invitation of the population.

Prostate cancer screening study (ERSPC) assessment is still ongoing, and focuses on Finland followed the screening of the potential risks. Disadvantages of life and life extension benefits must be balanced suitably, the possible setting-up the screening of the population is considered. The challenge is to design a start-up stage, where the current amount of data advantages and disadvantages know how to adapt the values of the population in a fair and transparent.

Colorectal cancer screening already meets the minimum requirements for the screening. Further information on the cell veltuuko screening population-based program, is open. Finland is currently unique in the world of health research on how the screening works as part of the health care is received and routine operations, the same mortality reduction during the screening tests. The optimal approach is to launch a new screening program containing scientific assembly. the effects of the screening program assessment until the results of the mortality rate is based on the accumulated experience and knowledge in future years task.

New screening programs should be constantly nominated for addition to the new tests. For example, lung cancer, the sizing may reduce lung cancer mortality rates among risk groups, and the challenge is to figure out how the information will be to check and take advantage of what the research design and what kind of target populations are needed to complete the missing information base to support health care activities. As new innovations and new screening programs should be a candidate, it is important for their own health care based on scientific criteria and meets the quality and long-term research can be carried out.

RECOMMENDATIONS

- Statutory examined the effectiveness of screening programs and screening of new programs developed.
- New screening or screening of proposals to be assessed scientifically the most qualified criteria.

- Ensuring the national research activities, because foreign studies may not as such apply to Finnish health care environment.
- Screening studies will evaluate in particular the quality of life factors.
- Studies also takes into account the health economic aspects.

7.3 The research related to rehabilitation and rehabilitation support

Rehabilitation of activity and its effectiveness evaluation

A wide-ranging and cancer-specific rehabilitation as part of the care path was suffering from cancer and their loved one will have a positive impact on both the patient and his loved ones physical well-being, psychological adaptation and survival to the fact that illness is part of life. Cancer patients will benefit from the study shows that's Rehabilitation intellectually, physically, mentally and socially. The rehabilitation also improves life management and
- quality.

Rehabilitation can assess the effects of Na dullisten, subjective and objective effects, short- and long-term effects, external koisvaikutusten, positive and negative customer impact and social impact, quality, and quantitative effects of both expected and unexpected effects of view.

A good rehabilitation practice involves evaluation of the effectiveness of reliable, evidence-based methods. Evaluation of the effectiveness of rehabilitation is a challenge to the rehabilitation of biodiversity, because of multi-professionalism, multidisciplinary and evaluation methods shortcomings.

The effectiveness of rehabilitation is expected to change before and after the intervention, life management, quality of life, state of health or functional capacity indicators, and assessing the intervention individual or group-specific effects. Quality of Life Measurements can be generic or disease-general indicators or metrics. Indicators to monitor the achievement of the objectives set out in rehabilitation, as well as working and functional capacity changes.

In particular, efforts have been made to develop new, innovative and functional kuntoutumismuotoja and instead sought to plant-scale rehabilitation, outpatient rehabilitation, as well as the evaluation of the effectiveness of these new forms of rehabilitation assistance. In our country has been going projects include. breast and prostate hassyöpäpotilaiden the development of outpatient rehabilitation. In addition, the effectiveness of rehabilitation activities have been evaluated in south-west Finland organized by the Cancer Society of rehabilitation and connection of the adaptation.

results at the time of impact assessment is necessary to take advantage of the design of the contents of rehabilitation, the effectiveness of reporting and decision-making. examined the effectiveness of rehabilitation is Tua information, however, very little compared to the resources used for rehabilitation. More information is needed on the type of rehabilitation is suitable for each rehabilitation client, what the lasting effects of rehabilitation can be achieved and what can be the most difficult to influence the situation of people rehabilitated.

related to rehabilitation research needs

Rehabilitation in our country and worldwide commonly studied very little. Researched information is especially eg. The work of breast cancer patients and a return to psycho-social support, but many other rarer cancers with regard to information is limited. In the future, increasing the number of cancers, particularly of elderly cancer patient, and in particular the impact of this group of patients, and rehabilitation needs, more information is needed.

Different perspectives The Commission study on the rehabilitation of the data allows the option of getting better and better rehabilitation patients and their relatives needs of rehabilitation activities kohdentu-. Cancer patients and patients' relatives and the conditions for their life management and quality of life, health condition, mood, objectives, and at a specific

ti their own experiences and the development proposals required information. Furthermore, the need for more information on the treatment and rehabilitation of customer orientation paths, quality, fluency and cost-effectiveness, and accessibility of the forms of assistance, the importance and impact of working ability and capacity.

Research data is needed-effectiveness and development challenges also physical training programs for new information-intensive technological solutions-based, art and tea culture, as well as rehabilitation interventions for psychosocial support phase. Similarly, the need for more information about peer, its knowledge base, characteristics and significance for cancer patients and loved ones, as well as peer professionals working in the shooting.

Rehabilitation study, it is important to use the internationally the most commonly used indicators of quality of life dun, state of health and functional capacity, whose validity and reliability have been evaluated. Monitors may OL la generic, wherein the use is suitable for the measurement of the quality of life in connection with any disease or injury. Sairausspesifisten information provided by the indicators can be used to examine just that in disease-related quality of life dimensions.

Rehabilitation, it is important to look at the quality by taking into account patients' subjective experiences of the rehabilitation and the need for, and expectations of how rehabilitation is perceived to affect the lives of a holistic, life management, or certain aspects of the adaptation training.

international development projects of rehabilitation

The international EU-funded three-year joint action Cancon project has started in early 2014 as a continuation early in the year which ended EPAAC project. Cancer Society of Finland is Finland's representative involved in the rehabilitation of the Project as a whole (WP 8 survivorship and Rehabilitation). The aim of this project is to draw up guidelines based on evidence-based data implementation cancer rehabilitation, sex, and also to identify future research and development needs. (Www.epaac.eu.)

In 2013, has started four years "Cancer and Work" project, which is the COST Action NETWORKS toitumisohjelman part. This project is currently involved in a total of 15 European countries. Finland, participants include the Institute of Occupational Health and the Cancer Society of Finland. The aim of the project is to gather information and to do research, particularly in cancer survivors employment of predictive factors, the costs of work-related cancer survivors and society and employers the impact of the work under way, as well as eval- uated and develop innovative and multidisciplinary interventions that support employment. (Www.cost.eu.)

European Cancer Association is the umbrella organization ECL (European Cancer Leagues) aims to actively work for cancer patients to support the return to work and to reduce the burden of cancer. Specific topics include improvement, rehabilitation and return to work interventions related to the cancer patient's insurance coverage. As a single form of activity is the work of research and studies at European level, so that further action can be targeted TAA correctly.

claims of all these international projects outputs and results will be in our country in the future to take advantage of the rehabilitation of the study and evaluation of effectiveness.

In addition, various universities and universities of applied sciences researchers and research groups that make's Rehabilitation and international research related to rehabilitation support.

RECOMMENDATIONS

- Supporting and produced rehabilitation and related support rehabilitation research.
- Rehabilitation effectiveness of activity is estimated based on the display of qualitative and määrällisil- methods.

- Rehabilitation study used internationally in the most commonly used indicators of quality of life, health and functional capacity, whose validity and reliability have been evaluated.
- As regards rehabilitation research networking and the use of international ongoing research and development projects.

8 Summary of recommendations

HEALTH PROMOTION

Health promotion and disease prevention are the Finnish health care priorities. promoting the health of the central importance of the people's own lifestyle and living conditions. The standard of living of many types of cancer risk may influence their own lifestyle such as not smoking, low-risk alcohol use, as well as healthy nutrition, adequate exercise and maintaining normal body weight through. It is estimated that approximately 30 to 40% of breast cancer cases could be prevented by lifestyle choices.

The key recommendations of the working group are as follows:

- Finland will take over the active use of the programmatic identifier "Health in all policies", which are assembled under different actors to reduce cancer and cancer mortality.
- health promotion is carried out broad cooperation between different sectors of the state administration, local government, kansanterveysjärjes- organizations and other actors.
- Programs aimed at non-communicable disease risk factors to reduce planned and carried out in our country-wide NCD network of co-operation.
- drawn up in Finland in the future common NCD action plan WHO according to the NCD strategy kaisesti.

CANCER sCREENING

Cancer in mortality can be achieved in addition to the effect of other benefits as well. A well-planned and organized screening program for more equality between citizens and reduce regional disparities and to improve quality of life. Society of early-stage cancer treatment to save resources. to balance hazards and benefits of screening and improve the cost-effectiveness of cancer screening should be carried out Fuel can only be well organized population-based screening programs.

The key recommendations of the working group are as follows:

- The new screening programs introduced into a controlled and controlling Finnish health care.
- Ongoing statutory screening programs are monitored, evaluated and developed in order to ensure the effectiveness of the operation.
- Cancer Screening is all about action lines, screening chain. Cancer screening effect to secure licenses to be arranged throughout the screening chain takes into account the centralized control.

rehabilitation SUPPORT

Rehabilitation and rehabilitation support are an integral part of good management of the cancer patient. Kuntoutumi- purpose of its associated support cognitive and psycho-social support and peer support in different forms is to support the individual's mental, physical and social resources, as well as the promotion of individual and community interaction. Also important is the support the adoption of healthy lifestyles, coping with everyday life and work, and supporting the well-being, participation and employment.

The key recommendations of the working group are as follows:

- Define kuntoutumisketjut and responsible parties as part of cancer treatment chains.
- Providing rehabilitation assistance at all stages of cancer care path.
- Added to the knowledge of the possibilities of rehabilitation of cancer patients support.

- Rehabilitation rehabilitee changes are taken into account, and close family and utilizes peer support opportunities for rehabilitation.
- the need of the patient, relatives and family support evaluation should be individualized and take into account the nature of the patient's cancer, other diseases, as well as their own loved ones, and resources.
- The rehabilitation aid may be utilized and operational methods of the art elements and Novel of computer applications, such as web-based tools and data resources.
- the effectiveness of rehabilitation will produce a more research-based information.

TRAINING

preparing a national cancer center as an important working group charged with making recommendations to coordinate syöpätut- in research and education. For this reason, this group of experts has decided to limit the the contracted work in such a way that it will make recommendations with regard to education and research within the scope of the Working Group only adopts the mandate contained in sections.

The key recommendations of the working group are as follows:

- As well as basic health care that will increase the needs for specialized training in treatment and care are taken into account amounts.
- Health and Social Care basic qualifications, as well as doctors in primary education and, where applicable, also a specialist degree courses are included more in health promotion and related to rehabilitation studies.

- Rehabilitation training will create a regional cancer networks and the rehabilitation expert training is carried out in close cooperation with all the parties involved in rehabilitation.
- Ensuring adequate schools and training institutions, health education and promotion of health literacy of the population.

RESEARCH

Health promotion research is multi-disciplinary. Special importance is given. medical, käyttäytymistieteelli- set and social science aspects. the promotion of health research are the cornerstones of the epidemiological studies were carried out to assess the population's health-related behavior and its changes.

Epidemiological and Statistical cancer research, as well as the Finnish Cancer Registry forecasts are an essential basis for cancer for a nationwide health care planning. Finnish Cancer Register audibly Mass Screening Registry in Finland is the only responsible Cancer Screening and development of the body, which makes the research on the effectiveness and functionality of the screenings.

Rehabilitation in our country and worldwide commonly studied very little. From different viewpoints The Commission study on the rehabilitation of the data allows for rehabilitation activities targeting more and more patients 'and their families' needs. Research is also needed rehabilitation interventions's overall effectiveness and development challenges.

The key recommendations of the working group are as follows:

- Ensuring continuity of health behavior monitoring and assessing the impact of interventions for health promotion. Health promotion research is utilized to Finland perustet- Tua NCD network.

- New screening or screening of proposals to be assessed scientifically the most qualified criteria. To monitor the effectiveness of statutory legal screening programs and, if necessary, developed and changed screening programs.
- related to rehabilitation research activities will be intensified. The rehabilitation of activity is estimated to screen the effectiveness based on the qualitative and quantitative methods.

9 follow-up on the implementation of the proposals

The national cancer plan

National Cancer plan is produced in Finland in two parts. The first part consists of published in 2010, the Ministry's report *The development of cancer treatment in 2010-2020* and a section on the second part of this cancer prevention, early detection and rehabilitation of development assistance for the period 2014-2025.

The first volume of the report port (2010) mid-term review has to be made in 2015, in mid-syöpäsuunnitel- man the period under review. This review period is appropriate to connect syöpästra- design and specification of the whole strategy, taking into account planned start OLE van National Cancer Center's operation of the embodiment.

In the first sub-report also found that the time limit recommendations relating in particular to the treatment of TAR has been watered already in 2013. Connecting this review of the 2015 assembly should be prepared for the 2014 season.

guidelines for national cancer plans

International cancer strategies unifying statement has been published in 2013, an EU-funded project 'EPAAC part (www.epaac.fi). This report is further characterized as a number of criteria including evaluation
Nille. EPAAC project output in 2014 is nearing completion in the European guidelines for the development of national cancer plans. This guidance deals with cancer plans widely - ranging from health promoting public health palliative treatment and palliative care, research and the registration of cancers, as well as the allocation of human and financial resources. This guidance can be further used maassam- we are evaluating and complementing national cancer plans.

An important element is the binding force of the national cancer plans. Top cancer plans imple- creasingly has been successful in countries where the realization of the cancer plan has been monitored and failure to adhere to recommended practices is also associated with financial sanctions. In many countries, is also controlled economically additional resources for the implementation of the key recommendations cancer plan. This point of view this is best to consider also in Finland.

The cancer plan, the process of assessment and evaluation of results

follow-up of the two parts of the cancer strategy must be used as well as the process of evaluation and assessment of results. It is appropriate to share the results of the evaluation into two parts, the direct effects of cancer plan and long-term effects.

The process of evaluation is used to examine how the strategy is implemented in different areas ERVA how it's known among staff and the general public how the strategy focuses on areas of possible 'further training and how the strategy is reflected in the various operational units in their own plans. The examination could either be a specialty-specific (surgery, pathology, oncology, etc.), or alternatively follow the latest trends of the patient treatment topolkua (diagnostics, therapy, monitoring, palliative treatment). It is important to also take into account the recommendations to improve training and communication.

Measuring the direct impact, it is necessary to assess in particular the time limits associated with the management. Other immediate effects include the development of human resources in different regions, the introduction of the model of palliative care start-up and implementation of concrete proposals related to the patient's path. Other monitored immediate effects are launching a rapid assessment of anti-cancer drugs and to be consistent process Starting treatment guidelines was drawn up. These last two, it is necessary to follow the national level, and thus they are particularly well suited to tasks of the National Cancer Center.

In 2015, it should be possible to assess the immediate effects in addition to the evaluation process of the second part of this cancer plan. The evaluation items are then particularly in the starting NCD cooperation in promoting the health, the launch of evaluating effectiveness of rehabilitation, the commencement of the proposed introduction of municipal toutusmallin and täsmentyminen cancer screening national coordination.

Cancer implementation of the plan by means of an evaluation study

the effectiveness of the whole strategy is to look at the available indicators and separate studies enzymes. Available registers allow for quantitative assessment of treatment. Treatment with the quality of information obtained Toja mm. in survival focusing on international studies. By monitoring the mortality and morbidity can also assess the effectiveness of health promotion and prevention of cancer. Monitoring of many variables cancer risk factors is necessary for the population level (e.g. health behavior, financial donmittaukset, UV radiation exposure).

Separate studies are needed mm. the cost of development and screening of cancer effects (including gating I HPV vaccines long term monitoring) to assess, monitor the patient's path. So far, there is no adequate tools to assess either the cancer patient treatment durations of treatment registers. These tools will create and deploy as soon as possible. the level of population health information There are no studies available. Research to public awareness of cancer and other diseases NCD risk factors is needed to support the inner-uniform health-promoting policies.

Finally

Cancer plan is intended to create a framework implemented by each country in cancer policy. Cancer plan will also cover the broad aspects other than those relating only to invest in long-term care and to preventive work. The challenge ahead, so we as elsewhere in developed countries, is perceived as an integral part of cancer prevention of cancer overall picture and directing the necessary resources.

Inexpensive health promotion, prevention, screening, rehabilitation is invested tut resources are scarce, cancer up to five per cent of the costs of all caused by cancer. Effective health promotion to reduce the cancer burden and brings cost savings with regard to treatment. In addition, investment in rehabilitation assistance helps the return of the cancer patient and work for older age groups coping in everyday life and thus also contribute to saving overall costs of cancer.

The cost of cancer treatment in 2015 is estimated at EUR 850-900000000. The general consensus around the world is that cancers are at least about one-third would be preventable, published in a recent 2014 WHO report on the basis of as much as half. In practice, this would mean today at least 10 000 new cases of cancer per year in 2025 and already more than 13 000 cases of cancer in our country. In conclusion, measure or as cancer prevention, early detection and rehabilitation effort would be saved many times that amount, which focus on these - not to mention related quality of life and well-being benefits.

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attachment 1

Tables and figures

Table 1. The amounts of new cancer cases in 2011 and projections for the years 2015, 2020 and 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Brackets are marked with the predicted percentage change from 2011.

	Gentlemen							Ladies						
	2011		**2015**		**2020**		**2025**	**2011**		**2015**		**2020**		**2025**
The entire population														
Prostate	4718	5400	(14)	6200	(31)	7000	(48)	-		-		-		-
Breast	-		-		-		-	4869	5500	(12)	6000	(24)	6400	(31)
Intestinal	1489	1700	(13)	1900	(29)	2200	(45)	1314	1400	(9)	1600	(20)	1800	(34)
Lung	1562	1700	(6)	1700	(9)	1800	(12)	815	910	(12)	1100	(29)	1200	(46)
melanoma	651	790	(22)	970	(48)	1100	(68)	660	800	(21)	1000	(52)	1200	(77)
all cancers	**15024**	**16900**	**(13)**	**19200**	**(28)**	**21400**	**(42)**	**14734**	**16000**	**(9)**	**17600**	**(19)**	**19000**	**(29)**
0-64 years														
Prostate	1366	1600	(16)	1600	(14)	1500	(11)	-		-		-		-
Breast	-		-		-		-	2810	2800	(-2)	2800	(-2)	2800	(-2)
Intestinal	463	450	(-4)	430	(-8)	410	(-12)	402	360	(-9)	360	(-11)	340	(-14)
Lung	466	420	(-10)	380	(-19)	370	(-21)	247	240	(-3)	230	(-9)	210	(-16)
melanoma	295	350	(18)	380	(30)	390	(33)	342	390	(14)	460	(36)	510	(49)
all cancers	**5084**	**5300**	**(4)**	**5200**	**(2)**	**5100**	**(1)**	**6240**	**6100**	**(-2)**	**6000**	**(-3)**	**6000**	**(-3)**
≥ 65 years														
Prostate	3352	3800	(13)	4600	(39)	5500	(63)	-		-		-		-
Breast	-		-		-		-	2059	2700	(31)	3300	(59)	3600	(76)
Intestinal	1026	1200	(20)	1500	(46)	1800	(71)	912	1100	(17)	1200	(34)	1400	(55)
Lung	1096	1200	(13)	1300	(21)	1400	(26)	568	670	(19)	830	(46)	980	(73)
melanoma	356	450	(25)	580	(64)	700	(96)	318	410	(29)	540	(70)	660	(107)
all cancers	**9940**	**11700**	**(17)**	**14000**	**(41)**	**16200**	**(63)**	**8494**	**9900**	**(17)**	**11500**	**(36)**	**13000**	**(53)**

Table 2. The amounts of deaths caused by cancer in 2011 and projections for the years 2015, 2020 and 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Brackets are marked with the predicted percentage change from 2011.

	Gentlemen							Ladies						
	2011	**2015**		**2020**		**2025**		**2011**	**2015**		**2020**		**2025**	
The entire population														
of Prostate	880	880	(0)	950	(8)	1100	(22)	-	-		-		-	
Breast	-	-		-		- 839		850	(2)		870	(4)	900	(8)
Intestinal	552	620	(12)	690	(24)	760	(38)	597	590	(-1)	650	(8)	720	(20)
Lung	1430	1500	(5)	1600	(9)	1600	(14)	677	740	(10)	850	(26)	970	(44)
melanoma	148	140	(-7)	150	(1)	160	(10)	76	79	(4)	83	(9)	85	(12)
all cancers	**6104**	**6400**	**(5)**	**6900**	**(14)**	**7600**	**(24)**	**5547**	**5700**	**(3)**	**6100**	**(10)**	**6600**	**(19)**
0-64 years														
Prostate	71	59 (-17)		49 (-31)		44 (-38)		-	-		-		-	
Breast	-	-		-		- 292		280	(-4)		240 (-16)		220 (-24)	
Intestinal	137	120 (-11)		110 (-17)		110 (-19)		118	98 (-17)		97 (-18)		95 (-20)	
Lung	397	340 (-15)		310 (-23)		290 (-26)		173	180	(1)	170	(-3)	160	(-6)
melanoma	53	42 (-21)		38 (-27)		38 (-29)		27	21 (-23)		21 (-22)		21 (-21)	
all cancers	**1544**	**1400 (-10)**		**1300 (-18)**		**1200 (-22)**		**1342**	**1200**	**(-9)**	**1100 (-16)**		**1100 (-21)**	
≥ 65 years														
Prostate	809	820	(1)	900	(12)	1000	(27)	-	-		-		-	
Breast	-	-		-		- 547		580	(5)		630	(15)	680	(25)
Intestinal	415	500	(20)	570	(38)	650	(57)	479	500	(3)	550	(14)	620	(30)
Lung	1033	1200	(13)	1300	(21)	1300	(30)	504	570	(13)	690	(36)	810	(61)
melanoma	95	95	(0)	110	(17)	120	(31)	49	58	(18)	62	(26)	64	(30)
all cancers	**4560**	**5000**	**(10)**	**5700**	**(24)**	**6400**	**(40)**	**4205**	**4500**	**(7)**	**5000**	**(18)**	**5600**	**(32)**

Table 3A. of surviving cancer incidence figures for 2011 and projections for the years 2015, 2020 and 2025 in the general population, both individually and 0-64- ≥ 65 years of age when accompanied by the cancers which the detection is less than 5 years. Brackets are marked with the predicted percentage change from 2011.

	Gentlemen								Ladies							
	2011		2015		2020		2025		2011		2015		2020		2025	
Cancer detection of less than 5 years the entire population of Prostate																
	19433	23000	(18)	27200	(40)	31200	(61)		-		-		-		-	
Breast	-		-		-		-		20484	22800	(11)	25800	(26)	28300	(38)	
Intestinal	4627	5400	(16)	6400	(38)	7400	(59)		4263	4800	(13)	5400	(28)	6100	(43)	
Lung	1641	1700	(5)	1700	(5)	1700	(4)		1048	1200	(17)	1400	(38)	1700	(59)	
melanoma	2386	3000	(24)	3800	(60)	4600	(95)		2438	2900	(19)	3700	(54)	4600	(87)	
all cancers	**45407**	**52600**	**(16)**	**61900**	**(36)**	**71200**	**(57)**		**48394**	**53700**	**(11):**	**60400**	**(25)**	**66900**	**(38)**	
0-64 years																
Prostate	5003	5500	(11)	5500	(10)	5400	(7)		-		-		-		-	
Breast	-		-		-		-		11161	10700	(-4)	10600	(-5)	10400	(-7)	
Intestinal	1376	1400	(1)	1400	(2)	1400	(1)		1225	1300	(7)	1300	(6)	1200	(1)	
Lung	508	490	(-4)	420	(-17)	390	(-23)		376	390	(2)	380	(1)	390	(3)	
melanoma	1119	1300	(12)	1400	(30)	1600	(42)		1246	1400	(13)	1700	(35)	1900	(54)	
all cancers	**15477**	**16300**	**(5)**	**16700**	**(8)**	**17200**	**(11)**		**22413**	**22100**	**(-1)**	**22100**	**(-1)**	**22100**	**(-1)**	
≥ 65 years																
Prostate	14430	17400	(21)	21700	(50)	25800	(79)		-		-		-		-	
Breast	-		-		-		-		9323	12100	(29)	15200	(63)	17900	(92)	
Intestinal	3251	4000	(23)	5000	(53)	6000	(84)		3038	3500	(16)	4100	(36)	4900	(60)	
Lung	1133	1200	(8)	1300	(15)	1300	(16)		672	840	(25)	1100	(58)	1300	(90)	
melanoma	1267	1700	(35)	2400	(87)	3000	(141)		1192	1500	(26)	2100	(73)	2700	(122)	
all cancers	**29930**	**36300**	**(21):**	**45200**	**(51)**	**53900**	**(80)**		**25981**	**31600**	**(22)**	**38300**	**(48)**	**44700**	**(72)**	

Table 3B. of surviving cancer incidence figures for 2011 and projections for the years 2015, 2020 and 2025 in the general population, both individually and 0-64- ≥ 65 years of age, when you have all observed cases of cancer.

	Gentlemen								Ladies							
	2011		2015		2020		2025		2011		2015		2020		2025	
All cases of cancer found in the whole population																
Prostate	41486	46500	(12)	55500	(34)	64700	(56)		-		-		-		-	
Breast	-		-		-		-		59659	69200	(16)	82000	(38)	94600	(59)	
Intestinal	9902	11800	(19)	14400	(46)	17400	(75)		11178	12700	(14)	14700	(32)	17100	(53)	
Lung	2518	2600	(1)	2600	(3)	2600	(4)		1700	2000	(16)	2300	(38)	2700	(59)	
melanoma	5934	7100	(20)	8800	(48)	10300	(74)		6964	8100	(16)	9900	(42)	11400	(64)	
All cancers	**102743**	**117000**	**(14)**	**138000**	**(35)**	**161000**	**(57)**		**140294**	**159000**	**(14)**	**185000**	**(32)**	**212000**	**(51)**	
0-64 years																
Prostate	7251	6900	(-4)	6800	(-6)	6700	(-8)		-		-		-		-	
Breast	-		-		-		-		24948	24300	(-3)	23800	(-4)	23700	(-5)	
Intestinal	2586	2700	(3)	2800	(8)	2900	(13)		2801	2900	(3)	3000	(6)	3000	(6)	
Lung	730	710	(-3)	650	(-10)	660	(-9)		584	610	(5)	610	(5)	620	(7)	
melanoma	2548	2700	(5)	2900	(15)	3000	(20)		3165	3400	(7)	3700	(18)	4000	(26)	
all cancers	**32285**	**33200**	**(3)**	**35100**	**(9)**	**37600**	**(16)**		**55015**	**55600**	**(1)**	**56800**	**(3)**	**58400**	**(6)**	
≥ 65 years																
Prostate	34235	39600	(16)	48700	(42)	58000	(69)		-		-		-		-	
Breast	-		-		-		-		34711	44900	(29)	58200	(68)	71000	(104)	
Intestinal	7316	9100	(24)	11600	(59)	14400	(97)		8377	9800	(17)	11800	(40)	14100	(69)	
Lung	1788	1800	(3)	1900	(8)	2000	(10)		1116	1400	(22)	1700	(55)	2100	(87)	
melanoma	3386	4400	(31)	5900	(73)	7300	(115)		3799	4700	(25)	6100	(61)	7500	(97)	
all cancers	**70458**	**83500**	**(18)**	**103000**	**(46)**	**124000**	**(76)**		**85279**	**104000**	**(22)**	**128000**	**(50)**	**153000**	**(80)**	

all cancers

Figure 1. Finnish age-adjusted cancer incidence and -kuolleisuus the years 1953-2011 and the forecast of development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

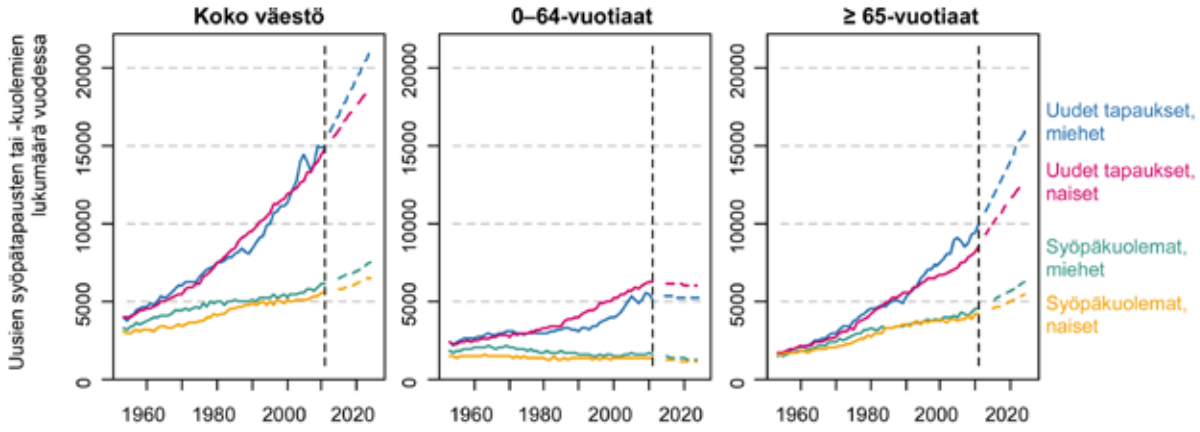


Figure 2. The numbers of new cancer cases and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

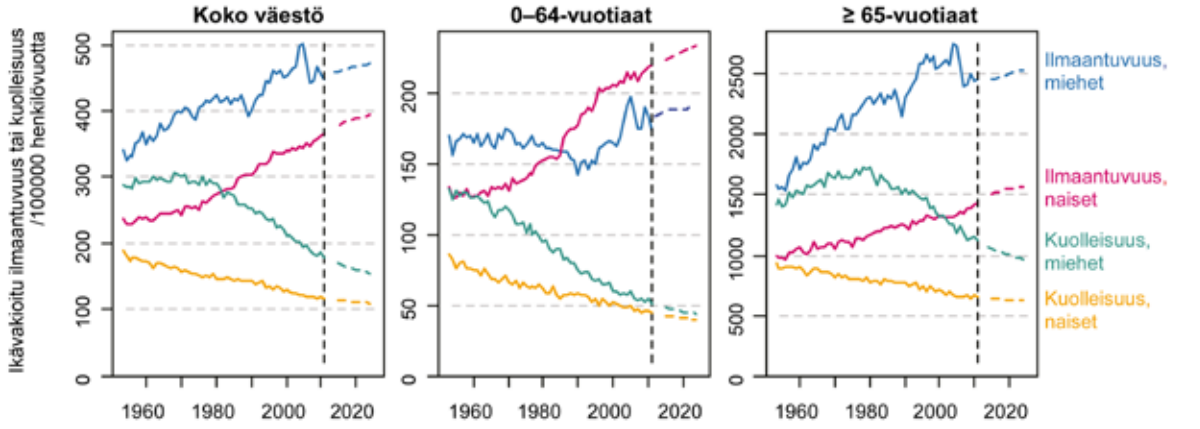
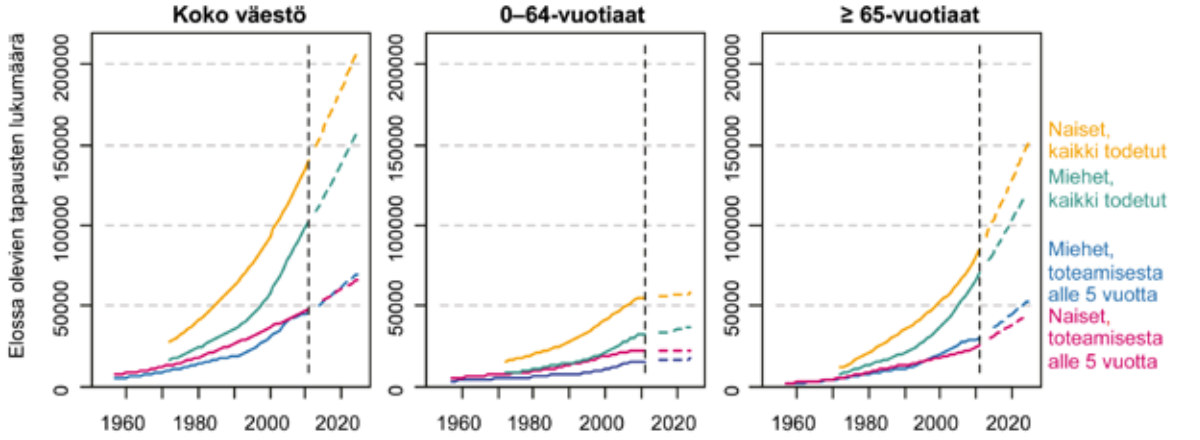


Figure 3. For Surviving cancer incidence figures from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Prostate and breast

Figure 4. prostate and breast cancer incidence and cancer mortality caused by the years 1953-2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011. Note that the vertical scale is different in each age group.

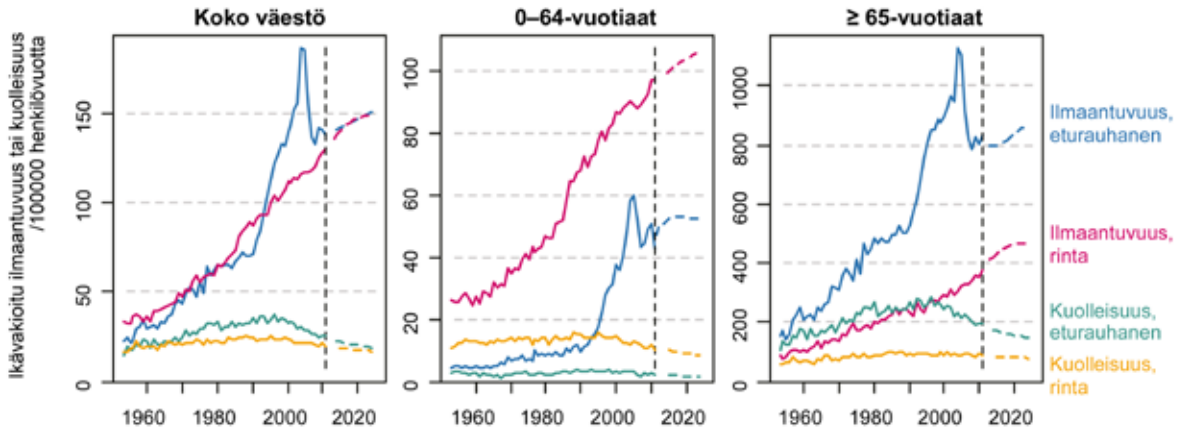
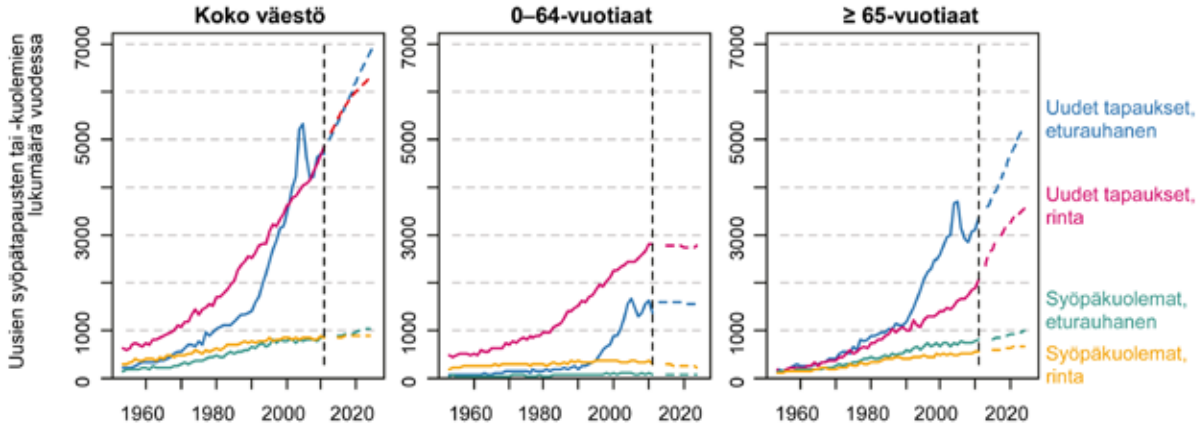
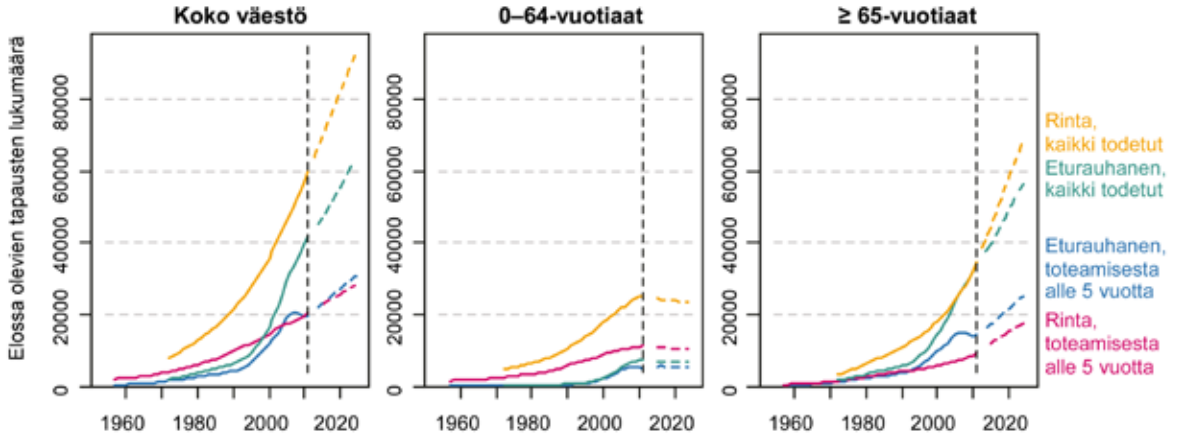


Figure 5. The new prostate and amounts cases of breast cancer and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Picture 6 of surviving prostate and breast cancer cases in quantities of 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Intestinal

Figure 7. Colorectal cancer incidence and mortality from cancer in the years 1953-2011 and the forecast of development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011.

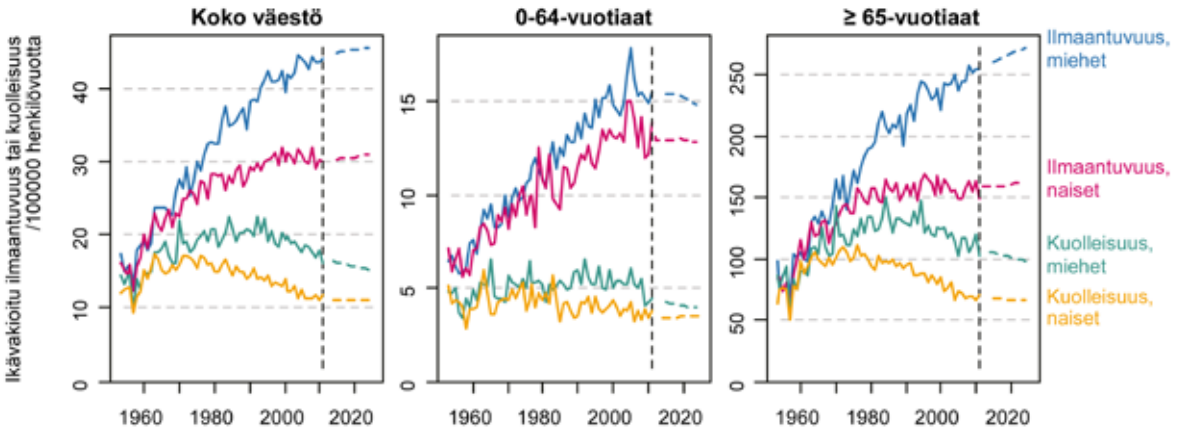
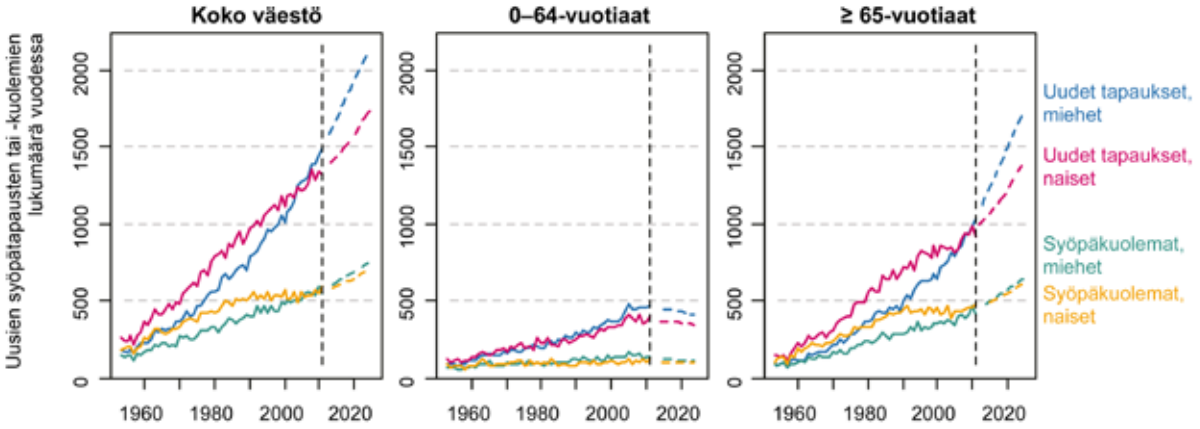
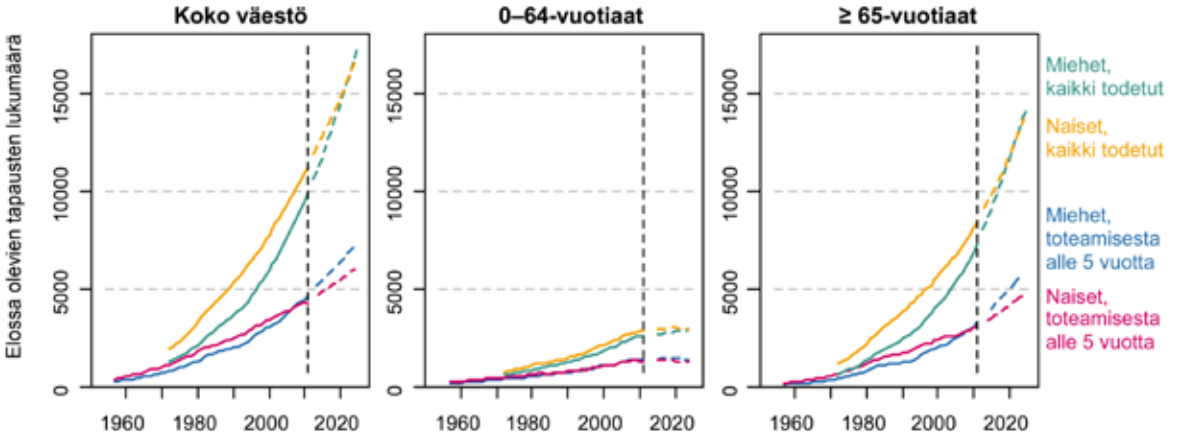


Figure 8. The amounts of the new bowel cancer cases and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Picture 9 of surviving bowel cancer cases from 1953 to 2011 and the amounts projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Lung

Figure 10. The incidence of lung cancer and mortality caused by cancer in the years 1953-2011 and the forecast of development until the year 2025 the entire population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011.

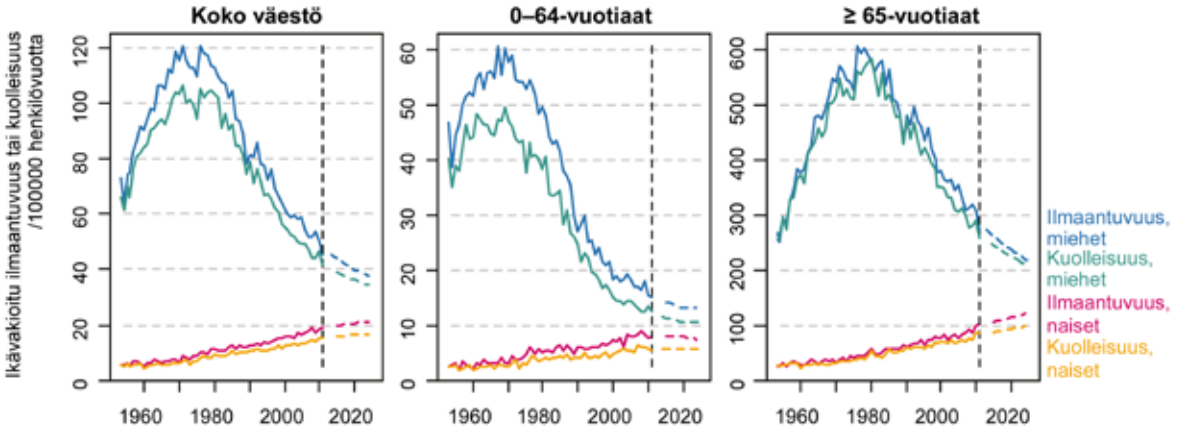


Figure 11. The amount of new lung cancer cases and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

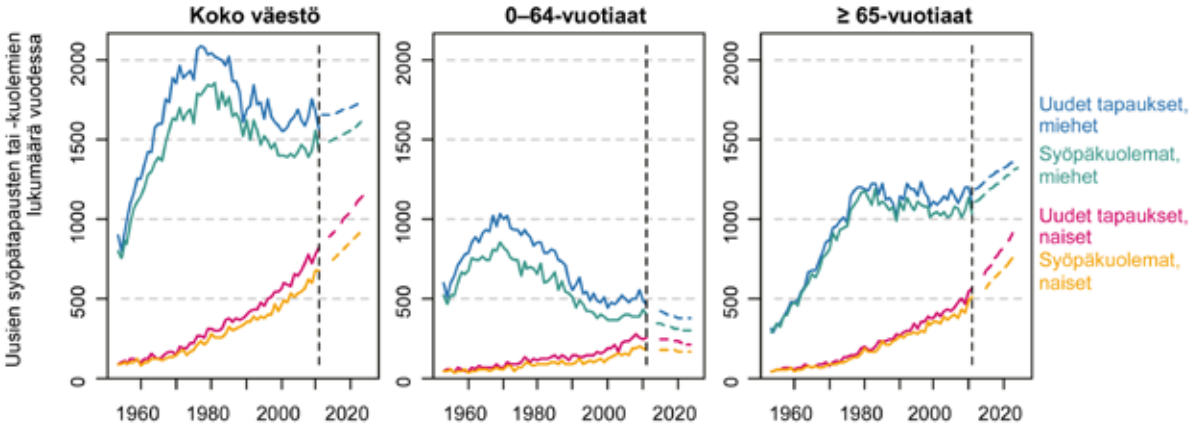
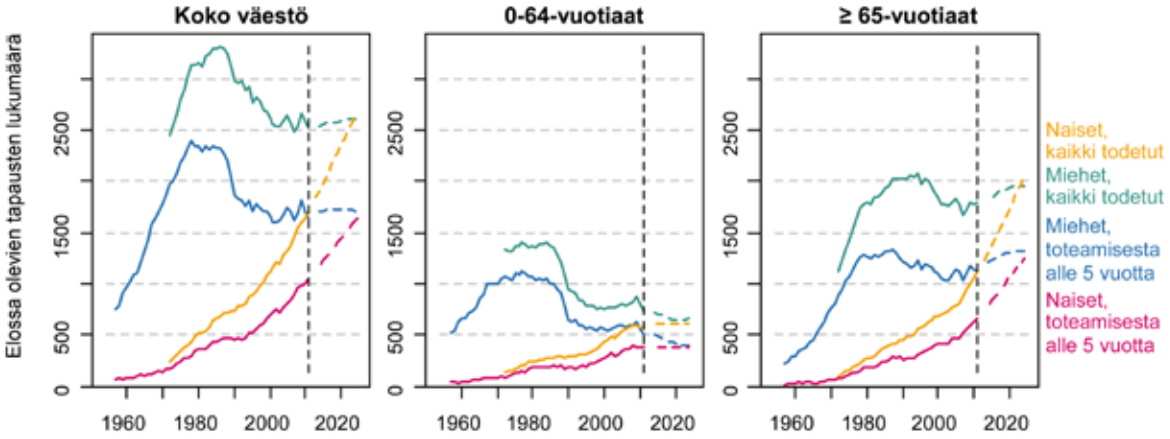


Figure 12. Those who are alive lung cancer cases from 1953 to 2011 and the amounts projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



Skin melanoma

Figure 13. cutaneous melanoma incidence and mortality from cancer in the years 1953-2011 and the forecast of development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds. Vakiointiväestönä Finland's population in 1953-2011.

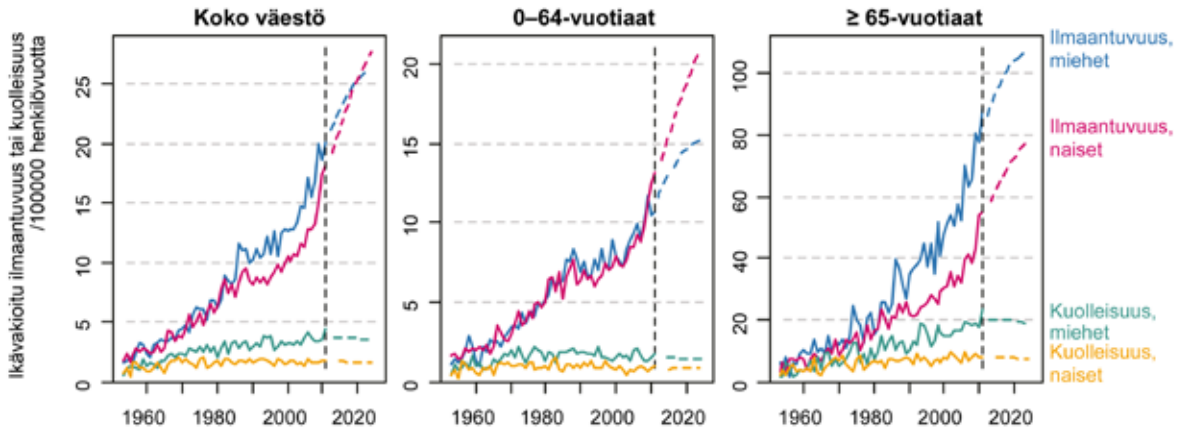


Figure 14. The amount of new ihomelanoomatapausten and deaths on the roads from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.

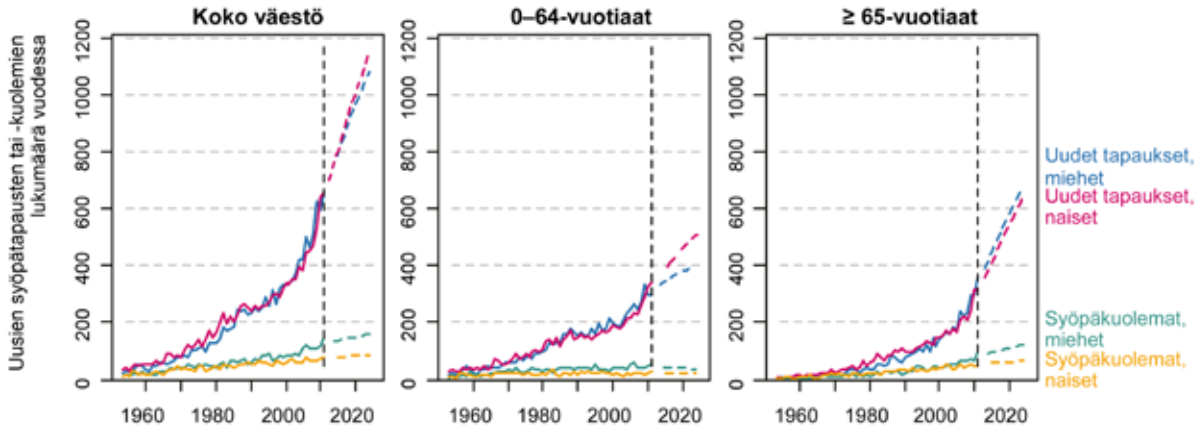
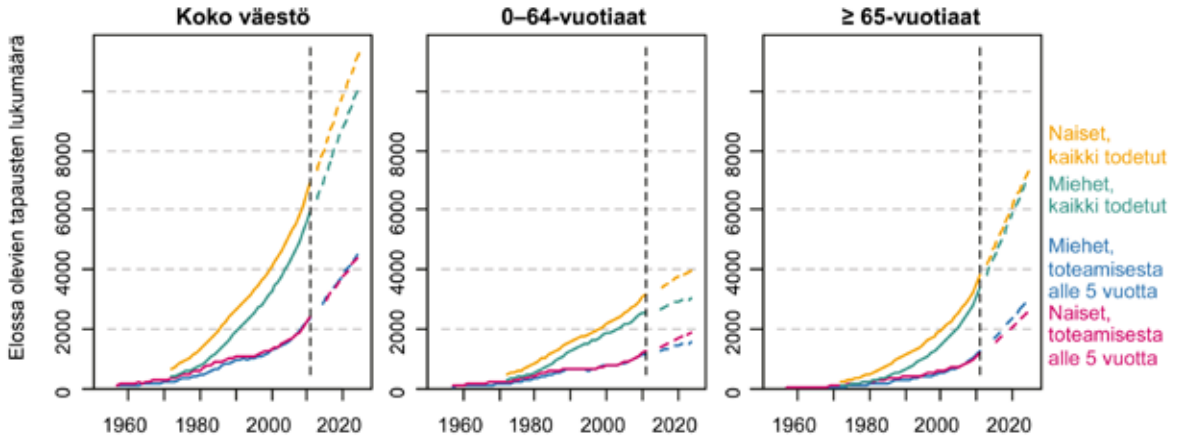


Figure 15. Those who are alive ihomelanoomatapausten volumes from 1953 to 2011 and the projected development until 2025 in the general population, both individually and 0-64- ≥ 65-year-olds.



The population of Finland

Figure 16. Finland's population in 1953-2011 and forecast until 2025.