Prophylactic program in the health care system

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1. Introduction

- Overview of Risk Factors
- Importance of Preventive Care in Health Care Systems to change risks

2. Types of Prophylactic Interventions

- Lifestyle Modification Programs
- Vaccinations and Immunization
- Screening and Early Detection

3. Benefits of Prophylactic Programs

- Reduced Healthcare Costs
- Improved Quality of Life
- Decreased Burden on Healthcare Facilities

4. Lessons Learned in **Prophylactic Programs**

5. Conclusion

- Recap of Key Points
- Call to Action

1. Introduction and Risks

The main noncommunicable diseases account for about **77%** of the disease burden and **86% of the deaths** in the Region (WHO 2021):

Cardiovascular diseases
Cancers
Chronic respiratory diseases,
Diabetes
Mental disorders (also including substance use disorder)

Most NCDs to some extent are preventable, and detected by screenings in Primary Care
Some factors can be modified and some can not, at least for now, like genetic factors

Prophylactic programs in Web Search

- Newborn PKU Screening
- PAP Smear
- Down Syndrome Screening
- Cancer Screening (Colon, Breast, Cx), occupational cancer screening
- TB Screening
- Vitamin -D Prophylaxis programs for newborn
- Iron prophylaxis program
- Vitamin A prophylaxis programs in developing countries
- HIV post-exposure prophylaxis (PEP)
- HIV prophylaxis programs
- For pre-exposure prophylaxis of COVID-19 in health care worker
- programs on Prophylaxis for iron deficiency anemia
- gastric stress ulcer prophylaxis program in hospitals
- surgical antibiotic prophylaxis program
- Tertiary prophylaxis in adults
- Targeted antenatal anti-D prophylaxis program for RhD-negative pregnant women
- Venous thromboembolism prophylactic program
- Effect on caries of different fluoride prophylactic programs in preschool children
- Rabies pre-exposure prophylaxis program

Noncommunicable diseases (NCDs)

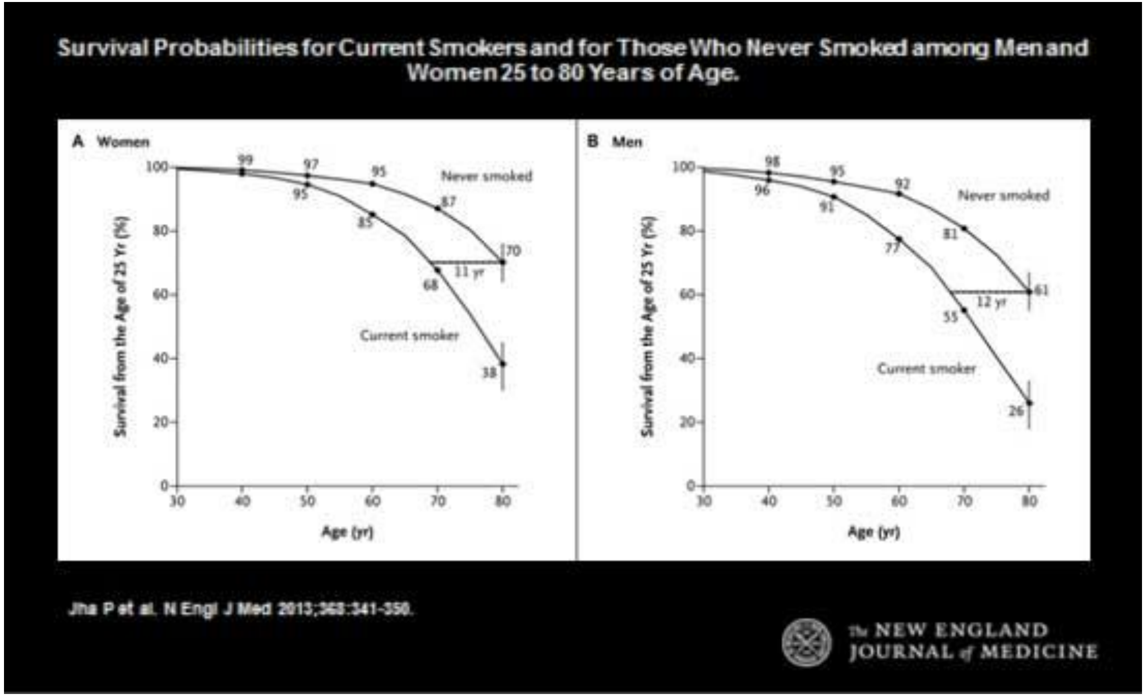
linked by Common Behavioral Risk Factors

1. Tobacco use (including e-cigarettes)
2. Alcohol use (all kind)
3. Lack of healthy eating
4. Lack of physical activity
5. In addition to those above, a physiological factor, which is the **BMI**

Exposure to all these risk factors can be changed with support from primary health care providers in such prophylactic programs

Tobacco Use

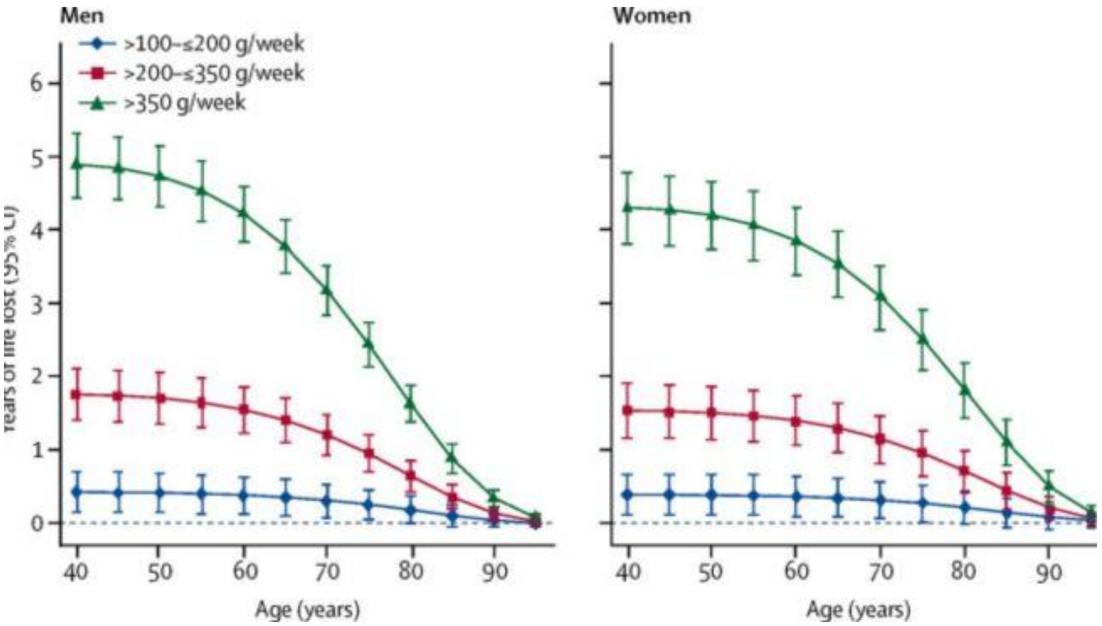
- Smokers who stop smoking in their 30s and 40s gain more than **10 (ten) years of life**, compared with those who continue to smoke !



- Tobacco is cause of 1.64 million deaths in the WHO European Region in 2019, responsible for **24.9% of all male deaths** and 9.8% of all female deaths.

Alcohol use

- Forty-year-old men and women who drink more than 350 grams of alcohol a week (about five drinks a day) **lose four to five years of life**!



- There is no safe level of exposure. The goal with alcohol use is to drink less or better to stop (WHO 2019).

Physical inactivity


Special Eurobarometer 525

Sport and physical activity

TOTAL EU27 26,580 interviews | Fieldwork: 19 April - 16 May 2022 — Methodology (EU27): Face-to-face and online

Bulgaria 1,039 interviews | Fieldwork: 19 April - 16 May 2022 — Methodology (BG): Face-to-face

Bulgaria

1. FREQUENCY OF EXERCISE OR PLAYING SPORT

QB1. How often do you exercise or play sport? (%)

EU27 Outer pie — BG Inner pie

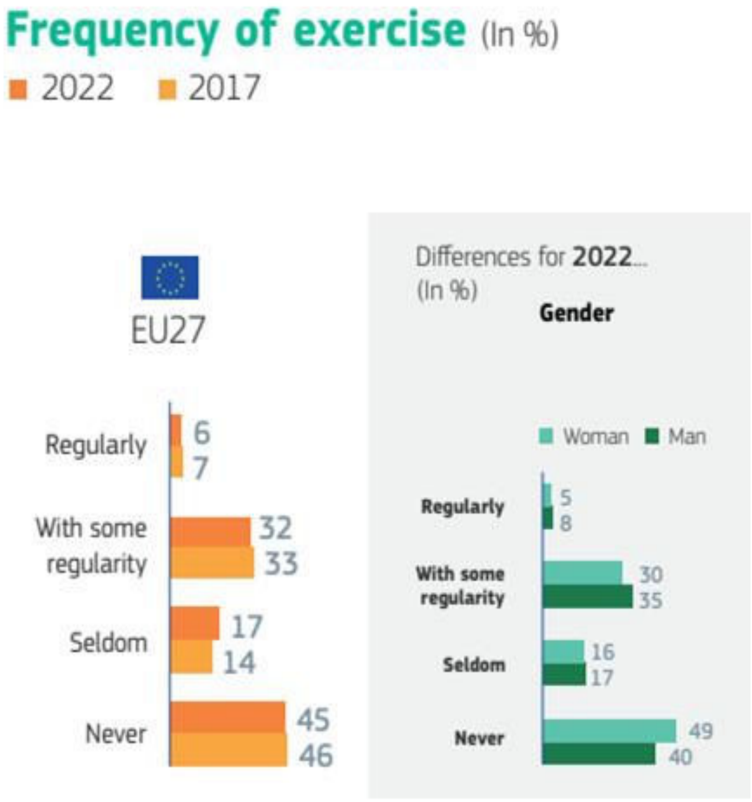
	EU27 2022	EU27 Δ 2017	BG 2022	BG Δ 2017
Regularly	6	-1	4	+2
With some regularity	32	-1	17	+3
Seldom	17	+3	18	+3
Never	45	-1	61	-7
Don't know	0	=	0	-1

Evolution: Apr/May 2022 (EB97.3) – Dec 2017 (EB88.4)

'Never or seldom'

	EU27	BG
Gender		
Male	57	76
Female	65	82
Gender and Age		
Male 15-24	27	40
Male 25-39	46	54
Male 40-54	60	83
Male 55+	73	94
Female 15-24	42	51
Female 25-39	59	67
Female 40-54	64	85
Female 55+	75	94
Socio-professional category		
Self- employed	58	71
Managers	47	68
Other white collars	57	78
Manual workers	65	84
House persons	80	83
Unemployed	68	74
Retired	74	94
Students	30	42

Socio-demographic breakdown

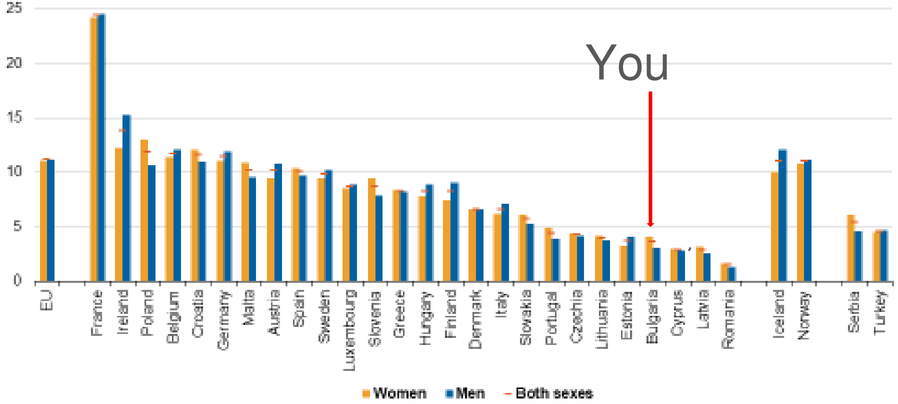


- Contributes to 1 000 000 deaths per year in the WHO Europe Region (WHO).
- 1 of the 5 has almost **no physical activity**, with higher levels of inactivity in **eastern European** countries.

Unhealthy eating

- Excessive consumption of calories, saturated fats, trans fats, sugar, salt and low consumption of vegetables, fruits, and whole grains cause **overweight in 60%** of the adult population (WHO 2021). Junk food !
- But among some vulnerable groups, undernutrition remains a concern.
- In some countries even access to bread and clean water are still problems in this century.

Share of persons aged 15 and over who consume fruit and vegetable juice at least once a day, by sex, 2019
(%)



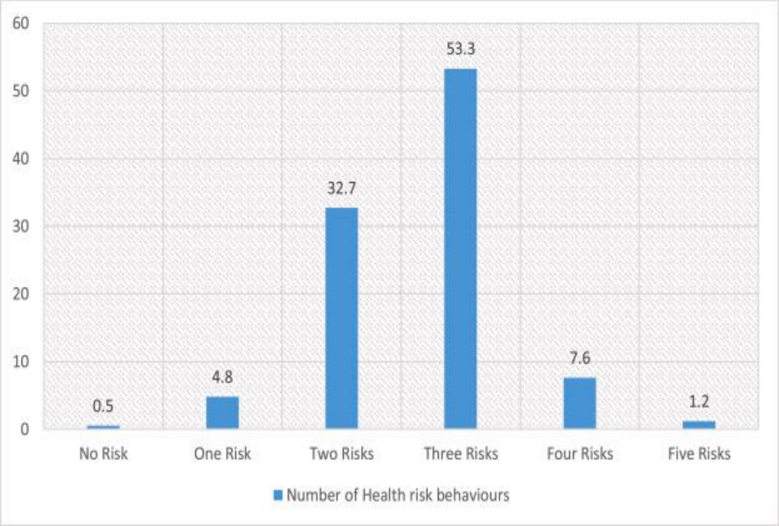
Note: ranked on the share for both sexes combined. The Netherlands: not available.
Source: Eurostat (online data code: hlth_ehis_fv5e)

eurostat

Integrated Approaches

Exposure to behavioural risk factors can cluster among the same individuals,

- May be exacerbated by socio-economic disadvantag
- With the impact of multi-exposure on negative health outcomes



Result may be tending to be multiplicative rather than additive

While the goal is to change exposure to all behavioral risk factors, this appears more feasible when done **sequentially** rather than all at once.

*An exception to this is combined approaches to healthy eating and increased physical activity when supporting people who live with overweight or obesity to lose weight.

2. Types of Prophylactic Interventions

- Screening and Early Detection

- Lifestyle Modification Programs (prevention of NCDs)

- Vaccinations and Immunizations

All are dependant on a strong Primary Care infrastructure

WHY Primary Health Care ?

1- PHC can deliver **“universal health coverage”**

2- PHC plays a vital role in **promoting health and with prophylactic measures in preventing diseases**.

3- PHC providers across a range of disciplines have a wealth of attributes to help populations and patients manage and **change exposure to behavioural risk factors** including but are not limited to:

- **Continuity:** GPs/FDs continuity in relations with patients, advantage of a long term relation
- **Intersectoral and interdisciplinary** interaction
- **Coverage:** most-All age and gender- Measuring lifetime risks and making brief prophylactic programs for behavioural risk factors
- **Resources:** Using resources on behalf of registered people
- **Evidence** for Prophylactic interventions in PHC settings in changing exposure to behavioural risk factors is extensive.

For Prophylactic Programs and Interventions Governments Need 6 building blocks of Structural Support to PC/GP

1. Health-service delivery system structures and care pathways must be in place
2. Provide "**financial incentives for primary care-based programmes**"
3. Informational support
4. Multidisciplinary teams and making every contact count
5. Health-literate individuals and organizations
6. Supportive environments ensuring that pricing policies

How to measure the success of an intervention?

1. **By its reach** (the number of people who receive the service or intervention),

2. **By its effectiveness** (the proportion of people who change their behaviour as a result of the service or intervention)

3. **By its cost** (per person to deliver)

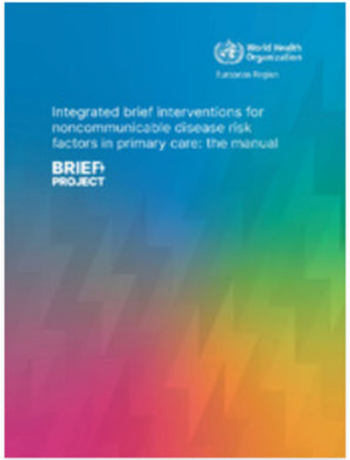
WHO, 2013

World Health Organization | Europe

https://www.who.int/europe/publications/i/item/9789289058551

Integrated brief interventions for noncommunicable disease risk factors in primary care: the manual: BRIEF project

15 November 2022 | Publication



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Overview

Brief interventions are recognized by WHO as an effective measure to help people quit tobacco, reduce or stop alcohol use and increase physical activity. They can also help to achieve and maintain healthy eating behaviours and manage weight for those living with overweight and obesity. Brief interventions can translate to significant health benefits at population level when systematically applied to a large proportion of people. The uptake of these interventions in the WHO European Region, however, remains low. This manual is an integral part of the WHO European Office for the Prevention and Control of Noncommunicable Diseases BRIEF project. The manual provides a guide to implementing brief intervention programmes in primary care settings, highlighting facilitators and barriers to implementation. It emphasizes an integrated approach to brief interventions, dealing with all four main behavioural risk factors – tobacco use, alcohol use, unhealthy eating and physical inactivity – and the physiological risk factor of increased body mass index. The manual is in three parts: Part 1 describes the background and approaches to implementing primary care-based brief intervention programmes; Part 2 consists of annexes that present flow diagrams and more detailed guidance for delivery of brief interventions by primary care providers; and Part 3 presents supplementary materials that set out behavioural and cultural insights considerations on the use of brief interventions and examples of work being done on brief interventions in the Region.

GP AND PC TEAM Training for goal-setting

Training should be given in goal setting. A common method for considering goal-setting for an individual patient's behaviour change is the SMART approach

Table 1. ***SMART goals***

"

SMART Goals	Description
Specific	What exactly do I want to achieve? Who is involved? What am I setting out to do? Where will it happen?
Measurable	How will I track progress and measure what I am doing? How will I know I am achieving my goal? Is it the right measure for what I am actually achieving?
Achievable	Is there a good chance of success or is my goal out of reach? Am I setting out to succeed or risking predictable failure?
Relevant	Is this goal worthwhile for me? Is it my own goal or someone else's?
Timely	Is my time frame clear to me? Do I have a start date and completion date in mind?

What kind of prophylactic programs are being considered?

1- face-to-face,

2- telemedicine,

3- digital-based programmes delivered directly to people.

Digital programmes seem to work best when facilitated by contact with a primary health care provider ..starting from GP/FD brief interventions as a conversation between a health care provider and a patient

Effectiveness and cost–effectiveness of prophylactic programs for “Tobacco Use”

- **A review of 67 reviews for the United States Preventive Services Task Force (USPSTF) demonstrated the effectiveness**.
    - **Behavioural support** & **pharmacotherapy**, the mainstay of interventions, for smoking cessation, with the size of the effect estimates remaining remarkably stable over the last 30 years with this **combined** method.
    - Interventions delivered **in primary health care settings** for smoking cessation are found to be **cost-saving, providing substantial health benefits at low cost** .

Effectiveness and cost–effectiveness of prophylactic programs for “Alcohol Use”

- Measurement and brief prophylactic programmes delivered in primary health care settings to reduce heavy drinking are also found to be **cost–effective**

- Meta-analyses find that measurement and brief prophylactic programmes delivered in **primary health care settings have a clinically important effect** in reducing the amount of alcohol consumed by both male and female heavy drinkers.

- Systematic reviews and meta-analyses indicate that **digital prophylactic interventions are effective** .

- The **technology-based intervention seemed more effective when associated with provider involvement** and the reported use of an implementation strategy to deliver the intervention

Effectiveness and cost–effectiveness of prophylactic programs for “Physical Inactivity”

- Brief prophylactic programmes delivered in primary health care settings to increase physical activity are also found to be **cost-effective** or **even cost-savings** .

- Reviews and meta-analyses find that physical activity advice delivered in primary health care settings is **effective in increasing the levels of physical activity**, with the likelihood of advice increasing physical activity, compared with no advice ranging between 1.22 and 1.42 (lower 95% CI limit ranging from 1.03 to 1.17; higher 95% CI limit ranging from 1.41 to 1.73).

Effectiveness and cost–effectiveness for prophylactic programs for “ Unhealthy Eating ”

- A systematic review to study cost-effectiveness of dietary prophylactic programmes delivered in primary health care settings included **36 randomised controlled trials** and systematic reviews conducted in healthy people and people with obesity, type 2 diabetes mellitus, or cardiovascular risk.

  ===> Dietary advice for people **<u>with obesity; DM or cardiovascular risk factors</u>** was found to be **cost-effective**,
  ===> There was no conclusive evidence for the cost-effectiveness of dietary advice amongst people without obesity, type 2 diabetes mellitus, or cardiovascular risk.

Effectiveness and cost–effectiveness of prophylactic programs for “ Dietary Advice ”

- For people with obesity in **primary health care** settings is found to be **cost-effective**.

- Health providers’ **very brief 30-second advice** to recommend and facilitate primary health care patients to attend an evidence-based commercial weight management service was associated with greater weight loss.
- Greater effectiveness was achieved when the **health providers’ tone, enthusiasm, and sense of personal conviction** in the message were conveyed.
- Evidence increasingly **supports the use of telemedicine approaches**

Feasibility of measuring risk factor exposure

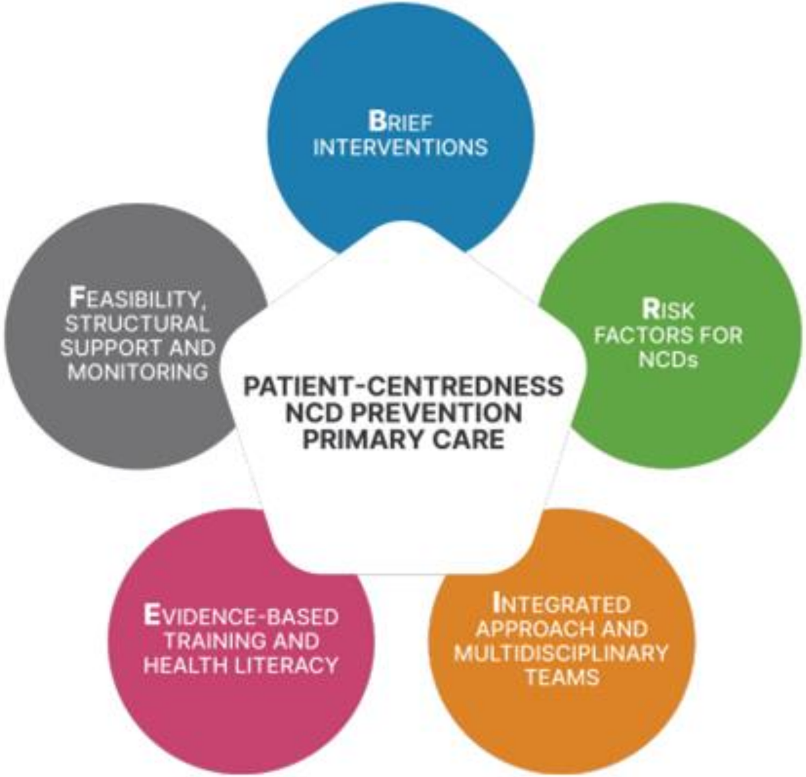
- Eligibility of measurement of programmes depends on the measurement instruments used and their acceptability to patients and healthcare providers.

- Improving the number of patients whose exposure to behavioural risk factors is measured requires addressing and overcoming :

  1. Any existing **cost and time** constraints;
  2. Lack of administrative support;
  3. Workflow incompatibility;
  4. Limited provider awareness of validated measurement instruments;
  5. Provider discomfort or lack of confidence;
  6. Lack of treatment resources for referring high-risk patients after measurement;
  7. Stigma.

  Measuring eating behaviours and levels of physical activity can take almost twice as long as measuring tobacco and alcohol use.

Lets see some examples of work being done on brief interventions in the WHO European Region

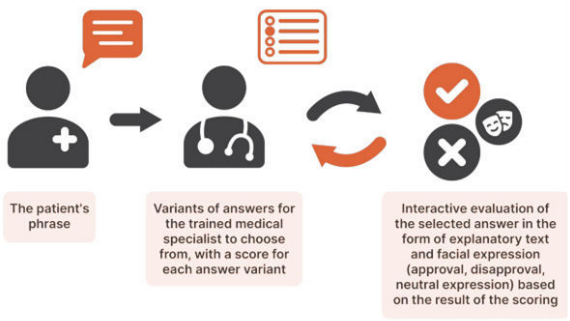


The National Medical Research Centre for Therapy and Preventive Medicine (NMRCTPM) in Russian federation

Training on brief interventions for

NCD prevention:

Fig. S2.1. Simulator thematic dialogue scenes' structure



The specialist receives +10 points for each correctly chosen answer and -5 points for an incorrect one. A neutral answer is not evaluated. In passing through the training scenes of the simulator, the medical specialist sees the cumulative score in the upper left corner of the screen. The task is considered complete if the medical specialist scores 145 points out of 160.

- **All primary care physicians in country.**

- Each primary care clinic has a special preventive department that is responsible for providing screening, brief interventions and motivational counselling. Specific dimensions of training on brief interventions include:
  - online education for all medical staff of preventive departments in primary care clinics; and
  - online simulators for communicating with patients in brief interventions.

SumaSalut: integrating health promotion in primary care in Spain

Integrates health promotion on **smoking, alcohol consumption and physical inactivity** in PC.

● the training platform, dissemination, calendar and training-of-trainers maintenance strategy were unified; ● management circuits were united;

● a technical commission was formed, comprising representatives from public health at central and regional levels, family doctors' and nurses' associations and two champions from each programme (a general practitioner and nurse)

● individual programme champions were transitioned to a health-promotion commission of 2–3 professionals who coordinate health promotion and community health tasks in each primary care centre.

Making Every Contact Count (MECC) in the UK (England)

MECC is an approach to behaviour change that uses the millions of day-to-day interactions

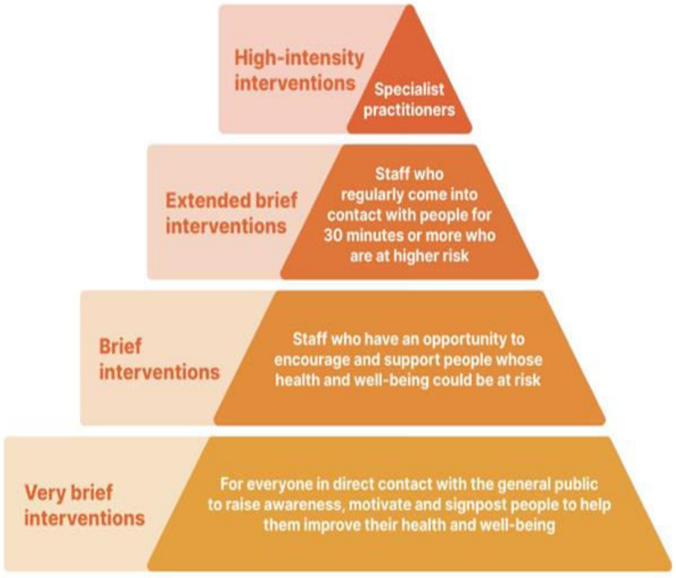
Community and local health economy benefits of MECC include:

● improving access to health advice to reduce risk factors within local populations;

● realizing cost savings for organizations and the local health economy; and

● providing a lever to support communities to collaborate.

Fig. S2.2. MECC approach



Source: Health Education England et al. *(14)*. Contains public sector information licenced under the Open Government Licence v3.0.

Best buy intervention

Action	"Best buy" intervention
Tobacco control	• Increase excise taxes and prices on tobacco products • Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages • Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship • Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport • Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second hand smoke
Prevent harmful use of alcohol	• Increase excise taxes on alcoholic beverages • Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media) • Enact and enforce restrictions on the physical availability of retailed alcohol (via reduced hours of sale)
Improve and increase physical activity, improve diet quality and reduce overconsumption leading to obesity	• Reduce salt intake • Implement community-wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community-based education, motivational and environmental programmes, aimed at supporting behavioural change of physical activity levels
Cancer prevention	• Vaccination against HPV to prevent cervical cancer • Prevention of cervical cancer by screening women aged 30-49 years through visual inspection with acetic acid, Pap smears with cervical cytology or HPV test linked with timely treatment of pre-cancerous lesions (screening)

Cancer prevention: the best way to avoid a nightmare!

Table 3.1. WHO "best buys" for reducing the prevalence of risk factors for NCDs, including cancers

Best Practice Sample- Portugal using law !

Use of law to advance cancer screening: The case of Portugal

ECI

Area of cancer control	Examples
Tobacco use, harmful use of alcohol and unhealthy diet	• Ban or restrict advertising, promotion and/or sponsorship of products or companies • Regulate products, including health warnings and product content • Ban smoking in workplaces and public places, restrict when and where tobacco is sold • Impose excise taxes and enact regulations to increase product price.
Occupational and environmental cancers	• Occupational health and safety laws limiting exposure to carcinogens • Environmental laws, including regulation of chemicals
Screening, diagnosis and/or treatment	• Regulate the safety, quality and efficacy of cancer services • Regulate, qualify and educate health practitioners including educational curriculum • Protect patient privacy and confidentiality • Regulate health insurance
Life after a cancer diagnosis	• Promote well-being and avoid any negative consequences of having had cancer, including protection against discrimination or stigmatization • Protect employment, including access to insurance and other financing mechanisms
Cancer registries and other means of collecting and storing health information	• Establish appropriate legal structures for cancer registries and other information systems, including notification of individual cases

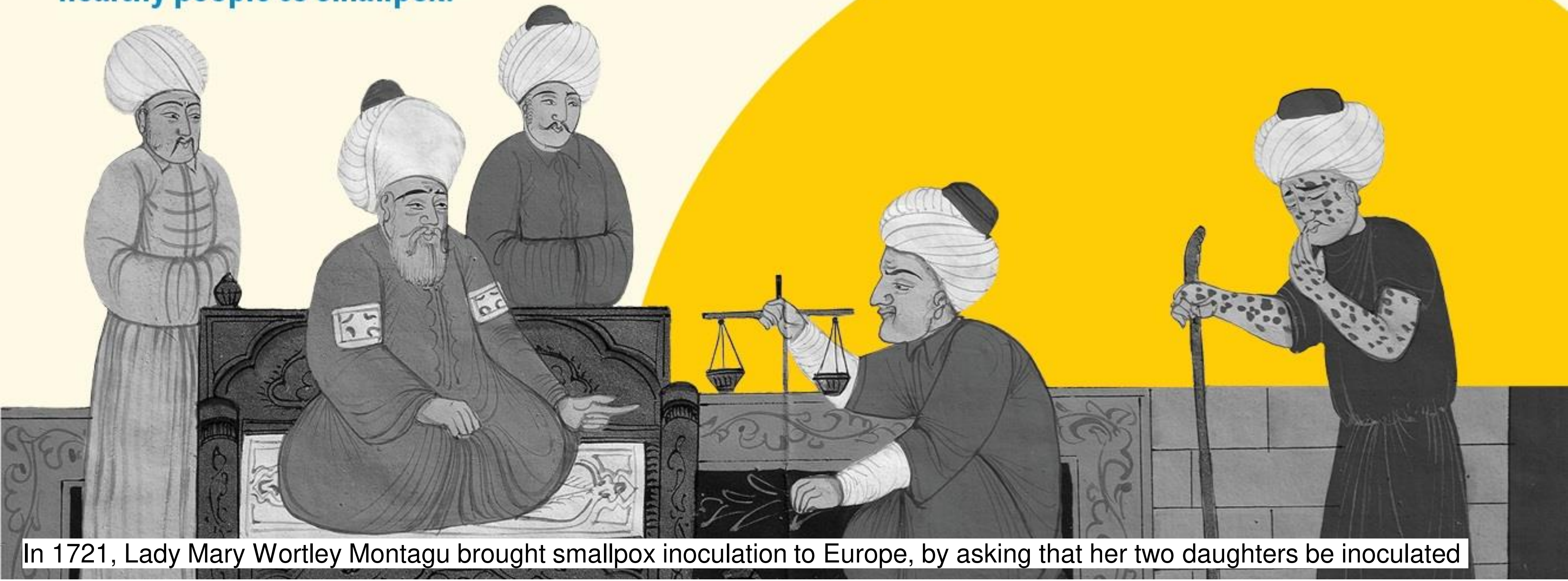
Table 2.1. Examples of use of law to advance cancer control

Australia -3 screening programs on cancer mortality

- Most cervical cancers diagnosed in women aged 20–69 between 2002 and 2012 **(more than 70%) occurred in women who had never screened** or who were lapsed screeners (AIHW 2018).
- Breast and Colon Ca Screenings succeeded

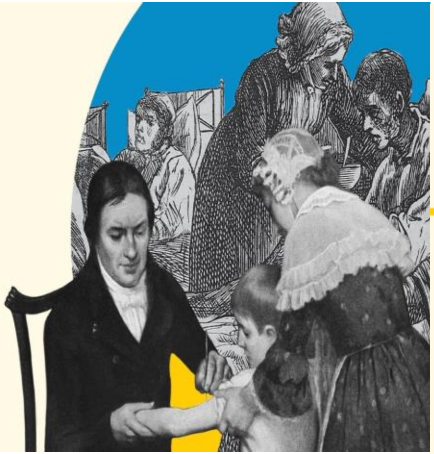
Australia Cancer Statistics- Age-standardised mortality rates for cervical cancer, 1982 to 2020, Screening and HPV Vaccination Effect

From at least the 15th century, people in different parts of the world attempt to prevent illness by intentionally exposing healthy people to smallpox.



In 1721, Lady Mary Wortley Montagu brought smallpox inoculation to Europe, by asking that her two daughters be inoculated against smallpox as she had observed practice in Turkey

1796



Dr Edward Jenner created the world's first successful vaccine. He found out that people infected with cowpox were immune to smallpox.

1885

Louis Pasteur successfully prevents rabies through post-exposure vaccination.

1918–19

The "Spanish Flu" pandemic kills 1 in 67 United States soldiers, making an influenza vaccine a US military priority.

Read more about the HISTORY OF THE INFLUENZA VACCINE →

1988

WHO launches the Global Polio Eradication Initiative.

Read more about the HISTORY OF THE POLIO VACCINE →

2016

The success of the Meningitis Vaccine Project highlights the key role public-private partnerships can play in helping to develop vaccines.

2019

WHO prequalifies an Ebola vaccine for use in countries at high risk.

Read more about the HISTORY OF THE EBOLA VACCINE →

2021

WHO calls on Member States to prioritize vaccination against COVID-19 of health workers and at-risk groups in all countries.

Take Home Messages

- Delivering prophylactic interventions to help patients reduce their exposure to risk factors for noncommunicable diseases can make a lasting influence in improving a patients' health and well-being.

- Patients welcome such prophylactic interventions, which can be delivered for single risk factors or in combination through an integrated approach.

- **The key ingredient to measurement and advice is a patient-centred conversation with a primary health care provider**.

Благодаря ти

Blagodarya ti