

# Cancer prevention in Scotland



Professor Annie S. Anderson  
Centre for Public Health Nutrition Research  
Centre for Research into Cancer Prevention and Screening  
Ninewells Medical School,  
University of Dundee  
email: [a.s.anderson@dundee.ac.uk](mailto:a.s.anderson@dundee.ac.uk)

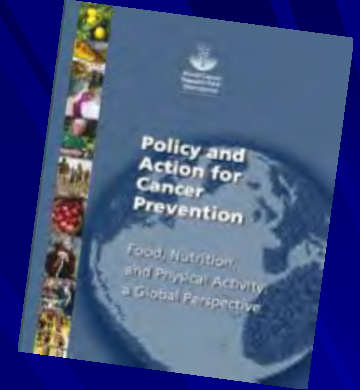


# Cancer prevention estimates (Food, Nutrition, physical activity) (WCRF, 2009)

Cancer Site	Preventability estimates (PAF%)	Exposure
Breast	42%	Alcohol, phys act, Fatness
Colo-rectum	43%	Foods containing fibre Red + proc meat Alcohol Phys act Fatness



# WCRF 2011



Cancer is a largely preventable disease.

The prevention of cancer is a crucial public health priority and is as important as **early diagnosis, screening and treatment.**

Awareness of the links between food, nutrition, physical activity and body fatness and cancer should be considered as important as the link between **smoking and cancer.**

# Tobacco control measures

## Legislation and policy

e.g. taxes, bans on smoking in public,  
regulation on labels

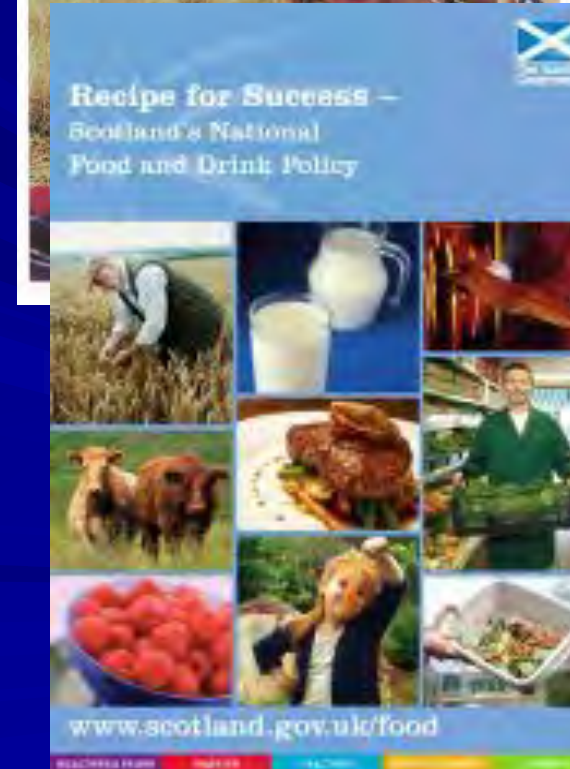
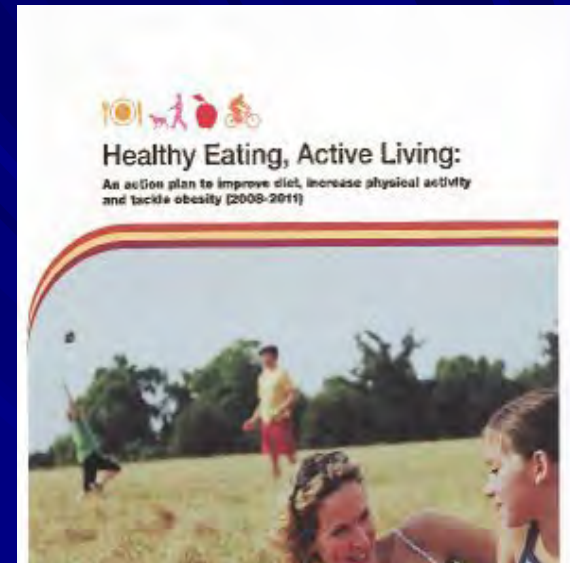
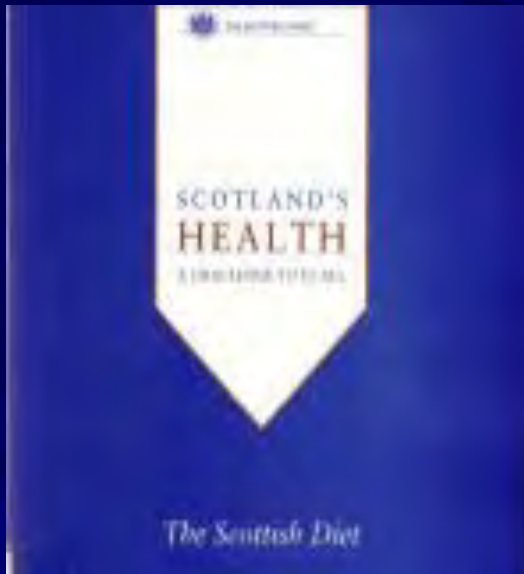
## Public awareness

e.g. advocacy, information, litigation

## Programmes

e.g. cessation, prevention

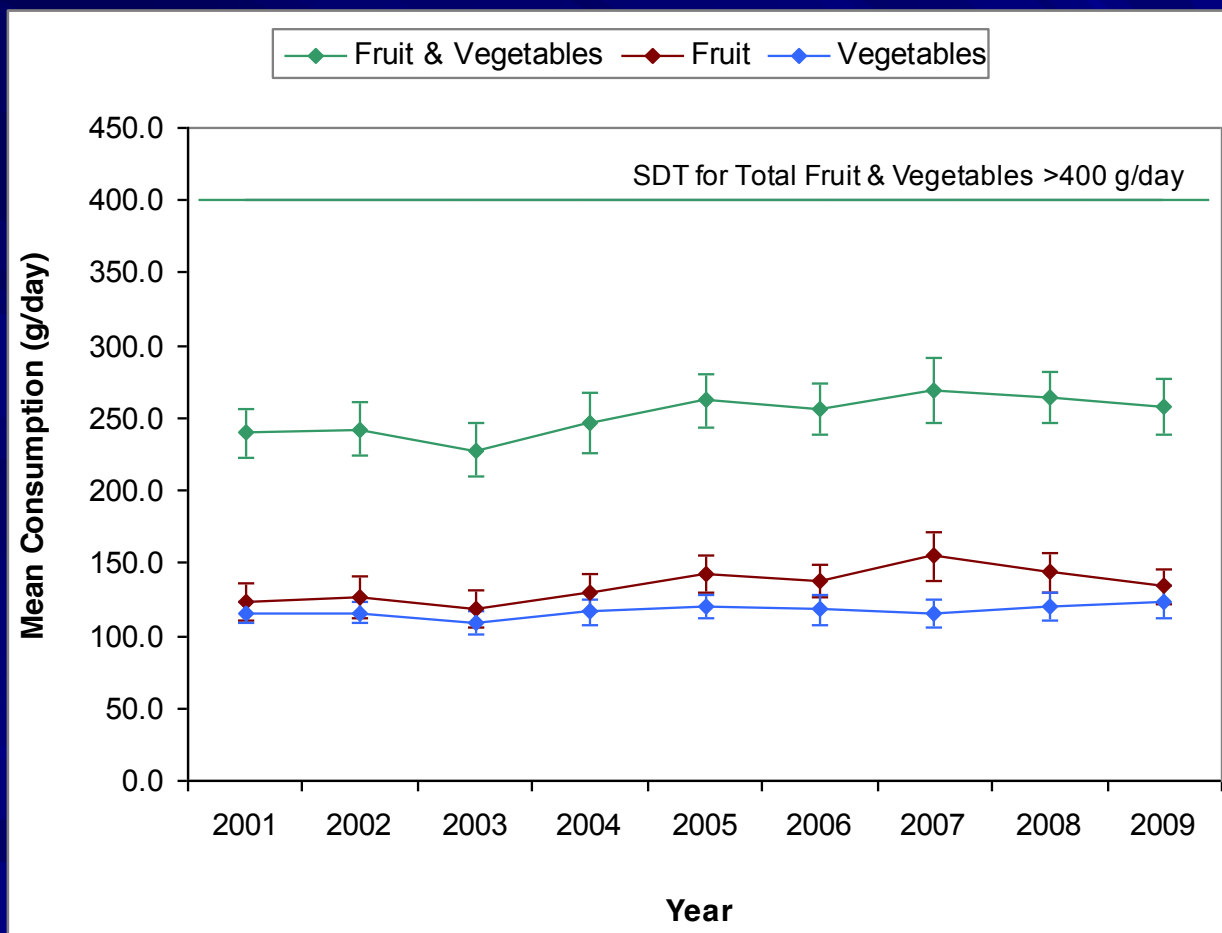




# The challenge.....

- 75% of adults have yet to meet five a day of fruit and vegetables
- >60% of adults do not yet reach 30 minutes of moderate activity most days of the week
- 57% of men and 37% of women report consuming more than 7 units of alcohol weekly

# Fruit and Vegetable Intake



P=0.009

# Preventing Overweight and Obesity in Scotland

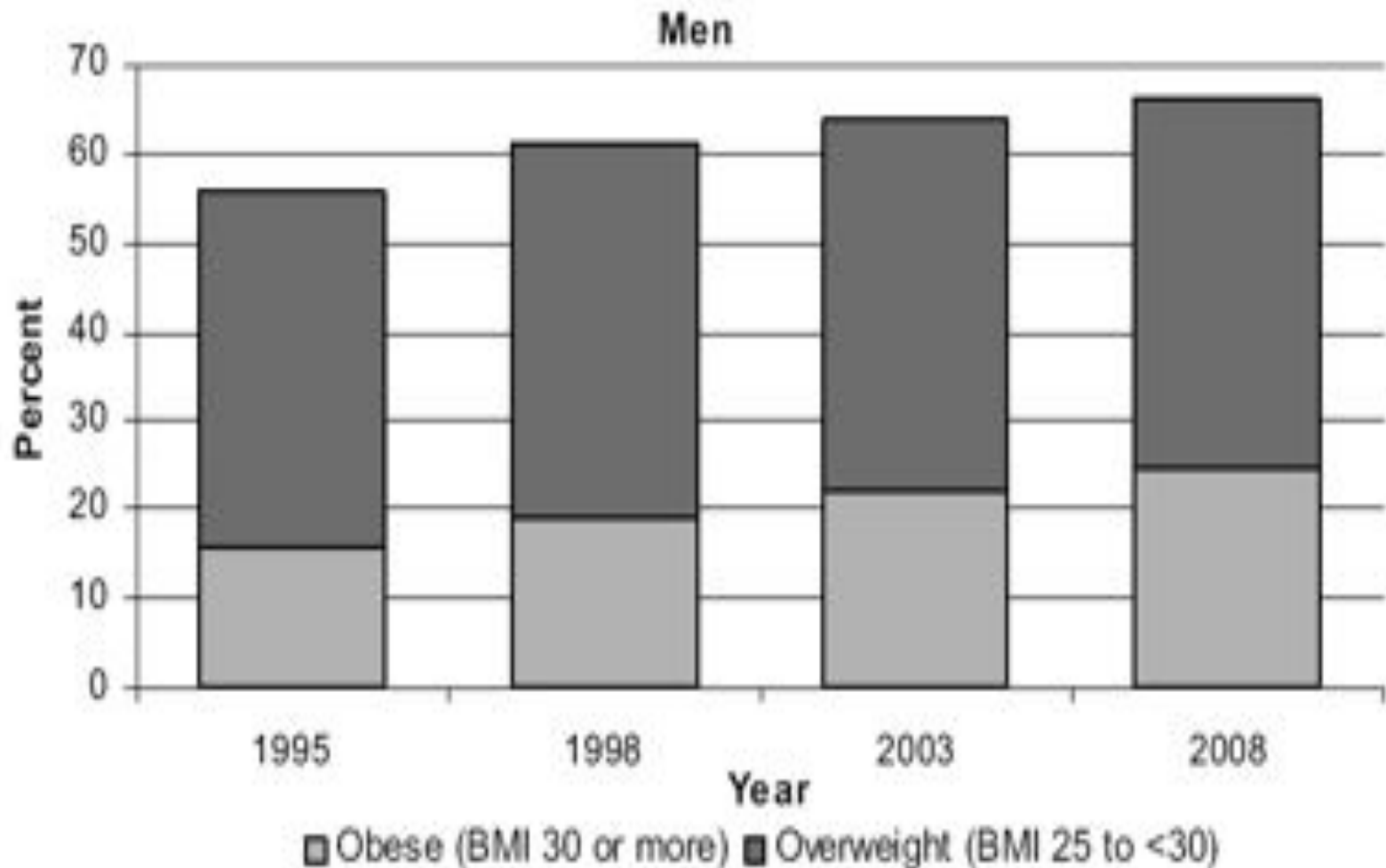
A Route Map  
Towards Healthy Weight





# Prevalence of overweight and obesity in Scotland (SHS 2008) Men

(SHS, 2010) 66.1% overweight/obese

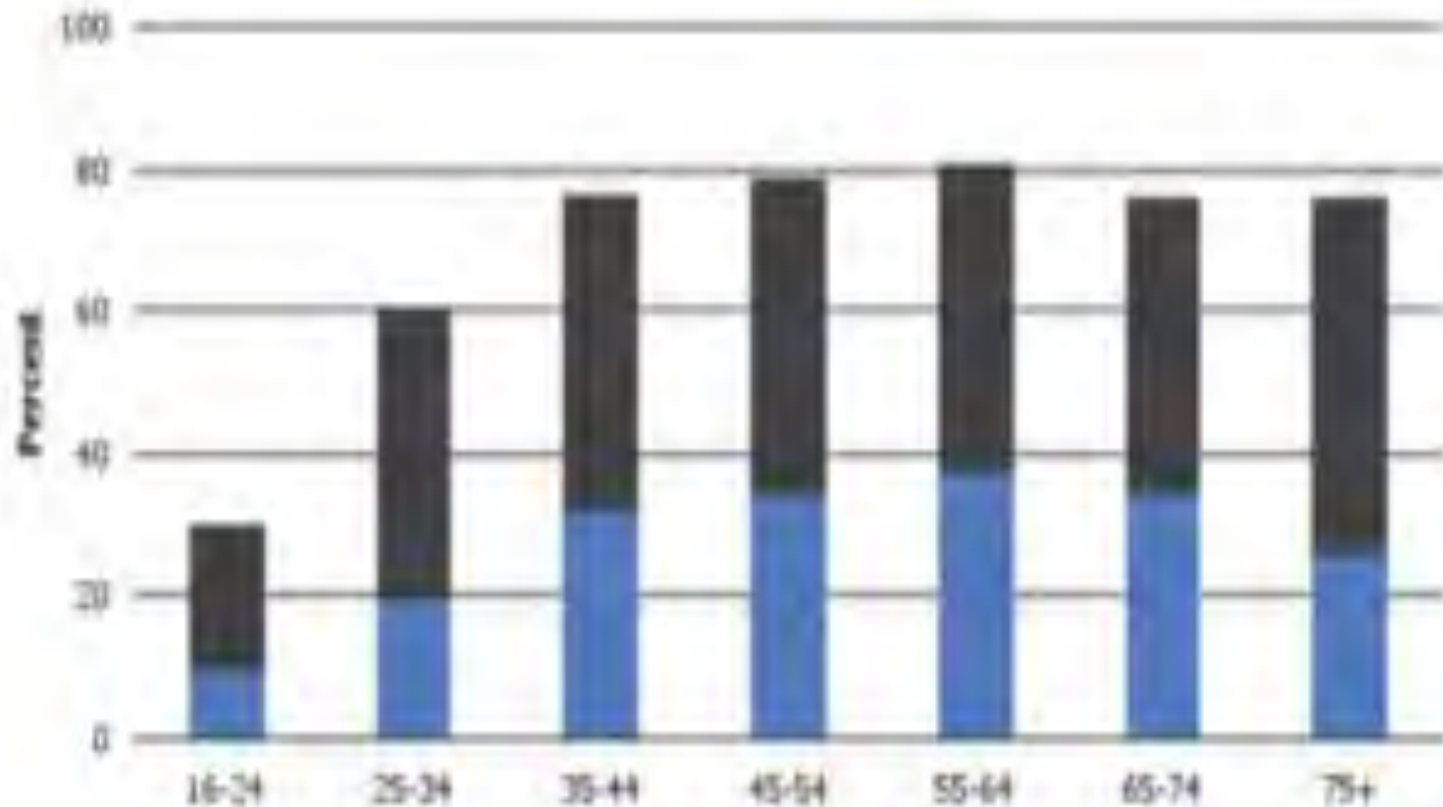


# Prevalence of overweight and obesity in Scotland (SHS 2008) Men

Figure 7B

Prevalence of overweight and obese, by age (Men), 2010

■ Obese (BMI 30 or more)  
■ Overweight (BMI 25 to <30)



# Obesity and cancer risk

Cancer site	Relative risk	Preventable fraction		Possible mechanism
		US	UK	
Endometrium	3.40	49	38	Hyperoestrogenemia from aromatase
Oesophageal (Adenocarcinoma)	1.92	35	31	Tissue damage from acid reflux
Pancreas	1.72	28	24	Inflammation, other growth factors
Kidney	1.70	24	19	Inflammation, other growth factors
Gall Bladder	1.66	21	16	Tissue damage from gall stones
Breast (Post Menopausal)	1.26	17	16	Hyperoestrogenemia from aromatase
Colorectum	1.22	9	7	Inflammation, other growth factors

## Select committee report Obesity (2004)

<http://www.parliament.the-stationery-office.co.uk/pa/cm200304/cmselect/cmhealth/23/23.pdf>

- 14% cancer deaths in men and 20% cancer deaths in women are attributed to obesity
- Obesity is far and away the most important avoidable cause of cancer in non-smokers
- Will eventually become the main modifiable risk factor

# Enhancing policy efforts Policy to Practice Translation!

## ■ Leadership in cancer prevention in Scotland?



Scottish?  
Prevention?

Major world  
research lead



Have people acknowledged that the unnecessary premature deaths that occur are largely preventable?

- “more than a quarter of adults in the UK think getting cancer is all down to fate, in people from deprived areas the figure rose to 43%”

CRUK Survey, 2007

- “ half of more than 300 breast and bowel cancer patients questioned said stress or worry played a role in their disease, while 40% said bad luck was influential”

Gainsford, 2008

# BeWEL

To investigate the impact of a **BodyWEight and Physical activity intervention (BeWEL)** in healthy overweight individuals who have had colorectal adenomas (benign) removed on **Body weight change**



Funded by National Prevention Research Initiative (MRC)



# BeWEL

Preparatory findings from four focus groups to fine tune details of intervention content and delivery

Stead M, Caswell S, Craigie AM, Eadie D, Anderson AS and the BEWEL team Understanding the potential and challenges of adenoma treatment as a prevention opportunity: insights from the BeWEL study. *Preventative Medicine (in press)* [doi:10.1016/j.ypmed.2011.10.017](https://doi.org/10.1016/j.ypmed.2011.10.017).

# Teachable Moment ?

Events or circumstances which can lead to individuals making lifestyle change.....

- +ve FOBt a time of raised anxiety?
- Adenoma – pre-cursor to cancer

# Lifestyle as a cause of polyps

**Moderator** So if someone said you've had your polyps removed. Now let's look at your diet and your physical activity. How would you react to that?

**Participant** *If they said now that is caused by diet. Let's look at your diet. Fine I would go along with that. But nobody at any time has said that was caused by your diet.*



# The All Clear Message

Reading from letter of invitation “... ..*this means that you do not have bowel cancer and the fact that this has now been removed make it unlikely that you will develop this disease*”.

*Participant To me that tells me I'm all clear.*

*.....So why do I need to change my diet? My diet is alright. There is a mismatch somewhere. If my diet had caused this I would go along with that and I would change it.....*

# Promoting weight change

**Participant** *“You say I think you could shed seven pounds and give a diet sheet to work on “*

**Moderator** **Are you saying that would be a good idea?**

**Participant** *I think it would be an excellent idea because you tend to look at yourself and you think I'm putting on a bit of weight, but do you do anything about it? You don't. But if someone tells you, let's see if we can get this weight down.....*

# Challenges

- An unrecognised....

## **Window of Opportunity**

To promote a culture of prevention people must be made aware of the cancer / lifestyle relationship

Without patient education we might just be providing a health certificate effect

# Negative screening tests

Larsen et al (2007)

“health certificate effect” .. Screening associated with fewer changes (in weight, smoking, diet) than non screened at 3 year follow up

Compare with cardiovascular disease risk

# Opportunities for enhancing cancer prevention activities



# Action for lifestyle change and cancer prevention



# Enhancing Policy efforts

- Support for tobacco control
- Gaining support for meaningful policy implementation on obesity, diet and physical activity

# Why use a badge/brand of cancer prevention?

- Opportunities to engage with people who become interested in **cancer** prevention (e.g. relatives /teachable moments/screening)
- Engage with Cancer Care health professionals who want to know **how to** and **what to do** re **cancer prevention**
  - Advocacy by health professionals
  - Combining Prevention and Screening
  - Interventions after successful treatment



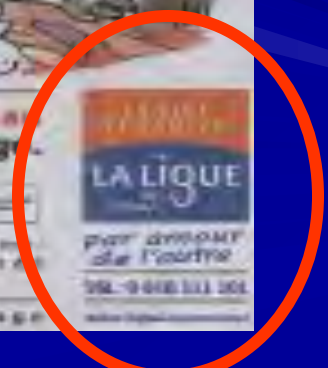


Pendant la Semaine nationale de lutte contre le cancer, du 17 au 23 mars 2008, encouragez vos proches à effectuer un dépistage. Pour en savoir plus parlez-en à votre Comité départemental ou à votre médecin.

### Cancer du côlon-rectum.

Le dépistage organisé du cancer du côlon-rectum concerne tous les Français et Français de l'étranger de 50 à 74 ans. Il consiste en la réalisation d'un examen de sang et en l'envoi d'une fibroscopie en proctosigmoïdoscopie. Pour plus de précisions, adressez-vous à votre Comité départemental de dépistage organisé.

Information - Aide aux malades - Informations - Prévention - Dépistage



# Cancer Council Australia



FIGURE 2: THE TATTOO CAMPAIGN





# Why use a badge/brand of cancer prevention?

- The message that **cancer** can be prevented/delayed needs emphasis.
- The message that cancer risk can be lost in the generality of “disease prevention” messages
- Scottish loyalty

# Scottish Cancer Prevention



## Network



- Information, misinformation, awareness (not stand alone, an issue for health inequalities)
- Advocacy- getting a message over (an independent voice)
- Working on health inequalities agenda in cancer prevention (people recognize the importance but need guidance in the how )
- Survivorship.....(secondary prevention)

# Executive Members

## Executive group

- Annie Anderson (Uni. of Dundee)
- Christine Campbell (Scottish School of Primary Care)
- Eddie Coyle (Scottish Directors of Public Health),
- Vickie Crichton/Audrey Birt (Scottish Cancer Coalition),
- Bob Steele (Cancer clinicians).
- Paul Ballard (NHS Tayside, Dept of Public Health)
- Gayle Culross (Media and communications)
- Fergus Millan (Scottish government)
- Laurence Gruer (NHS Health Scotland)

# Scottish Cancer Prevention Network

## NHS staff

- Specialist cancer nurses
- Dermatologists
- Surgeons
- General Practitioners
- Public Health Physicians
- Health Promotion specialists
- NHS Health Scotland
- NHS National services Division

## Members of Cross Party groups

- Cancer
- Obesity

## Academics Staff

- University of Aberdeen
- University of Dundee
- University of Edinburgh
- University of Stirling
- Scottish School of Primary Care

## NGO /cancer agencies

- Bowel Cancer UK
- Breakthrough Breast Cancer
- Cancer Research UK
- CLAN
- Maggies cancer caring Centres
- McMillan Cancer Support
- SCAN
- Scottish Breast cancer campaign
- Scottish Cancer Foundation
- Teenage Cancer Trust
- World Cancer Research Fund

- Scottish Government
- Food Standards Agency

# SCPN website



3rd October to Nov 13<sup>th</sup>

3000 hits (average 73.5 per day)

USA

UK

Netherlands

Germany

Russia

China

<http://www.cancerpreventionscotland.co.uk/>



Editorial

The network works! Thanks to everyone who has provided feedback on emails regarding lobbying on trial for light labelling, attending the Scottish Cancer Foundation supported lecture by Valeria Betal of the Royal Society and providing articles for this newsletter (with little persuasion needed). There are new requests to join the network every month and clearly there is considerable interest in cancer risk reduction activities. The Scottish Against Cancer Conference included a lively discussion on lifestyle change and this is clearly a topic of passion for many Scots whether patients, members of medical charities, health professionals or academics.

To date, we have written little about prevention of skin cancer and it would be timely to have at least some mention of this now that we are in high summer. Our summer temperatures may not reach heat wave levels but our UV exposure can still be excessive. It may seem like a message that's been around for a while but in June the Scottish government brought its issue to the fore by reporting that the number of deaths from the skin cancer malignant melanoma has increased by more than one third in a decade. The NHS are reported to have said that it is relatively rare, accounting for 10% of skin cancer cases, but it also causes the most deaths and it can kill young adults.

Scotland has led the way in reductions in industry to protect from UV rays, but there to be done to raise awareness. Exam practice about it but can we share practice initiatives. The UV Alert is as Australia as a pro you should take 'a' tion. It is based on the lar UV Index, a t adopted from the Organisation. The s des value, the great tal for damage to yo levels above 1 actor mental. For many it would be sunscreen screen will provide tion from UV rays, fooled into a 'noan' assuming that a h factor will give teen scoots mode. Hat and shade... in fact look has a lot to say

Read Cancer Base vice on prevention o for more details... reading lives provide new action plan which is rolling this go out of sale!

<http://www.scotcanceraction.co.uk>

We need contributions for the newsletter - send by email to [research@action.co.uk](mailto:research@action.co.uk)

The Website is up and running [www.cancerpreventionscotland.co.uk](http://www.cancerpreventionscotland.co.uk)

Please circulate this newsletter widely and we are happy to names to the circulation list.



Produced 4 times per year  
Next issue number 7  
NEWSFLASHES

Editors

Annie S. Anderson  
Bob Steele

Regular contributors

Vickie Crichton (CRUK)  
Sheila Duffy (ASH)  
Dionne Mackison (Nutrition)  
Graham Ogden  
Anna Campbell

Other contributors

SHAAP  
John Speakman  
David Brewster  
WCRF contributions  
Paul Ballard  
Jenny Gillespie  
Laura Stewart  
Colin McCowan

Supported by The Scottish Cancer Foundation  
<http://www.cancerpreventionscotland.co.uk/>



# Circulation

- Started with 80 names in 2009
- Cascaded through at least 20 agencies/organisations
- Reach > 550 -600 Recent addition of patients interested in lifestyle and recurrence
- Additional access through website

# Other communications

Scottish Cancer Prevention Network



At healthier diet can reduce the risk of cancer developing

## Identify savi

Professor Annie S Auld  
professionals can help to practice and new scientif

**A**fter several decades of research, we now have a much clearer view of the lifestyle-related causes of many cancers, and convincing evidence on how to reduce cancer risk.

The World Cancer Research Fund (WCRF) published the most extensive review of all types of food, nutrition and physical activity in 2007 and found good evidence that 20-30% of cancer cases are preventable by changes in diet and physical activity.

For example, it is estimated that 45 per cent of colorectal cancer in the UK can be accounted for by low levels of physical activity, consumption of processed meat, low intakes of food high in dietary fibre (fruits, vegetables and wholegrains), high intakes of red meat, high alcohol levels and high levels of body fat. It also links the diet-related changes identified by long-term cohort studies, have brought to the table.

However, it seems that much information still fails to reach the general population (and many

enhancing existing NHS public health efforts and action around tobacco control. Over 100 people have signed up to the network including health professionals (GPs, public health physicians, nurses, NHS Health Scotland), Scottish Government departments, MSPs, academics and cancer agencies including CRUK, Bowel Cancer UK, Breastthrough Breast Cancer and others).

The network is supported by The Scottish Cancer Foundation, a small Scottish cancer charity which aims to facilitate cancer research activities. Funding for communications has also been received from the healthy living and screening team in the Health Improvement Strategy Division in the Scottish Government.

**The aims of the network are:**

1. To raise awareness of the links between diet, physical activity, obesity and UV exposure and the development of cancer in relation to primary prevention (and in cancer survivors)
2. To create support for public health action from all sectors of the community so that preventive activities are embraced in every aspect of cancer control planning
3. To support research and dissemination activities related to lifestyle and cancer risk reduction
4. To undertake advocacy work

**References:**  
[Lifestyle Cancer Research Fund \(2007\)](#)  
[Food, Nutrition, Physical Activity and Cancer – a global perspective](#)  
[World Cancer Research Fund \(2007\)](#)  
[Policy and Action for Cancer Prevention](#)  
[Health Improvement Strategy Division](#)  
[Scottish Government](#)  
[Screening and Early Diagnosis](#)  
[Healthy Living](#)  
[Health Improvement Strategy Division](#)  
[Scottish Cancer Foundation](#)  
[Bowel Cancer UK](#)  
[Breastthrough Breast Cancer](#)

aimed at increasing action by the private, public and voluntary sectors to reduce cancer-related behaviours while fully embracing issues around health inequalities.

Within the network, action is grouped into three main themes, namely:

- Awareness raising (information and misinformation)
- Advocacy for action on prevention
- Work on health inequalities in cancer prevention (evidencing perspectives)

Communication is a key part of the work undertaken and this includes dealing with misinformation as well as information. It is clear that the confusion that arises from all sorts of sound and wonderful sources does little to support action for change. The networking that is currently going on within Scotland is helping support lifestyle change in important. For example, much policy work has been focused on obesity (Preventing Overweight and Obesity) and the recent new NICE guidelines on obesity management provide clear guidance on the management of obesity.

However, not all health professionals working on cancer prevention know about these, or indeed about wider resources that can be accessed from the web<sup>2</sup>. Sharing successful approaches in meeting change in smoking, diet and activity can be facilitated by

the network as well as academic publications from trials. Changing years of life is not easy, especially in a society geared towards sedentary leisure and indulgent energy dense foods and drinks, but it is worth trying and evidence shows that we really can work towards reducing the cancer burden in Scotland.

Further information is available by visiting [www.cancerprevention.scotland.gov.uk](#). Anyone can join the network, which is mail-based. Members receive quarterly newsletters (also available on the website) and are asked to circulate these as widely as possible. Email alerts of conferences, policy advocacy information and work by health agencies can also be circulated.

**Angus MacIntyre** is a research fellow in the Centre for Health Promotion Research, University of Edinburgh. He is also a member of the Scottish Cancer Prevention Network. He can be contacted at [angus.macintyre@ed.ac.uk](mailto:angus.macintyre@ed.ac.uk) or [+44 \(0\)131 747 5333](tel:+441317475333).

**Scottish Cancer Prevention Network**  
 A network of health professionals  
 Rob Steele (Lancaster)  
 Research into Cancer  
 Health Improvement Strategy Division  
 CRUK (Aberdeen Health)  
 CRUK (Livingston Health)

## Conferences

- June 2008
- August 2009
- November 2011

## Talks

- Dundee Cancer Centre
- Scottish Cancer TaskForce

## Basic Slide packs ... available for presentations

## Scottish Cancer Coalition activities

# Scottish Cancer Coalition

<http://www.scottishcancercoalition.org.uk/index.html>

## Scottish Cancer Coalition Members

Association for International Cancer Research • Bowel Cancer UK • Breakthrough Breast Cancer  
Breast Cancer Care • Cancer Research UK • Cancer Support Scotland • CLIC Sargent • Genetic Alliance UK  
Leukaemia Care • Macmillan Cancer Support • Maggie's Cancer Caring Centres • Marie Curie • MASScot  
Myeloma UK • Ochre • The Prostate Cancer Charity • Prostate Scotland • Roy Castle Lung Cancer Foundation  
Scottish Breast Cancer Campaign • Scottish Cancer Foundation • Teenage Cancer Trust •

[www.scottishcancercoalition.org.uk](http://www.scottishcancercoalition.org.uk)

- Of 21 members, 11 responded
- 55% reported that <10% of work on prevention

# The future

- Resources
- Seriously exploring screening context
- Obesity strategy as a cancer prevention action
- Exemplar efforts to improve increased action /awareness of symptoms (NAEDI) and screening uptake but less on diet, activity, obesity in relation to cancer
- Health promoting health service