Financial toxicity after cancer
The role of lifestyle interventions

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Figure 6: Cancer Incidence over Time

- **Lifetime risk**
  - Males: 1:2
  - Females: 1:3

- **Rate per 100,000**
  - Males
  - Females
  - Persons

Changes in survival, 1971-72 to 2010-11

- All cancers
  - Incidence
  - Testis
  - Malignant melanoma
  - Prostate
  - Breast
  - Uterus
  - NHL
  - Cervix
  - Bowel
  - Bladder
  - Kidney
  - Leukaemia
  - Stomach
  - Brain
  - Oesophagus
  - Lung
  - Pancreas
Survivorship Facts and Figures

<table>
<thead>
<tr>
<th></th>
<th>Now</th>
<th>2022</th>
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<tbody>
<tr>
<td>UK</td>
<td>2.5 million</td>
<td>3 million</td>
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<tr>
<td>USA</td>
<td>12 million</td>
<td>18 million</td>
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**Men:** Prostate 43%, melanoma 7%, Leukaemia 5%

**Women:** Breast 41%, Leukaemia 5%

**>65 yrs:** Quarter of the population cancer survivors
Cost to patient

- Reduced earnings
- Hospital travel costs
- Increased fuel bills
- Divorce other legal issues
- Over the counter
  - Dressing, pads
  - Supplements

Average extra cost of £570 a month

Lower income families

2018
Financial help

• State help
  ➢ Disability allowances
  ➢ Sick pay
  ➢ Family support
  ➢ Unemployment

• Charities
  ➢ Macmillan
  ➢ Maggie’s centres
  ➢ Specific charities
The total hospital and community UK costs of managing patients with relapsed breast cancer

- GP and hospital visits
- Diagnostic and monitoring
- Anti-cancer drugs
- Supportive drugs
- Transport
- Surgery
- In patient care
- Aftercare
- Associated medical conditions

Thomas et al 2009
Impact of Cancer

UK

£15.8 billion / year
Cost of drugs

- 11 of 12 cancer drugs approved >100k/year

- Prolonged survival with systemic disease
  - CML reduced life 3 years (opposed to 25 years)
  - Prostate 10 years v 3 years
  - Breast 4.5 years v 2 years

£ 1.6 billion / year

10 billion within 5 years
Cost to economy

- Lost work production – patient & carers
- Retraining
- Early retirement
- Sick pay
- Disability allowance

£7.6 billion per year
Lifestyle related illnesses

- £1 billion Statins
- £774m Anti-BP drugs
- £800m Diabetic drugs
- £78m Laxatives
- £800m Anti-depressant
- £660m Anti-indigestion
- 4.5 billion Fracture & drugs

2017 - £6 billion / year
2050 - £55 billion / year
Primrose Oncology Lifestyle Research Unit

- Scientific evidence reviews
- Lifestyle surveys with patients
- Randomised controlled Trials

Medical, sports & therapy Journals | Patient leaflets | Communication with patients
Research

- Chronic disease
- Diabetes
- Heart disease
Fasting and chemotherapy

The role of fasting and chemotherapy has been evaluated in a number of small laboratory studies. Most reported that fasting for 24 hours pre and post chemotherapy reduced side-effects such as organ damage, toxic features, immunosuppression, reduced body weight and chemotherapy-induced death. Moreover, it appeared [...]
<table>
<thead>
<tr>
<th>Women:</th>
<th>Men:</th>
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<tbody>
<tr>
<td>1. Hot flushes</td>
<td>1. Hot flushes</td>
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<tr>
<td>2. Arthralgia</td>
<td>2. Fatigue</td>
</tr>
<tr>
<td>3. Fatigue</td>
<td>3. Arthralgia</td>
</tr>
<tr>
<td>4. Mood</td>
<td>4. ED / Libido*</td>
</tr>
<tr>
<td>5. Weight gain</td>
<td>5. Mood</td>
</tr>
<tr>
<td>6. Vag dryness</td>
<td>6. Weight gain</td>
</tr>
<tr>
<td>62%</td>
<td>61%</td>
</tr>
<tr>
<td>55%</td>
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<td>28%</td>
<td>15%</td>
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<tr>
<td>10%</td>
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Appropriate exercises
12 week exercise referral

Weight reduction  
Stress  
Osteoporosis
Physical activity levels and barriers to exercise referral among patients with cancer

Dorothy Daiyi Yang\textsuperscript{a,b,*}, Omar Hausien\textsuperscript{a,b}, Mohammed Aqeel\textsuperscript{a,b}, Alexios Klonis\textsuperscript{a,b}, Jo Foster\textsuperscript{c}, Derek Renshaw\textsuperscript{d}, Robert Thomas\textsuperscript{b,e,*}
Complementary and alternative medicines for the treatment of rheumatoid arthritis, osteoarthritis and fibromyalgia.
Pomi-T trial

Median percentage rise in PSA between the two randomised groups

Difference 63.8% ANCOVA p=0.0008

Median rise 78%
95% CI 48-115%

Median rise 14.7%
95% CI 3-36%

Thomas et al. The Pomi-T study Prostate cancer & Prostate disease 2014
Thomas et al. J Lifestyle Med. 2015 (1) 01
Is higher intake of broccoli, pomegranate tea and turmeric linked to lower cancer incidence?

- Prospective cohort analysis of 155,000 men & women between 1993 - 2001
- Reduce ROS damage
- Improve muscle recovery
- Reduce joint pains
- Improve performance
A double blind RCT of a polyphenol and probiotic supplement to reduce arthritis and improve exercise performance

- 210 participants
  - 110 placebo
    - +/- probiotic
      - Arthralgia scores
      - Exercise levels
      - Hip / waist ratio
      - Depression
      - Cost
      - Fatigue
      - BMI
      - Hot flushes
  - 110 pom-t
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