出國報告（出國類別：考察）

赴英國考察英格蘭公共衛生署，赴瑞士日內瓦考察癌症防治出國報告

服務機關：衛生福利部國民健康署
姓名職稱：邱署長淑媞、林組長宜靜、吳組長建遠、黃科長巧文
出國地區：英格蘭倫敦、瑞士日內瓦
出國期間：民國 **104** 年 **5** 月 **14** 日至 **5** 月 **19** 日
民國 **104** 年 **5** 月 **20** 日至 **5** 月 **22** 日
報告日期：**104** 年 **8** 月 **12** 日

摘　要

英格蘭公共衛生署(Public Health England, 簡稱 PHE)是英國衛生部下設置的政府疾病防治機構，於 2013 年由 5 個組織包括 Health Protection Agency、National Treatment Agency (NTA) for Substance Misuse 、Association of Public Health Observatories (APHO)、Cancer Registries 及 Regional Public Health Groups 整併而成，其總部設於倫敦。本次倫敦考察以 PHE 健康福利組(Health and Wellbeing) 在健康與福祉促進的推動，主要聚焦癌症防治，特別是癌症篩檢。並同時參訪英國國家健康與照顧卓越研究院(National Institute for Health and Care Excellence , 簡稱 NICE)，了解其如何制定具實證及成本效益的醫療指引，並與英國 Warwick 大學醫學院 Warwick Centre for Applied Health Research & Delivery 研究團隊交流在口腔癌防治的實際作法，研商未來進行跨國合作的可行性。

國際抗癌聯盟(Union for International Cancer Control, 簡稱 UICC)是全球抗癌民間團體所組成的最大的國際性抗癌組織, 與世界衛生組織有正式官方關係，於 1933 年在日內瓦成立，會員來自 155 個國家 800 個組織，包含世界主要的癌症社團, 政府衛生單位,癌症研究單位和病友團體。世界經濟論壇也是其主要伙伴。此次考察目的在了解該會與世界各國推動癌症防制的經驗、分享我國推動癌症防治的經驗與策略、並藉此了解 UICC 有關癌症實證政策發展和執行建議的 Policy Advisory Group 小組,台灣是否有可著力之處等進行交流，拓展我國的醫療外交。

關鍵字：癌症篩檢、癌症防治

目次

壹、目的

本次倫敦考察以 PHE 健康福利組(Health and Wellbeing)在健康與福祉促進的推動，聚焦癌症防治，特別是癌症篩檢。並同時參訪英國國家健康與照顧卓越研究院(National Institute for Health and Care Excellence , 簡稱 NICE)，了解其如何制定具實證及成本效益的醫療指引，並與英國 Warwick 大學醫學院 Warwick Centre for Applied Health Research & Delivery 研究團隊交流在口腔癌防治的實際作法，研商未來進行跨國合作的可行性。

此次考察日內瓦國際抗癌聯盟(Union for International Cancer Control, 簡稱 UICC)目的在了解該會與世界各國推動癌症防制的經驗、分享我國推動癌症防治的經驗與策略、並藉此了解 UICC 有關癌症實證政策發展和執行建議的 Policy Advisory Group 小組,台灣是否有可著力之處等進行交流，拓展我國的醫療外交。

貳、過程

一、 行程表

日期	起迄地點	參訪機構與研習內容
5月14日(四)	台灣－英國	啟程前往英國倫敦
5月15日(五)	英國倫敦	參訪英格蘭公共衛生署(Public Health England; PHE)，瞭解其癌症防治業務內容，並就雙方業務重點及未來臺英雙方可能合作事項進行交流。 註：在國際衛生事務上，是由英格蘭代表全英國
5月16日(六)	英國倫敦	假日(整理PHE參訪資料) (邱淑媞署長下午前往瑞士日內瓦參加第68屆世界衛生大會)
5月17日(日)	英國倫敦	假日(整理PHE參訪資料)
5月18日(一)	英國倫敦	參訪英格蘭公共衛生署(Public Health England; PHE)，瞭解其癌症防治業務內容，並就雙方業務重點及未來臺英雙方可能合作事項進行交流。
5月19日(二)	英國倫敦	上午參訪NICE 下午參訪Warwick Centre for Applied Health Research & Delivery, Warwick Medical School, University of Warwick
5月20日(三)	英國倫敦－	啟程前往瑞士日內瓦

	瑞士日內瓦	
5月21日(四)	瑞士日內瓦 瑞士－英國	參訪國際抗癌總會(UICC)
5月22日(五)	英國－台灣	返國

二、 考察內容

(一)英格蘭公共衛生署(Public Health England ,PHE)

1.組織沿革簡介

於 2013 年 4 月成立，整合 Health Protection Agency、National Treatment Agency、Association of Public Health Observatories、Cancer Registries、Regional Public Health Groups 等 5 個單位，屬英國政府行政機構(Executive Agency)

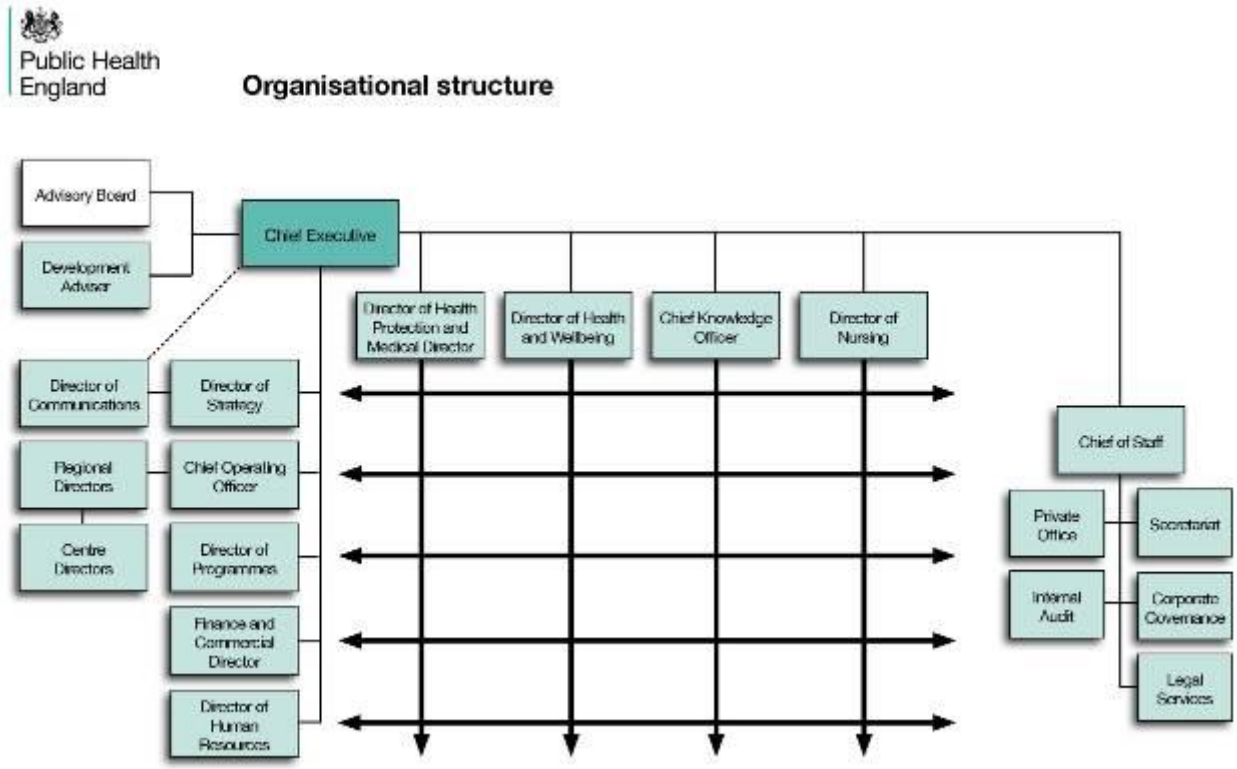
- Health Protection Agency：保護英國民眾免於傳染性疾病與環境危害的威脅。主要業務部門：Microbiology Services；Health Protection Services；Centre for Radiation, Chemical and Environmental Hazards；National Institute for Biological Standards and Control (NIBSC)。其中 NIBSC 被併入 Medicines and Healthcare Products Regulatory Agency，其餘被併入 PHE。
- National Treatment Agency (NTA) for Substance Misuse：確保藥物與酒精使用者的治療，消除對這些物質的依賴性，並且協助這些成癮者重新走入社會。NTA 不提供治療服務，與地方機構或治療機構合作，以提升服務品質。並且監測藥物治療的成效。
- Association of Public Health Observatories (APHO)：全英國共 12 個 Public Health Observatories 被併入 PHE。將原始的資訊與數據轉換成有意義的健康相關訊息與數據，以協助有關單位做決策。APHO 監測與預測健康狀態與疾病的情況；並且監測健康相關介入措施的成效，藉由提供數據與實證，協助衛生機構改善健康不平等的問題，因此 APHO 在處理地區與全國性的健康不平等議題上扮演重要角色。
- Cancer Registries：全英國有 11 個 cancer registries 被併入 PHE，其中有 8 個在英格蘭。
- Regional Public Health Groups

PHE 首長 Chief Executive，現任為 Prof. Duncan Selbie。其在英國衛生部之層級與位階如下:

Department of Health of UK	
Executive Agencies (政署)	Medicines and Healthcare Products Regulatory Agency, **Public Health England**
Non-departmental public	NHS England, Care Quality Commission, Human

bodies (非部會公共組織體)	Fertilisation and Embryology Authority, Human Tissue Authority, Health and Social Care Information Centre, Monitor, National Institute for Health and Care Excellence
NHS special health authority	Health Education England, Health Research Authority, NHS Blood and Transplant, NHS Business Services Authority, NHS Litigation Authority, NHS Trust Development Authority

PHE 組織架構：



- PHE 業務部門與責任：

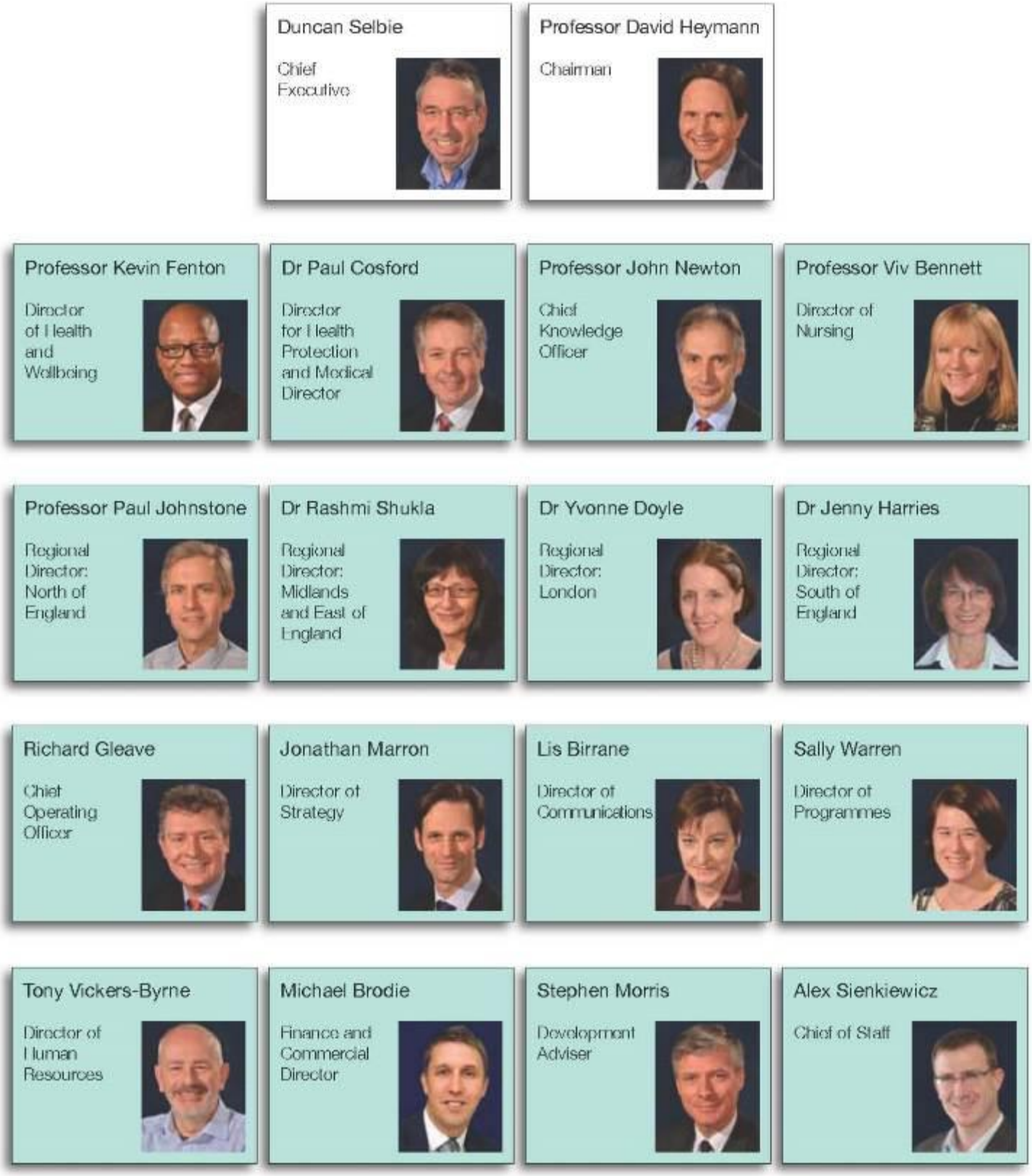
部門	業務/責任
Health and Wellbeing (Director: Kevin Fenton) 利用整合性的方式來促進	<u>Priorities</u>: 1. Wellbeing and mental health 2. Diet, obesity and physical exercise 3. Smoking

部門	業務/責任
健康與福祉 - Improve health - Empower the public - Build a committed workforce - Use the evidence - Tackle health inequalities	4. Alcohol and drugs 5. HIV and sexual health <u>Programmes</u>: ● National health and wellbeing programmes (deliver through the NHS and local authority) ● Cancer screening programmes, national screening programmes for genetic diseases and other conditions ● Coordinating prevention and early intervention programmes (focused on major killers including smoking, obesity, mental health, HIV, sexual health, and alcohol and drugs) ● Dental public health ● Nutrition and healthy food ● NHS health check (assessing the risk of developing heart disease, stroke, etc. and giving advice) ● Supporting programmes (combat the effects of drugs and alcohol and promote recovery) ● National health marketing campaigns (including Change4Life and Stoptober)
Knowledge (Director: John Newton) 提供資訊(研究成果與數據)給 PHE 與地方公共衛生單位，以協助達成目標	<u>Priorities</u>: 1. 了解與達到地方政府與地方 NHS 的需求(目前正在發展一個 model 已達此目的) 2. 建立一網站平台以供相關單位可以報導及提供訊息與實證(許多的機關都有各自的數據與資料，此一平台可以進行整合) 3. 建立與發展 health intelligence networks (整合各單位相似的資源。現存的像是 National Cancer Intelligence Network 與 National End of Life Care Intelligence Network 都已經被併入 PHE 中。接下來將會繼續發展 child and maternal health, cardiovascular disease 與 mental health network) 4. 與其它單位進行資料庫的串聯(例如與 Health and Social Care Information Center 以及 Office

部門	業務/責任
	for National Statistics 的資料庫串聯，創造更完整的資料以進行決策) 5. 建立資料與行動之間的橋樑(改善地方單位使用資料做決策的方式。鼓勵地方單位使用 PHE 完整的資料庫) 6. 連接公衛領域人才，使經驗可以相互交流 7. 擴展監測系統，以確保正確的資訊可以在正確的時間與地點提供給公共衛生機構 8. 評估公共衛生研究的優先順序 <u>Programmes</u>: ● Disease registration ● Child and maternal health intelligence network ● Improving health and lives: learning disability ● Knowledge and intelligence team (ex. Marmot indicator for local authorities) ● National drug treatment monitoring programmes ● National cancer intelligence network ● National diabetes information service ● National end of life care intelligence network ● Obesity knowledge and intelligence team ● Research and development programmes
Health Protection and Medical (Director: Paul Cosford)	<u>Responsibility</u>: ● 建立標準與領導相關計畫以減少傳染性疾病(infectious diseases)與輻射、化學與環境有害物質(radiological, chemical and environmental hazards)的危害。 ● 對英格蘭公共衛生緊急事件能夠有效的計畫與回應 ● 對 PHE 與地方政府提供專業的標準與臨床監督
Nursing and Midwifery (Director: Viv Bennett)	<u>Responsibility</u>: ● 領導健康與照護系統中，在公共衛生護理方面的業務。 ● 領導 PHE 與 Department of Health 內的護理人員。 ● 提供部長與政策制定者專業建議。 ● 擔任多個計畫的政策指導者，包括 national

部門	業務/責任
	programme for health visiting。 ● 制定護士、助產士與照護人員的全國性政策。
Advisory Board (Chair: David Heymann)	Responsibility: ● 給署長建議與支持。 ● 檢討 PHE 所推行的政策，並監督署理的組織與其管理。
Operations (Chief: Richard Gleave)	負責將 PHE 的服務傳遞給公共衛生體系的相關單位
National Infection Service (Director: Derrick Crook)	Responsibility: ● 領導 PHE 的微生物健康保護服務 ● 建議 PHE 高層在微生物業務方面的策略與政策
Strategy (Director: Jonathan Marron)	Responsibility: ● 發展 PHE 內的合作計畫，並建立系統追蹤各部門的表現與可能的危害。 ● 這些系統幫助高層決定 PHE 工作的優先順序，並評估機關的工作表現與損害程度。
Communications (Director: Lis Birrane)	負責建立與維護 PHE 的名聲，將 PHE 塑造成值得信賴與公共衛生界權威的專業機構。 (including provision of 24/7 communications support toPHE leadership and staff, stakeholders and the media)
Finance and Commercial (Director: Michael Brodie)	負責 PHE 的廣告業務與財務方面規劃以及管理

- **PHE 部門主管**


Duncan Selbie
Chief Executive
Professor David Heymann
Chairman
Professor Kevin Fenton
Director of Health and Wellbeing
Dr Paul Cosford
Director for Health Protection and Medical Director
Professor John Newton
Chief Knowledge Officer
Professor Viv Bennett
Director of Nursing
Professor Paul Johnstone
Regional Director: North of England
Dr Rashmi Shukla
Regional Director: Midlands and East of England
Dr Yvonne Doyle
Regional Director: London
Dr Jenny Harries
Regional Director: South of England
Richard Gleave
Chief Operating Officer
Jonathan Marron
Director of Strategy
Lis Birrane
Director of Communications
Sally Warren
Director of Programmes
Tony Vickers-Byrne
Director of Human Resources
Michael Brodie
Finance and Commercial Director
Stephen Morris
Development Adviser
Alex Sienkiewicz
Chief of Staff

2.PHE 安排日程表如下：

5 月 15 日

Delegation: **Ministry of Health and Welfare, Taiwan**

Date: Friday 15th May 2015

Visit location: Public Health England, Wellington House, 133-155 Waterloo Road, London, SE1 8UG (Meeting Room LG02)

Contact: Professor Kevin Fenton, National Director, Health and Wellbeing
Tel: +4420 7654 8022

Visitors:

Dr. Shu-Ti Chiou, Director-General of Health Promotion Administration
Ms. Chien-Yuan Wu, Division Director of Cancer Prevention and Control Division
Ms. Yi-Jing Lin, Division Director of Planning Division
Ms. Chiao-Wen Huang, Section Chief of Cancer Prevention and Control Division

PHE Representatives:

Friday 15th May 2015

Professor Kevin Fenton, National Director, Health and Wellbeing
Gemma Lien, Head of Global Health Strategy
Claire Borrelli, National Radiographer, breast screening
Bola Akinwale, Scientific Lead - Health Equity
Anand Amlani, Campaign Team Leader, Health Marketing and Public Engagement
Elaine Rashbrook, National Lead for Older People

09:15 **Security, reception and refreshments**
(from reception the delegation will be will be met and escorted to room LG02 by Gemma Lien & Mark Keilthy)

09:30 **Welcome and Introductions**

09:35 **Introduction to PHE**
Professor Kevin Fenton, National Director Health and Wellbeing

10:00 **PHE Cancer Screening Programmes** Claire Borelli
Presentation and discussion with a focus on breast screening

11:00 **Health Inequalities** Bola Akinwale
Presentation and discussion

12:00 **Digital Health Apps** Anand Amlani

Presentation and discussion

Digital Integration - using insight to develop digital interventions and programmes, including the Smokefree app, Stoptober Social Media and Rise Above – our youth focussed campaign.

13:00 **Lunch**

14:30 **Healthy Ageing** Elaine Rashbrook

Presentation and discussion

15:15 **Wrap-up session**

Professor Kevin Fenton

15:30 **Close**

5 月 18 日

Delegation: **Ministry of Health and Welfare, Taiwan**

Date: Friday 18th May 2015

Visit location: Public Health England, Wellington House, 133-155 Waterloo Road, London, SE1 8UG (Meeting Room LG02)

Contact: Professor Kevin Fenton, National Director, Health and Wellbeing
Tel: +4420 7654 8022

Visitors:

Ms. Chien-Yuan Wu, Division Director of Cancer Prevention and Control Division
Ms. Yi-Jing Lin, Division Director of Planning Division
Ms. Chiao-Wen Huang, Section Chief of Cancer Prevention and Control Division

PHE Representatives:

Professor Kevin Fenton, National Director, Health and Wellbeing
TJ Day, Screening Programme Development Manager
Janet Rimmer, Coodinator (Laboratories)
Dan Rider, Head of Innovation, Health Marketing and Public Engagement
Louis Levy, Deputy Director Diet & Obesity: Nutrition Science

09:50	**Security, reception and refreshments** (from reception the delegation will be will be met and escorted to room 507S)
10:00	**Reflections from Friday** Professor Kevin Fenton
11:00	**PHE Cancer Screening Programmes** TJ Day and Janet Rimmer Overview of Cancer Screening in England
12:30	**Lunch**
13:15	**Digital Health Applications** Dan Rider
15:00	**Diet & Obesity + Sugar Reduction** Louis Levy
15.30	**Close**

叁、考察重點摘錄

(一) 英格蘭公共衛生署(Public Health England)

(1)業務現況介紹

首先由英格蘭公共衛生署司長(National Director Health and Wellbeing)Kevin Fenton,介紹英格蘭公共衛生署，該署於 2013 年 4 月成立，整合 Health Protection Agency、National Treatment Agency、Association of Public Health Observatories、Cancer Registries、Regional Public Health Groups 等 5 個單位，是新的組織，目前還在調整中。

英格蘭公共衛生署成立的目的在於期望增加國人平均餘命，但希望增加更多在於窮人和健康最不平等之處。雖然 NHS 提供 65 歲以上老人可依需要接受健康照護服務，以及在 NHS 花費雙倍費用，但需有一個更具基礎的新方法學，透過社區的支持，創建在人生每一階段，不只是臨床上的照顧，更重要是預防醫學與健康促進，特別是在健康的社會決定因素上，在心理和生理上永續的健康與福祉。所以英國撰寫” Health People and Health Places”。健康促進比健康照護更重要，後者對於增進公眾健康僅有 10%，而遺傳因素占 30%，社會環境占 15%，環境暴露占 5%，更重是生活型態占 40%，而 PHE 任務在於透過上述因素增進全民健康。

造成現今英國疾病負擔和社會決定因素，影響健康最大的五大健康因素(UK health drivers)是：抽菸、高血壓、不良飲食、身體不活動、酒。社會因素(social drivers)最主要是與經濟富裕和好的生命開始有關。然而個人行為非常重要，例如：研究顯示，富人與窮人間的健康不平等，有一半是因吸菸導致。所以事實上，我們的健康是由一大廣泛因素決定，包括：好的工作、更高的教育可取得性、具安全、支持性與可連結之社區、不良的居住條件和游民、低收入生活環境、社會隔離、排斥和獨居及社會烙印和種族歧視等。

英國公共衛生體系改革是賦予 152 地區衛生當局責任去增進健康，公共衛生團隊改變成為地方衛生當局；提供 27 億英鎊在公共衛生服務；結合相關單位負責當地經濟、社會照顧、居住、休閒。提供人力和場地。

PHE 是第一個國家公共衛生實體，其可獨立發言與出版實證資料；基於價值，聚焦於實證，依結果判斷。提供衛生部長政策制定。其功能：保護民眾免於傳染病和其他公共衛生危害、增進民眾健康和減少不平等、透過永續健康和照護服務，增進民眾健康、建立公共衛生體系的能力和容量(capability and capacity)、負責英國在國際衛生條例事務(the International Health Regulations)及其他獨特的服務(unique capabilities)。人力分布包括有 4 個地理區域和 9 個中心，在 Colindale, Porton & Chilton 有科學園(scientific campuses)，總計有 5110 位員工，工作地點廣布 100 個地區。其 7 大優先業務包括：消除肥胖，尤其是兒童、降低吸菸率，終止兒童開始吸菸、降低有害飲酒，及酒精相關性的住院、確保每個兒童都有生命最佳起點、降低失智症風險，65-75 歲的發生率和盛行率、消弭抗生素抗藥性的成長及達到結核病發生率

逐年減少的目標。

Fenton 司長表示他們仍學習包括：地區政治領導者的重要性、健康保護降低危機、帶領別人一起有效優先處理重要的事及選擇不處理那些事、全國不同的聲音，NHS 五年前瞻的影響，預防乃為其核心、建立世界級的科學信譽(依證據說話，不是依意見,speaking to the evidence, not opinion)、降低高品質產品和服務，並改以回答關鍵問題、將成功決定於增進成果和降低不平等及任何事均能贏在對的見解(arguments)

邱署長回應台灣在健康的主要危害因子上，大致和英國類似(吸菸、高血壓、不良飲食、身體不活動、酒)，但其中酒精的危害，在台灣較不嚴重，而Ｂ、Ｃ型肝炎病毒，還有檳榔是我們特有的健康危害因子。

(2)乳癌篩檢計畫(Breast Screening Programme)

這單元由癌症篩檢與預防組(Cancer Screening & Prevention Team)乳篩放射組長(Lead Breast Screening Radiographer) Claire Borelli 主講，她從事放射線技術師已有 20 多年的經驗，負責臨床教育與人員訓練，包括影像判讀、切片與乳房超音波等。此外，她認為乳篩計畫不是只是影像判讀，從寄發乳篩邀請信開始到整個確診及治療都應重視每個環節的品質，還有婦女的心理感受與良好的溝通，這一連串的旅程如何讓婦女們願意參加篩檢計畫，使用簡易有效的介入措施非常重要。

英國於 1988 年開始先對 50-64 歲婦女提供三年一次的乳攝篩檢計畫,直到 1990 年代中期才達到全國普遍涵蓋，到 2003 年將原本的 50-64 歲年齡群擴大到 50-70 歲，由於民眾的需求聲浪，目前該國正進行 47-74 歲擴大涵蓋族群的實證研究。該國有三個國家免費提供的癌症篩檢，各自主導符合篩檢族群名單的邀請信函發放，由 GP 負責打電話協助安排受檢，針對不願意受檢亦由 GP 協助電話訪談，以 2012-2013 年統計共寄出 2300 萬封邀請信，獲得 1700 萬接受邀請受檢，涵概率約八成，約可降低三分之一的死亡率，成效良好。

邱署長詢問其是否有相關的品保計畫和認證制度，Borelli 組長表示英國有強力的(robust)品保計畫和認證制度，並有乳攝車協助偏遠地區的民眾。邱署長分享台灣乳攝車在偏鄉及職場有很好的成效。另，台灣沒有 GP 制度，民眾可以自由選擇想要的篩檢醫療機構,我們有 230 家參與篩檢品質提升計畫的醫療院所提供篩檢服務。

(3) 健康不平等(Health Inequalities)

這單元由健康不平等科學組長(Scientific Lead - Health Equity)Bola Akinwale 主講。PHE 的任務之一即是保護及增進民眾健康和減少不平等，所以對於消弭健康不平等，PHE 有法定責任必須完成，其最重要的角色在於提供數據、證據和最佳實例，以支持有效方法可更廣泛了解和執行。支持以下的地區服務: 廣泛之健康決定因子/健康行為因子/ 公平合理服務的提供。

在英國最重要的健康不平等報告即是 2010 年發布的 The Marmot Review (Fair Society, Health Lives)，其提出消弭健康不平等的六大政策建議：1.給予每一位兒童最佳的童年起點；2.幫助所有兒童、青年與成人，將其控制生活的能力發揮到極致；3.為所有人創造公平的就業與良好的工作；4.確保所有人擁有健康的生活水準；5.

營造健康永續的場所與社區；6.強化疾病預防的角色。

在英國對於健康平等的法律規範，有二個相當重要的法令，一是"Health and social care act"(2012)，在健康不平等的責任："…各州必須重視減少英格蘭國民間在取得健康服務利益不平等的需要性。"(Section 1C of the NHS Act 2006, 於 2012 年修訂為 Health and Social Care Act)；另一是"Equality Act"(2010)，規範 public sector equaility duty，確保國民，如同 PHE 考量所有個人在每日生活和工作上，對於服務體系和相關自已僱員，有更佳政策。確認 9 項被保護的特性，如年齡、失能、種族、性傾向等。

實務面之法律責任：

Health inequalities duty	**Public sector equality duty**
全族群方法學	特別聚焦於 9 項被保護特性
降低健康之社會梯度成果	提供免於歧視，具公平合理可近性的健康服務
聚焦於成果	聚焦於機會的公平，讓每一人公平且具有尊嚴和尊敬。

PHE 定期在網站公布 Public Health outcomes framework。

有那些健康不平等現象呢？

首先是社會經濟不平等，數據顯示，2011/13：男性(剝奪指數最高第 10 等分較第 1 等分)平均餘命差距 9.1 歲；健康平均餘命差距 19.2 歲；2011/13：女性(剝奪指數最高第 10 等分較第 1 等分)平均餘命差距 6.9 歲；健康平均餘命差距 19.5 歲。

而在地理上的差距，早死永遠存有地理上的差距。

在種族上的健康不平等，以糖尿病盛行率為例，不同種族與白人相比較如下：

白人男性	白人女性
Bangladeshi 男性有 4 倍高	Pakistani 女性有 5 倍高
Pakistani 及 Indian 男性有 3 倍高	Bangladeshi 及 Black Caribbean 女性有 3 倍高
	Indian 女性有接近 2.5 倍

地點和在社會的位置，對健康影響極大，Bunker et al(1995)的研究，健康照護占 43%，其他因素占 57%；McGiniss et al(2002)的研究，健康照護占 15%，健康生活型態占 40%，社會狀態和環境暴露占 45%；Canadian Institute of Advanced Research(2012)的研究，健康照護占 25%，環境因素占 15%，基因占 15%，社會經濟占 50%。

有關廣泛決定因子之不平等，英國面臨貧窮家庭的工作人數增加，在 2012/13 年，有 670 萬人是屬貧窮的工作家庭，在 2012/13 年，有 660 萬人是屬貧窮的無工作退休家庭，而每 6 位中有 1 位小孩生在無工作家庭。

另一個問題是遊民，每年在英格蘭超過 25 萬人接觸至少遊民、物質濫用、罪犯二類。至少有 58000 人於前述三類皆有接觸。單一遊民急性住院較一般民眾至少

有 4 倍以上，一年至少花費 850 萬英鎊。

值得注意的是，健康不平等拖累經濟成長。推估健康不平等造成經濟每年經濟損失約 310-330 億元英鎊。包括：生產損失的 310 億英鎊；因健康不平等導致的較高保險支付和稅收損失約 280-320 億英鎊。

因健康不平等損及之更廣泛利益，推估處理兒童健康和社會照顧問題之成本：青年失業 1.33 億英鎊(每週)；青年犯罪 12 億英鎊(每年)；教育中途綴學 220 億英鎊(每一世代)；1 年寄養 149,240 英鎊；學童和青少年心理健康問題住院服務 24,482 英鎊(中位數)。

PHE 健康平等計畫重點在於：Evidence and intelligence/ building capability/ systems leadership/ partnerships and communications。

有關 Evidence to support local action，發布健康不平等地區行動：一系列實證論文，於 9 月 UCL 健康平等學院發表有關地區行動之 22 篇文章；建立在 Marmot Review，跨領域的行動實證和案例，包括：Employment/ education/ healthy living standard/ healthy environment/ early years/ implementation and impact；消弭健康不平等之地區行動，包括：increasing access to good quality to good quality parenting programmes and improving the home to school transition。

對於 Building capability，PHE 出版 ”Health Equity Assessment Tool"，回答重要問題(如下)，提供行動之知識基礎。

1.你工作領域中有無存在健康不平等相關事務？

2.該如何做才可影響健康不平等? 若你能改善健康不平等，有無任何風險?

3.你將如何得知健康不平等已被降減少?

4.有無任何步驟你必需採用，將可減少健康不平等或降低歧視?

同時進行有關”Health and Health Equity in All Policies”訓練：

1.提供地區衛生主管大師級課程訓練

2.和專業團體一起合作(公共衛生主管協會，地區政府協會)

3.目的在於：(1)將 WHO 方法學知識融入地區公共衛生服務；(2)增進跨部門工作；(3)確認技能發展的需要性。

有關系統領導(systems leadership)上，PHE 出版”DUE NORTH- Report of the Inquiry on Health Equity for the North”，由北方健康不平等負責人 Prof Margaret Whitehead 撰寫，重點為：地區民主／提供兒童更公平起點／健康經濟發展／以地理為基礎去消弭健康不平等／有效福利政策。

另外在國家層級健康不平等的領導，重點在於對健康不平等支持提供一個新的公共對話；提供工具，增進公眾對健康不平等的參與，以不同社區成員對社會研究基礎所發展；提供 Events，例如，以社區為中心的健康和福祉方法。還有拍攝影片和撰寫個案研究等，預定 2015 年出版，顯現健康不平等生活經驗，而這些可經由地方性行動，提供個人和社區採行正向改變。

在夥伴領導上，簽署國家合作備忘，支持各項行動，與橫跨全國、地方政府、健康服務、住宅和志願部門的 19 個其他組織共同合作，提供支持夥伴行動，包括

在財務和推派專家及實證協助。PHE 於 2015/16 負責這項 Memorandum 行動計畫修訂過程。

對消弭健康不平等，未來將優先進行：Health and health equity in all policies、Refinement of health equity assessment tool、Commuinity-centred approaches、Strengthening health system partnerships and cross-sector working，Support for PHE priority issues。

另，詢問 Fenton 司長對於台灣現階段推動消弭健康不平等可以從那裏著手，對於中央政府跨部門合作及對地方政府的推動，英國推動經驗中成功的關鍵因素，Fenton 司長的回答建議為，應對於健康目標，設定願景、策略和行動計畫，其次分從國民健康署可做的、立法及其他部門來說。首要是立法，重點在於責任的確認(context and accountability for adressing inequality) ，英國很幸運有立法確保平等。其次，國民健康署可做的：

1.Annual reports 每年公布各組織對於健康不平等的作為及成果。
2.Tools-equity 引進平等工具。
3.Network/Board 成立網絡，或委員會。
4.Inequality to responsibility
5.To develop/techincal works：成立各種推動工作和技術團體。
6.Evidence—action/policy：利用實證基礎發展行動和各項政策。

另外，對於其他中央部會或地方政府：

1.Networks
2.School
3.Fund/collaborations 英國有許多跨部門合作，如社會年金、教育部等，針對健康之社會決定因子著手努力。
4.Academic，例如 PHE 和 sir machiel marmot 合作
5.Policy(impact on)，評價及了解政策對健康不平等的影響。

(4)數位醫療應用(Digital Health Application)

這個主題先由健康行銷活動組組長(campaign Team Leader, Health Marketing and Public Engagement) Anand Amlani 主講，PHE 以健康行為的實證研究做基礎，發展數位醫療應用 APP，以協助成功戒菸的 Smokefree APP 為例，藉由強化參與者的動機、提供撇步和慶祝每日每週的成功、串連廣大無菸的資源、利用直覺有效的方法並建立分析，例如以目前戒菸已節省多少錢、得到多少好處等來強化繼續努力，並以每年 9 月號召戒菸在 10 月的 Stoptober App 來呼朋引伴，增加網路連結(networking)的支持，達到共同期勉及慶祝勝利的喜悅。他們藉由 App 的設計來鼓勵和激發團體戒菸行為的持續，並分析不同地域的差異，28 天參與的人數有 7 萬人，成功戒菸達 70%，成效斐然。

署長問 Amlani 組長戒菸 1 個月和 3 個月的成功機率，Amlani 組長表示科學實證 1 個月效果較佳，所以他們完成以科學實證來設計數位醫療。他們非常關注使用

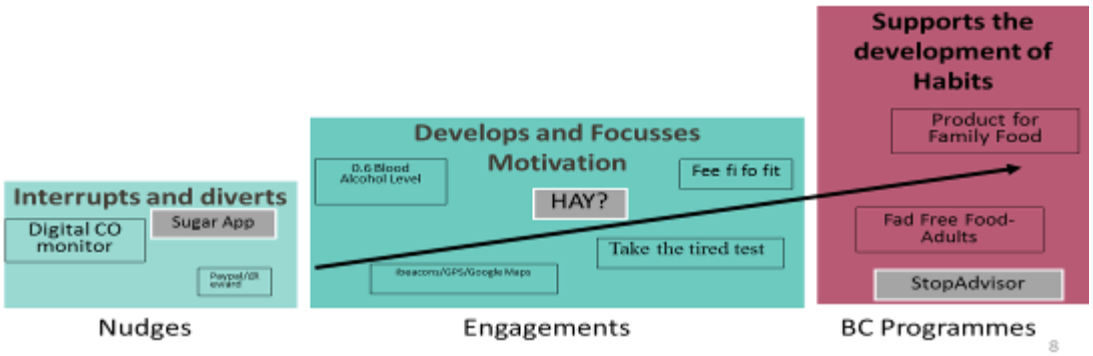
App 族青少年的行為，並分享這個族群對”健康”沒有興趣，但對社會議題較有興趣，如壓力及身體心像較有興趣，所以要以青少年有興趣的方式，了解其思考決策的改變，和年輕人玩樂在一起，去發展健康的數位 App，減少其不良生活習慣如吸菸、喝酒及不運動等，才能有效預防疾病。

對這樣有趣的數位醫療設計，大家非常關心需要多少人力的投入，Amlani 表示他們有兩位專職人員，4 位外包廠商人員共同協助，的確這樣的開發需要不少人才的投入。

另一位主講者是健康行銷創新組組長 (Head of Innovation, Health Marketing and Public Engagement) Dan Rider，他聚焦在行動醫療與創新 (mHealth and Innovation)，提出數位發展的方法先要有行為改變的實證基礎，他們會先建立一個原創模式(prototype)平台作實驗性的測試和評估，透過有創意的內容和活潑的宣傳，提供符合公眾需求(on-demand)的健康數位行動醫療 Apps。他分享已研發的官方健康主題 Apps，並會先排列發展的優先次序，如：Smoke Free、Healthy 0-5 years - Start4Life、Healthy 5-11years – Change4Life、Adults (40-60 years) Moving More、Adult (40-60 years) Eating Well、Checking Yourself、Mental Health (stress/tiredness)、Rise Above 及 Drinking Less 等。

Rider 組長解釋他們發展 Apps 的方法和歷程，並舉實例讓我們更容易理解。首先設計團隊會從 Google 等網路社群中最備關切的健康相關主題先直接陳述表列出來，並從中以顧客的角度來研發簡單又創新的健康醫療數位產品，研發過程的方法從(Hackathons)到工作坊(workshops)的進行，同時建立研發的合作夥伴。應用行為改變理論、實證及資料庫收集來發展其所謂的‘on-demand’ digital public health， 展現創新敏捷(agile delivery)互動式的內容，開發從"Nudges"、"Engagements"到 Behavior change program"如下圖。舉了幾個已完成 APP 開發的實例，包括以手機掃飲料條碼出現含方糖有幾顆的"Sugar APP" 屬"Nudges"，可掃描食物名單可由民眾提供，非常有參與感。另，"HAY(How are You?) "提供線上健康評估與忠告屬"Engagements"，到"StopAdviser"戒菸的行為改變，搭上與個人相關資訊，我們認為很活潑，民眾應會覺得很平易近人。

我們基於現有困境問及一個創造成功 APP 的團隊具備何元素？他答需有 project manager, service manager, researcher, and a developer. 他表示他本身具 IT 專長，且之前從事與物質成癮相關的工作，故能得心應手。StopAdvisor 是戒菸行為改變的 App，像前一位主講 Amlani 組長所言，透過一系列的活動設計和社群互動(FB、Twiiter、You Tube、email 等)，達到群體共同支持戒菸成功的歡樂。這個部份真的非常值得我們學習。



圖一　數位醫療產品開發

(5) 健康老化(Healthy Ageing)

這單元演講者為國家老年中心主任(National Lead for Older People)Elaine Rashbrook，她表示健康主要風險因子已相當明確：吸菸、高血壓、高身體質量指數、身體不活動和低身體活動量、酒精使用、低水果飲食、高總膽固醇、低堅果飲食、高空腹血糖、高鹽飲食、藥物濫用、空氣污染、低蔬飲食、高加工肉品飲食、低 omega-3 脂肪酸飲食、低纖飲食、職業性下背痛、低多元不飽和脂肪酸飲食、鉛暴露。尤其前五項是對平均健康餘命影響最大。要消除上述問題，須整合公共衛生，包括：政府、地方當局、PHE、NHS。

PHE 已和許多夥伴共同合作，以增進全國運作模式。依人生各生命週期分為：出生到 5 歲階段、學齡階段(5-18 歲)、青少年到成人(18-64 歲)、老年階段(65-100 歲以上)。重點包括：居家及家庭空間、休閒和社會空間、教育場域、早年生活場域、職場場域、健康照護場域。

在老年人部分，主要工作領域包括：Dementia programme/ ageing well framework/ carers' health and wellbeing/ primary prevention muscular-skeletal(includes falls)/ public health approaches to end of life care/ social isolation and loneliness,older adults。

PHE 在降低失智症風險做了什麼？

PHE 失智症計畫

"Transforming a generation' s risk of dementia",這是 PHE 發展目標之一，我們目前工作計畫亦朝向這目標努力。PHE 支持更大型的政府失智症計畫，目前 PHE 進行的一部分工作包括：兩大目標領域－降低風險及活的更好；跨 PHE 其他計畫，公平及知識與智能。

讓失智症者活得更好：

1.PHE 支持 Dementia Friends 的永續及擴大發展。對於失智症患者及其照顧者能活的更好，與失智症共活。

2.PHE 正在轉移 Dementia Friends 宣傳計畫之領導模式，Alzheimer' s Society，及提供持續發展的友善失智症社區啟動計畫。

3.這些年已教育 100 萬人成為"失智症之友"，結合更多合作夥伴、非營利組織和公部門組織。

(二)公眾了解及個人化工具

1.主要行銷重點在於協助 40-60 歲重新評估他們的健康狀況，並改變採取更有益於健康的生

活型態。

2.個人化的診斷工具協助人們了解及管理可能發展成失智症的風險因子，例如: 計算大腦年齡，採用倫敦大學發展的 NHS Health Check，其將更進一步發展功能及訊息，使用者測試及臨床使用之有效性。

(三) PHE 在降低失智症風險做了什麼?

1.建立失智症風險降低，對其可能發展狀況，如糖尿病和高血壓等之照護和支持，包括經由我們和 NHSE 合作提供之新的預防性服務計畫，這是我們發展的全球第一個國家實證基礎的糖尿病預防計畫。

2.整併失智症降低風險，如健康改善計畫之關鍵結果。

促成 50 萬人戒菸(如 Stoptober,新的年度健康危害改善方案)，及立法禁止在車上吸菸。

提供降低有害飲酒的實證，支持及發展預防和治療介入政策。

支持 NHS 心理健康服務中心成為監獄無菸和從事降低吸菸盛行率。

執行”Everybody Active Every Day”，包括：改變對於提倡身體活動期待的社會規範、發展專業及領導、創建支持動態生活環境、確認及將成功計畫推廣至全國。

3.專業人員的理解及行動：首先和夥伴們一起努力，例如: Health Education England, the Royal Colleges 及其他致力於增進專業人員對於降低失智症風險及促使民眾支持採取降低風險行動者。其次，將降低失智症風險融入訓練教材和環境。

4.實證及研究：和學院及其他夥伴一起發展失智症發生率及盛行率之測量模式研究；持續支持發展以實證為基礎的失智症風險降低及執行計畫。

(四)建立全球共識

1.Blackfriars 已吸引全球注意。Envoy 說，英國在降低風險是”領航全世界”。

2.World Dementia Council 採用風險降低於他們的工作計畫內，並發展行動，包括降低失智風險，有 80 個國家在在今年日內瓦 3 月 16-17 日 WHO-hosted Ministerial Conference on Global Action Against Dementia 中簽名支持。

3.一旦 WDC 同意風險降低位置，Dementia Innovation Unit(PHE 已加入)將提供選項用於支持多國間對失智症風險下降之反應，如 EC-level statement。

4.PHE 今年 11 月 5-6 日將在英國舉辦發表風險降低工作在 Japan Global Legacy Event。

過去幾年討論失智症公平性問題已逐年成長；地區計畫，已獲顯著成功，但仍屬小規模，全國性學習及分享仍然有限。最近特別著重於 BME 議題，APPG 報告和自願性/社區性部門認知持續上升，民眾對於失智症認知，無論是患者或照顧者，覺知度大幅顯著上升。PHE 整合全國性工作一起從事失智症公平性問題，人群中失智症對公平的影響，不僅於族群間或更廣泛的群體。9 大須被保護特性：年齡、失能、性別重置、婚姻及公民夥伴關係、懷孕及生育、種族、地區或信仰、性別、性傾向。而其他主要不平等來源：社會經濟狀況、地理分布、失聰和弱勢族群。利益相關者告訴我們，必須去看、去參與、去行動改善不公平。四個國家計畫已開始：

1.提升專家人員認知度：透過增強低認知專業團體的知曉度。

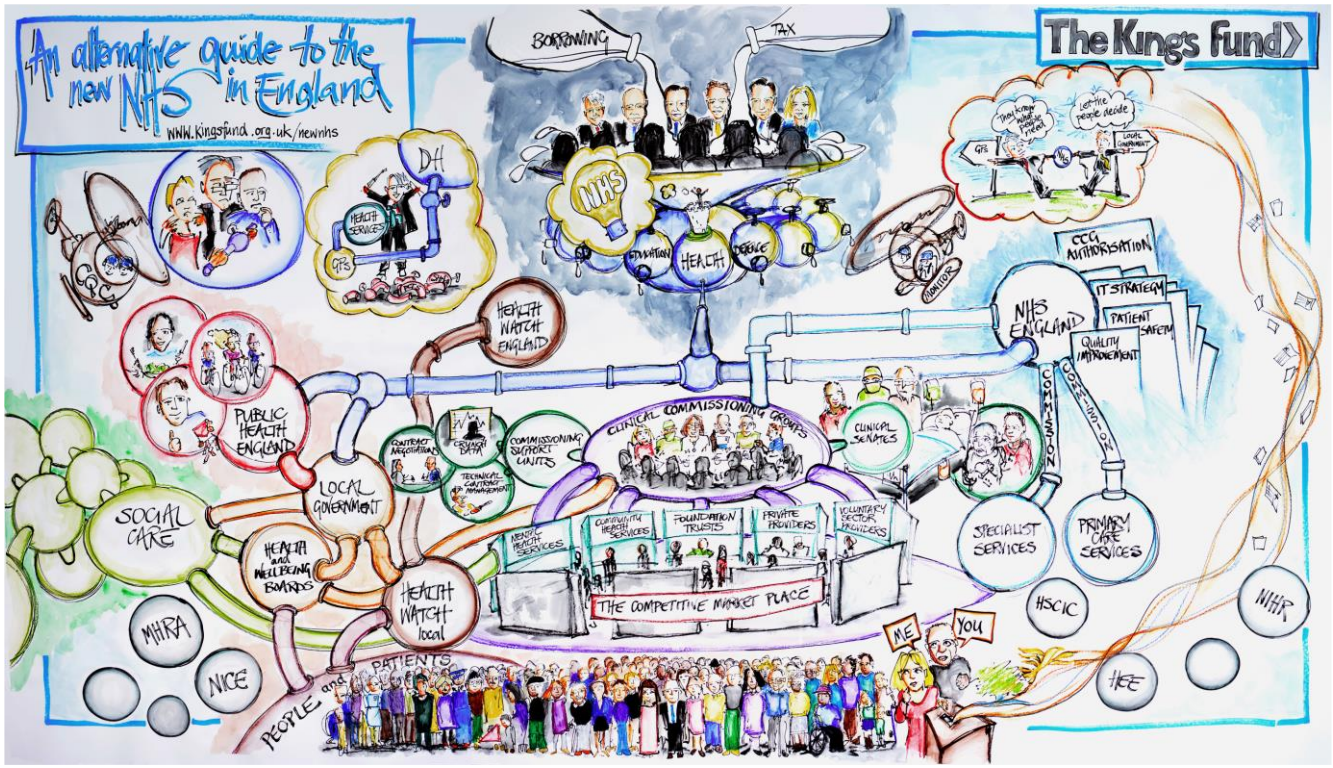
2.增進資料及智態：對於基本問題的不懂，例如有多人具有須被保護特質及失智症？誰不被接受及支持？其次，建立失智症智能網絡工作計畫，取得全國新數據。

3.在廣泛的失智症政策取得公平主流化：在工作上具體考量 the Prime Mininster’ s challenge 後的下個步驟。

4.跨夥伴之工作計畫分享：檢視進展及優先順序，揭露重新配置之可能性。

(6) Reflections from Friday

Fenton 司長針對第一天的訪查重點與我們做雙向溝通，我們請益了幾個問題，包括：英國衛生部的組織架構、PHS 與各部門如 NHS 及地方政府的合作；PHS 於 2013 年組織改造後的改變等。因為 Fenton 司長過去在美國疾病管制署任職，他分享英國和美國衛生保健體制的差異，美國實施總統制，所以總統改選後整個內閣官員就改組，相較於英國的聯邦制、君主立憲的保守風格，美國在醫療改革的腳步非常快速，英國則顯現作風保守，政治對醫療保健的影響很大，也關乎其效率。Fenton 主任除親自繪圖說明英國衛生部下相關組織架構認為 PHS 的組織改造仍持續在進行，會後他的國際事務組長 Mark 還提供相關網頁連結的圖片如下。



圖二　英國衛生部的組織運作卡通圖

(7)篩檢計畫 Cancer Screening Programmes

這部分由癌症篩檢發展經理(Screening Programme Development Manager) TJ Day 主講整個英國的癌篩計畫，她主要負責大腸癌的篩檢，並由負責子抹檢驗協調師(Laboratories Coodinator) Janet Rimmer 補充說明。Day 經理先介紹整個癌症篩檢組織架構，PHE 編列癌症篩檢預算給 HNS 去支付給 GP 或相關機構，和台灣由國民健康署編列癌篩預算給健保署很像。其 QA Team 和 Policy Group 是各自獨立，腸篩是提供 60-74 歲做化學法(guaiac FOBT)，篩檢率男性約 52%，女性約 61%，較台

灣高。該國正進行免疫法及大腸鏡檢的篩檢研究，並提供對 GP incentive program，有關下降及延長腸篩年齡一事約 2020 年就會有結果，效果好應會實施。

該國子抹細胞學檢查對 25-49 歲提供每 3 年一次, 對 50-64 歲提供每 5 年一次，HPV 篩檢正進行 pilot study。

此段討論較多是外界對國家篩檢計畫的批評，英國的情況與我國一樣，民眾都會質疑是否因經費不足，故不提供某些年齡群篩檢。我們則方享署長指導我們面對批評一定先提供實證，經費非首要。Day 經理表示非常贊同，她們也是一樣的應對方式。

(8) 飲食、肥胖與減糖水(Diet & Obesity + Sugar Reduction)

這個單元由營養諮詢組經理(Nutrition Advice Team Manager) Louis Levy 主講，首先從英國各官方政府在飲食、肥胖的主掌業務談起，衛生部（Department of Health, 簡稱 DH）為營養政策、肥胖控制政策及營養法，英國國家健康服務（National Health System, 簡稱 NHS）為體重管理、生活形態及肥胖控制服務，政府公開資料 Open government data (OGDs) 則包括環境、食品暨鄉村事務部（Department for Environment Food & Rural Affairs, 簡稱 Defra）為國家永續發展、政策採購標準及食品標示，教育部(Department for Education , 簡稱 DfE）為校園的食品與飲食教育課程，食品標準局(Food Standard Agency , 簡稱 FSA）負責食品安全危險評估及毒性與過敏，工作與養老金部 (Department of Work and Pensions , 簡稱 DWP/CO ）負責食物貧困救濟，地方政府則負責營養諮詢、行為改變、體重管理及肥胖控制等介入等，其他還參考國際上具權威的組織包括**歐洲食品安全局**(European Food Safety Authority, 簡稱 EFSA)、美國農業部(United States Department Of Agriculture, 簡稱 USDA)、 澳紐食品標準管理局 Standards Australia New Zealand (FSANZ)，在英國境內的公信組織英格蘭健康教育部（HEE）、NICE、專業學術組織等，PHE 在飲食與肥胖的角色是統合中央與地方的營養監測，制定和執行科學實證基礎營養和行為改變的，提高英國人民健康和福祉。主要是宣傳和發展策略，建設與其他政府部門，食品行業，民間機構和其他組織的關係。

PHE 在其自訂定未來 5 年的七項優先改善與飲食、肥胖有關的指標是增加國小學童畢業離校正常體位的比率，同時降低成人體位過重。其提出五項行動包括：有系統的領導、社區營造、強化監策與實證基礎、支持系統的提供及致胖環境的改善。社區營造應用許多的社群 Apps，包括：5 A DAY、Change4Life、Start4Life 等，營造全家共同建立健康飲食的方式。減糖行動也是 PHS 重要的策略，藉由製糖源頭的監測、健康促進宣導、管制含糖飲料廣告、協助食品工廠配方改良、針對主要的專案族群辦理教育訓練及協助地方政府等，並針對不同年齡群監測糖的耗用，發展特定族群改善的策略，目前這些肥胖防治和減糖戰役有不同的計劃正在進行中， Levy 經理認為透過實證的研究過程可以看到具體改善的成效。

我們也分享本署的肥胖防治搭配運動的推動，每年減重的成效良好，還有致胖環境的改善在社區如便利商店共同倡議合作的健康餐、蔬果販售及免費量腰圍、體重、血壓等。Levy 經理表示運動的推廣是另一個政府機構的業務，該國致胖環境的

改善也有類似台灣的作法。

(二)英國國家健康與照顧卓越研究院(National Institute for Health and Care Excellence，簡稱 NICE)

這次參訪由該機構資深顧問(Senior Adivisor) Francis Ruiz 先介紹 NICE 發展的沿革，NICE 於 1999 年創立，原隸屬於 NHS 的一部份，2012 年獨立成非政府部門公法人組織，具有獨立權責與預算，受國會監督下，能夠彈性有效率提供公共健康服務、社會服務與執行政府職能。由臨床專業人員、病人團體、經濟學家、NHS 組織中的管理人員、與研究團體等人員所組成。

NICE 的創立是期望使 NHS 成為一個具現代化並受人信賴的組織。其目標如下：首先，NICE 讓病人在國家健康照護體系下，得到公平且相同的治療，它提供給各層級民眾有關治療與照護的相關訊息，並協助其做決定；第二、NICE 的使命是藉由建立對病人照護品質有極大改善影響的新發展指標，以促進 NHS 的革新與品質提升；第三、藉由 NICE 可使最佳的照護品質得以傳遞並使此資源得到最好的運用。

由實行面而言，NICE 除了提供可信賴的治療與臨床指導方針給從事健康服務的專業人員、病人及他們的照顧者，以協助醫療專業人員進行最有效的治療、保護病人免於接受到無效的醫療照護、並協助他們做有關治療與健康照護的決定，它同時也發展了涵蓋各個照護層面的臨床治療指引，並確使這些最好的指引能快速、及時、有效且具一致性的普及到全國各處，其指引(guildline)制定過程的嚴謹及超然獨立性，聞名於世。

第二部分由公衛及社會照顧技術顧問(Technical Adviser, Public Health and Social Care) Alastair Fischer 針對醫療政策制定應從經濟學的角度去思考公共財(public goods)如何能不受市場機能(market mechanism)之操作及價格的影響。但 Fischer 顧問有豐富的經濟學學養，其論述的觀念偏向經濟學的研究，以我們偏醫療的背景，較無法全盤了解其闡述的某些概念，這也讓我們深深覺得應該多充實經濟學的知識，才能對健康科技評估更能掌握。

(三) Warwick Centre for Applied Health Research & Delivery, Warwick Medical School, University of Warwick

由於在去年參加財團法人醫藥品查驗中心(CDE)醫療科技評估(Health Technology Assessment, HTA)研討會，認識自英國邀請回台的醫療科技評估資深研究者陳彥甫博士，此次借訪英之便，便與其接洽交流醫療科技評估的國外經驗。適逢其研究團隊正在進行印度口腔癌的社區篩檢研究，故參訪 University of Warwick 在倫敦的夏德塔大樓(Shard Building)的研究室，一起商討未來可以跨國合作口腔癌篩檢相關研究。

(四) 日內瓦國際抗癌聯盟(Union for International Cancer Control, 簡稱 UICC)

本次拜會 UICC 目的包括：(1)了解該會在癌症及非傳染疾病預防如何以全球政

策製定的實證需求做發展及介入 (meeting the evidence needs of the global policymaking community in developing and implementing policy for cancer and non-communicable disease prevention) 。(2)了解該會如何發展國際政策諮詢小組 (to learn more about the new international high-level Policy Advisory Group)。(3)了解該會癌症登記全球倡議如何推展及其他計畫推動(to learn more about the Global Initiative for Cancer Registry Development (GICR) program, and Continuous Update Project)。(4)分享台灣癌症防治經驗 (to exchange opinions on the status of cancer control in Taiwan)。

UICC 執行長 Cary Adams 首先邀請本署加入該會，成為該組織會員，邱署長表示將研議可行性。在分享有關媒體的危機處理時，Adams 執行長表示 UICC 有提供新聞發布相關的專業訓練，本署可與其合作或派員參與其辦理的訓練。邱署長分享台灣企業與政府共同推動健康職場的經驗， Adams 執行長對此計畫非常有興趣，希望能親自前來觀摩，並參加政府並每年底頒發企業社會責任獎的活動，邱署長指示若能與本署主辦之 Global Health Forum 結合，更能相得益彰，將擬研議可行性。

此外，邱署長分享台灣口腔癌篩檢成效良好，表示本署將研議與 NCI 合作每年辦理一次口腔癌篩檢醫療專業人員培訓，時間可在農曆過年前或後，一~二週，並安排實地看篩檢。

UICC 的副執行長 Julie Torode 分享芬蘭癌症篩檢及德國癌症評鑑成效良好，願意協助提供芬蘭癌症篩檢及德國癌症評鑑相關資訊及聯繫平台，亦含其他相關方面做得較好國家之連絡窗口。

肆、心得與建議

茲將此次出國心得與建議整理如下：

一、效法英國建立有效的組織性篩檢策略：以英國乳篩為例，透過建立有效的組織性篩檢策略可以達到目標族群八成的篩檢率，如何將符合篩檢卻從未參加篩檢的目標族群邀請參加篩檢，將是我國未來除子抹外的癌篩達到目標值，降低癌症死亡率的重要工作。

二、積極開發國人數位健康 Apps：本署雖已開發母乳哺餵等 Apps，惟英國 PHE 有專門的 Health Marketing and Public Engagement 小組作長期的開發規畫，其小組人員同時具行為改變科學及資訊設計能力，建議本署應仿其作法，有常設的小組，並培養跨專業能力之健康數化人才，協助癌症組、慢病組、婦幼組、社區組及健教組等業務之 Apps 規畫。

三、開發國際網絡連結的重要性：此次考察拜訪 UICC 後，透過 UICC 的推薦信，我們與芬蘭癌症醫學會、德國掌管癌症中心認證的德國癌症醫學會(German Cancer Society)及世界衛生組織(WHO)之國際癌症研究署(International Agency for Research on Cancer 有業務需求往來的連結，從中學習到癌症防治的寶貴經驗，並增加未來國際合作及標竿學習的機會。

伍、附錄

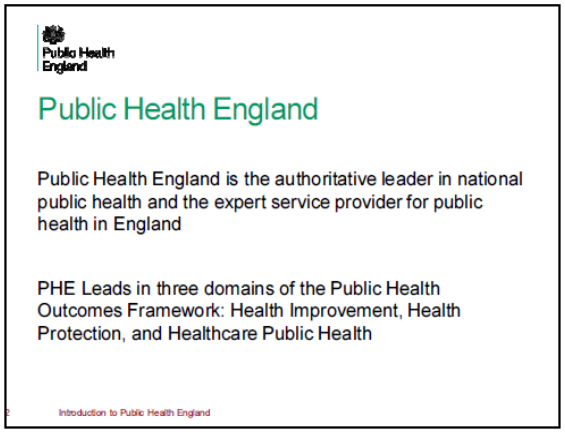
附錄 1、英格蘭公共衛生署與 NICE 簡報


Public Health England

Health and Wellbeing in Public Health England:

Promoting Innovation for Impact

Professor Kevin Fenton
National Director, Health & Wellbeing

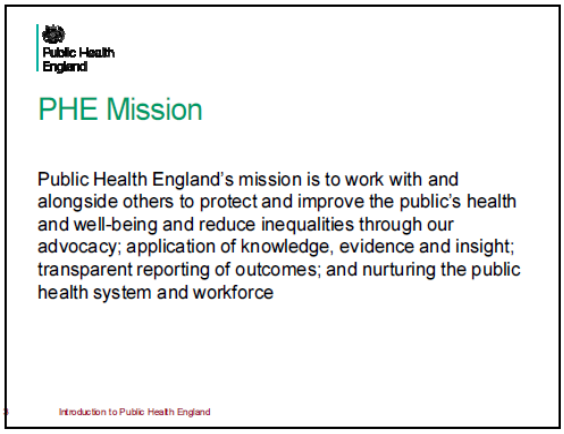

Public Health England

Public Health England

Public Health England is the authoritative leader in national public health and the expert service provider for public health in England

PHE Leads in three domains of the Public Health Outcomes Framework: Health Improvement, Health Protection, and Healthcare Public Health

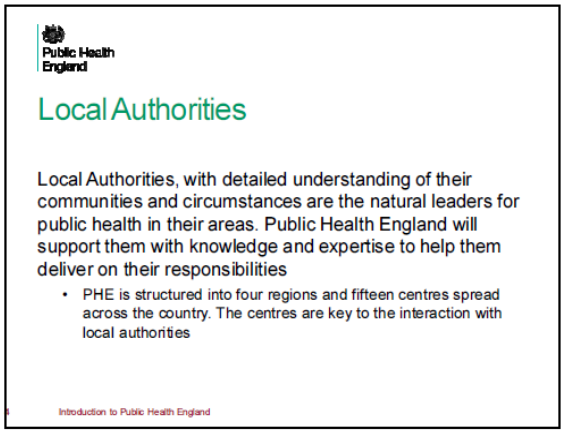
2 Introduction to Public Health England


Public Health England

PHE Mission

Public Health England's mission is to work with and alongside others to protect and improve the public's health and well-being and reduce inequalities through our advocacy; application of knowledge, evidence and insight; transparent reporting of outcomes; and nurturing the public health system and workforce

3 Introduction to Public Health England


Public Health England

Local Authorities

Local Authorities, with detailed understanding of their communities and circumstances are the natural leaders for public health in their areas. Public Health England will support them with knowledge and expertise to help them deliver on their responsibilities

- PHE is structured into four regions and fifteen centres spread across the country. The centres are key to the interaction with local authorities

4 Introduction to Public Health England

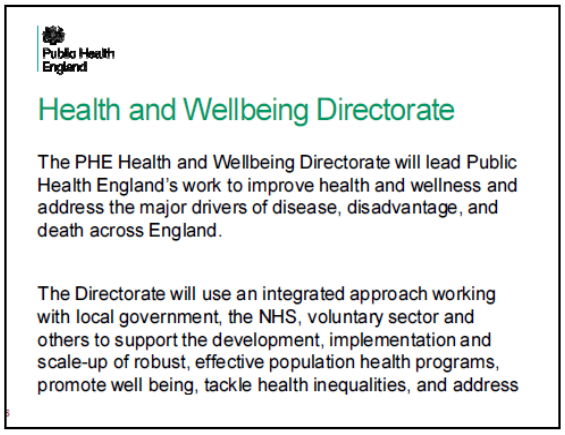

Public Health England

Partnerships will be key

Public Health England cannot succeed by itself. Our partnerships with local authorities, the NHS and the third sector are what will allow us to achieve the outcomes we want.

Our partners provide broader avenues by which the public interact with the health system and may be advocates for public health. PHE will work with and support our partners to ensure the best outcomes.

5 Introduction to Public Health England

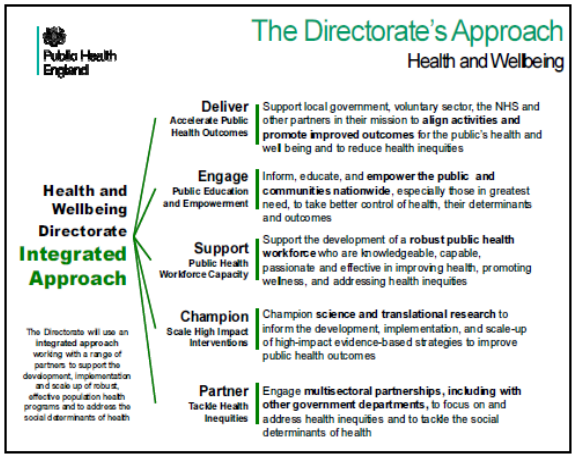

Public Health England

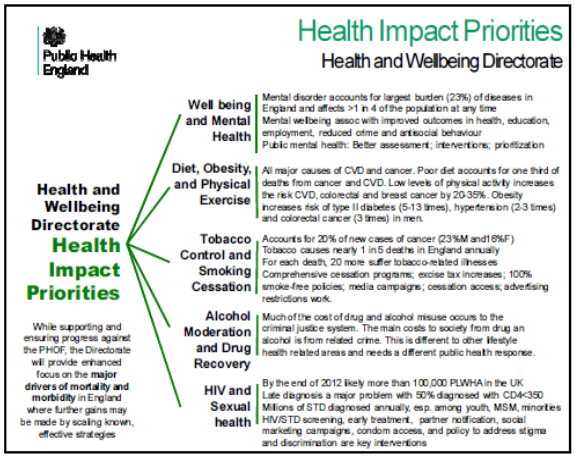
Health and Wellbeing Directorate

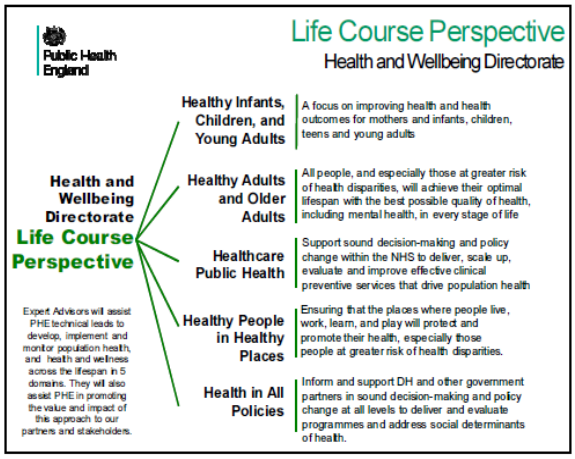
The PHE Health and Wellbeing Directorate will lead Public Health England's work to improve health and wellness and address the major drivers of disease, disadvantage, and death across England.

The Directorate will use an integrated approach working with local government, the NHS, voluntary sector and others to support the development, implementation and scale-up of robust, effective population health programs, promote well being, tackle health inequalities, and address

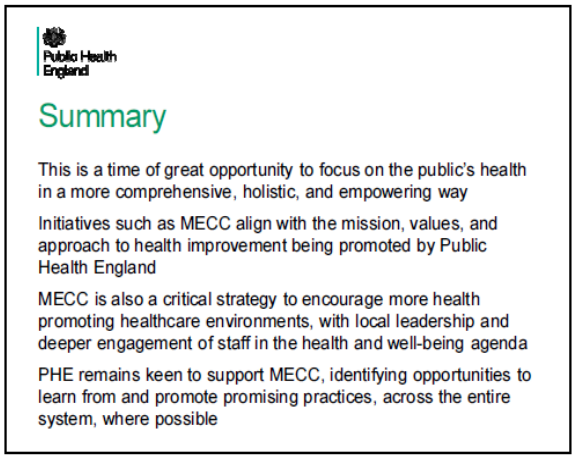
6


Public Health England
The Directorate's Approach
Health and Wellbeing
Health and Wellbeing Directorate
Integrated Approach
The Directorate will use an integrated approach working with a range of partners to support the development, implementation and scale up of robust, effective population health programs and to address the social determinants of health
Deliver
Accelerate Public Health Outcomes
Support local government, voluntary sector, the NHS and other partners in their mission to align activities and promote improved outcomes for the public's health and well being and to reduce health inequities
Engage
Public Education and Empowerment
Inform, educate, and empower the public and communities nationwide, especially those in greatest need, to take better control of health, their determinants and outcomes
Support
Public Health Workforce Capacity
Support the development of a robust public health workforce who are knowledgeable, capable, passionate and effective in improving health, promoting wellness, and addressing health inequities
Champion
Scale High Impact Interventions
Champion science and translational research to inform the development, implementation, and scale-up of high-impact evidence-based strategies to improve public health outcomes
Partner
Tackle Health Inequities
Engage multisectoral partnerships, including with other government departments, to focus on and address health inequities and to tackle the social determinants of health


Public Health England
Health Impact Priorities
Health and Wellbeing Directorate
Health Impact Priorities
While supporting and ensuring progress against the PHOF, the Directorate will provide enhanced focus on the major drivers of mortality and morbidity in England where further gains may be made by scaling known, effective strategies
Well being and Mental Health
Mental disorder accounts for largest burden (23%) of diseases in England and affects >1 in 4 of the population at any time
Mental wellbeing assoc with improved outcomes in health, education, employment, reduced crime and antisocial behaviour
Public mental health: Better assessment; interventions; prioritization
Diet, Obesity, and Physical Exercise
All major causes of CVD and cancer. Poor diet accounts for one third of deaths from cancer and CVD. Low levels of physical activity increases the risk CVD, colorectal and breast cancer by 20-35%. Obesity increases risk of type II diabetes (5-13 times), hypertension (2-3 times) and colorectal cancer (3 times) in men.
Tobacco Control and Smoking Cessation
Accounts for 20% of new cases of cancer (23%M and 16%F)
Tobacco causes nearly 1 in 5 deaths in England annually
For each death, 20 more suffer tobacco-related illnesses
Comprehensive cessation programs; excise tax increases; 100% smoke-free policies; media campaigns; cessation access; advertising restrictions work.
Alcohol Moderation and Drug Recovery
Much of the cost of drug and alcohol misuse occurs to the criminal justice system. The main costs to society from drug an alcohol is from related crime. This is different to other lifestyle health related areas and needs a different public health response.
HIV and Sexual health
By the end of 2012 likely more than 100,000 PLWHA in the UK
Late diagnosis a major problem with 50% diagnosed with CD4<350
Millions of STD diagnosed annually, esp. among youth, MSM, minorities
HIV/STD screening, early treatment, partner notification, social marketing campaigns, condom access, and policy to address stigma and discrimination are key interventions


Public Health England
Life Course Perspective
Health and Wellbeing Directorate
Life Course Perspective
Expert Advisors will assist PHE technical leads to develop, implement and monitor population health, and health and wellness across the lifespan in 5 domains. They will also assist PHE in promoting the value and impact of this approach to our partners and stakeholders.
Healthy Infants, Children, and Young Adults
A focus on improving health and health outcomes for mothers and infants, children, teens and young adults
Healthy Adults and Older Adults
All people, and especially those at greater risk of health disparities, will achieve their optimal lifespan with the best possible quality of health, including mental health, in every stage of life
Healthcare Public Health
Support sound decision-making and policy change within the NHS to deliver, scale up, evaluate and improve effective clinical preventive services that drive population health
Healthy People in Healthy Places
Ensuring that the places where people live, work, learn, and play will protect and promote their health, especially those people at greater risk of health disparities.
Health in All Policies
Inform and support DH and other government partners in sound decision-making and policy change at all levels to deliver and evaluate programmes and address social determinants of health.


Public Health England
Promoting Innovation for Impact
Health and Wellbeing Directorate is committed to:
Supporting the development and delivery of high quality, effective, evidence-based prevention programmes
Using new technologies, including digital and social media, to engage and empower individuals, communities and our partners about health and well-being
Building capacity in important areas including public mental health, population healthcare, accidents injuries and violence
Working with diverse partners to encourage settings-based approaches to health and well-being, in addition to promoting health across the lifespan
Integrating insights from behavioural science to improve the effectiveness, efficiency, and acceptability of our programmes
10


Public Health England
Summary
This is a time of great opportunity to focus on the public's health in a more comprehensive, holistic, and empowering way
Initiatives such as MECC align with the mission, values, and approach to health improvement being promoted by Public Health England
MECC is also a critical strategy to encourage more health promoting healthcare environments, with local leadership and deeper engagement of staff in the health and well-being agenda
PHE remains keen to support MECC, identifying opportunities to learn from and promote promising practices, across the entire system, where possible


Public Health England
Health and Wellbeing in Public Health England:
Promoting Innovation for Impact
Professor Kevin Fenton
National Director, Health & Wellbeing

Public Health England

Breast Screening Programme

Claire Borrelli
Lead Breast Screening Radiographer
Cancer Screening & Prevention Team

Public Health England

What is Screening

The application of diagnostic measures to apparently healthy well persons in the hope of uncovering a serious disease in the pre symptomatic phase

NHSBSP 1996

Public Health England

Background

- In 1987, a report commissioned by UK Health Ministers recommended that a mammographic screening programme be established in the UK.
- NHSBSP 1st nationwide population-based breast screening programme in the world.

Public Health England

- In 1988 the NHSBSP began offering women aged 50-64 triennial screening.
- Full national coverage by mid 1990s.
- In 2003, age range extended from 50-64 to 50-70.

Public Health England

Aim of Screening

- To reduce mortality

Research has proven that early detection of breast cancer can reduce the mortality rates.

Public Health England

Principles

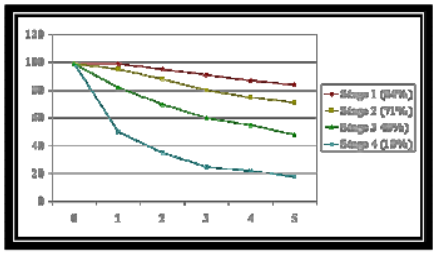
- The condition screened for should pose an important health issue
- There should be a recognizable early stage
- The natural history of the disease should be well understood

Public Health England

- There should be a suitable test
- The test should be acceptable to the population
- For diseases of insidious onset, screening should be repeated at intervals determined by the natural history of the disease
- Treatment of the disease at an early stage should be of more benefit than at a late stage

Public Health England

Treatment of the disease at an early stage should be of more benefit than at a late stage



Public Health England

- There should be adequate facilities available for the diagnosis and treatment of any abnormalities detected
- The chance of physical or psychological harm should be less than the chance of benefit
- The cost of case-finding (including diagnosis and treatment) should be economically balanced against the benefit it provides

Public Health England

The Triple Test

- Clinical/History
- Imaging - Mammography/ultrasound
- Needle biopsy - Histology/cytology

Many publications report at or near 100% sensitivity for malignancy when any component of the triple test is positive

Roche,Given-Wilson et al 1998 BJS

Public Health England

Quality Criteria NHSBSP

Objective	Outcome measures
To maximise acceptance of the invitation	>80%
To minimise recall for further investigation	<7% Prevalent <4% Incident

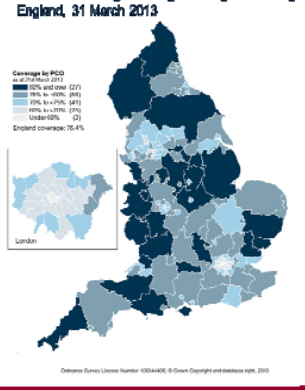
Public Health England

Quality Criteria NHSBSP

Objective	Outcome measures
To maximise cancers detected	>3.6/1000 Prevalent >4/1000 Incident
To maximise the small (<15 mm) invasive cancers	50%
To detect a representative proportion of DCIS	10-20% of all cancers

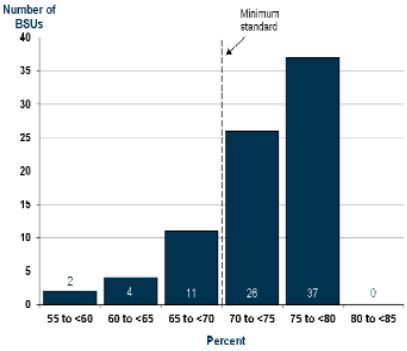
Public Health England

Breast screening coverage among women aged 53-78, by PCO
England, 31 March 2013



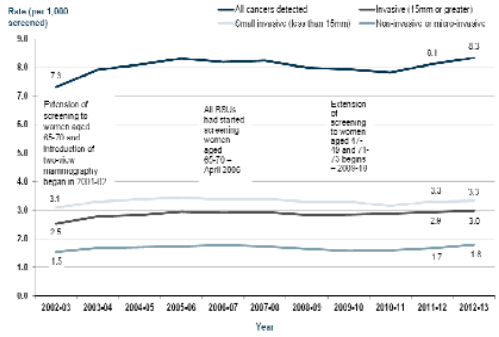
Public Health England

Uptake by women aged 50-70 of invitations to screen by breast screening unit
England, 2012-13



Public Health England

Women aged 45 and over with cancer detected (rate per 1,000 women screened) by type/size
England, 2002-03 to 2012-13



Public Health England

Achievements

- 2 view mammography & digital imaging
- 2.3 million women invited in 2012/13
- 1.7 million accepted invitation
- Robust Quality Assurance and Audit processes
- Randomised age extension trial currently underway
- Reduced mortality by a third

Public Health England

claire.borrelli@stgeorges.nhs.uk

Public Health England

Health equity and the public health system in England

Bola Akinwale
Health Equity Lead, Public Health England
15 May 2015

Public Health England

Overview

Context

Evidence and intelligence for our work

PHE's programme of work on health inequalities

Future directions

Public Health England

PHE's role on health inequalities

- PHE's mission is to protect and improve the nation's health and to **address health inequalities**
- There are specific **legal duties** on health inequalities which Public Health England must meet
- PHE disseminates data, evidence and good practice to support wider understanding and implementation of effective approaches. We support **local services** on
  - Wider determinants of health
  - Health behaviours
  - Equitable service provision

Public Health England

The Marmot Review

1. Giving every child the best start in life
2. Enabling all children, young people and adults to maximize their capabilities and have control over their lives
3. Creating fair employment and good work for all
4. Ensuring a healthy standard of living for all
5. Creating and developing sustainable places and communities
6. Strengthening the role and impact of ill-health prevention

Public Health England

Legal context

Health and Social Care Act 2012 – duties on health inequalities

"…the Secretary of State must have **regard to the need to reduce inequalities between the people of England** with respect to the benefits that they can obtain from the health service".

Section 1C of the NHS Act 2006, as amended by the 2012 Health and Social Care Act

Equality Act 2010 – public sector equality duty

Ensures that public bodies such as PHE consider the needs of all individuals in their day to day work – in shaping policy, in delivering services, and in relation to their own employees

Identifies 9 protected characteristics (e.g. age, disability, race, sexual orientation)

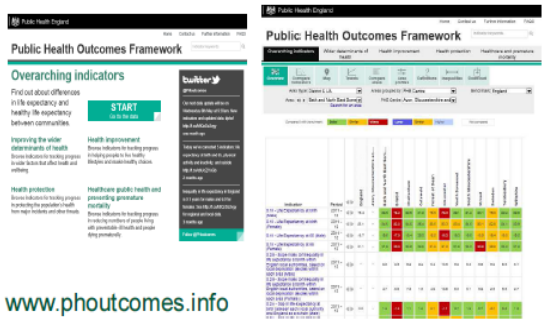
Public Health England

Legal duties in practice

Health inequalities duty	Public sector equality duty
Whole-population approach	Specific focus on the 9 protected characteristics
Social gradients in health outcomes are reduced	Provision of health is free from discrimination, with equitable access
Focus on outcomes	**Focus on equality of opportunity**, treating everyone fairly and with dignity and respect

Evidence

Public Health Outcomes Framework

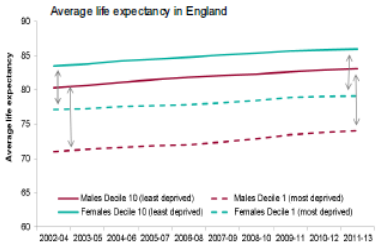


www.phoutcomes.info

7

Evidence

Socio-economic inequalities



Source: Public Health Outcomes Framework

2011/13:
Life expectancy gap: **9.1 years**
Healthy life expectancy gap: **19.2 years**

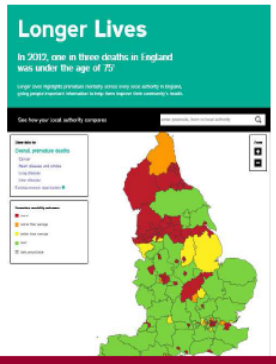
2011/13:
Life expectancy gap: **6.9 years**
Healthy life expectancy gap: **19.5 years**

8 Health Inequalities - Bola Akinwale

Evidence

Geographic disparities

Persistent geographic variations in premature mortality



9

Evidence

Ethnic inequalities in health

Diabetes prevalence

Compared with White men

4 times higher in Bangladeshi men

3 times higher in Pakistani and Indian men

Compared with White women

5 times higher among Pakistani women

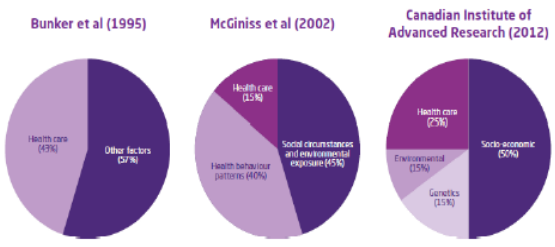
3 times higher in Bangladeshi and Black Caribbean women

2.5 times as likely in Indian women

10

Evidence

Place and position in society are large contributors to health



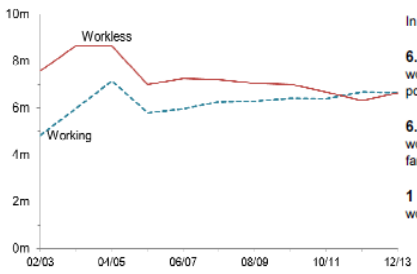
King's Fund/LGA (2014) Making the Case for Public Health Interventions

11 Health Inequalities - Bola Akinwale

Evidence

Inequalities in wider determinants

Increasing numbers of people in working poor families



In 2012/13:

6.7m people in working families in poverty

6.6m people in workless/retired families in poverty

1 in 6 children in workless families

12

Evidence

Socially excluded groups

Homeless people

- Each year, over a quarter of a million people in England have contact with at least two out of three of the homelessness, substance misuse and criminal justice systems. At least 58,000 people have contact with all three
- Single homeless people consume around four times more acute hospital services than the general population, costing at least £85m a year.

Evidence

Health inequalities are a drag on economic growth

Health inequalities are estimated to give rise to economic losses of **£31-33 billion a year**

- lost production of £31 billion
- higher benefit payments and lost taxes resulting from health inequalities of £28-£32 billion

Source: Frontier Economics. Estimates for the Marmot Review.

Evidence

Wider benefits of reducing health inequalities

Estimated costs of dealing with a range of health and social care problems in children

	Costs
Youth unemployment	£133 million per week[4]
Youth crime	£1.2 billion per year[4]
Educational underachievement	£22 billion per generation[4]
One year in a children's residential home	£149,240[5]
One year in foster care	£35,152[5]
Admission to inpatient child and adolescent mental health services	£24,482 (median)[120]

Source: Annual Report of the Chief Medical Officer, 2012. Our Children Deserve Better: Prevention Pays

PHE programme

PHE health equity programme

- Evidence and intelligence
- Building capability
- Systems leadership
- Partnerships and communications

PHE programme

Evidence to support local action

Local action on health inequalities: a series of evidence papers

22 papers for local areas by the UCL Institute of Health Equity, published in September

Build on the Marmot Review with evidence and examples of action across a range of domains

Education
Employment
Healthy living
Implementation and impact
standard
Early years
Healthy environment

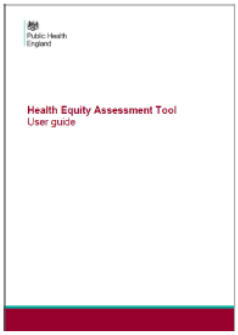
www.gov.uk/government/publications/local-action-on-health-inequalities-evidence-papers

PHE programme

Building capability

Health Equity Assessment Tool

1. What are the health inequalities which exist in relation to your work area?
2. How will your work affect health inequalities – is there any risk that your work might contribute to increasing health inequalities?
3. How will you know if health inequalities have been reduced?
4. Are there any other steps you need to take to make it more likely that your work will reduce health inequalities or reduce discrimination?



PHE programme

Building capability

Health and Health Equity in All Policies

- Master classes for Directors of Public Health (in local areas)
- Joint work with professional bodies (Association of Directors of Public Health, and Local Government Association)
- Aimed to
  - Embed knowledge of WHO approach in local public services
  - Promote cross-sector working
  - Identify skill development needs

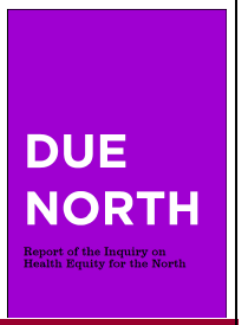
PHE programme

Systems leadership

An independent inquiry to health reduce health inequalities in the North, chaired by Prof Margaret Whitehead

Key areas:

- Local democracy
- A fairer start for children
- Healthy economic development
- Place-based approaches to tackling health inequalities
- Effective welfare policy



PHE programme

Systems leadership

National Conversation on health inequalities

Aims to support a fresh phase of public dialogue about health inequalities

Toolkit for public engagement on health inequalities developed based on social research with members of different communities

Events e.g. community-centred approaches to health and wellbeing

Video stories and written case studies commissioned to demonstrate the lived experience of health inequalities and what can be done locally to make positive change for individuals and communities which will be published in 2015

PHE programme

Partnership and leadership

National Memorandum of Understanding to support joint action on improving health through the home

- First of its kind in England
- Work with 19 other organisations across national and local government, the health service, housing and voluntary sectors
- Support for partnership actions, both financially and drawing on expertise and evidence from across the organisation
- PHE is leading the process of revising the Memorandum's action plan for 2015/16.

Future look

Current and emerging priorities

- Health and Health Equity in all policies
- Refinement of Health Equity Assessment Tool
- Community-centred approaches
- Strengthening health system partnerships and cross-sector working
- Support for PHE priority issues

Public Health England

Smokefree App

Key Principles

NHS

- Based on behavioural insight and knowledge gleaned for a range of Smokefree activity
- Key focus to reinforcing motivation, providing tips and celebrating success
- Designed to be intuitive, engaging and effective
- Links with wider smokefree resources
- Built in analytics

Welcome Screens

Getting Started

NHS

SMOKEFREE

Gathering Data

NHS

SMOKEFREE

Progress

NHS

SMOKEFREE

Craving Help and Personalised Motivations

SMOKEFREE

Stoptober

Digital Convergence

Anand Amlani

SMOKEFREE

September: Recruitment

October: Support

The metrics

+51,243

NEW FACEBOOK FANS Added between Sep & Nov to the existing 70,000

+972

AV FACEBOOK FANS/DAY Compared to 146 pre-campaign

+13,987

TWITTER FOLLOWERS from a standing Start of zero

48,000 tweets on 1st October

SMOKEFREE

A campaign that was social at heart – in social media...

MOVE FROM Saying we're there to help

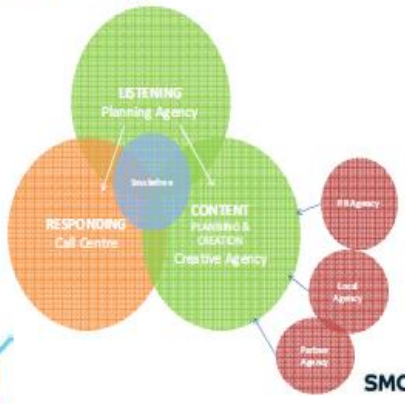
TO Being there with them every step of the way

Be present where they already choose to spend their time. Offer help, support and advice as part of their daily routine. To be a natural guide on their journey to quit.

Orchestrate daily interaction and support, foster community and on the wider scale demonstrate the momentum of the Stoptober movement.

SMOKEFREE

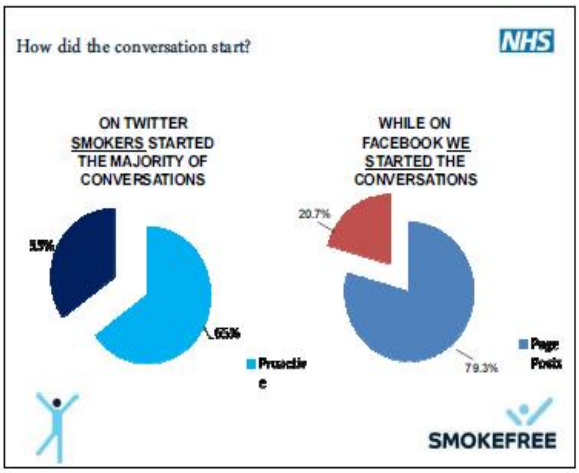
How we were set up



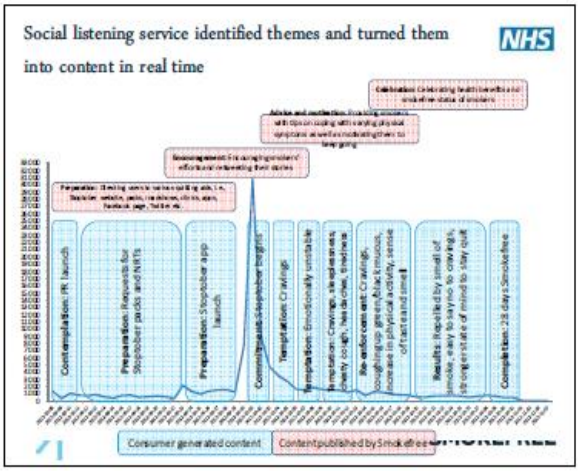
SMOKEFREE

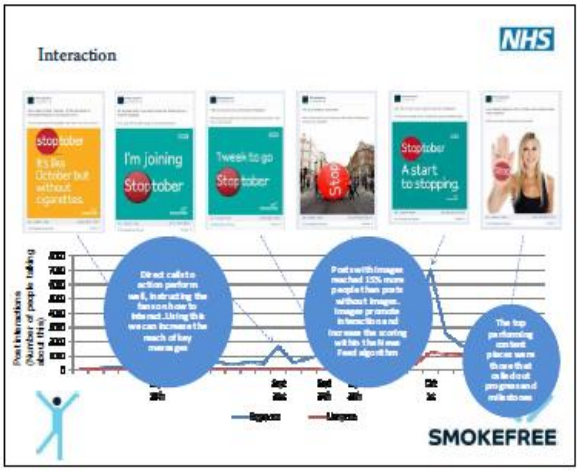

Content Planning
Quitting Journey
Campaign Journey
The Unknown

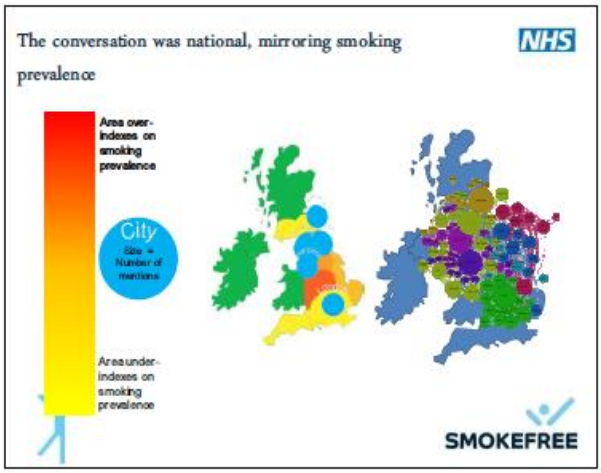

Video Blogs
NHS
I feel like there's a weight of my shoulder & less of a compulsion in my habit
1. We just had our last smoke a minute ago
2. I'm really looking forward to hitting myself for a month
I tried a patch and had a really bad experience. I got ridiculously itchy and it really started to hurt.
Thanks to everyone on YouTube who's been so supportive. My next goal is to reach New Years.
Always keep your source of motivation in mind, whether it's money or family
For the first time in 20 years I've been a month smoke free
My downfall is when I'm driving to work or when I'm out drinking
SMOKEFREE


How did the conversation start?
NHS
ON TWITTER SMOKERS STARTED THE MAJORITY OF CONVERSATIONS
WHILE ON FACEBOOK WE STARTED THE CONVERSATIONS
20.7%
79.3%
SMOKEFREE


But while WE kick started the conversations on Facebook, it was the FANS who OWNED them
NHS
1 week down
Stoptober
CONVERSATION WOULD START ON TOPIC...
BUT ALWAYS TURN INTO GENERAL SUPPORT AND HELP FOR EACH OTHER

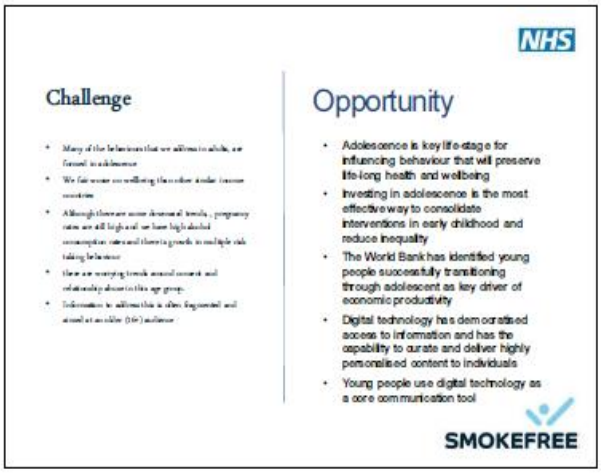

Social listening service identified themes and turned them into content in real time
NHS
Consumer generated content
Content published by Smokefree


Interaction
NHS
stoptober
It's like October but without cigarettes.
I'm joining Stoptober
Tweek to go
Stoptober
A start to stopping
Direct calls to action perform well, instructing the fan on how to interact...Using this we can increase the reach of key messages
Post with images reached 15% more people than posts without images. Images promote interactions and increase the scoring within the News Feed algorithm
The top performing content pieces were those that called out progress and milestones
SMOKEFREE


The conversation was national, mirroring smoking prevalence
NHS
Area over-indexes on smoking prevalence
City
Size = Number of mentions
Area under-indexes on smoking prevalence
SMOKEFREE

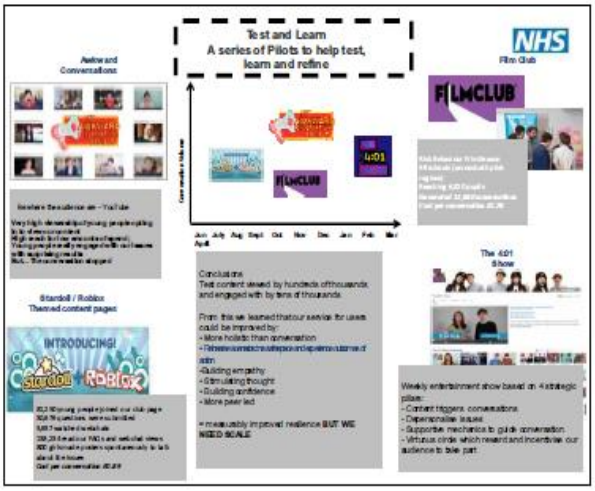

#StoptoberThank you NHS for a good reason to give up smoking.
@stoptober 28 Days of non-smoking for me tmr will I feel gmr neat!Thanks for the inspiration Stoptober !! xx
@stoptober Thank you!! I've made it 28 days, and I'm now a non smoker! I couldn't have done it without this #community


RISE ABOVE
READY UP


NHS
Challenge
Opportunity
Adolescence is key life-stage for influencing behaviour that will preserve life-long health and wellbeing
Investing in adolescence is the most effective way to consolidate interventions in early childhood and reduce inequality
The World Bank has identified young people successfully transitioning through adolescent as key driver of economic productivity
Digital technology has democratised access to information and has the capability to curate and deliver highly personalised content to individuals
Young people use digital technology as a core communication tool
SMOKEFREE


Discovery
Gathering Evidence
NHS
ChildLine
Letter to teacher written in our user research
Tweendom: a time when relationships and roles are in constant flux


Research
Some Young People we met
NHS
Build Resilience
'I need a safe way to have conversations about growing up with my peers'



The 4.01 show

Public health first: a weekly YouTube show which encourages young people to talk about health issues. To date the show has received over **almost 2m views and has 25k subscribers**.

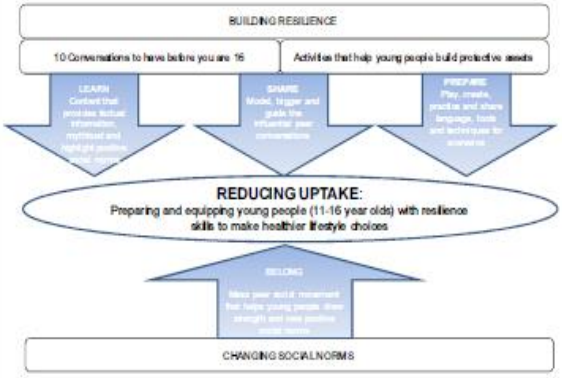
Evaluation has shown that the show has helped equip young people with confidence to vocalise negative attitudes towards risky behaviors and equipped with strategies for saying no.

Equipping young people with confidence, skills to deal with anything life throws at them.

RISE ABOVE **READY UP**

We're about:
- Active choices
- Open and honest conversations
- Facing adversity positively
- Collective strength

How Rise Above works?



An engaging web hub

" In the first 2 days I went back to the site again and again. It was really interesting and fun" - **Female, 14**

Rise Above influences young people in various ways

Multiple perspectives	Rehearsing Scenarios	Building confidence	Stimulating thought
Encourages them to see situations from new angles and other people's points of view	An opportunity to experience situations, and the outcomes of decisions made, in a safe environment	Confirming that their intentions are right and that others think the same way	Brings issues into focus and encourages reflection

Now I know what I'd do if someone offered me cigarettes
Female, 13, Birmingham

"It made me feel happier...it's good to know you are not the only person who feels this way"
- Isabella, 13


Promoting Rise Above

Public Health England

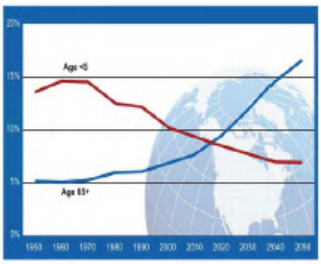
Public Health England
Older People's team
Health and Wellbeing Directorate

Presentation for the delegation from Ministry of Health and Welfare, Taiwan
19th May 2015

Public Health England

Global ageing population trajectory

Young Children and Older People as a Percentage of Global Population: 1950-2050



Source: United Nations, *World Population Prospects: The 2010 Revision*. Available at: http://esa.un.org/unpd/wpp.

- The number of people today aged 60 and over has **doubled** since 1980.
- The number of people aged 80 years will almost **quadruple** to 395 million between now and 2050.
- Within the next five years, the number of adults aged 65 and over will **outnumber** children under the age of 5.
- Between 2000 and 2050, the proportion of the world's population over 60 years will **double** from about 11% to 22%.

Public Health England

The major risk factors are clear

The way we live our lives has significant impact on our health. Good diet, exercise and healthy weight would see us living healthier lives

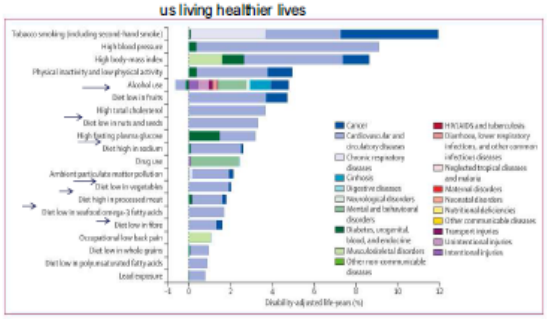
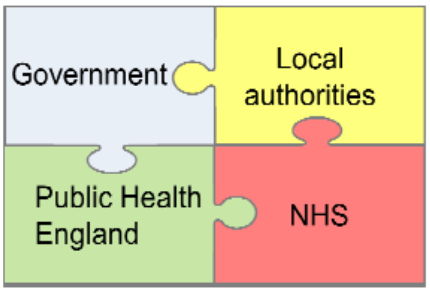


Figure 2: Burden of disease attributable to 20 leading risk factors for both sexes in 2010, expressed as a percentage of UK disability-adjusted life-years
The negative percentage for alcohol is the protective effect of mild alcoholuse on ischaemic heart disease and diabetes.

Public Health England

Tackling these issues requires an integrated approach to Public Health



Public Health England

PHE is working with partners to improve the national approach

Women's Health & Equality Consortium
Voluntary Organisations Disability Group
NHS England
mental health foundation
Race Equality Foundation
The Lesbian & Gay Foundation
KING'S College LONDON
Irish in Britain
RC PSYCH
NHS
Health Education England
UPSTORY NETWORK
csv make a difference
ENFIELD Council
careerstrust
NCF
scie social care institute for excellence
BKTA Project Action for Asian Elders AND Carers (London)
Public Health England
Local Government Association
Alzheimer's Society
Central and North West London NHS
THE NATIONAL COUNCIL FOR PALLIATIVE CARE
CIS
DAA Dementia Action Alliance
Department of Health
Kensington & Chelsea and Westminster Memory Service

...and many more!

Public Health England

Places and People

Birth – 5yrs Early Years	School Aged Children 5–18yrs	Young Adults to Established Adults 18 to 64yrs	Older Adults 65 to 100 +yrs

Home and Family Spaces

Leisure & Social Spaces

Education Settings

Early Years Settings

Workplace Settings

Healthcare Settings

Older People's work stream

- Dementia programme
- Ageing Well Framework
- Carers' health and wellbeing
- Primary prevention muscular-skeletal (includes falls)
- Public Health approaches to end of life care
- Social isolation and loneliness, older adults

High Impact Areas

Publication	Aim	Audience
Ageing Well Framework	Co-production with National Health Service and to lead change	Government, National Health Service hospitals, Clinical Commissioning Groups, Local Authority commissioners & Voluntary Sector
Brain Age Tool	Raise Awareness of risk factors and reduction	Public
Dementia Intelligence network web portal	Transparency on use of data collected	Government, National Health Service hospitals, Clinical Commissioning Groups and Local Authority commissioners

What is PHE doing on dementia risk reduction? (I)

- Global consensus
- Professional understanding and action
- Support for people at higher risk
- Marketing and personalised messages
- Evidence and data

What is PHE doing on dementia risk reduction? (V)

Building a global consensus

- Blackfriars has attracted **global attention**. The Envoy has said the **UK is "leading the world"** on risk reduction.
- World Dementia Council **added risk reduction** to their work plan and developed a **Call for Action** that includes risk reduction for dementia, achieving sign up by 80 countries at the **WHO-hosted Ministerial Conference on Global Action Against Dementia**, in Geneva 16-17 March
- Once the WDC has agreed a position on risk reduction, the Dementia Innovation Unit in conjunction with PHE will be presenting options around using their influence to support **multi-national responses** to dementia risk reduction e.g. an EC-level statement
- PHE presented work on risk reduction at **Japan Global Legacy Event** on 5-6 November, and represented the UK

What is PHE doing on dementia risk reduction? (II)

Public understanding and personalised tools

- Major new healthy living **marketing campaign** aimed at getting 40 to 60-year-olds to "reassess" their health and make changes to help them live healthily in older age.
- **Personalised diagnostic tools** to help people understand and manage their risk of developing dementia **e.g. the brain age calculator** being developed by University College London for incorporation into the NHS Health Check (following further development of the functionality and messaging, user testing and validation for clinical use)

What is PHE doing on dementia risk reduction? (III)

Support for people at higher risk

- Build dementia risk reduction into **care and support for pre-disposing conditions** such as diabetes and hypertension, including through our new preventative services programme with NHSE, where we will develop the world's first national evidence-based diabetes prevention programme
- Incorporate dementia risk reduction as a **key outcome in health improvement programmes**

Stimulating 500,000 quit attempts through smoke free campaigns like Stoptober, a New Year health harms campaign and legislation to ban smoking in cars

Providing evidence on what works to reduce harmful drinking to support evidence based policies, prevention and treatment interventions

Implementing *Everybody Active Every Day*:
- changing the social 'norm' to make physical activity the expectation
- developing expertise and leadership
- creating environments to support active lives
- identifying and up-scaling successful programmes nationwide

Supporting NHS mental health services to become smoke-free and working to reduce prevalence of smoking in prisons

What is PHE doing on dementia risk reduction? (IV)

Professional understanding and action

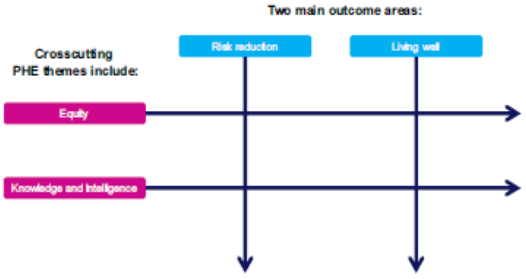
- Work with our partners e.g. Health Education England, the Royal Colleges and others to ***increase professionals' understanding*** of dementia risk reduction and enable them to support people in taking action to reduce risk
- For example incorporate dementia risk reduction into ***training materials and curricula***

Evidence and research

- Work with academics and other partners to develop ***measures for modelling of dementia incidence and prevalence***
- Support continued development the ***evidence base*** for dementia risk reduction and its implementation

What is the PHE dementia programme working on? (I)

"Transforming a generation's risk of dementia" is one of PHE's driving ambitions, and our work programme reflects that. PHE is also supporting a much larger government programme on dementia. As part of this PHE are currently working on:



Living well with dementia

- PHE are supporting the sustainability and expansion of Dementia Friends, so that people with dementia and their carers are able to live well with dementia.
- PHE is transitioning the leadership of the Dementia Friends marketing programme to the Alzheimer's Society and will provide ongoing support for the Dementia Friendly Communities initiative.
- This year we educated 1 million people to become 'Dementia Friends' this year, with pledges made by corporate partners, NGOs and public sector organisations

Discussion about equality issues within the dementia population has been growing over the past year

Local projects - have seen notable successes, but are small scale and national learning and sharing is limited

Meri Yaadein
Raising awareness of Dementia

University to Launch LGBT Dementia Support Project

Irish Memory Loss Alliance

Particular recent focus on BME issues – APPG report and voluntary / community sector awareness raising has highlight dramatic differences in people's experience of dementia, both with the condition and as carers.

PHE are coordinating national work to address equality issues in dementia

- Equality within the population affected by dementia, not between this population and the wider population


Equality Act 2010

CHAPTER 15

CONTENTS

Nine 'protected characteristics'

- age
- disability
- gender reassignment
- marriage and civil partnership
- pregnancy and maternity
- race
- religion or belief
- sex
- sexual orientation

Other major sources of inequality

- Socio-economic status
- Geography
- Seldom heard/vulnerable

→ **Are people getting the support they need in line with their legal rights?**

Stakeholders have told us they are keen to see, and participate in, action to address inequalities. Four national asks stand out

1. **Raise professional awareness**
   1. Understanding is thought to be low across professional groupings
2. **Improve data and intelligence**:
   1. Basic questions unanswered: how many people are there with the protected characteristics and dementia? Who is missing out in receiving support?
   2. Building into Dementia Intelligence Network workplan – possibility of new national data extractions
3. **Mainstream equalities in wider dementia policy**
   1. Embedding in work to consider next steps after the Prime Minister's challenge
4. **Work programme shared across partners**
   1. We are reviewing progress and priorities & exploring opportunities for alignment

Public Health England

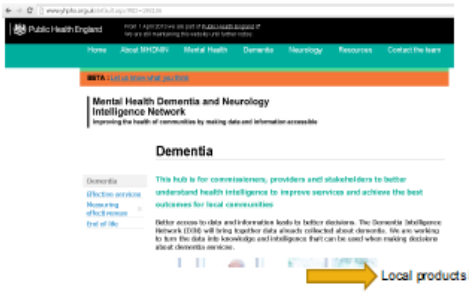
Prevention of Musculoskeletal Conditions

- Falls Fragility Fracture Population Programme
- Falls prevention public facing
- Work place Charter support for Employers
- Promoting Physical Activity as prevention and treatment for Osteoarthritis

Public Health England

Knowledge and Intelligence

We are supporting commissioners, local decision makers and other health professionals through providing authoritative intelligence, research and evidenced best practice through the **Dementia Intelligence Network**.



Local products in 2015

Public Health England

Living well: Dementia carers

Why important?

- Approx. 550,000 dementia carers in England (2013).
- Carers play a crucial role in care for people with dementia.
- Caring role can negatively impact health and wellbeing.
- PM challenge 2020: enable dementia carers to cope with caring responsibilities and have a life alongside caring.
- Interventions are likely to be cost-effective for wider system

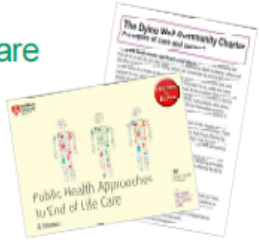
What is PHE doing?

- Rapid review of evidence-based interventions – multi-component interventions appear most effective.
- Work with the Depression Alliance to adapt existing online support service to dementia carers.
- Research on end of life care which includes dementia carers as a core target group.
- Member of DH's Post Diagnosis Support Group.

Public Health England

End of life care

- We are promoting, facilitating and evaluating public health approaches to end of life care.
- These are approaches which focus on building local community capacity and resilience to support the needs of the dying and the bereaved.
- We have commissioned the Dying Well Community Charter and a Toolkit which is being taken forward locally by 14 local areas.
- We are undertaking two pieces of research to enable us to monitor progress and impact of this work.



- The qualitative research piece with the public includes those with dementia and their carers as a key target audience.
- Research findings will further support implementation of these approaches and will existing supplement existing PHE data.

Public Health England

THANK YOU

Any questions/comments?

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Public Health England

Protecting and improving the nation's health

From evidence into action: opportunities to protect and improve the nation's health

October 2014

Foreword

We have an ambition: for people of this country to live as well as possible, for as long as possible. But on current trends, we are going to fall short because we face an epidemic of largely preventable long-term diseases. We may be living longer, but we – and future generations – risk spending many of these extra years in poor health unless we do a better job of tackling major risks such as obesity, poor diet, physical inactivity, smoking, and excessive alcohol consumption. If we fail, it will be the most vulnerable and the most deprived communities who will bear the heaviest burden.

It will be neither effective nor feasible to attempt to solve these problems by ramping up our spending on hospitals, clinicians and services. Resources are scarce and all sectors, from the NHS to local authorities, are under huge pressure from constrained budgets and rising demand.

What we need is a fundamentally new approach to creating and sustaining health, mental and physical, at every stage of life and across all our communities.

It is an approach that acknowledges that our health is shaped by where and how we live: by our jobs, families, homes; but that also recognises the power of individuals to change their lifestyles, especially if they get the right support at the right time.

We have an opportunity, with the creation of Public Health England, the NHS Five Year Forward View and the momentous return of public health to local authorities, to put this approach into practice.

We have looked to the evidence to identify where we should focus our efforts. This report sets out seven key priorities where, through working closely with our partners in local and national government, with the NHS, the voluntary and community sector, and with industry and academia, we can make a significant difference over the coming five to ten years. In real time, these will not be quick wins, but in public health time, which is measured in decades, they could be.

None of this is easy, but we will demonstrate that it is achievable. First, because we know what success looks like – take, for instance, the interventions that have led to dramatic falls in death rates from heart disease over the past decade[1] as proof of what is possible.

From evidence into action: opportunities to protect and improve the nation's health

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services.

October 2014

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Second, because we have opportunities to do things differently. These we must seize because they have the potential to magnify the impact of what we do in public health. In other areas of our life think of the power and reach of digital technology. Now combine that with new insights from the behavioural sciences, and it is clear we are on the cusp of a revolution in how we promote healthy lifestyles. Likewise, new evidence and new knowledge – about the importance of the early years, for example, or the links between mental and physical health – could transform the scope of public health.

So this provides the opportunity for public health to think big. We won't be alone because there is an unprecedented consensus that prevention and early intervention belongs at the heart of this country's health agenda. That is why, at Public Health England, we are working hand in hand with local government to promote the uptake of all those effective interventions to prevent disease and improve population health. That is why we will help to deliver the NHS Five Year Forward View. And that is why we seek to enlist the power of employers to promote the health and productivity of their workforce.

To improve the population's wellbeing we need these ideas to take root locally, in people's neighbourhoods and communities. So it is vital that, as they respond to local needs and priorities, we support local authorities – drawing on the expertise of the Local Government Association and SOLACE – to tap into the power of 'place-based approaches' and community development, harnessing the collective assets and resources available locally to address local needs.

This document sets out our commitment to support our partners with a programme of work that:

- ensures credible, evidence-based advice is available on the key issues relating to the public's health
- develops our ability to engage and support the public in making healthier choices
- mobilises support for broader action on improving the public's health

What we are looking to stimulate is a new movement that focuses on creating and protecting health, not only treating ill-health. This document is an invitation to our colleagues across the health professions, local and national government, the voluntary and community sector and the public, to join us in applying the evidence of what we know works to achieve the step-change in the nation's health that we all seek.

David Heymann
PHE board chair

Duncan Selbie
PHE chief executive

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Our health today

In recent years, we have seen significant increases in access to and the quality of healthcare, backed by significant growth in resources. Life expectancy continues to rise as premature mortality for eight out of ten of the commonest causes of death falls.[2]

Yet, as the Department of Health set out in *Living Well for Longer*, we are falling further behind other comparable countries in relative terms: we are living longer but with many of our later years troubled by ill health. As a nation we still continue to see deep-seated inequalities between those with the most and those with the least in our society, and across different regions of our country. In addition, the cost of ill health is increasing – treating type II diabetes costs the NHS £8.8 billion a year[3] – and our increasingly sedentary lifestyles – we are 20% less active than we were in 1961[4] – mean we need to take action now.

We see these trends despite universal access to the NHS and despite the significant increases in resources allocated to the NHS in recent years.[5] The truth is that healthcare has a relatively limited impact on our health. The environment around us, our genetic inheritance, how we live our lives and the opportunities we have together largely determine our health.[6] International studies suggest healthcare contributes only about 10% to preventing premature death[7] (Figure 1), although this varies in different settings.

As our joint work with the Royal Society for the Prevention of Accidents, *Delivering accident prevention at a local level in the new public health system*, showed, injuries continue to be a significant cause of disability and early deaths, particularly for the young and old. We also know there are considerable inequalities in the burden of unintentional injuries across the country.

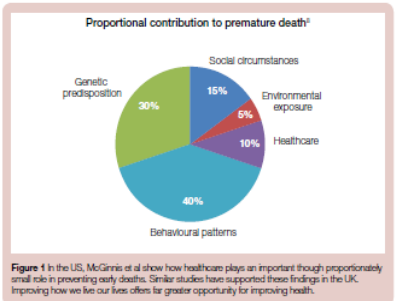


Figure 1 In the US, McGinnis et al show how healthcare plays an important though proportionately small role in preventing early deaths. Similar studies have supported these findings in the UK. Improving how we live our lives offers far greater opportunity for improving health.

In order to improve the surveillance data for injuries, we will step up our work with emergency medicine colleagues to develop potentially powerful new data feeds from A&E.

We need a new approach: where we encourage everyone to gain more control of their health; where prevention and early intervention are the norm, recognising that action on health inequalities requires action across all the wider determinants of health; and where the assets of individuals, families and communities are built upon to support improved health.

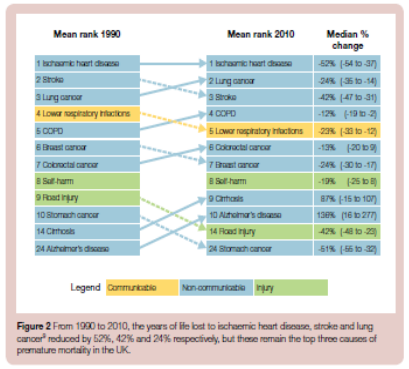


Figure 2 From 1990 to 2010, the years of life lost to ischaemic heart disease, stroke and lung cancer[9] reduced by 52%, 42% and 24% respectively, but these remain the top three causes of premature mortality in the UK.

Continuing to protect the public from threats to their health

Although we have seen very significant reductions in the burden of infectious disease and the impact of some environmental hazards, these remain a very significant risk to the public's health.[17]

The potential threats from infectious disease are diverse and challenging. TB, HIV and hepatitis C all continue to pose serious public health challenges within our population. We must also be alert to, and able to respond to, emerging infections such as the newly identified Middle East respiratory syndrome coronavirus (MERS-CoV). In doing this, we must retain a global outlook, recognising that in our increasingly connected world infectious disease could easily be carried from country to country. The Ebola outbreak in West Africa reminds us of the global impact of infectious disease and the need to maintain effective measures to identify and respond to outbreaks, both at home and abroad.

We will remain vigilant in preparing and planning for major outbreaks, ensuring we are able to respond early and effectively to new and emerging threats to our health. We are introducing new whole genome sequencing capabilities, which are allowing us to adopt new approaches to identifying outbreaks, understanding the transmission of infectious disease and to the management and prevention of outbreaks.

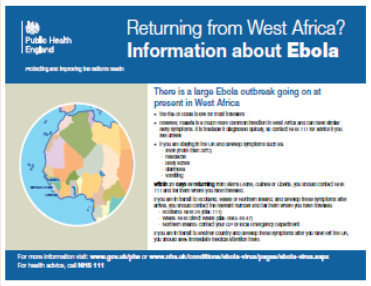


Figure 6 Ebola information poster published by Public Health England in response to the Ebola outbreak 2014, and displayed at major airports.[13]

Health drivers: how we live and the circumstances of our lives

The way we live our lives has a major impact on our health. The *Global Burden of Disease* study demonstrates the impact on our health of poor diet, obesity, lack of exercise, smoking, high blood pressure and too much alcohol. The study also demonstrates that mental illness is the largest single cause of disability and represents 23% of the national disease burden in the UK.[10]

The circumstances in which we find ourselves also have an impact on our health – they impact on the opportunities we have to make healthy choices.

While individuals' behaviours do matter (for example, studies show around half of the health inequalities between rich and poor are the result of smoking[11]), the reality is that our health is impacted by a range of wider determinants including:

- good employment
- higher educational attainment
- safe, supported, connected communities
- poor housing and homelessness
- living on a low income
- social isolation, exclusion and loneliness
- stigma and discrimination

Improving health and closing the gap between those with the most and those with the least requires action across all of these.

Due North,[12] the report of the inquiry on health equity for the North, sets out fresh insights and thinking on how we might do this. And we must recognise the link between mental illness and physical health. Essentially, those with mental illness die on average 15-20 years earlier than those without. The life expectancy of people with serious mental illness in 2011 was comparable to that of the general population in the 1950s.[12]

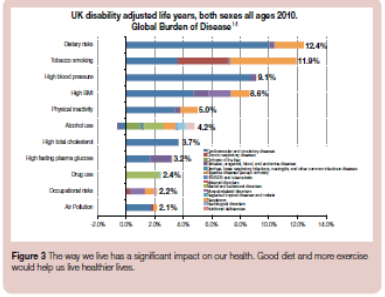


Figure 3 The way we live has a significant impact on our health. Good diet and more exercise would help us live healthier lives.

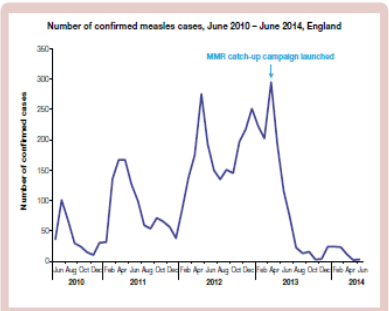


Figure 7 The successful introduction of a measles, mumps & rubella catch-up campaign to vaccinate unprotected children had an immediate impact on the numbers of cases of measles.[15]

Figure 4 There are stark health inequalities[15] stemming from unemployment and socioeconomic status, as well as geography across the country.

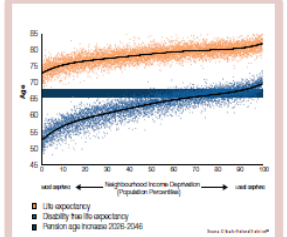


Figure 5 Although life expectancy[16] continues to increase, we are living longer with disease as more and more of us live with long-term conditions.

Looking to the future

We have seen real successes in recent years, from reducing premature deaths from heart disease to reducing teenage pregnancies. But some of the key trends continue to go the wrong way. Across our population, obesity continues to rise and 62% of adults are now overweight or obese.[20] We are projected to be 35% less active in 2030 than we were in 1961,[21] and alcohol-related deaths have doubled over the last 20 years.[22] Alcohol and obesity are the leading causes of liver disease, the only major disease in the UK for which mortality is still increasing.[23]

We need to understand better what contributes to these trends which, in turn, will shape the health of our population. PHE will develop the capability to forecast the likely future direction of health trends – we aim to be the health equivalent of the Office of Budget Responsibility, with an authoritative analysis of the public's health in the long term. Initial modelling with the UK Health Forum considers the impact of obesity and smoking over the next 20 years.

If current trends persist, one in three people will be obese by 2034 (Figure 8) and one in ten will develop type II diabetes (Figure 9). Yet, if we could reduce obesity back to 1993 levels, five million cases of disease could be avoided (Figure 10).[24]

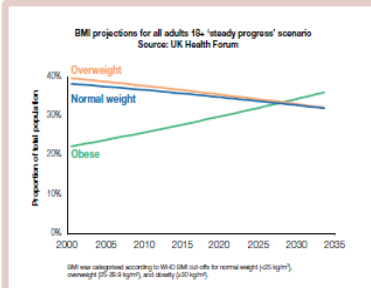


Figure 8 Body mass index projections for adults where current trends continue (based on Health Survey for England data 2000-2011).[21]

Our seven priorities

We have identified seven priorities where we will focus our efforts. These are supported by the evidence in the *Global Burden of Disease* study[28] that emphasises just how important these factors are from an epidemiological perspective in determining our health, and also how the same risks contribute to so many of the conditions and diseases that cause ill health and premature death. And we know these require action on contributory factors, such as physical activity. In addition, as the work of Professor Sir Michael Marmot and others have established,[29] the evidence shows that a good start to life is the key to lifelong health and wellbeing.

We will also focus on dementia as a leading public concern, recognising that a focus on these same risk factors will help reduce people's risk of dementia and delay its onset.

We will continue to prioritise protecting the public from infectious disease, maintaining our capacity and capability to prevent and control outbreaks effectively. In particular, we want to see progress in tackling tuberculosis and reducing the threat from antimicrobial resistance.

We will pursue each of these, recognising three underpinning themes:

- that we are concerned with population health and also with the impact on individuals, and that mental and physical health are equally important to our wellbeing
- that we must act in a way that reduces health inequality and ensures everyone is able to benefit
- that we recognise the importance of place and the strength of building on all of a community's assets

The seven priorities are not our only areas of interest, nor do they represent the full range of contributions that we make to protecting and improving the public's health. They are, however, the areas we identify as most in need of improvement in the next 5 years and where we will relentlessly focus our efforts.

PHE will focus on securing improvements against seven priorities:

- **tackling obesity** particularly among children
- **reducing smoking** and stopping children starting
- reducing **harmful drinking** and alcohol-related hospital admissions
- ensuring **every child** has the **best start** in life
- **reducing the risk of dementia**, its incidence and prevalence in 65-75 year olds
- tackling the growth in **antimicrobial resistance**
- achieving a year-on-year decline in **tuberculosis** incidence

We cannot do this alone. PHE will work with local and central government, clinical commissioning groups and the wider NHS, universities, industry, employers, and the voluntary and community sector to build support and commitment for improving health, making evidence and knowledge on 'what works' available to all in a form they can use and spreading best practice. Above all, we need an active partnership with people so they take greater charge of improving their own health.

3 Reducing harmful drinking

Outcome:
A reduction in the number of hospital admissions due to alcohol.

Why focus on drinking?

Alcohol is the leading risk factor for preventable death in 15-49 year olds.[51] Nine million adults now drink at levels that increase the risk of harm,[49] of whom 1.6 million show signs of alcohol dependence.[50] From 2001-2012, the number of people who died due to liver disease in England rose from 7,841 to 10,948 – a 40% increase and in contrast to other major causes of disease that have been declining.[51]

The harm of alcohol falls not just on individuals but on society as a whole. Overall, alcohol harm costs society £21 billion a year, with the costs to the NHS at £3.5 billion.[52]

We see massive inequalities in where its impact is felt. People with mental illness are more likely to misuse alcohol;[53] and the most deprived fifth of the population of the country suffers two to three times greater loss of life attributable to alcohol.[54]

Where are we now?

In 2012/13, there were 326,000 hospital admissions where alcohol was the main reason for admission.[55]

Figure 13 Infographic depicting alcohol misuse damages to health[56]

Over the next 18 months, PHE will:

- use alcohol as the trailblazer for a new whole system approach that establishes what works and is clear on the return on investment, enabling government, local authorities and the NHS to invest with confidence in evidence based policies, prevention and treatment interventions
- produce an independent report for government on the public health impacts of alcohol and on evidence-based solutions
- produce a framework on liver disease outlining public health actions to tackle liver disease, including alcohol
- expand the Longer Lives web tool to include indicators on alcohol treatment and recovery, and to identify variations in performance
- launch Liver Disease Profiles to support local authority health and wellbeing boards to understand liver disease and its risk factors in their area and, in turn, design effective local population level interventions
- continue to set out the evidence base for the introduction of a minimum unit price for alcohol
- consider the evidence for the inclusion of health as a licensing objective

1 Tackling obesity

Outcome:
An increase in the proportion of children leaving primary school with a healthy weight, accompanied by a reduction in levels of excess weight in adults.

Why focus on obesity?

Being overweight is associated with increases in the risk of cardiovascular disease, diabetes and some cancers.[31] It is also associated with poor mental health in adults, and stigma and bullying in childhood.[32]

We know that poor diet has a direct impact on health: an estimated 70,000 premature deaths in the UK could be avoided each year if UK diets matched nutritional guidelines.[33] We also know that one in two women and one in three men are insufficiently active for good health.[34]

There are stark inequalities in levels of child obesity, with prevalence among children in the most deprived areas being double that of those children in the least deprived areas.[35] If an individual is poor, he or she is more likely to be affected by obesity and its health and wellbeing consequences.

Where are we now?

Being obese or overweight is becoming the social norm: the number of children who are obese doubles from reception to year six,[36] while among adults 67% of men and 57% of women are obese or overweight.[37]

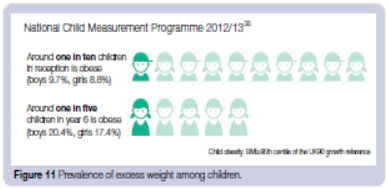


Figure 11 Prevalence of excess weight among children.

Over the next 18 months, PHE will:

- work with NHS England to implement the commitments to tackling obesity set out in the NHS Five Year Forward View
- produce an independent report for government on sugar and diet, including evidence reviews on fiscal measures and promotions and advice from the Scientific Advisory Committee on Nutrition
- publish the evidence-based Everybody Active, Every Day framework[39] and refresh the eatwell plate and 5 a day approaches
- run the New Year healthy eating campaign and summer physical activity campaign, and increase the number of families signed up to Change4Life by 500,000
- support local authorities to deliver whole system approaches to tackle obesity, including through supporting healthier and more sustainable food procurement

4 Ensuring every child has the best start in life

Outcome:
An increase in the proportion of children 'ready to learn at two and ready for school at five'

Why focus on the best start in life?

Getting a good start in life, building emotional resilience and getting maximum benefit from education are the most important markers for good health and wellbeing throughout life.[57] We know that 80% of brain cell development takes place by age three[58] and how we care for infants shapes their lives. Early attachment and good maternal mental health shapes a child's later emotional, behavioural and intellectual development.[59] Enabling children to achieve their full potential and be physically and emotionally healthy provides the cornerstone for a healthy, productive adulthood.

Socially disadvantaged children are more likely to have speech, language and communication difficulties than their peers, which has implications for their educational attainment and future life chances.[60] There is also evidence of difficulties with peer relationships, emotional problems and impaired social behaviour. For example, 60% of young offenders are found to have speech, language and communication needs.[61]

Where are we now?

In 2012/13, 52% of children reached a good level of development at the end of their reception year, with 36% of children eligible for free school meals reaching this level.[62]

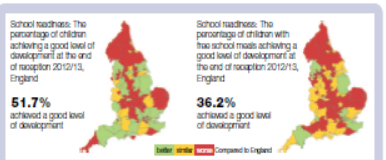


Figure 14 Inequalities in school readiness at the end of reception.[63]

Over the next 18 months, PHE will:

- support local authorities in developing integrated children and young people's services as they take on commissioning responsibilities for the Healthy Child Programme for 0-5s
- promote the importance of high-quality universal services as a foundation for good health for all our children and as a platform for early intervention and targeted support
- develop and strengthen the evidence, including working with the Early Intervention Foundation as a 'What Works Centre for Early Intervention'
- expand the Start4Life Information Service for Parents from 0-2 years to 0-5 years and sign up over 200,000 more parents
- expand newborn bloodspot screening to include four new inherited metabolic disorders
- work with NICE on the implementation of the quality standards and pathways for emotional and social wellbeing in early years
- lead and co-ordinate the Childhood Flu Programme, working with NHS England
- increase coverage of measles, mumps and rubella immunisations for all children at five years

NHS
Cancer Screening Programmes

Cancer screening programmes in England

(With thanks to Prof. Julietta Patnick, Director - NHSCSP, for the original presentation.)

Regions in the UK

NHS
Cancer Screening Programmes

Objective of Cancer Screening Programmes in England

To reduce deaths from bowel/breast/cervix cancer by detecting cancer early when it is still potentially curable

To reduce the incidence of bowel cancer and cervix cancer by detecting and removing precursor abnormalities which, if left untreated MAY develop into cancer

NHS
Cancer Screening Programmes

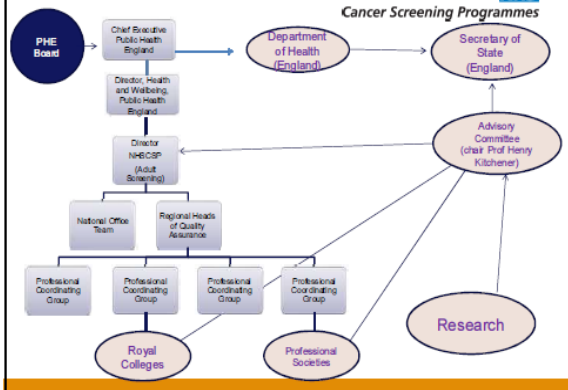
Screening is a question of balance…

BENEFITS:
Sensitivity
Early diagnosis
Prevention

RISKS:
Specificity
Over diagnosis
Anxiety

National Structure of NHSCSP (within PHE)

NHS
Cancer Screening Programmes



NHS
Cancer Screening Programmes

Screening Protocols

Breast screening saves 1300 lives per year

- for women 50-70 every 3 years
- trial of screening 47-49 and 71-73

Cervical screening saves 4500 lives per year

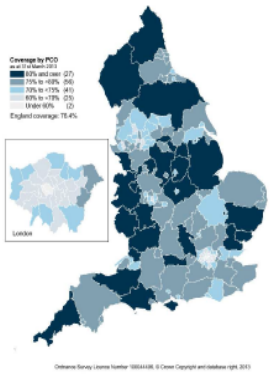
- Cytology every 3 years 25-49, 5 years 50-64, HPV testing for triage
- Prevents cervical cancers occurring
- Pilot of screening for HPV

Bowel screening saves 1000 lives per year (and counting)

- Men and women 60-74 offered guaiac FOBt
- Pilot of using immunochemical test to replace guaiac
- BOWEL SCOPE being introduced for men and women aged 55 to prevent colorectal cancer to prevent colorectal cancer

Figure 3: Breast screening coverage among women aged 53-70, by PCO
England, 31 March 2013

NHS Cancer Screening Programmes



NHS Cancer Screening Programmes

RCT of an additional screening invitation at ages 47-49 and 71-73

- Nearly 2,000,000 million women cluster randomised to date
- Primary endpoints are deaths from breast cancer before 60 and before 80
- Secondary endpoints will consider overdiagnosis and overtreatment in intervention group
- Lower acceptance than in routine programme so will link with previous screening histories and exclude persistent non-attenders from analysis of effect
- New and improved information leaflet with clearer explanations of possible outcomes of trial
- Renewed protocol will be submitted for publication

NHS Cancer Screening Programmes

RCT of an additional screening invitation at ages 47-49 and 71-73

- Funding from Public Health England for both screening and analysis
- Trial sponsor is University of Oxford and the trial is being carried out within Cancer Epidemiology Unit
- Trial has been under attack from a group of critics who have published their views in the BMJ, the Times newspaper, written to breast cancer charities, to PHE, issued FOI requests etc etc

NHS Cancer Screening Programmes

RCTs of guaiac FOBt screening

Site	Population Size	Positivity Rate (%)	% Cancers Localized (T1-3 N0 M0)		Testing Interval	Relative Mortality Reduction
			Screened	Control		
Minnesota	48,000	Unrehydrated: 2.4%	59	53	Annual	33%
		Rehydrated: 9.8%			Biennial	21%
United Kingdom	150,000	Unrehydrated: 2.1%	52	44	Biennial	15%
Denmark	62,000	Unrehydrated: 1.0%	56	48	Biennial	18%
Sweden	68,308	Unrehydrated: 1.9%	52	50		16%
		Rehydrated: 5.8%				

NHS Cancer Screening Programmes

Uptake and positivity for gFOBt screening 60-74

FOBT uptake: Colonoscopy uptake for positives:	55.7% (43.73% – 58.43%) 83.3%	86.6% At repeat invitation
Positivity	2.21%	Prevalent screen
	1.78%	Incident screen
	1.99%	Overall

NHS Cancer Screening Programmes

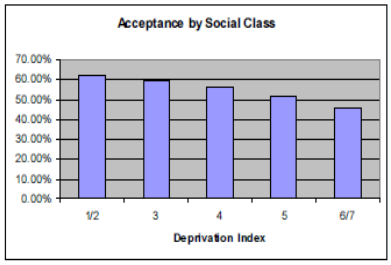
gFOBt episode outcomes

	All rounds	Prevalent	Incident
Cancer detected	20,079 (7.71%)	9.69%	6.00%
High risk polyps	23,586 (9.05%)	10.19%	8.06%
Intermediate risk polyps	38,784 (14.89%)	17.31%	12.79%
Low risk polyps	51,579 (19.8%)	16.08%	23%
Abnormal, not polyps	66,960 (25.71%)	21.69%	29.17%
Polyps, no histology	1,447 (0.56%)	0.51%	0.59%
Normal	52,231 (20.05%)	21.92%	18.44%
No result	5,843 (2.24%)	2.58%	1.94%

NB we have just completed a pilot of faecal immunochemical testing

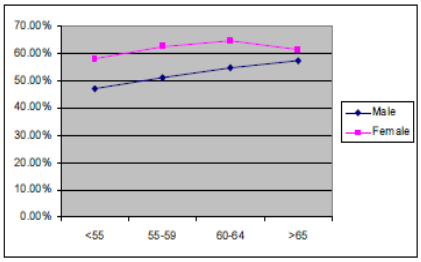
NHS
Cancer Screening Programmes

Inequalities in bowel screening



NHS
Cancer Screening Programmes

Acceptance by Age and Sex



England 58.6% vs Scotland 55.4%
Male 52.1% vs Female 61.4%

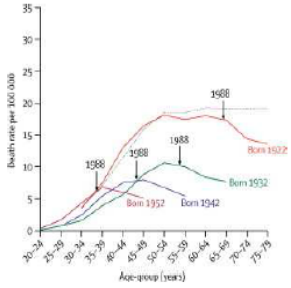
NHS
Cancer Screening Programmes

Bowel scope screening snapshot so far

Participation	38%-61%	Reschedule rate	34%
FS Examinations	18,150	Not suitable/ inadequate	502
Colonoscopies	680		
Cancers detected	18		
Advanced Adenomas (Inc Cancers)	231	Low risk Polyps	263
Normal	10,105	Abnormal not polyps	6,989

NHS
Cancer Screening Programmes

Cervical Screening: An epidemic prevented

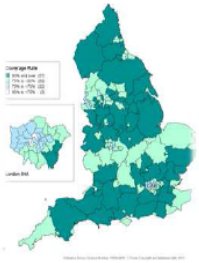


NHS
Cancer Screening Programmes

Inequalities in coverage

Cervical screening: five year coverage of the target age group (25-64) by administrative area

Uneven coverage with lower rates in large industrial areas (Liverpool, London, Manchester, Birmingham, Teesside)



Source: NHS Cancer Screening Programme, PHE. 31st March 2012

NHS
Cancer Screening Programmes

HPV Primary Screening Pilot

6 pilot sites across England

Women receive only HPV testing unless that is positive

Cytology triage for positives, if abnormal straight to colposcopy, if normal, recall in 12 months

Offers possibility to extend screening interval to 6 years for 25-49, and 10 years for 50-64

Offers possibility to move to self sampling (works in bowel screening); but issues with frequency/sensitivity and maintenance of sampling skills in the community

Initial results early 2015

NHS
Cancer Screening Programmes

National Screening Committee

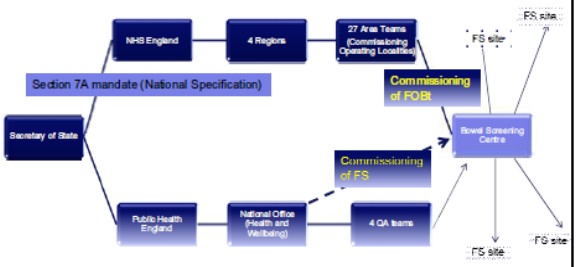
Advises all 4 UK health departments, but it is up to each country whether and how to implement any change

Covers cancer and non-cancer screening

http://www.screening.nhs.uk/uknsc

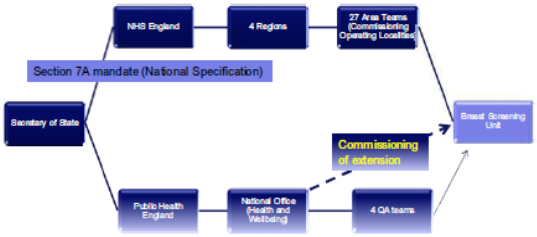
NHS
Cancer Screening Programmes

Commissioning and Quality Assurance



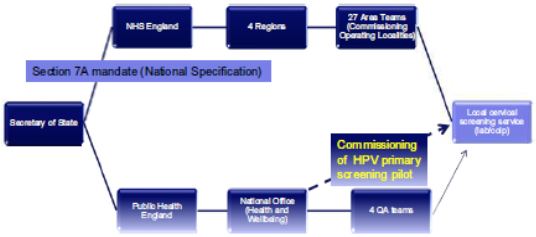
NHS
Cancer Screening Programmes

Commissioning and Quality Assurance



NHS
Cancer Screening Programmes

Commissioning and Quality Assurance



NHS
Cancer Screening Programmes

England cancer screening information

www.cancerscreening.nhs.uk

www.nhs.uk

Public Health England

PHE
mHealth and Innovation

Briefing

May 2015

Public Health England

How we do digital

Our digital principles

- We are moving to a 'Digital First' delivery for Behavioural Change activity
- We prototype, learn and refine (using evidence and evaluation)
- We will create more innovative content (through agile delivery)
- We will provide 'on-demand' digital public health

Public Health England

Digital On Demand

Public Health England

Registrations/downloads

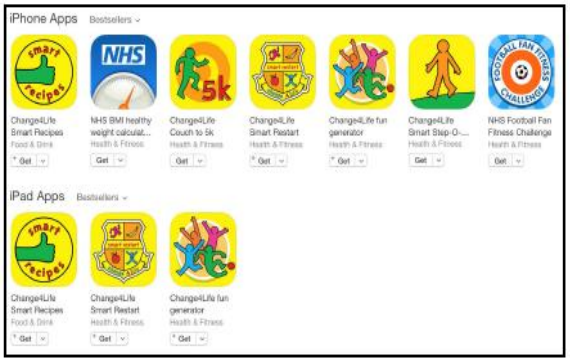
Smart tools downloads and registrations since April 2014	Total
ALL PRODUCTS TOTAL	270,590
Total excluding Smokefree app and SAL	197,476
Couch to 5K	148,656
Start4Life	51,916
Smart Swaps	22,695
Smokefree	21,198
Meal Mixer	14,026
Fruit & Veg Boost	5,177
Smart Restart	3,676
Get Going	2,758
Do One Thing	488

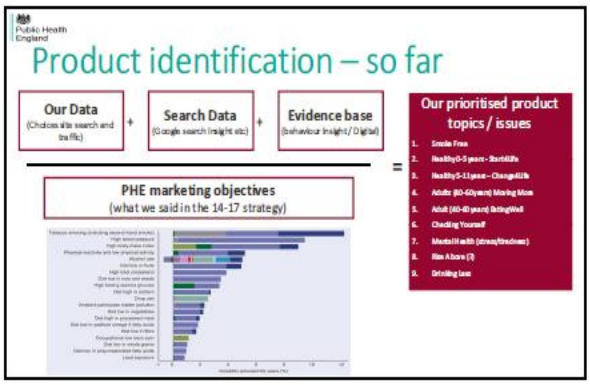
Existing database -

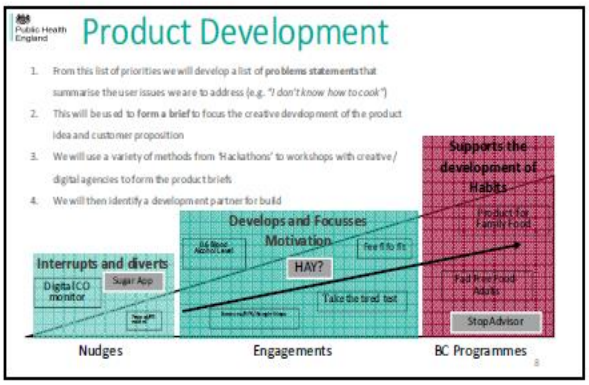
Total number of individuals in = 5,219,708

Out of this we can email = 2,756,727

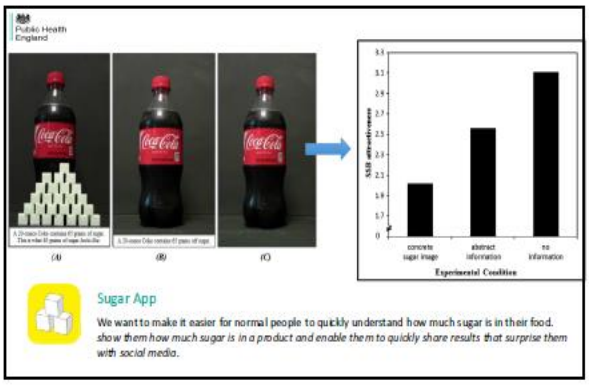
Targets:
260,000 healthy changes (registrations/downloads)
150,000 new users into the system

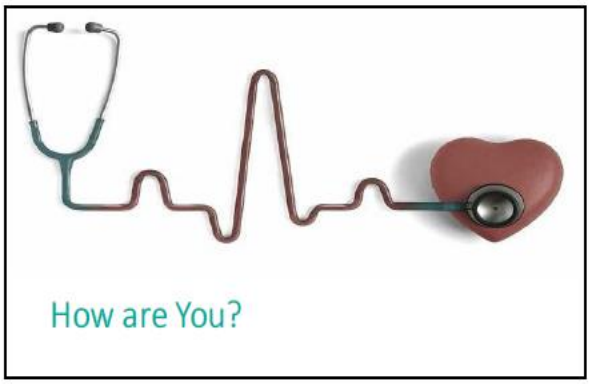



Public Health England
Product identification – so far
Our Data
(Choices site search and traffic)
+
Search Data
(Google search insight etc)
+
Evidence base
(behaviour insight / Digital)
=
Our prioritised product topics / issues
1. Smoke Free
2. Healthy 0-5 years – StartWell
3. Healthy 5-11 years – ChangeAGirl
4. Adults (60-65years) Moving More
5. Adult (40-49 years) EatingWell
6. Checking Yourself
7. Mental Health (stress/tiredness)
8. Rise Above (2)
9. Drinking Less
PHE marketing objectives
(what we said in the 14-17 strategy)


Public Health England
Product Development
1. From this list of priorities we will develop a list of problems statements that summarise the user issues we are to address (e.g. "I don't know how to cook")
2. This will be used to form a brief to focus the creative development of the product idea and customer proposition
3. We will use a variety of methods from 'Hackathons' to workshops with creative / digital agencies to form the product briefs
4. We will then identify a development partner for build
Supports the development of Habits
Develops and Focusses Motivation
Interrupts and diverts
Digital CO monitor
Sugar App
HAY?
Take the tired test
StopAdvisor
Nudges
Engagements
BC Programmes


Sugar

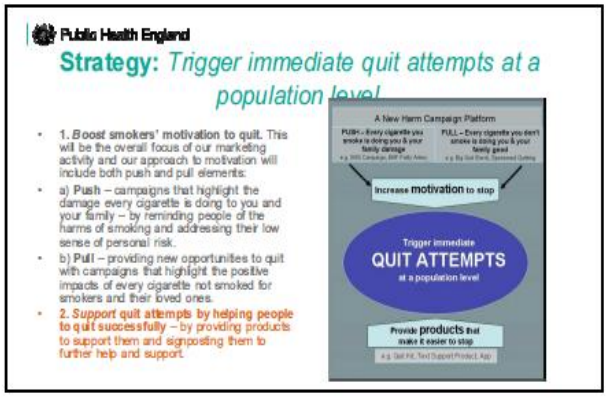

Public Health England
(A)
(B)
(C)
Experimental Condition
Sugar App
We want to make it easier for normal people to quickly understand how much sugar is in their food.
show them how much sugar is in a product and enable them to quickly share results that surprise them with social media.

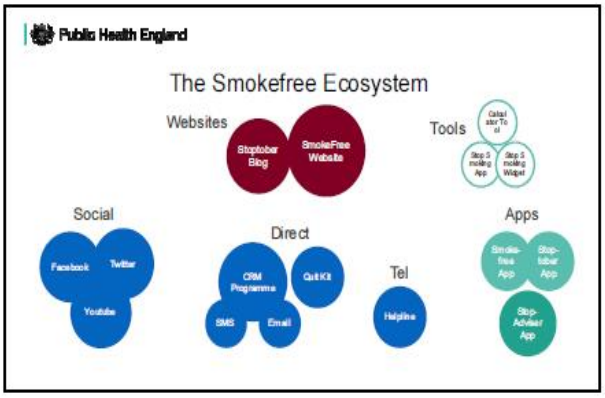

How are You?

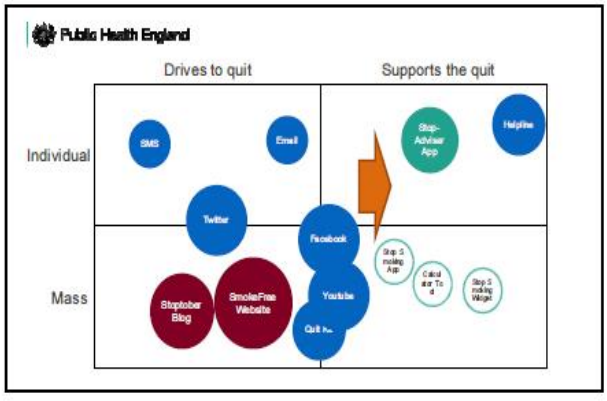

Public Health England
How are you?
Summary
A diagnostic tool that lets users check how they're doing in general, and recommends one significant life change (using a PHE behaviour change app) that can increase their life expectancy/quality.
Status
Two prototypes have been developed, one for each one of our personas.
Prototype 1
Prototype 2

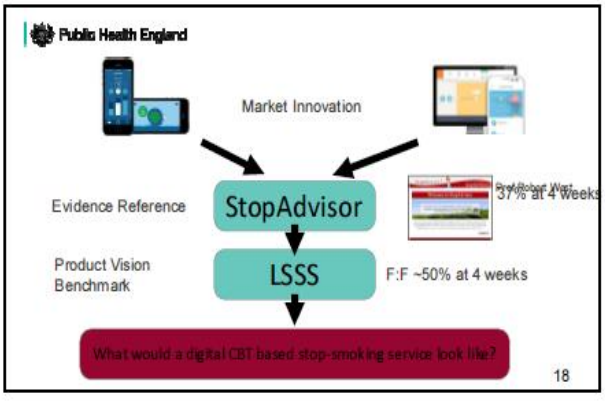

Public Health England
Aged 40-60?
Start
You?
Get started
Stop smoking.


StopAdviser


Public Health England
Strategy: Trigger immediate quit attempts at a population level
1. Boost smokers' motivation to quit. This will be the overall focus of our marketing activity and our approach to motivation will include both push and pull elements:
a) Push – campaigns that highlight the damage every cigarette is doing to you and your family – by reminding people of the harms of smoking and addressing their low sense of personal risk..
b) Pull – providing new opportunities to quit with campaigns that highlight the positive impacts of every cigarette not smoked for smokers and their loved ones.
2. Support quit attempts by helping people to quit successfully – by providing products to support them and signposting them to further help and support.
A New Harm Campaign Platform
Increase motivation to stop
Trigger immediate
QUIT ATTEMPTS
at a population level
Provide products that make it easier to stop


Public Health England
The Smokefree Ecosystem
Websites
Stoptober Blog
SmokeFree Website
Tools
Social
Facebook
Twitter
Youtube
Direct
CRM Programme
Quit Kit
SMS
Email
Tel
Helpline
Apps
Stop-Adviser App


Public Health England
Drives to quit
Supports the quit
Individual
Mass
SMS
Email
Stop-Adviser App
Helpline
Twitter
Facebook
Youtube
Stoptober Blog
SmokeFree Website


Public Health England
Market Innovation
Evidence Reference
StopAdvisor
37% at 4 weeks
Product Vision Benchmark
LSSS
F:F ~50% at 4 weeks
What would a digital CBT based stop-smoking service look like?
18

Public Health England

StopAdviser

Summary

A stop smoking behaviour change app, based on LSSS CBT programmes, that supports users to go 28 days without cigarettes, because going 28 days increases the chances they'll quit for good.

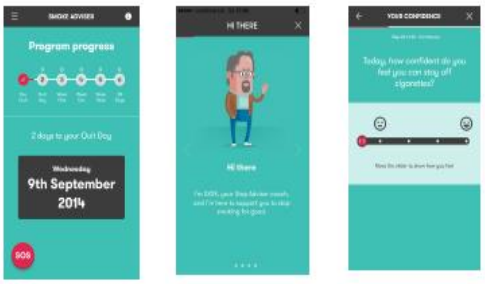
Status

- Wrapping up Alpha in February
- DH Approved and in procurement for delivery partner for Beta

Next Steps

- Build iOS and Android app (6 quit session programme) to test with real quitters in September/October

Public Health England



Public Health England

The wiggle watch

A watch to encourage 8 year olds to increase their daily physical activity levels to a minimum of 60 minutes by combining data from an accelerometer and addictive gameplay to track activity and provide motivation and rewards.

Stage 1:

Initial prototypes have been developed and currently, we are scoping out the production of a regional pilot of circa 25k devices to launch Summer 2015.

Stage 2 – next steps

Commence production level prototype??

Target £5 per unit

Public Health England

Fee Fi Fo Fit

Fee Fi Fo Fit is a mobile app (iOS and android) to encourage physical activity as a family.

Parents & children unlock each milestone and "Outsidelian" rewards of the activity by traveling by foot from one location to the next. A mobile app designed to be used in the great outdoors: streets, parks, countryside and urban areas.

Stage 1 – October - UX meeting took place with Freud's

Stage 2 - December - Alpha version build and testing due 12.12.14

Stage 3 – Spring 2015 - Beta build and soft launch

Public Health England

FoodSwitch

FoodSwitch mobile app allows users to scan the barcodes of food and drinks products and instantly see whether they are high (red), medium (amber) or low (green) in fat, saturates, sugars and salt. It also suggests a swap with similar but healthier alternative products where possible.

Stage 1

- Engineered a partnership with Foodity to bolster the dataset and provide more co-marketing opportunities
- FS team have been working with Freuds' UX team to improve design and interface of the App
- Freuds have developed a proposed launch plan for the improved FS app with consideration of PHE calendar elements such as Salt/Sugar Swap and new year detox.

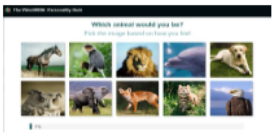
Next steps

- Confirm Foodity partnership / Awaiting re-designed app (December)
- Meeting with PHE to discuss how best to embed FS in 2015 activity spikes

Public Health England

Visual DNA

Visual DNA have developed a quiz prototype (including quiz topics and UX) as an initial stage of the How Are You? diagnostic tool development (see later slide?)



As part of their HealthX 'win' they have developed and built a clickable demo for initial review

Next steps

-Review and test as part of the wider How are You? Program.

Public Health England

Contact Details

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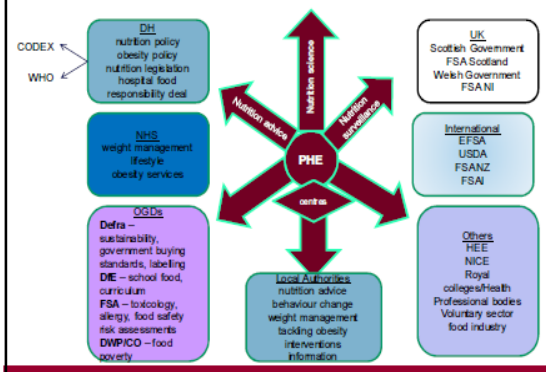
www.gov.uk/phe Follow us on twitter @PHE_uk
Protecting and improving the nation's health

Public Health England

Diet & Obesity – an overview

Dr Louis Levy
Head of Nutrition Science
louis.levy@phe.gov.uk

Role Across Government



Public Health England

Tackling obesity particularly among children

- One of PHE's seven priorities over the next 5 years

Outcome:

'An increase in the proportion of children leaving primary school with a healthy weight, accompanied by a reduction in levels of excess weight in adults.'

Public Health England

Obesity work plan: five pillars for action

Where future generations live in an environment, which promotes healthy weight and wellbeing as the norm and makes it easier for people to choose healthier diets and active lifestyles

1.Systems Leadership	2.Community Engagement	3.Monitoring & Evidence Base	4.Supporting Delivery	5.Obesogenic Environment
• Influence local & national leaders • raise the national debate • influence political ambition • maximise communication	• enable behaviour change through social marketing • drive social investment through local action • support communities with tools on healthy eating & getting active to help reduce health inequalities	• enhance surveillance, analysis & signposting of data • tailor evidence to meet local needs – Public Health Outcomes Framework • support effective commissioning & evaluation • develop & communicate research to inform strategy • promote evidence of good practice	• support the obesity care pathway • work with Directors of Public Health & Clinical Commissioning Groups • support commissioning • practical tools to help deliver healthier places; enable active travel	• develop long term, evidence based strategy to deliver a whole system approach to tackle the root causes of obesity and address health inequalities

Tackle obesity, address the inequalities associated with obesity and improve wellbeing

Community Engagement

Helping people to Overcome Obesity Problems

Public Health England

Obesity work plan: five pillars for action

Where future generations live in an environment, which promotes healthy weight and wellbeing as the norm and makes it easier for people to choose healthier diets and active lifestyles

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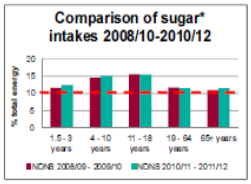
Tackle obesity, address the inequalities associated with obesity and improve wellbeing

Monitoring & Evidence

7 PHE Diet & Obesity - an overview

Sugar reduction

Data and evidence:



sacn Draft Carbohydrates and Health report
Scientific consultation: 26 June to 1 September 2014

Action including:

- Evidence reviews - fiscal measures; promotions; advertising
- Support DH in work with food industry including reformulation
- Food procurement and public sector – Gov Buying Standards
- Local Authority good practice
- Education and training for key professionals
- Refresh 5aday/eatwell
- Modelling a) overall costs and benefits of achieving draft 5% recommendation; b) possible individual actions to modify intakes

8 PHE Diet & Obesity - an overview

Public Health England

Obesity – One of PHE's 7 Priorities

Our commitments	Progress
• Work with **NHS England** on commitments to tackle obesity and type 2 diabetes	In progress
• Report and recommendations for government on **sugar**, based on evidence from SACN	In progress – SACN report Spring 2015
• Run the New Year **healthy eating campaign** and summer physical activity programme	Sugar Campaign ran first week Jan 2015
• Publish the evidence-based **Everybody Active, Every Day** framework	Launched October 2014
• Support local authorities to deliver **whole-system approaches** to tackle obesity	Commissioning in progress

9 PHE Diet & Obesity - an overview

NICE National Institute for Health and Care Excellence

International

NICE: Key principles and processes, and the role of cost effectiveness in decision making
May 2015

Francis Ruiz, Senior Adviser
NICE International

Overview

- Establishing NICE
- Core principles
- Health technology assessment and appraisal
- Cost-effectiveness and decision making
- Controversies and lessons learnt

Functions of NICE

The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care

Functions:

1. Production, dissemination and implementation of guidance
2. Development of performance standards and metrics
3. Provision of information

Establishing NICE; the NHS in 1999

- Slow uptake of new technologies and practices
- Widespread variation in the nature and quality of care
- Growing public concern and increasing media criticism
- Government commitment to improve the quality and range of care
- Prospect of significant reinvestment in the NHS: plan to grow from about 6.5% to about 9% of GDP

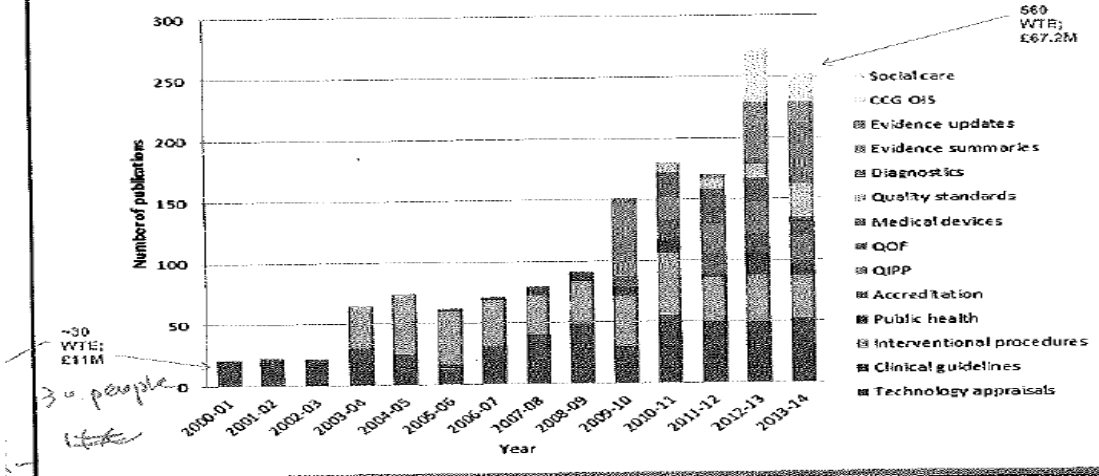
NICE

Establishing NICE: expectations

- National, authoritative source of advice
- Guidance based on effectiveness and cost effectiveness
- Inclusive and consultative approach
- Independent and efficient
- A service for the NHS and the public which uses it
- Broad support from professional and user groups

NICE

NICE: changes and evolution



NICE

Core principles underpinning all NICE guidance

Principles	Putting them into practice...
Independence	"Arm's length" from government, payers, industry and professional groups; strong and enforced conflict of interest policies
Transparency	Meetings open to the public; material placed on the web; decision criteria and rationale for individual decisions made public
Inclusiveness	Wide and genuine consultation with stakeholders; willingness to change decision in light of new evidence
Scientific basis	Strong, scientific methods and reliance on critically appraised evidence and information
Timeliness	Decisions produced in reasonable timeframe; minimise delays in publishing decisions
Consistency	Same technical and process rules applied to all cases
Regular review	Regular updating of decisions and of methods

NICE

Why is transparency and stakeholder engagement important?

- Arguably, payers, manufacturers, and critically, the end user (patients and the public) have a right to be involved
- It may reveal key data gaps or provide additional perspectives that would be missed by simply relying on the published scientific literature
- It can help defuse stakeholder resistance – some is inevitable, but a strong process provides consistent criteria to judge the reasonableness of stakeholders' claims

NICE

What is health technology assessment (HTA)?

HTA is a multidisciplinary field of policy analysis. It studies the medical, social, ethical, and economic implications of development, diffusion, and use of health technology.

Any intervention that may be used to promote health, to prevent, diagnose or treat disease or for rehabilitation or long-term care. This includes the pharmaceuticals, devices, procedures and organizational systems used in health care.

Source: INAHTA/glossary http://www.inahta.net/

NOTE: HTA is one component to support overall *quality improvement*.

NICE

NICE Technology appraisals

Guidance on the use of new and existing medicines, treatments and procedures within the NHS

Two types of appraisals:

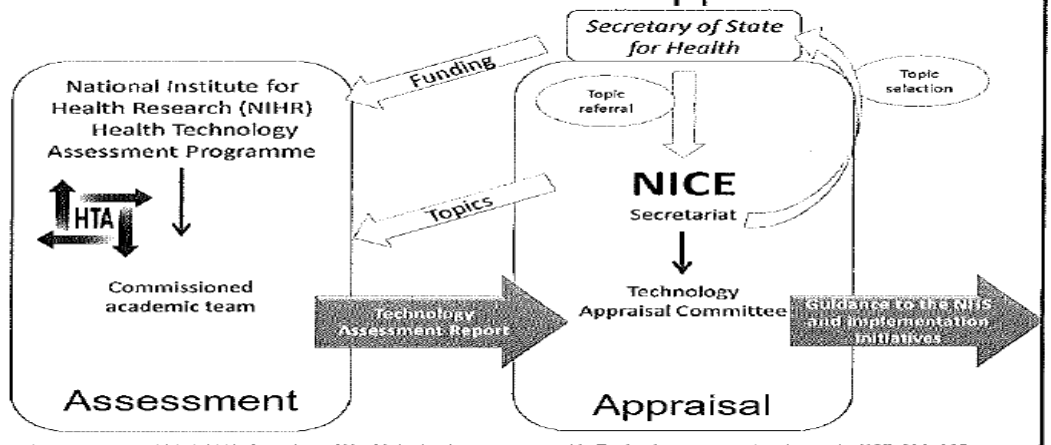
Multiple Technology Appraisal (MTA)
Single Technology Appraisal (STA)

- Independent academic groups carry out systematic review and develop economic model (**MTA**) [60 weeks]
- Critique the evidence submitted by manufacturer (**STA**) [30-43 weeks]
- 4 Standing Committees
  - Independent
  - Multi-disciplinary – includes industry
- Opportunity for key stakeholders to appeal against final draft guidance

Recommendations to be implemented within 3 months

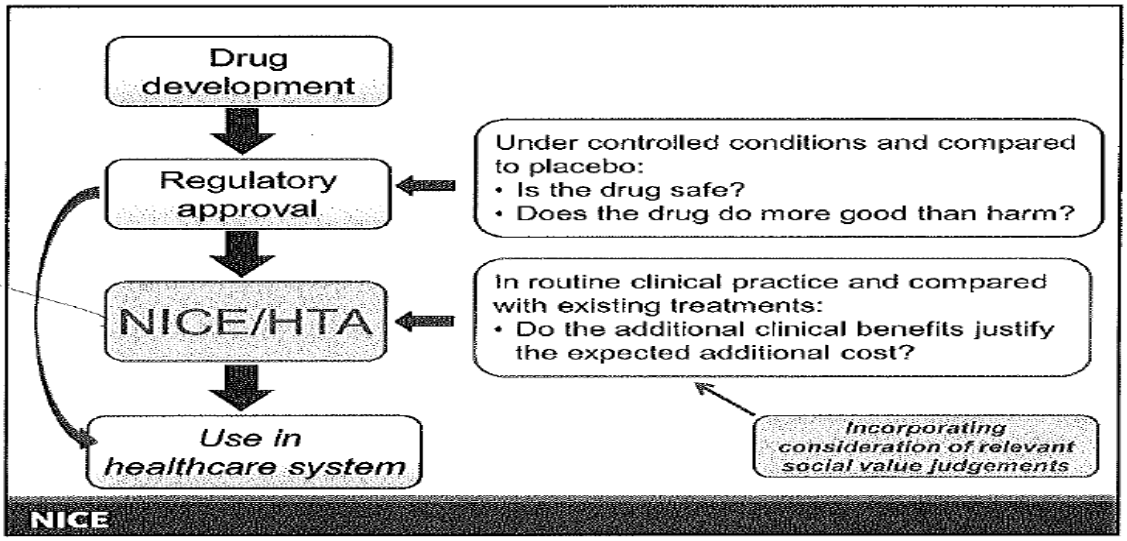
NICE

NICE: Assessment vs. Appraisal



Adapted from Walley, T. (2007) MJA; Overview of Health technology assessment in England: assessment and appraisal 187: 283–285

NICE



NICE

Role of cost effectiveness in NICE guidance (SVJ, 2008)

- "Those developing *clinical guidelines*, ***technology appraisals*** *or public health guidance* must take into account the relative costs and benefits of interventions (their 'cost effectiveness') when deciding whether or not to recommend them." (Principle 2, SVJ, NICE 2008)

BUT

- "Decisions about whether to recommend interventions should *not be based on evidence of their relative costs and benefits alone*. NICE must consider other factors when developing its guidance, including the need to distribute health resources in the fairest way within society as a whole." (Principle 3)
- See: http://www.nice.org.uk/media/C18/30/SVJ2PUBLICATION2008.pdf

NICE

Cost effectiveness – *Incremental cost-effectiveness ratio (ICER):*

$$\frac{\text{cost}_{new} - \text{cost}_{current}}{\text{health gain}_{new} - \text{health gain}_{current}}$$

At NICE, health gain is expressed as quality adjusted life years (QALYs) which allows us to calculate the **cost per QALY** for any technology under consideration

NICE

Quality adjusted life years

- Basic concept:
  - Health care should improve the quality of your life and/or increase your life expectancy.
  - Therefore an index which combined quality of life with life expectancy could be used to compare the benefit of all health care interventions.
  - A way of measuring health benefit consistently across all interventions and conditions
  - QALY gain = life years gained x quality of life index

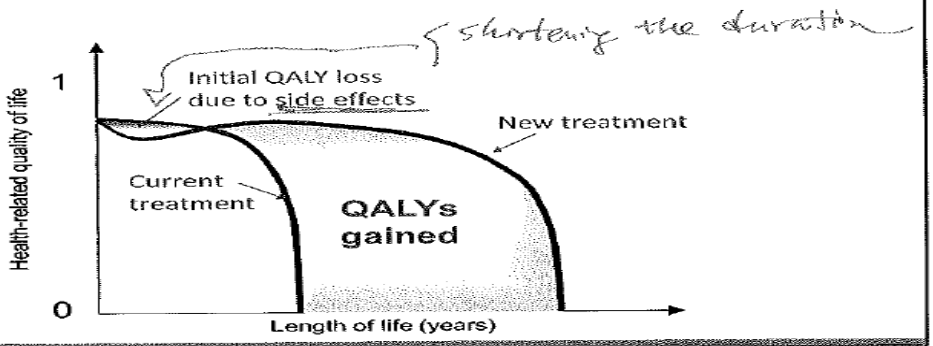
NICE

Measuring utility (quality of life)

- Time in a health state is usually easy to estimate.. Utilities a bit harder
- Two steps to measure utility
  - **Step 1. Describing the health state**
    - Current health / hypothetical health state
    - Standard questionnaire / open description: collected during trials
  - **Step 2. Valuing the health state**
    - Capture people's preferences
- EuroQol's EQ-5D is NICE's preferred measure/questionnaire
    - Description of health states from patients (from trials)
    - Valuations from the general public (representative sample)

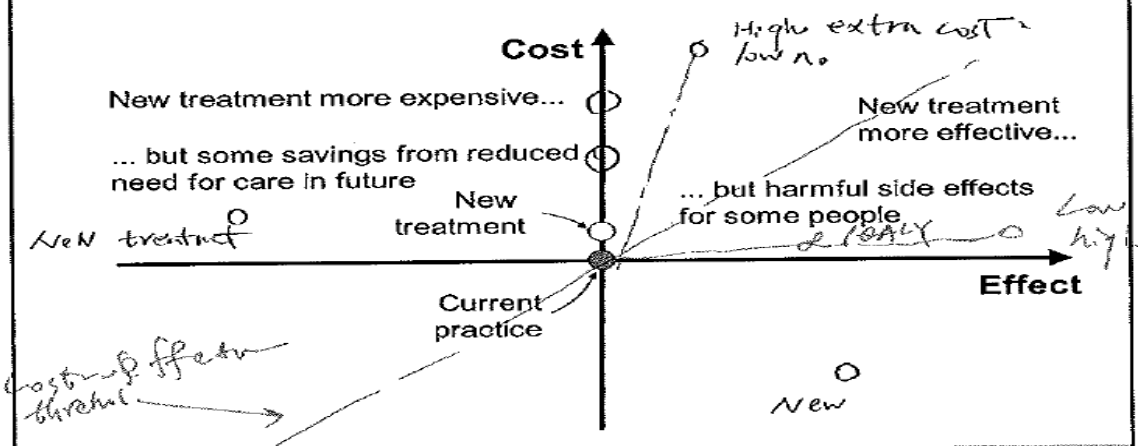
NICE

Quality Adjusted Life Year

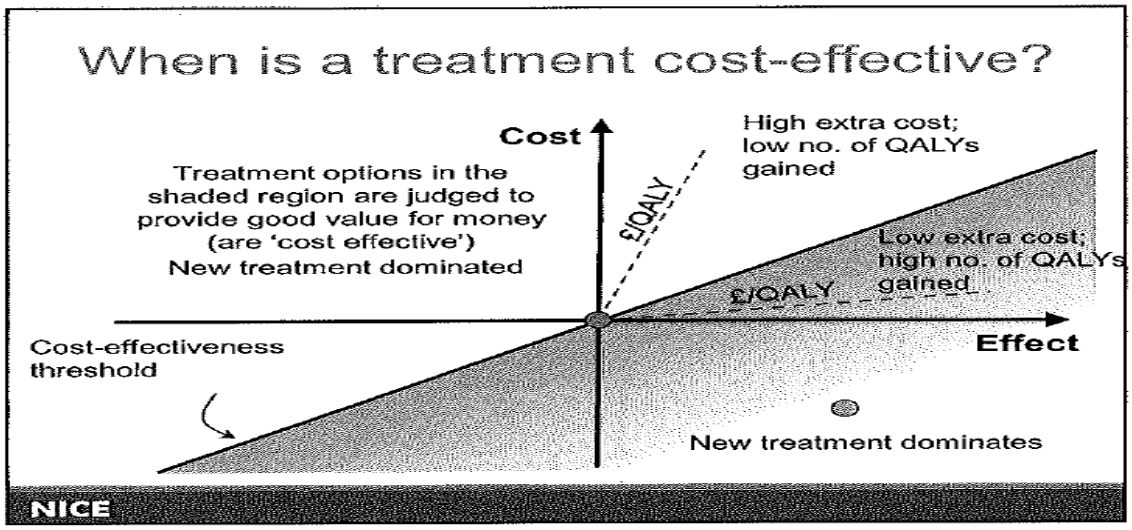


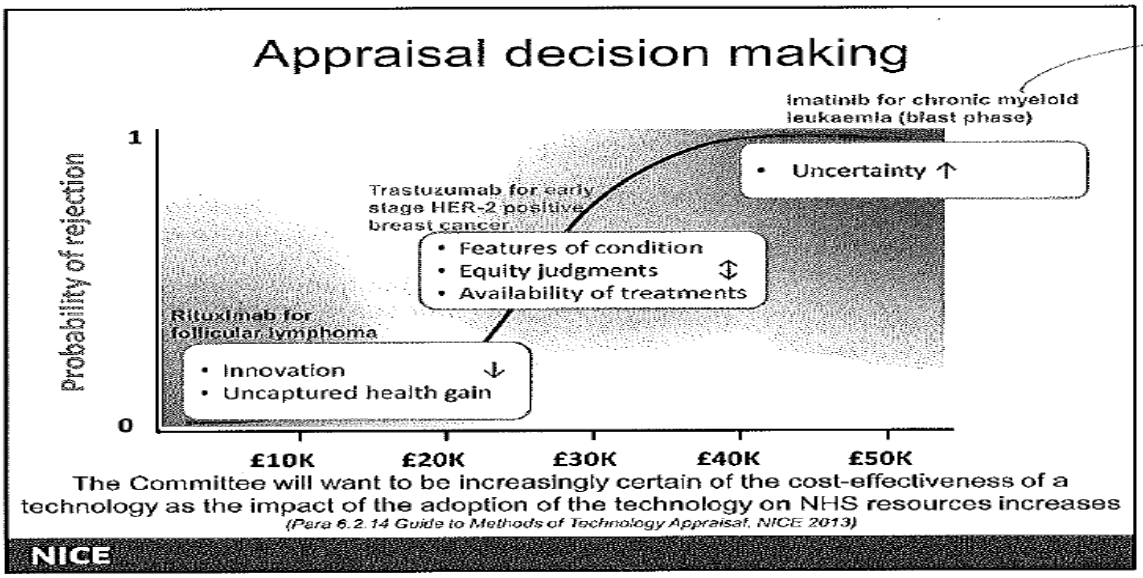
NICE

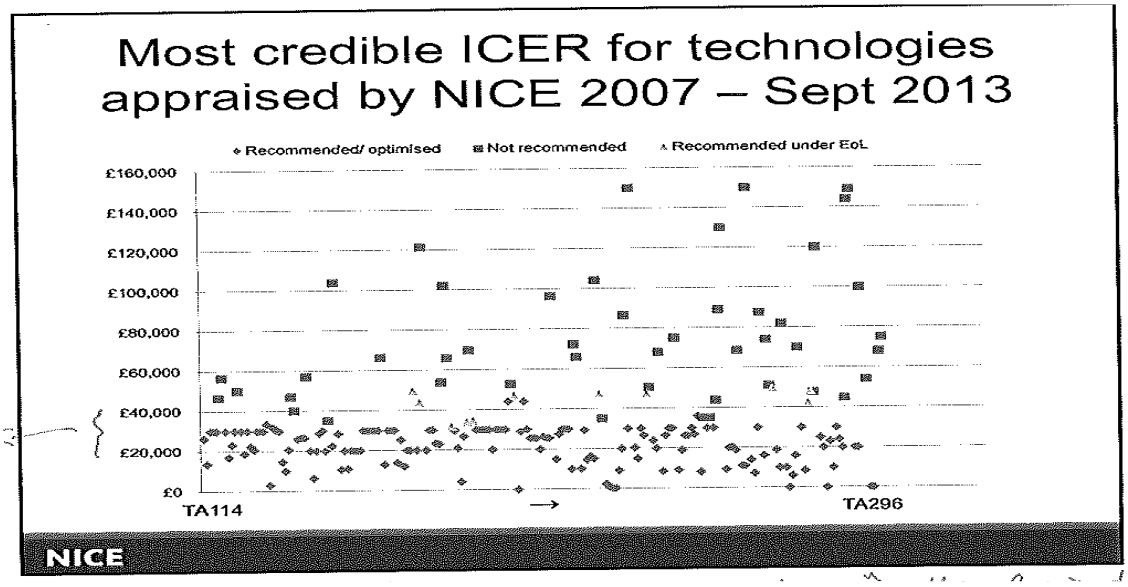
What is cost-effectiveness?



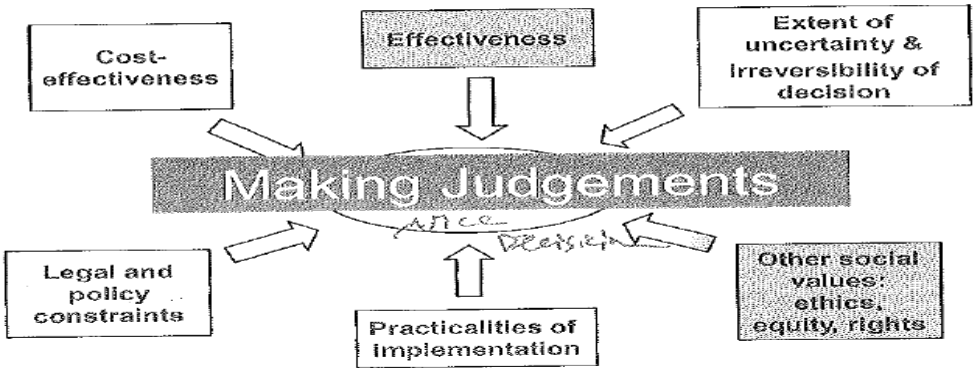
NICE


When is a treatment cost-effective?
Cost
Treatment options in the shaded region are judged to provide good value for money (are 'cost effective')
New treatment dominated
£/QALY
High extra cost; low no. of QALYs gained
Low extra cost; high no. of QALYs gained
£/QALY
Effect
Cost-effectiveness threshold
New treatment dominates
NICE


Appraisal decision making
Imatinib for chronic myeloid leukaemia (blast phase)
Probability of rejection
1
0
Trastuzumab for early stage HER-2 positive breast cancer
• Uncertainty ↑
• Features of condition
• Equity judgments ↕
• Availability of treatments
Rituximab for follicular lymphoma
• Innovation ↓
• Uncaptured health gain
£10K
£20K
£30K
£40K
£50K
The Committee will want to be increasingly certain of the cost-effectiveness of a technology as the impact of the adoption of the technology on NHS resources increases
(Para 6.2.14 Guide to Methods of Technology Appraisal, NICE 2013)
NICE


Most credible ICER for technologies appraised by NICE 2007 – Sept 2013
Recommended/ optimised
Not recommended
Recommended under EoL
£160,000
£140,000
£120,000
£100,000
£80,000
£60,000
£40,000
£20,000
£0
TA114
TA296
NICE

Factors involved in NICE decision making



NICE

Most new health technologies bring additional value

Decision	Recommendations	
Yes	330	(62%)
Optimised	97	(18%)
Only in research	26	(5%)
No	82	(15%)

80% of NICE guidance is positive

Breakdown of all decisions contained in published NICE Technology Appraisals 1–322 (January 2000 to October 2014)
Note: 6 withdrawn recommendations and 18 non-submissions are not included

NICE

Patient Access Schemes

"Patient access schemes are proposed by pharmaceutical company and agreed by DH to improve the cost effectiveness of a drug and enable patients to receive access to cost effective innovative medicines"

- *The Pharmaceutical Price Regulation Scheme 2009 between DH and the ABPI*

NICE

Patient Access Schemes

- Respect the role of NICE
- Discussed first and agreed in principle by DH & company; NICE to assess impact on cost-effectiveness
- Full costs to be included in costs considered by Appraisal Cttee
- Clinically robust, plausible, appropriate and monitorable
- Operationally manageable without unduly complex monitoring, disproportionate additional costs & bureaucracy.
- Cumulative administrative burden of such schemes remains manageable for all parties involved in their operation, including front-line NHS staff
- Consistent with existing financial flows and local commissioning
- NHS in E&W must be consulted on PASs, in particular where these involve additional data collection beyond that associated with the conventional purchase of medicines

NICE

Examples of PAS in NICE guidance (1)

	TA	Treatment	Indication	Type of PAS
2007	TA129	Bortezomib (Velcade)	Multiple myeloma	Response-rebate
	TA155	Ranibizumab (Lucentis)	Macular degeneration (Acute wet AMD)	Dose-capping
	TA162	Erlotinib (Tarceva)	Non small cell lung cancer	Cost equalisation
	TA169	Sunitinib (Sutent)	Renal cell carcinoma	First cycle free
	TA171	Lenalidomide (Revlimid)	Multiple myeloma	Dose-capping
2009	TA176	Cetuximab (Erbitux)	Metastatic colorectal cancer (first Line)	Discount
	TA179	Sunitinib (Sutent)	Gastrointestinal stromal tumour	First cycle free
	TA180	Ustekinumab (Stelera)	Moderate to severe psoriasis	Weight equalisation
	TA185	Trabectedin (Yondelis)	Advanced soft tissue sarcoma	Cost after fifth cycle met by manufacturer
	TA186	Certolizumab pegol (Cimzia)	Rheumatoid arthritis	First 12 weeks free of charge
	TA192	Gefitinib (Iressa)	Non small cell lung cancer	Fixed cost per patient
	TA215	Pazopanib (Votrient)	Advanced renal cell carcinoma	Discount
	TA218	Azacitidine (Vidaza)	Myelodysplastic syndromes, CML, AML	Discount
	TA220	Golimumab (Simponi)	Psoriatic arthritis	100 mg = 50 mg
	TA238	Tocilizumab (RoActemra)	Systemic juvenile idiopathic arthritis	Discount
2011	TA241	Nilotinib (Tasigna)	Imatinib-resistant chronic myeloid leukaemia	Discount
	TA251	Nilotinib (Tasigna)	First-line treatment of chronic myeloid leukaemia	Discount
	TA254	Fingolimod (Gilenya)	Highly active relapsing-remitting multiple sclerosis	Discount
	TA258	Erlotinib (Tarceva)	Non-small-cell lung cancer	Discount
	TA259	Abiraterone acetate (Zytiga)	Castration-resistant metastatic prostate cancer	Discount
2012	TA265	Denosumab (Xgeva)	Skeletal related events in adults with bone metastases from solid tumours	Discount
	TA268	Ipilimumab (Yervoy)	Advanced melanoma, 2nd Line	Discount
	TA269	Vemurafenib (Zelboraf)	Metastatic mutation positive melanoma	Discount

NICE

Examples of PAS in NICE guidance (2)

	TA	Treatment	Indication	Type of PAS
2012	TA274	Ranibizumab (Lucentis)	Diabetic macular odema	Discount
	TA276	Colistimethate (Colobreathe)	Pseudomonas aeruginosa for adults and children over 6 with cystic fibrosis	Discount
	TA276	Tobramycin (TOBI Podhaler)	Pseudomonas aeruginosa for adults and children over 6 with cystic fibrosis	Discount
	TA278	Omalizumab (Xolair)	Severe persistant asthma	Discount
	TA280	Abatacept (Orencia)	Rheumatoid arthritis, polyarticular juvenile idiopathic arthritis	Discount
	TA282	Pirfenidone (Esbriet)	Mild to moderate idiopathic pulmonary fibrosis	Discount
2013	TA283	Ranibizumab (Lucentis)	Macular oedema secondary to retinal vein occlusion	Discount
	TA293	Eltrombopag (Revolade)	Chronic immune (idiopathic) thrombocytopenic purpura	Discount
	TA294	Aflibercept (Eylea)	Wet age-related macular degeneration	Discount
	TA298	Ranibizumab (Lucentis)	Choroidal neovascularisation secondary to pathologic myopia	Discount
	TA301	Fluocinolone (Iluvien)	Diabetic macula oedema	Discount
	TA303	Teriflunomide (Aubagio)	Active relapsing-remitting multiple sclerosis	Discount
	TA305	Aflibercept (Eylea)	Visual impairment caused by macular oedema secondary to central retinal vein occlusion	Discount
2014	TA306	Pixantrone (Pixuvri)	Multiple relapsed or refractory aggressive non-Hodgkin's B-cell lymphoma	Discount
	TA310	Afatinib (Giotrif)	Locally advanced or metastatic non-small cell lung cancer (NSCLC) with activating epidermal growth factor receptor (EGFR)	Discount
	TA316	Enzalutamide (Xtandi)	Metastatic hormone-relapsed prostate cancer in adults	Discount
	TA319	Ipilimumab (Yervoy)	Adults with previously untreated advanced (unresectable/metastatic) melanoma	Discount
	TA320	Dimethyl fumarate (Tecfidera)	Adults with active relapsing-remitting multiple sclerosis	Discount

NICE

It has not always been easy...

NICE

THE INDEPENDENT HEALTH & FAMILIES

News Opinion Environment

Home > Life & Style > Health & Families

Drug firms bankroll att

Special Investigation: Charities' protest

By Jeremy Laurance, Health Editor

The rising tide of protest over the refusa expensive drugs for cancer and other co by the pharmaceutical industry, an inves Independent has revealed.

Patient groups that have been among th spearheading attacks on the National Institute for Clinical Excellence (Nice) over decisions to restrict access to drugs on the NHS depend for up to half of their income on drug companies, but details are often undisclosed.

Mail Online

Home News Sport TV&Showbiz Femail Health Science&Tech Money Debate

A Stalinist NHS quango and British cancer victims denied drugs available in Europe

Perceptions of NICE: 1999

Supportive	Government, health professionals
Curious	Advocacy groups, academics, media
Sceptical/hostile	Industry
Blissfully ignorant	Public

NICE

Perceptions of NICE: 2014

Supportive	Government, health professionals, academics, advocacy groups, industry (most) Media (some)
Curious	Media (most), public
Sceptical/hostile	Industry (some) media (some)
Blissfully ignorant	

NICE

TIMES PAST THE TIMES FUTURE

Nice Work

The Cancer Drugs Fund should be closed

"The purpose of NICE is to bring order to decisions about rationing in the prescription of drugs. . . Over the 15 years of its existence, NICE has developed intelligent measures on the use of new technologies, treatments and procedures and the cost-effective application of new drugs." **The Times, 16 October 2014**

NICE

Alliance for Useful Evidence

THE NICE WAY

"Any new NICE-type institution aiming to be an evidence intermediary must avoid only working in a navel-gazing technocratic, academic research-focused silo. There is a need to engage with wider audiences, and the difficult and messy politics that goes with making tough decisions relating to crime, education and other areas of social policy."

NICE

NICE

Lessons Learned

It's not all about "cost-effectiveness" and the "technical"....

Good governance structures can significantly increase the legitimacy (in the eyes of the law and of the public) of priority setting decisions, but:

- The process needs a degree of flexibility to avoid being too rigid
- The system needs to be responsive and be able to adapt to changing needs
- Importance of reviewing processes/methods

An inclusive, multidisciplinary approach can improve both the quality and legitimacy of decisions made

NICE

Thankyou!

NICE

NICE National Institute for Health and Care Excellence

Alastair Fischer: Centre for Public Health, NICE, UK

The Prevention of Ill-health. What should take priority?

For visitors from Taiwan, May 2015

Running Order

- What should the main objective for national planning of healthcare be?
- How is this achieved?
  - If there is a competitive market
  - And if there isn't
- It is easy to waste money if we have no means of saying what is important
- Spending on prevention versus spending on treatment
- About Public Health and Public Goods
- How Public Health evaluation differs from Technology Appraisal evaluation
- A decision theory approach versus a hypothesis-testing approach

NICE

The economic problem

- Resources are scarce
- Wants are infinite
  - (or wants at least are very large)
- So choices have to be made about what to produce, how to produce it and how to distribute it
- If we cannot afford both A and B, then in choosing A we turn our backs on B. This is known as the opportunity cost of A.

NICE

The market

- A market is a meeting of buyers and sellers, where many choices are made
- In a 'perfect' market, bargaining automatically 'decides' what is to be produced, how it is produced and who gets the goods being produced.
- It does this by means of price

NICE

The market for healthcare

- A competitive market is usually very efficient. That is why markets are so important.
- But they are not necessarily fair. They do not stop some people from becoming very rich or some people dying of starvation.
- That is one reason why healthcare is not provided in an ordinary market. We do not believe that people who become ill should be made to suffer because they cannot afford sudden large expenditures, for example drugs for cancer or HIV.
- As countries get richer, they provide healthcare through insurance, where everyone shares the costs of illness. This destroys many of the market mechanisms. We cannot use the market to decide what is worth producing.

NICE

Health insurance, efficiency and fairness

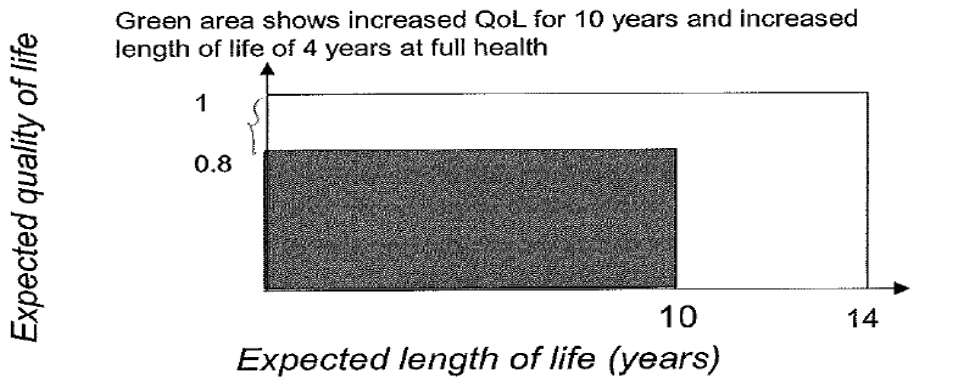
- In order to gain the efficiencies that a competitive market produces, we try to mimic the market in many ways in order to become efficient
- But in healthcare, we also try to ensure fairness.
- Insurance schemes in countries with universal coverage generally require higher-income earners to pay more for insurance (mimicking *ability-to-pay*, or *demand*) but distribute healthcare on the basis of *need* (satisfying fairness objectives).
- Need is measured indirectly by attempting to maximise the total health gains for society within the budget for health.
- It can be shown mathematically that this means buying the 'cheapest QALYs'.

NICE

Optimising using QALYs

- Suppose the objective of a nation's health service were to maximise the number of QALYs gained.
- *Q1: How would you do that?*
- *Q2:* If you had to buy as many kg of potatoes from a local market as possible for $1,000, how would you do it? (No single trader keeps $1,000 of potatoes, so you would have to get them from more than one trader.)
- *Answer to Q2: Buy the cheapest potatoes first*
- *Answer to Q1: Buy the treatments with the cheapest cost per QALY till you run out of money.*

Blue: no treatment; green: treatment



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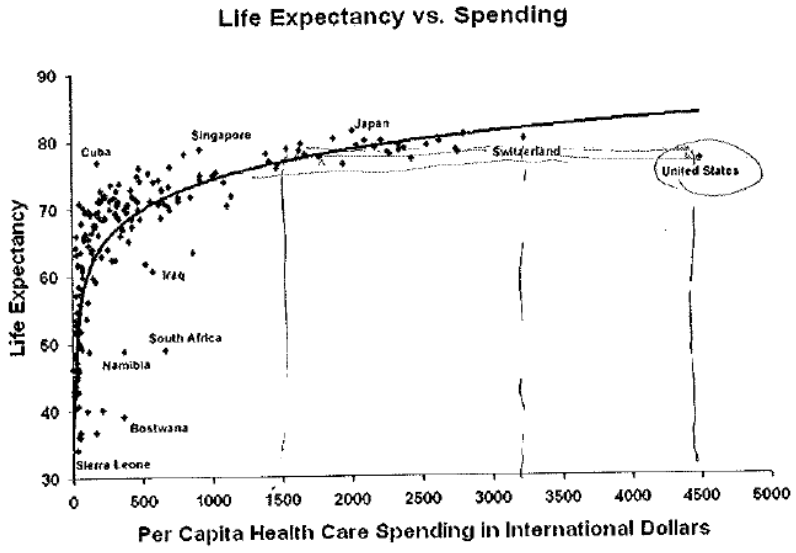


Healthcare spending, life expectancy and 'waste'

- The United States spends about 17% of its Gross Domestic Product on healthcare. Its life expectancy is 78.9 years.
- The UK spends about 9% of its Gross Domestic Product on healthcare. Its life expectancy is 80.5 years
- US spends 8 percentage points more of its GDP on healthcare than the UK.
- That is $1.4 trillion. Taiwan's GDP is $1 trillion (PPP).
- The 'waste' in the USA on healthcare is about 1½ times the total output of Taiwan each year. (Or, if the Taiwan population were the same as that of the USA, about 10% of the GDP per capita of Taiwan.)

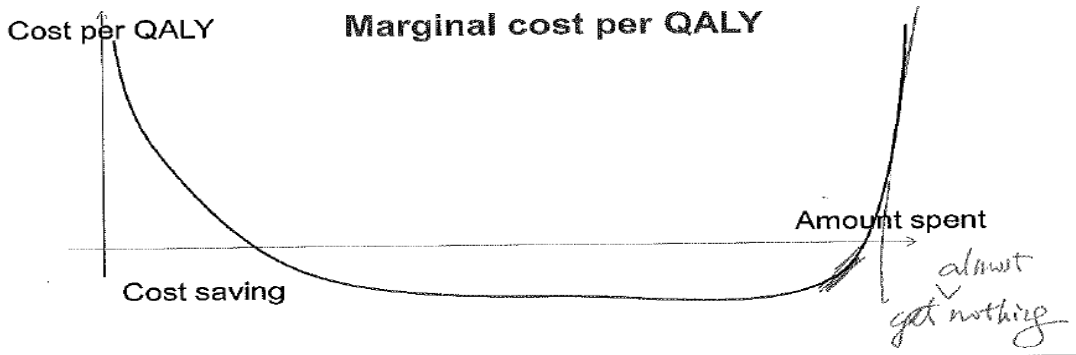
Spending on prevention versus treatment

- Nolte and McKee (2004) and others
  - About 50% of the benefits of healthcare (measured in terms of premature deaths) are from primary prevention, and about 50% are from secondary prevention and treatment.
  - The spending on primary prevention is about 4% of total healthcare spending and the other 96% is on secondary prevention and treatment. This is a 1:24 ratio.
  - So it is about 24 times as efficient to prevent ill-health as it is to treat it.
- Owen et al (2012) examining NICE's PH interventions
  - Median cost per QALY of public health interventions is about £1000.
  - The "NICE threshold" for treatment is £20,000 to £30,000
  - This ratio is thus of the order of 20-30 to 1.

The average versus the marginal benefit

- Suppose we are trying to prevent an ebola epidemic by quarantine.
- If we quarantine everyone suspected of an ebola infection, it will be very cost effective if we keep people isolated for 21 days.
- But if we keep them isolated for 42 days, there will be an additional cost but no additional benefit.
- The same will be true for many interventions in public health.
  - See a TV advert for healthy eating/smoking cessation/safe sex 10 times and it will generally be very cost effective
  - See it another 10 times?? 30 times? 40 times? Its marginal value will decline very rapidly

The average versus the marginal



About Public Health

- Public health can mean two things
  1. Healthcare provided by the government
  2. Prevention of ill-health and promotion of good health
- We are using the second meaning.
  - However, most prevention of ill-health and promotion of good health is provided by government. (Why?)
  - The reason is that most public health interventions are a form of a *public good*. A "public good" also has two meanings
    1. A good produced by the government
    2. A good that, once one person has it, everyone else can get it free of charge, ***and*** no-one can be stopped from having it.
  - Using the second meaning, private individuals will not normally produce a public good
    - because they cannot make a profit from it!

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Public Goods

- The most cost effective interventions in public health are usually some form of public good.
  - (A "public good" is like a TV programme – once it is provided to one person, everyone else in the country with a TV set can access it without cost, and cannot be excluded from it. Programmes that are pay-per-view are 'excludable' – you have to pay for them – so are not public goods.)
- Legislation
  - Smoking ban (big health gains, low cost of initiating, subsequent cost saving)
- Taxation
  - A tax on alcohol, once it is announced, applies to every bottle sold. Once the announcement has been made, there is no cost involved except changing the price tag. The tax is a *transfer* of money only.
- Regulation
  - Speed cameras, traffic lights on foodstuffs

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Public goods (2)

- Knowledge
  - Once something is known, everyone can read about it
- Mass media
  - Television advertisements to stop smoking
- Can't often do randomised controlled trials (RCTs) for public goods, so in the past they have been difficult to model for cost effectiveness.
  - Cannot control who watches TV
  - Cannot tax every second person
  - Cannot make laws or regulations for every second person
- Health gain is not the only consideration.
  - A recommendation for better health could be to tax beer until a pint was an average day's wages. But this has a political dimension, too, and no politician wishing for re-election could approve such a recommendation.

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Individual and population interventions

- We do not know who will become ill with a particular illness, so prevention strategies apply to *everyone*.
- So they are called 'population' interventions.
- Public health interventions that have an engineering solution (safe water supply, clean air, sewers, draining swamps to prevent malaria, quarantine) are mostly public goods.
  - They are so cost effective that no-one needs to prove that they are good value for money
  - In richer countries, this aspect of public health is not a topic for discussion, because it has already been accepted as necessary.
  - In poorer countries, much public health expenditure is to improve these aspects of health, and to prevent epidemics.
- In richer countries – and increasingly many countries are becoming rich – the emphasis is moving to 'harm reduction' that requires an emphasis on behaviour change.

NICE – Smoking, alcohol, exercise, obesity (quantity and quality of food), safe sex...

Public goods are population interventions

- A TV advertisement might be seen by 70% of the population, and by about 70% of smokers. So out of 10 million smokers, 7 million people see it.
- Say that 1% of these people quit smoking as a result. That is 70,000 people: a large number.
- But it is tiny when compared with the effect of a treatment.
  - Suppose a cancer drug had an effect on only 1% of those it was used on. It would be called a failure. Such drugs need to work in at least 10% of the population, and often in nearly all the population of cancer patients.
  - But with a tiny effect at an individual level, the size of a trial to reach statistical significance has to be extremely large. Such trials cannot be done.
  - If they are done, they will be inconclusive.
- In most cases in prevention interventions, we can use prior knowledge to judge if an effect is in the right direction. As with advertising.

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Harm reduction: known direction of change of an intervention?

- If we decide to jump out of a plane, will we be better off wearing a parachute than not wearing one?
- Will reducing air pollution do more harm than good?
- Will small reductions in the amount of salt eaten (on average) do more harm than good?
- When crossing a road (as a pedestrian) will it be better to look both ways for traffic than not looking?
- Will singing in a choir (for an old person who enjoys singing) be better at reducing loneliness than sitting at home alone?
- Would doing a small trial on any of these things help us determine the direction of change?

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Small reductions in salt

- We already know the direction of change of reducing salt in our diets from our prior knowledge. We know the effect of large reductions in salt, and we also realise that the relationship will not change sign when the 'dose' is reduced.
- We also know that salt is very cheap, and that reductions in it will cause savings of future treatment costs. Interventions aimed at reducing salt in food are also cheap.
- End of story. Cost effective. Better than that – cost saving and positive health benefit.
- But RCTs have been done on this topic.
  - The effect size on blood pressure is very small at an individual level
  - Blood pressure is devilishly hard to measure accurately
  - Keeping people to a lower-salt diet is well-nigh impossible
  - So the trials were all underpowered, and showed non-significant results in the 'right' direction. A meta-analysis was similarly underpowered.

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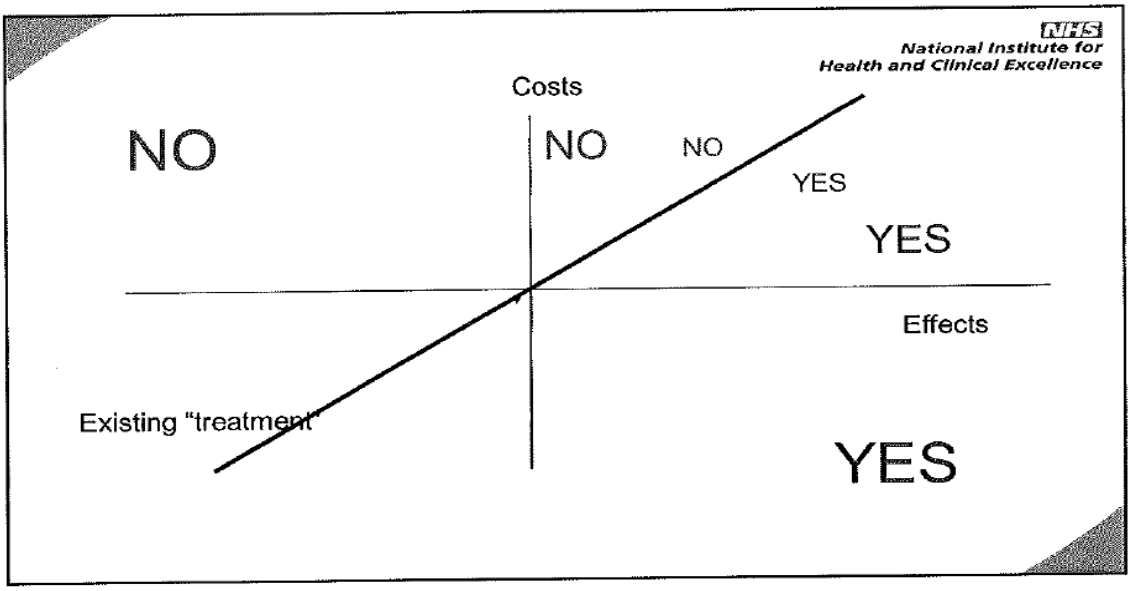
NHS National Institute for Health and Clinical Excellence



More about salt

- The meta-analysis of the trials (n = 6,489) showed:
  - *Cardiovascular morbidity in people with normal blood pressure (longest follow-up RR 0.71, 95% CI: 0.42 to 1.20, based on 200 events) or raised blood pressure at baseline (end of trial RR 0.84, 95% CI: 0.57 to 1.23, 93 events)*
- This prompted a Cochrane press release, 5 July 2011
  - *Moderate reductions in the amount of salt people eat doesn't reduce their likelihood of dying or experiencing cardiovascular disease. This is the main conclusion from a systematic review published in the latest edition of the Cochrane Library.*
- The study has since been withdrawn

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The currently-used paradigm

- We establish an effect by conducting an RCT. The hypothesis-testing approach rules out chance by means of a t-test or similar, using p-values.
- If significance is achieved, a cost effectiveness analysis is conducted as a second stage. This uses a decision-theoretic paradigm. It establishes cost effectiveness by looking at the size of the estimated mean ICER, and does not consider the ICER variance.
- For areas of public health that cannot do RCTs but where the direction of change is known from prior knowledge, we should use ***decision theory*** at the first stage as well as at the second stage.
- Decision theory has different rules for the first stage.

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Decision theory versus frequentist hypothesis-testing

Decision theory

- Subjective probability
- Prior beliefs
- To maximise, variance of effect estimate is ignored
  - This is as if the decision-maker is risk-neutral
- Makes sense if a large number of independent projects are considered.
- Used routinely in the business world for maximising profits

Frequentist

- Objective probability
- No prior beliefs
- Does not maximise, and is rather conservative
  - Decision-maker is risk-averse
- Does not consider other projects (maybe shouldn't if health is concerned?)
- Used routinely in medical research for effectiveness.

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The effect of bias

- Decision theory and frequentist hypothesis-testing do not deal well with bias
- The RCT avoids bias internally. A frequentist approach further avoids bias by ignoring prior beliefs. So where bias is important and can be avoided, use a frequentist approach.
- As in HTA (health technology appraisal)
- The underpowered RCT is very prone to publication bias. RCTs will often be underpowered in public health when the individual effect size is very small. Prior beliefs, however, will often not be subject to much bias, especially if they are firmly held.
- So use decision theory for effectiveness in PH

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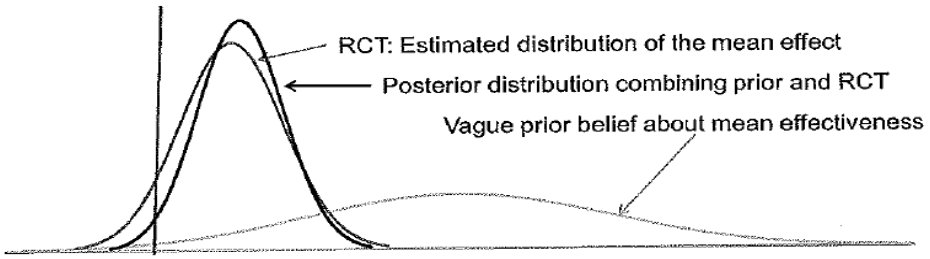
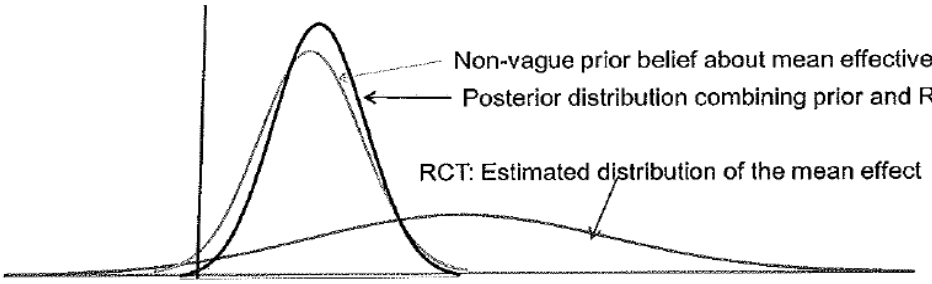
Technology appraisal



- Posterior distribution is influenced almost entirely by the RCT
- If the prior distribution is biased, it might detract from accuracy and not enhance it.
- So the decision-maker may wish to remain with the red curve (RCT only) as the most accurate.

Public health population intervention



- Posterior distribution is influenced almost entirely by the prior belief curve.
- The RCT is mostly a distraction, and it is likely to be biased upwards because of publication bias
- So the decision-maker may wish to ignore the red curve (RCT) because it is not helpful for the decision-maker. Because we know only the direction of change with the yellow curve, we must use "what if" analysis to inform cost effectiveness.
- To get an effect size (yellow curve doesn't give it) we use estimated mean RCT effect as an upper bound, and do 'what-if?' analysis

More on a full decision-theory approach

- People who carry out trials to determine the effectiveness of drugs and who use RCTs do not always recognise that public health should use a different paradigm.("We must not allow special pleading for Public Health. If the interventions do not satisfy 95% confidence intervals, we cannot accept them." This comes from the strictest adherents to the frequentist school, but those are the voices that are often the loudest and the most respected.)
- In round figures, we believe that the new decision theory approach could lead to the same health gains at a cost significantly lower than by the next-best means.

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Conclusions – public health

- Public health uses a population approach, where effect sizes are small and very often RCTs do not exist.
- So other forms of evidence are necessary to determine whether an approach is cost effective.
- These other forms of evidence fit into a decision-theory paradigm, but not the hypothesis-testing paradigm used for determining the effectiveness and cost effectiveness of health technology.

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More aspects – public health

- The benefits of public health interventions often come far into the future (by extending life).
- There is thus a tension between using money to treat people who are in immediate need, and preventing illness in people in many years' time.

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附錄 2、照片

拜訪 PHE 總部合影

Borrelli 組長主講 Breast Screening

Akinwale 組長主講 Health Equity

Amlani 組長主講 Digital Health

與癌症篩檢團隊 Day 經理及 Rimmer 協調師合影

與數位醫療 m-Health 主講者 Rider 組長合影

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與主講 Diet & Obesity 的 Levy 組長合影</td>
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NICE 大門口合影</td>
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與 NICE 兩位顧問 Ruiz 及 Fischer 合影</td>
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邱署長與 UICC CEO Cary Adams 合影</td>
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與 UICC 團隊交換意見</td>
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