

Examples from Health



Threats and Opportunities – the Scientific Challenges of the 21st Century

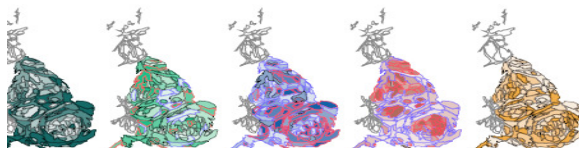
Professor Dame Sally C Davies,
Chief Medical Officer and Chief Scientific Adviser
6th February 2013

Annual Report of the Chief Medical Officer, Volume 1, 2011



Annual Report of the
Chief Medical Officer

Volume One, 2011
On the State of the Public's Health

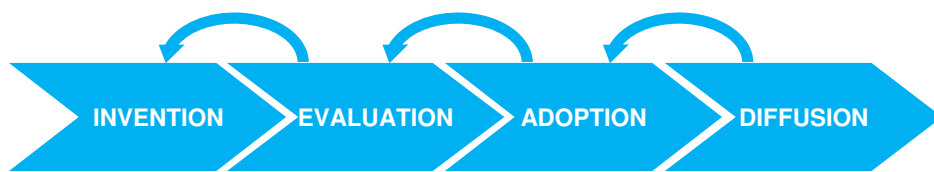


November 2012



Issues for Discussion

- The Public's Health
- Ageing / Dementia
- Non-communicable Diseases
- Infections
- Rare Diseases
- Our R&D response



Issues for Discussion

- The Public's Health



Alcohol – a public health problem



- Alcohol ranks as the third highest behavioural risk factor for disease and death in the UK, and is linked to liver disease, diabetes, CVD, and some cancers, as well as violent crime
- The costs of alcohol to the NHS are estimated at £3.5bn per year
- Lost productivity due to alcohol across the UK is estimated at £7.3 billion a year (2009/10 costs)

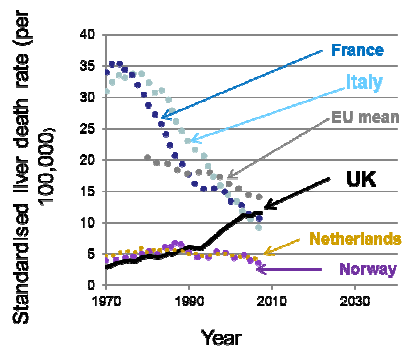


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Liver Disease

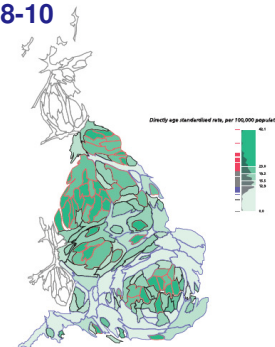


ALCOHOL: The future



Sheron N et al. (2011). Projections of alcohol deaths - a wake-up call. *Lancet* 377:1297-99.

Average annual mortality due to liver disease by upper tier local authority, England, 2008-10



Source: Death registrations and 2008 to 2010 population estimates, ONS. (Analysed by DH)

Investing in alcohol research for policy and practice improvement



- **Testing the public acceptability of population-level interventions to reduce alcohol consumption – for example, alcohol minimum unit pricing**
- Estimating the short-term impact on alcohol purchasing of a ban on multi-buy promotions
- **Estimating the impact of changes in alcohol strength and glass size on statistics on trends in alcohol consumption in England**
- Developing an evidence-based model for estimating requirements for specialist alcohol treatment capacity
- Developing and evaluating interventions for adolescent alcohol use disorders presenting through emergency departments
- Evaluating the effectiveness of screening and brief alcohol intervention in primary care (SIPS trial)

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Obesity – key messages

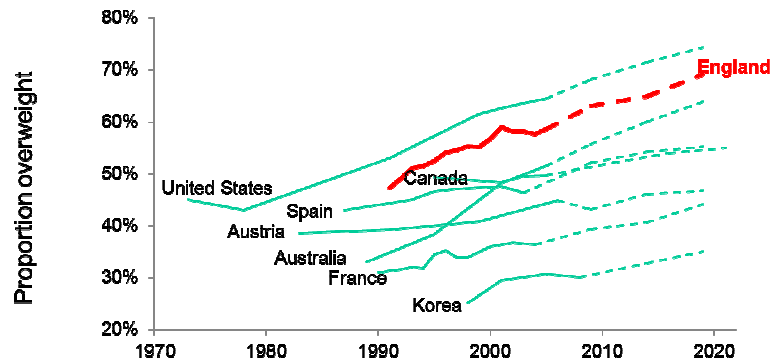


- One in four adults are obese
- More than 60% are overweight or obese
- Patterns broadly similar for men and women
- 1 million adults are morbidly obese (BMI of 40 or more)

Obesity – our future



Projected prevalence of overweight in eight countries



Wang YC et al (2011). Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet* 378:815-25.

Examples of the R&D Response



Policy Research Units on (i) Behaviour and Health; (ii) Public Health Research Consortium

NIHR HTA Disease Prevention Panel and Public Health Research Programme

Partnership with other funders on (i) National Prevention Research Initiative, (ii) UKCRC PH Research Centres of Excellence

NIHR School for Public Health Research

Extensive involvement in primary research, secondary analysis and evidence synthesis to support policy evaluation.

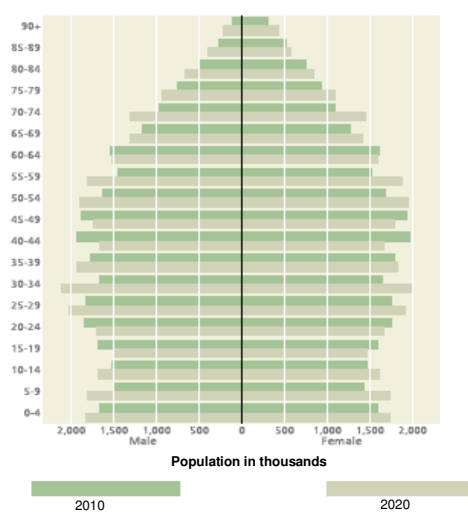
Issues for Discussion

- Ageing / Dementia



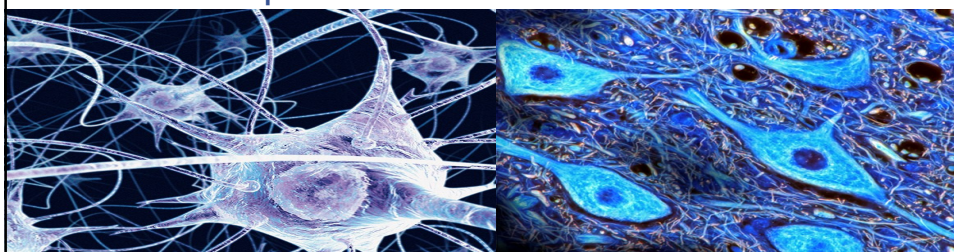
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Population England, 2010, 2020

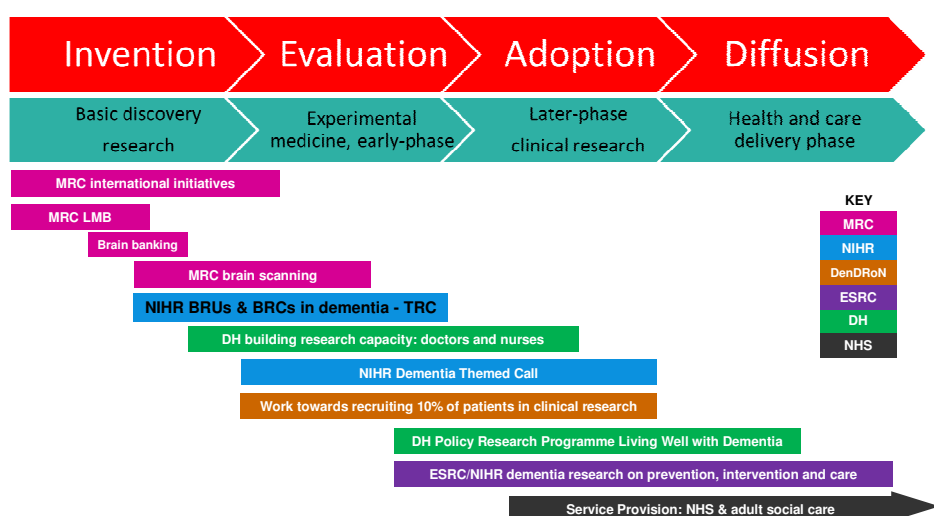


Dementia

- Worldwide nearly 36 million people live with dementia
 - Expected to almost double by 2030 (66 million) and more than triple by 2050 (115 million)
 - In England 670,000 people live with dementia
- Global expenditure estimates on dementia-

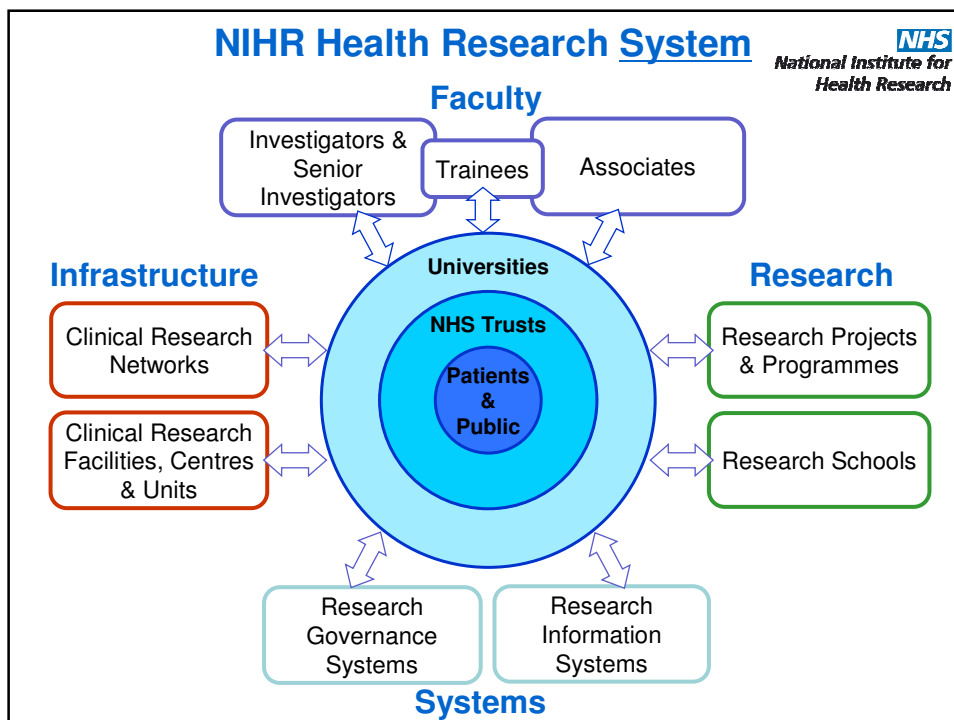


Our Response



Issues for Discussion

- Non-communicable Diseases



Infrastructure

Clinical Research
Networks

Clinical Research
Facilities, Centres
& Units

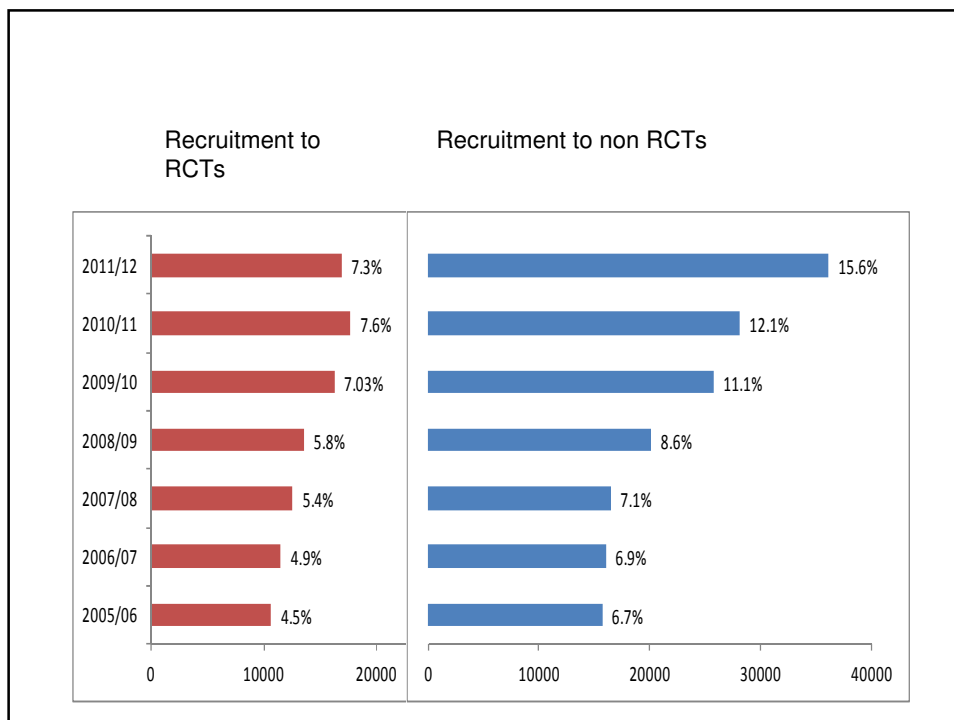
*“...the support and facilities the NHS
needs for first class research...”*

Recruitment to Cancer studies in 2011/12 - England

87,806 participants in total recruited into the NIHR-portfolio
of cancer studies in England

52,975 cancer (& pre-malignant) patients in England
(**22.9%** of incident cases)

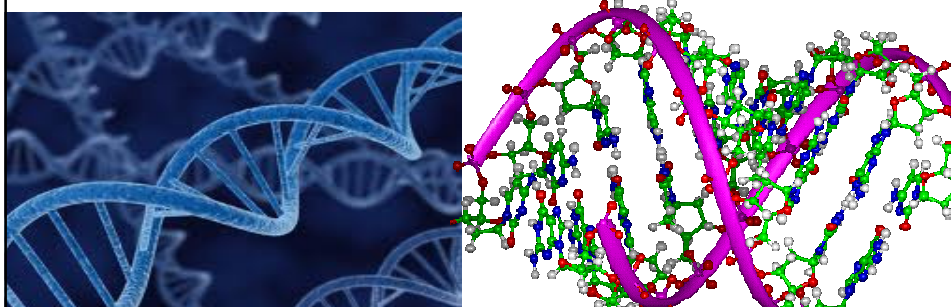
More than a **5 fold**
increase from 2001



Genomic Technologies: anticipating risk in the short, medium and long term



- Potential of Genomics, in the form of whole genome and exome sequencing, to transform healthcare;
- Unique position of the NHS as a single, national healthcare provider;
- Wealth creating possibilities



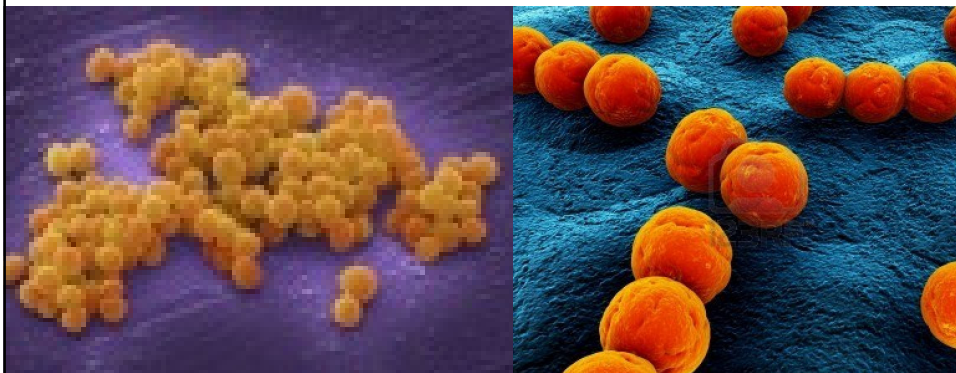
What we are doing



- Government initiative to sequence 100,000 whole genomes from NHS patients
- Initial focus on cancer, rare disease and infectious disease
- Programme will deliver a platform of genome data linked to diagnosis and outcomes for research and commercial application
- DH earmarked up to £100million funding to pump-prime sequencing; provide a trained workforce and support commercial applications
- CMO to oversee the programme to ensure patient interests are protected. Three expert groups (Science, Data and Ethics) to advise her by April 2013
- NHSCB Genomics Strategy Board, chaired by Malcolm Grant, to develop NHS implementation strategy, including sequencing capacity and preparing the workforce
- Programme to go live in April 2014

Issues for Discussion

- Infections



Pandemic Influenza



The National Risk Assessment recognises pandemic influenza as one of the highest risks for the UK.

Pandemic preparedness planning focuses on:

- reducing the spread
- reducing illness and complications
- reducing deaths
- reducing infection



The UK is recognised by the WHO as being one of the best prepared countries.

Pandemic Influenza Research



- 9 “sleeping contracts” have been let by NIHR HTA Programme HPA
- Proposals funded and initial study preparatory work done, so studies can be started quickly when required
- Includes studies on epidemiology and modelling; communication with the public; real time refinement of criteria/tools used for hospital referrals from primary care; triage in the emergency department; early estimation of antiviral and vaccine effectiveness
- DH PRP is considering proposal for behavioural aspects of flu pandemic and has call for ‘alternative opinion’ modelling capacity for pandemic (and seasonal) flu.

Antimicrobial Resistance



- Rising Resistance;
- Market Failure;
- Rapid worldwide spread of multidrug-resistant (MDR) bacteria;

Action:

- CMO Annual Report on infection, and
- A cross UK government five year AMR strategy

AMR / HCAI - Research



- NIHR/DH
 - Major contributor to UKCRC Translational Infections Research Initiative 2008-2016 (other major funders are Wellcome and MRC) which funds 4 consortia
 - Contributes £5m to TSB Innovation Platform on detection and identification of infectious diseases
 - Programmes of research (c £9m in 2012) in NIHR Biomedical Research Centres
 - Numerous projects funded through other programmes including the HTA and the DH Policy Research Programme

Issues for Discussion

- Rare Diseases

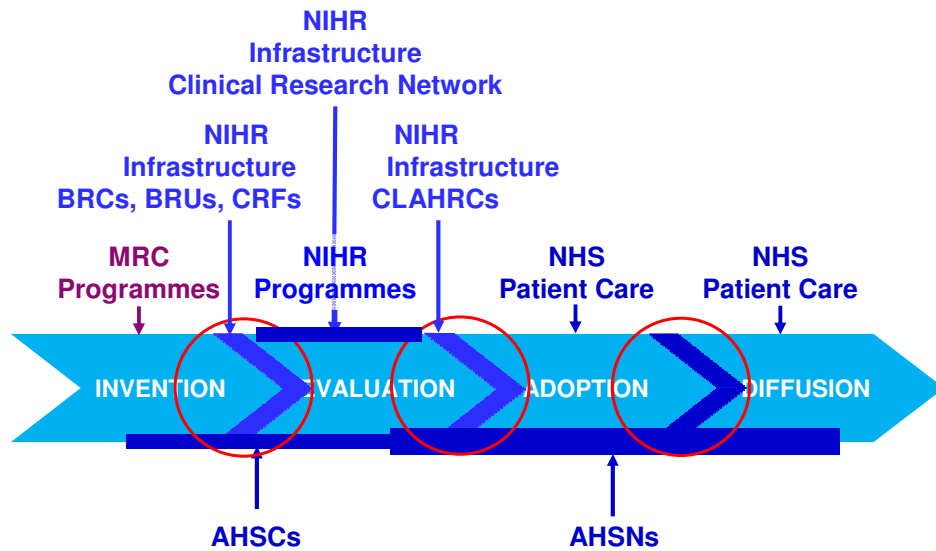


Rare Diseases



- Setting up NIHR **Rare Diseases** Translational Research Collaboration
 - ‘deep’ phenotyping
 - NIHR Biomedical Research Centres, Biomedical Research Units, Clinical Research Facilities
- NIHR Themed call for research into **very rare** diseases (affecting less than 1 in 100,000 of the general population)
 - six NIHR-managed research programmes
 - research on **rare diseases** (EU definition of 5 in 10,000) as part of the normal business of participating NIHR programmes

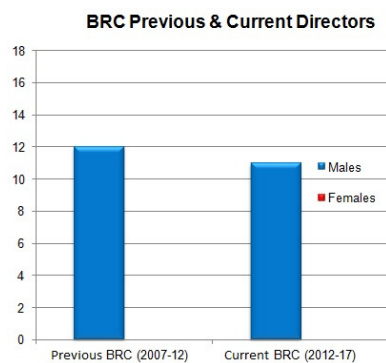
AHSNs, AHSCs and the Research and Innovation Landscape



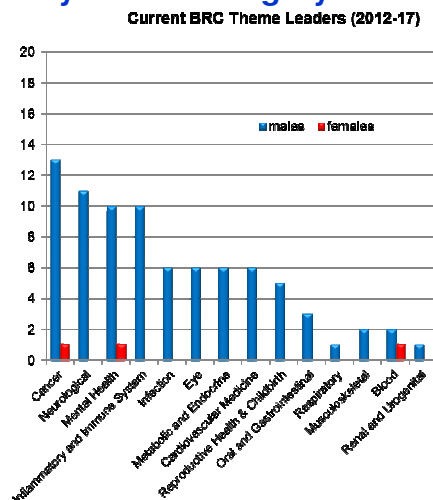
Gender and Clinical Academic Medicine

NHS
National Institute for
Health Research

Current BRCs Directors



Theme Leaders gender by Health Category






Athena SWAN
 Charter for Women in Science

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Athena Swan

The Athena SWAN Charter recognises and celebrates good employment practice for women working in science, engineering and technology (SET) in higher education and research.

Any university or research institution which is committed to the advancement of the careers of women in SET in higher education and research can apply for [membership](#).

Contact us:
 E: athenaswan@ecu.ac.uk | F: 020 7438 1011 | T: 020 7438 1022
 P: Athena SWAN, Equality Challenge Unit, 55-56 Lincoln's Inn Fields, London, WC2A 3LJ

Frequently asked questions.

[Find out more about the Charter's history and principles.](#)

We would like to thank the Universities of Bath, Bristol and York for providing the photographs used on this website.

News

11 May 2012
New Athena SWAN publications launched
 Annual Report and Awards Booklet available to download

10 May 2012
Coventry University joins Athena SWAN Charter
 Membership now stands at 78 institutions


9 May 2012
Athena SWAN awards ceremony
 University of Birmingham hosts ceremony



Equality Challenge Unit, 7th Floor Queen's House, 55/56 Lincoln's Inn Fields, London WC2A 3LJ
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Letter to Medical Schools

August 2011



From the Chief Medical Officer
 PROFESSOR LAMARCA C LEBLANC

29 July 2011

Professor Tony Weeman, Medical Schools Council
 Sir Ron Kerr, Association of University Hospitals
 Sir Steve Smith, Universities UK
 Professor Michael Arthur, The Russell Group
 Dr Kate Petty-Sapich and Wendy Platt

Dear Tony, Ron, Steve and Michael

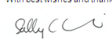
We have just completed a very busy full week with interviewing short-listed academic NHS partners for Biomedical Research Centres and Units (BRCs) and panels and I were very concerned about going for NHS partners are supporting women in clinical academia and be appointed to senior leadership positions.

When questioned, the NHS Trust responses, Medical School responses varied from embarrassed on behalf of our major

I now write to tell you that the BRCs and BRUs where the academic partner has not achieved at least the Silver Award of the Athena SWAN Charter for Women in Science. The present funding period of five years that we are about to enter gives both those who are funded, and those who are potential entrants next time four years to demonstrate this level of commitment to women in science.

When we announce the present successful awards highlights this as a condition for short-listing for the next round of BRCs and BRUs. If, through your networks, you could make everyone aware of the Athena SWAN Silver Award in place effectively

With best wishes and thanks for your help



PROFESSOR DAME SALLY C DAVIES
 CHIEF MEDICAL OFFICER & CHIEF SCIENTIFIC ADVISER

next run the competition for NIHR BRCs and BRUs **we do not expect to short-list any NHS/University partnership where the academic partner (generally the Medical School/Faculty of Medicine) has not achieved at least the Silver Award of the Athena SWAN Charter for Women in Science.** The present funding period of **five years** that we are about to enter gives both those who are funded, and those who are potential entrants next time four years to demonstrate this level of commitment to women in science.

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- Non-communicable Diseases
- Infections
- Rare Diseases
- Gender in Academic Medicine
- Our R&D response

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Annual Report of the
Chief Medical Officer
Multitude of Threats
Volume One, 2011
On the State of the Public's Health

&

Wealth of Opportunities



November 2012

Behaviours and Impact on Health

	Prevalence	Cost to NHS	Cost to wider society	Impact on health
Tobacco	80,000 deaths p.a 20% Adults smoke	£2.7bn per year 5% of hospital admissions for over 35s	£14bn per year	Deaths from smoking-related diseases are mainly from cancer, heart disease or respiratory disease. Smoking can also cause non-life threatening diseases that can significantly reduce well-being, including blindness and male impotence.
Obesity	1 in 3 adults are overweight or obese In 2011, 61.5% of adults (aged 16 or over) and 30% of children (aged 2 to 10) in England were either overweight or obese	£5.1 bn per year	£16bn per year in 2007,	Obesity is a leading cause of serious diseases such as type 2 diabetes, heart disease and cancer. Risks for other diseases, including angina, gall bladder disease, liver disease, ovarian cancer, osteoarthritis and stroke, are also raised.
Alcohol	15,000 deaths p.a 9 million people say they drink above the guidelines	New estimates show that alcohol misuse costs the NHS £3.5 billion every year There were 1.2 million alcohol-related hospital admissions in 2010/11	7.3bn per year due to lost productivity £11 bn per year due to crime costs	Drinking, especially above the lower-risk guidelines, can lead to a range of conditions, including cancer, stroke, liver and heart disease
Drugs	Nearly 205,000 people (adults) received treatment in 2010/11	The Pooled Treatment Budget (PTB) for drug treatment was £406 million in 2010/11, local areas also contribute further funding from mainstream PCT and Local Authority funding.	£15.4bn per year	Misuse of drugs is a key cause of societal harm, including crime, family breakdown and poverty. It undermines community cohesion and excludes drug users from society.
Physical Activity	Over 27m (2 thirds) adults in England are not meeting the Chief Medical Officer's physical activity recommendations	£1.6 bn per year as a result of inactivity	£5.5bn due to sickness absence £1bn from premature death	People who are physically active reduce their risk of developing major chronic diseases – such as coronary heart disease, stroke and type 2 diabetes – by up to 50%, and the risk of premature death by about 20–30%.