

# Cervical screening, cervical cancer, and inequality.

TJ Day  
July 2014

# What cervical screening does

Cervical screening looks for two things:

- 1) Abnormal cells on the cervix which may in time turn into cervical cancer
- 2) Presence or absence of the Human Papilloma Virus (HPV)

Either:

- 1) A screening sample will be taken, and if abnormal cells are present, an HPV test will also be carried out (HPV Triage and Test of Cure)
- 2) An HPV test will be carried out first. Only if HPV is present will the sample be tested for abnormal cells (HPV Primary Screening).

# Outcomes of screening

- About 1 in 20 women will have an abnormal screening result (5%).

## HPV triage and test of cure:

Borderline changes or mild abnormalities = HPV test

HPV present = referral to colposcopy

## HPV primary screening:

HPV present = cytology

Abnormal cytology = referral to colposcopy

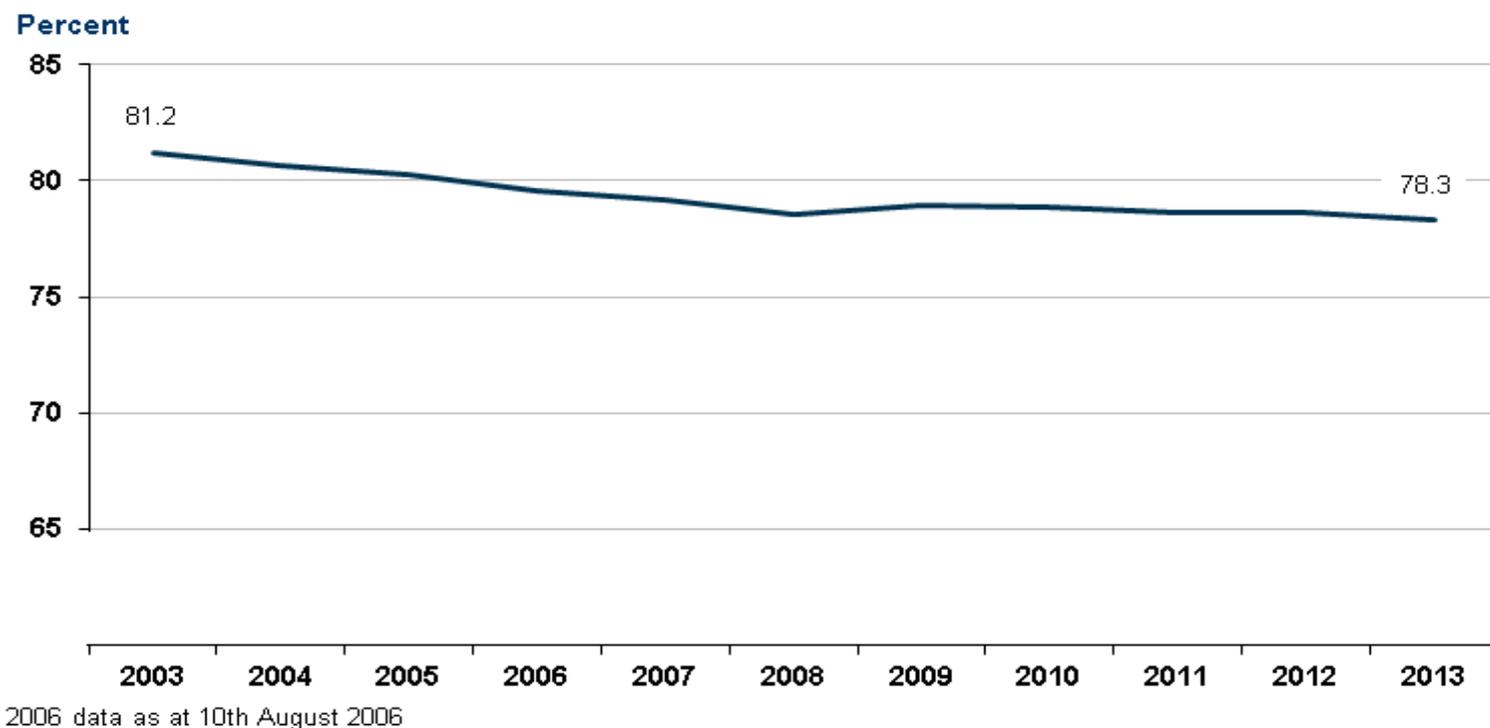
# Uptake of cervical screening

**The most up-to-date figures (2012-13) show that:**

- 4.24 million women were invited to come for cervical screening
- 3.32 million of those women were tested
- Almost 3.57 million cervical cytology samples were processed by cytology clinics (some women need repeat tests for clinical reasons)
- 97.8% of women received their results within 2 weeks
- Currently, 78.3% of eligible women have been screened at least once over the last five years.

# Coverage

the % of women attending for screening in the last five years

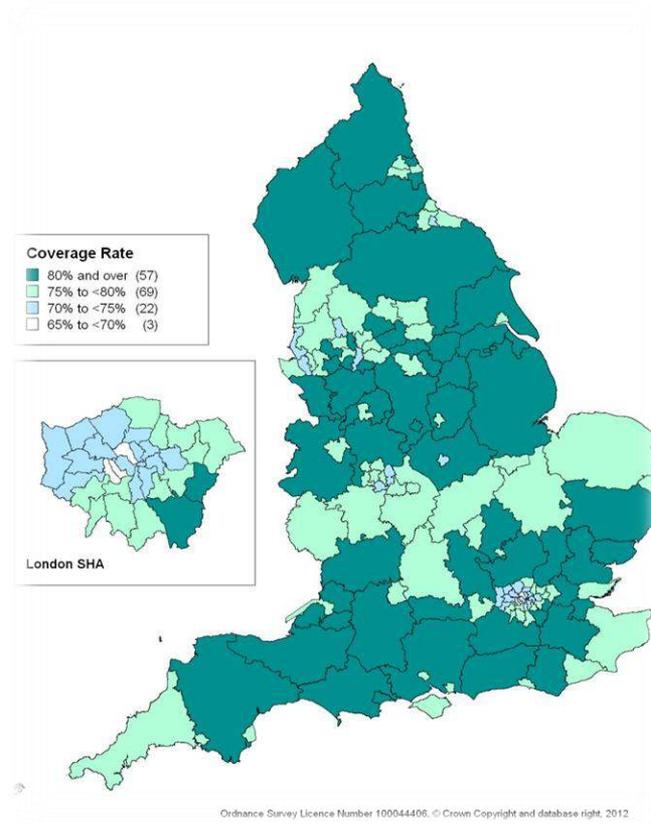


Source: KC53, Health and Social Care Information Centre

# 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)

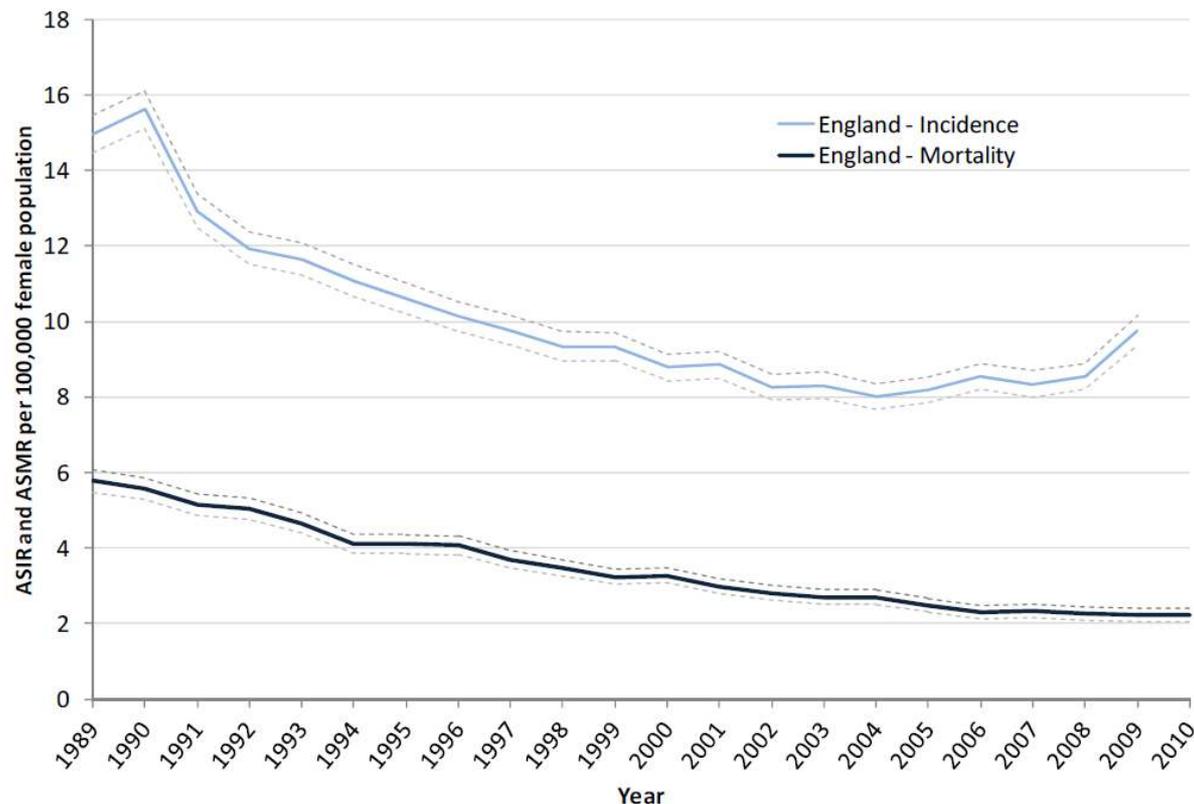


Source: NHS Cancer Screening Programme, PHE. 31<sup>st</sup> March 2012

## Cervical cancer: epidemiological context

- Mortality rates **reduced by 60%** over the past 20 years
  - From 5.8 to 2.2 per 100,000 female population
  - Reflects success of screening programme: saves estimated 4,500 lives per year
- Survival following diagnosis improved since 1980s
  - From **83% to 88%** for one-year relative survival
  - From **64% to 70%** for five-year relative survival
  - Survival is worse in older women

# Cervical cancer: epidemiological context



Trends in incidence and mortality, England, 1989 to 2010

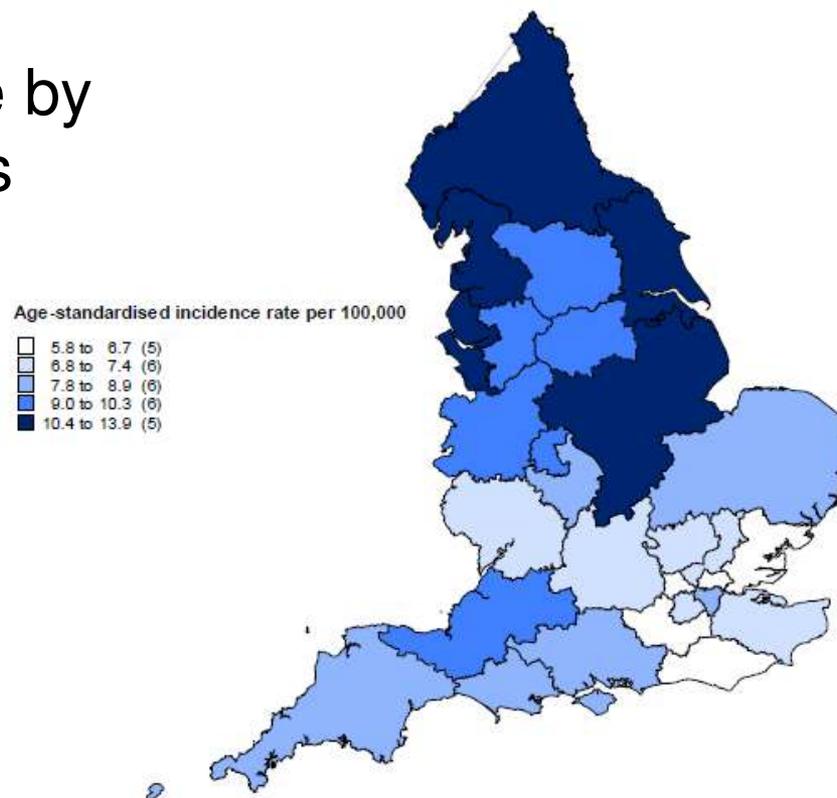
Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

# Inequalities in incidence

- Variation in incidence: highest incidence rate per area is more than double that of lowest rate
- Evidence suggests worse incidence in women living in more deprived areas
  - Average incidence rate **10.4** per 100,000 (30 most deprived areas) compared with **7.8** per 100,000 (30 most affluent)

# Inequalities in incidence: variation

Map of incidence by  
Cancer Networks  
2005-2009



Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

# Inequalities in incidence

- Deprivation linked to higher rate of incidence: a combination of possible factors
  - Cigarette smoking (greater risk of squamous cell carcinoma compared with adenocarcinomas)
  - HPV infection – more likely in women who are having sex early, or many sexual partners
  - Pregnancy before age 17 (x2 risk of cervical cancer compared with 1<sup>st</sup> pregnancy over age 25)

Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

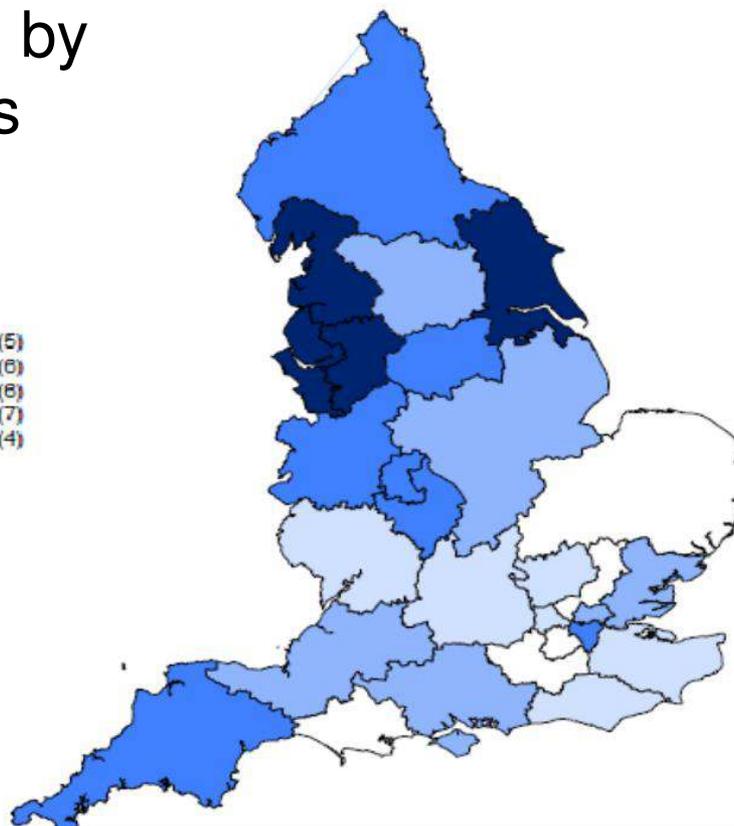
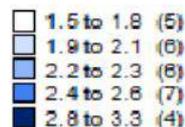
# Inequalities in mortality

- Average mortality rate among 30 most deprived areas is almost **twice as high** as in the most affluent 30 areas
  - Ranges from **3.2** per 100,000 to **1.7** per 100,000
- Linked to a range of factors:
  - Higher incidence of cancer in more deprived areas
  - Poorer screening uptake (later presentation means the risk of more advanced cancer and less effective treatment)

Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

# Inequalities in mortality: variation

Map of mortality: by  
Cancer Networks  
2006-2010

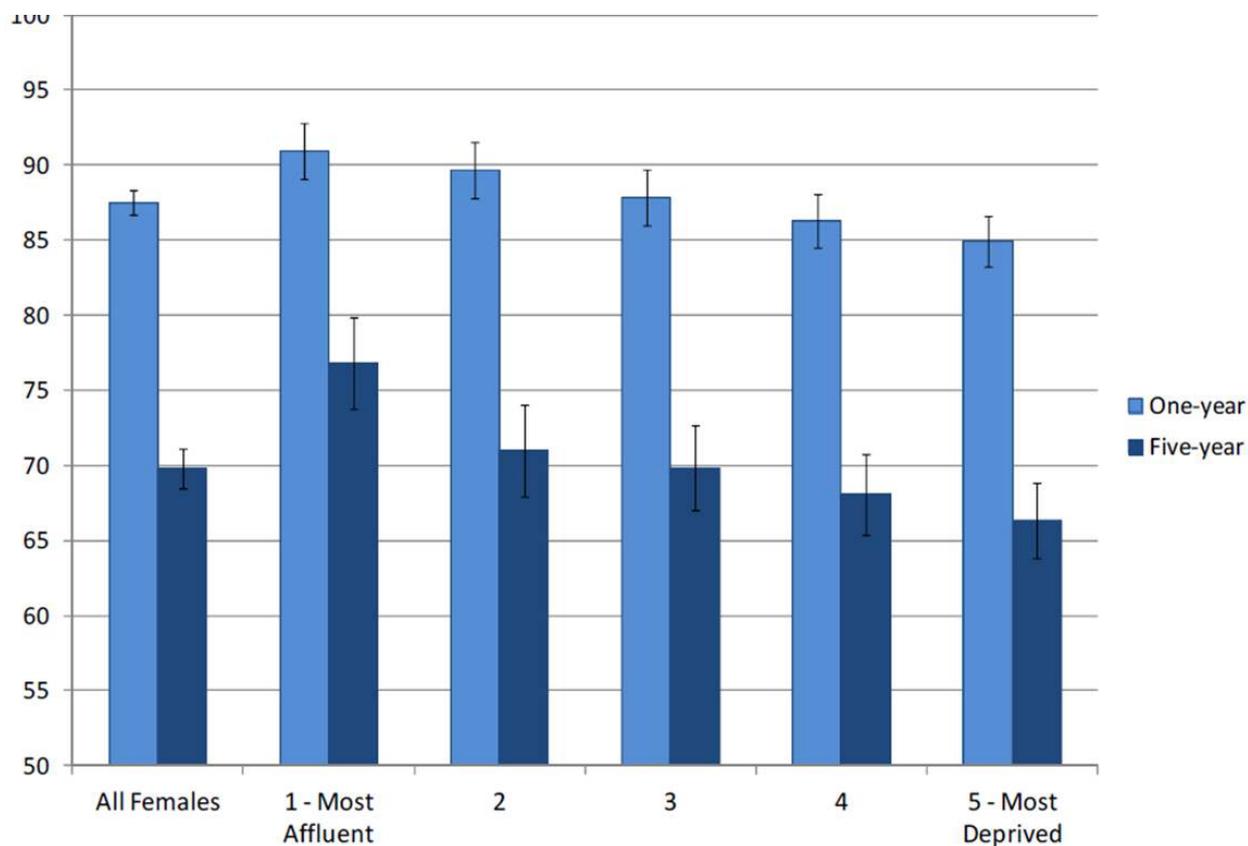


Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

# Inequalities in survival

- Survival following diagnosis improved since 1980s
  - From 83% to 88% for one-year relative survival
  - From 64% to 70% for five-year relative survival
  - Survival is worse in older women
- Cancer survival is worse in women living in most deprived fifth of areas compared with fifth least deprived.
- Relative survival varies by deprivation:
  - At one-year: **6%** gap in relative survival
  - At five-year: **11%** gap in relative survival

# Inequalities in survival



Source: Trent Cancer Registry, NCIN, NHS Cervical Cancer Screening Programme. Profile of Cervical Cancer in England. Incidence, Mortality and Survival. October 2012

# Cervical cancer: inequalities

- Inequalities in coverage, incidence and mortality
- Inequalities playing out at many levels:
  - socio-economic
  - age
  - ethnicity
  - at-risk or vulnerable groups

## Other 'at risk' groups

- Women who have experienced sexual abuse are less likely to attend regular cervical screening
- People with a learning disability are less likely to be screened
- Lesbian and bisexual women are up to 10 times less likely to have had screening in the past 3 years.

Source: Cadman L et al. Barriers to cervical screening in women who have experienced sexual abuse: an exploratory study. J Fam Reprod Health Care 2012;38:214-220

Fish, J. Cervical screening in lesbian and bisexual women: a review of worldwide literature using systematic methods. De Montfort University. NHS Cervical Screening Programme: Cervical screening for lesbian and bisexual women.

# Inequalities in coverage

- More than 20% of women don't attend screening
- Younger women are more likely to decline a screening invitation than older women
- White British women are more than twice as likely to have had cervical screening as women of other ethnicities

Source: Populus-Hanover Poll of 1,546 women aged 18+ online between 19<sup>th</sup> and 24<sup>th</sup> November, 2008.

Moser K et al. Inequalities in reported use of breast and cervical screening in Great Britain. *BMJ* 2009;338:b2025.

Waller J et al. Barriers to cervical cancer screening attendance in England: a population-based survey. *J Med Screen* 2009;16:199-204

# Opportunities to take action: upstream

- An approach that takes into account the wider determinants of health
- The benefits of public health strategies on:
  - Smoking cessation
  - Supporting sexual health services (e.g. on teenage pregnancy)

# Opportunities to take action:

## Enhancing the NHS Cervical Screening Programme

- Since 2008, girls aged 12-13 vaccinated against HPV types 16 and 18, which cause around 75% of cervical cancers.
  - In the future, the incidence is expected to fall and the pattern of disease to change as a result of vaccination. Continuing to achieve high vaccine uptake will be key to this.
- Pilot of HPV Primary Screening.
  - Potential to double length of screening interval
  - Started in May 2013. Results due in 2016/17.

# Opportunities to take action

## Future areas of research

- Self sampling as part of research study to increase uptake in 25 year olds (NIHR funded STRATEGIC study)
- The STRATEGIC study is also looking at other interventions such as additional information, a 'nurse navigator', or internet appointment booking.
- How to reach out to BME communities (Jo's Cervical Cancer Trust)

# Conclusions

- There are complex links between deprivation and cervical cancer
- Inequalities map onto socio-economic deprivation, age, and ethnicity, plus others.
- Role for stakeholders to act on the wider determinants of health as well as enhancing the NHS Cervical Screening Programme

# Thank you

[www.cancerscreening.nhs.uk](http://www.cancerscreening.nhs.uk)

To order leaflets and posters, go to:

<http://www.orderline.dh.gov.uk>.

or call 0300 123 1002 (Dept. of Health Orderline)

[www.gov.uk/government/organisations/public-health-england](http://www.gov.uk/government/organisations/public-health-england)