**EVIDENCE BRIEFING ON RECENT RESEARCH**

1. **Chemoprevention**
2. **Tamoxifen and raloxifene have recently been included within NICE guidelines for the management of familial breast cancer (CG164). Uptake of chemoprevention in this setting is low (<10% in clinical settings).**
3. **GPs awareness of the concept of chemoprevention is low: 52% of a national sample were aware tamoxifen could be used for prevention in high risk women; 47% were aware aspirin could be used for patients with Lynch Syndrome.**
4. **National survey data indicate GPs may be unwilling to prescribe tamoxifen for primary prevention, particularly if they are asked to initiate the prescription rather than continue it from secondary care.**
5. **A large aspirin dose-inferiority trial is underway to assess the optimal therapy for Lynch Syndrome patients. National survey data indicate GPs may be reluctant to prescribe aspirin at the highest dose being tested (600mg).**
6. **A number of barriers to prescribing chemoprevention have been identified, and the majority of these can be addressed through changes in healthcare policy.**

***KEY PRIORITIES:***

* *Increase GP awareness and access to information regarding the benefits and harms of chemoprevention using tamoxifen and aspirin (e.g. standardised pro-forma letters for secondary care clinicians referring patients to primary care)*
* *Develop national guidelines for Lynch Syndrome management (Cancer Strategy for England)*
* *Implement shared care agreements between primary and secondary care to facilitate prescribing of tamoxifen and aspirin (e.g. Manchester model)*
* *List primary prevention as an indication for tamoxifen and aspirin in the British National Formulary.*

*Smith SG, Sestak I, Forster A, Partridge A, Side L, Wolf MS, Horne R, Wardle J, Cuzick J. (2016) Factors affecting uptake and adherence to breast cancer chemoprevention: A systematic review and meta-analysis. Annals of Oncology. 27, 575-590.* [*https://doi.org/10.1093/annonc/mdv590*](https://doi.org/10.1093/annonc/mdv590)

*Smith SG, Foy R, McGowan JA, Kobayashi L, Brown K, Side L, Cuzick J (accepted) General Practitioner attitudes towards prescribing tamoxifen for the primary prevention of breast cancer: findings from a vignette study. British Journal of General Practice.*

*Smith SG, Foy R, McGowan JA, Kobayashi L, Burn J, Brown K, Side L, Cuzick J. (submitted) General practitioner attitudes towards prescribing aspirin to carriers of Lynch Syndrome: findings from a national survey.*

*Smith SG, McGowan JA, Kobayashi LC, Foy R, Brown K, Side L, Cuzick J. Access to chemoprevention medication in the NHS. Policy report to be released by Cancer Research UK (February, 2017).*

*Smith SG, Side L, Meisel SF, Horne R, Cuzick J, Wardle J. (2016) Clinician-reported barriers to implementing breast cancer chemoprevention in the UK: A qualitative investigation. Public Health Genomics. 19, 239-249.* [*https://doi.org/10.1159/000447552*](https://doi.org/10.1159/000447552)

1. **Screening**
2. **Age-related population screening programmes exist for colorectal, breast and cervical cancer**
3. **If the programmes work as well as they possibly could (full attendance, tests accurate, no-one lost) they account for 10-15% of all cancer diagnoses. In reality they only account for ~8%.**
4. **Uptake of screening programme is variable (inverse care law). Interventions from general practice can have a positive influence over screening uptake, including primary care endorsement and an enhanced reminder letter.**
5. **Routine screening for lung cancer with low dose CT in high-risk patients is not currently recommended (however there is a Yorkshire Lung Cancer Screening Trial opening next year)**
6. **Routine screening for ovarian cancer is not currently recommended (the UKTOCS study needs more years of follow-up to reach a definitive answer regarding efficacy and cost-effectiveness)**

***KEY PRIORITIES:***

* *Negotiate with local bowel cancer screening hub regarding GP endorsement of FOBt invitation letters*
* *Encourage participation in the upcoming lung cancer screening trial*
* *Promote informed uptake of cancer screening, provide accurate information and maintain involvement with follow-up of individuals who tested positive.*

*Jacobs IJ et al. Ovarian cancer screening and mortality in the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS): a randomised controlled trial. Lancet 2016; 387: 945–56* [*http://dx.doi.org/10.1016/*](http://dx.doi.org/10.1016/)

*Rubin G, Berensen A, Crawford SM et al (including Neal RD). The expanding role of primary care in cancer control. Lancet Oncology 2015;16:1231–72* [*http://dx.doi.org/10.1016/S1470-2045(15)00205-3*](http://dx.doi.org/10.1016/S1470-2045(15)00205-3)

*Wardle J, von Wagner C, Kralj-Hans et al (including Smith SG) Effects of evidence-based strategies to reduce the socioeconomic gradient in uptake in the English NHS Bowel Cancer Screening Programme (ASCEND): four cluster-randomised controlled trials. Lancet 2016, 10020: 751-759.* [*http://dx.doi.org/10.1016/S0140-6736(15)01154-X*](http://dx.doi.org/10.1016/S0140-6736(15)01154-X)

*von Wagner et al. Inequalities in participation in an organized national colorectal cancer screening programme: results from the first 2.6 million invitations in England. International Journal of Epidemiology. 2011 30:712-718.* [*https://doi.org/10.1093/ije/dyr008*](https://doi.org/10.1093/ije/dyr008)

*Black G et al. Patients’ Experiences of Cancer Diagnosis as a Result of an Emergency Presentation: A Qualitative Study. PlosOne* [*http://dx.doi.org/10.1371/journal.pone.0135027*](http://dx.doi.org/10.1371/journal.pone.0135027)

1. **Awareness and help-seeking**
2. **Public awareness of cancer symptoms in the UK is similar to other comparable countries, but barriers to help-seeking (e.g. worry about wasting the doctor’s time) are more prevalent**
3. **Low symptom awareness in the UK has been tackled with public education campaigns about specific symptoms, often linked with messaging about GPs wanting to see people with these symptoms**
4. **There is some evidence that these lead to improved outcomes in the short term (and relatively few harms), but there is no evidence for long term benefit**
5. **Lung cancer awareness campaigns have reported short term increases in x-rays, a stage shift towards earlier stage disease and a rise in potentially curative treatment, coupled with only minor increases in GP consultations**
6. **There is significant socio-demographic variation in cancer awareness (a RCT of cancer symptom awareness raising is opening this year in Yorkshire)**

***KEY PRIORITIES:***

* *Encourage health communities to promote symptom awareness raising, on the basis that it may do some good, and causes few harms*
* *Ensure that all ‘awareness’ activity needs is culturally specific*
* *Encourage GP participation in the upcoming symptom awareness trial*

*Forbes LJ et al, on behalf of the International Cancer Benchmarking Partnership Module 2 Working Group. Differences in cancer awareness and beliefs between Australia, Canada, Denmark, Norway, Sweden and the UK (the International Cancer Benchmarking Partnership): do they contribute to differences in cancer survival? Br J Cancer (2013) 108, 292–300.* [*https://doi.org/10.1038/bjc.2012.542*](https://doi.org/10.1038/bjc.2012.542)

## *Quaife SL et al. Recognition of cancer warning signs and anticipated delay in help-seeking in a population sample of adults in the UK. Br J Cancer (2014) 110, 12–18.* [*https://doi.org/10.1038/bjc.2013.684*](https://doi.org/10.1038/bjc.2013.684)

## *Ironmonger L et al. An evaluation of the impact of large-scale interventions to raise public awareness of a lung cancer symptom. Br J Cancer (2015) 112, 207–216.* [*https://doi.org/10.1038/bjc.2014.596*](https://doi.org/10.1038/bjc.2014.596)

*Rubin G, Berensen A, Crawford SM et al (including Neal RD). The expanding role of primary care in cancer control. Lancet Oncology 2015;16:1231–72.* [*http://dx.doi.org/10.1016/S1470-2045(15)00205-3*](http://dx.doi.org/10.1016/S1470-2045(15)00205-3)

1. **Primary Care management of potential cancer symptoms**
2. **Timely diagnosis is associated with better cancer outcomes (for those cancers where there are good data); there is significant regional and national variation in times to diagnosis and in cancer survival. Improving earlier diagnosis is predicted to save up to 10000 lives annually**
3. **NICE guidance NG12 (2015) predicates urgent action for adult patients presenting with symptoms that are deemed to represent a risk of 3% or more of having underlying cancer**
4. **Greater use of 2-week referral pathways are associated with reduced mortality**
5. **There is huge variation in the use of 2-week wait pathways and of adherence to guidelines**
6. **Many cancer patients do not get ‘NICE-qualifying symptoms’ (low-risk-but-not-no-risk) therefore GPs must rely on good clinical medicine and local pathways for investigation and referral**
7. **Safety-netting, use of significant event audit, decision support tools, and PHE practice profiles are all likely to be associated with better cancer outcomes**

***KEY PRIORITIES:***

* *Ensure adherence to NICE NG12 and ensure that pathways are in place to allow downstream adherence to NICE NG12*
* *Encourage use of decision support tools (RATs, QCancer), safety netting practices, significant event auditing, and practice profiles*

*NICE NG12. Suspected cancer: recognition and referral 2015* [*https://www.nice.org.uk/guidance/ng12*](https://www.nice.org.uk/guidance/ng12)

*Neal RD, Tharmanathan P, France B, Din NU, Cotton S, Fallon-Ferguson J, Hamilton W, Hendry A, Hendry M, Lewis R, Macleod U, Mitchell ED, Pickett M, Rai T, Shaw K, Stuart N, Tørring ML, Wilkinson C, Williams B, Williams N, Emery J. Is increased time to diagnosis and treatment in symptomatic cancer associated with poorer outcomes? Systematic review. Br J Cancer 2015, 1–16.* [*https://doi.org/10.1038/bjc.2015.48*](https://doi.org/10.1038/bjc.2015.48)

*Rubin G, Walter F, Emery J, Neal RD, Hamilton W, Wardle J. Research into practice: earlier diagnosis of symptomatic cancer Br J Gen GP 2014;64:428-430.* *https://doi.org/10.3399/bjgp14X681205*

*Hamilton W, Walter FM, Rubin GR, Neal RD. Improving early diagnosis of symptomatic cancer. Nat Rev Clin Onc* [*https://doi.org/10.1038/nrclinonc.2016.109*](https://doi.org/10.1038/nrclinonc.2016.109)

[*Richards MA*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Richards%20MA%5BAuthor%5D&cauthor=true&cauthor_uid=19956156)*. The size of the prize for earlier diagnosis of cancer in England.* [*Br J Cancer.*](https://www.ncbi.nlm.nih.gov/pubmed/19956156)*2009 Dec 3;101 Suppl 2:S125-9.* [*https://doi.org/10.1038/sj.bjc.6605402*](https://doi.org/10.1038/sj.bjc.6605402)

*Nicholson BD, Mant D, Bankhead C. Can safety-netting improve cancer detection in patients with vague symptoms? BMJ 2016; 355* [*https://doi.org/10.1136/bmj.i5515*](https://doi.org/10.1136/bmj.i5515)

1. **Preventing emergency presentation of cancer**
2. **Emergency diagnosis of cancer is associated with inferior clinical and patient-reported outcomes, compared with patients diagnosed electively or through screening**
3. **Some emergency diagnoses are potentially preventable, as patients initially present elsewhere, with symptoms, in the health system**
4. **Emergency diagnoses are associated with age (youngest and oldest), lower socioeconomic status, ethnicity, and multi-morbidity**
5. **Considerable research is in progress to try to reduce the proportion of emergency diagnoses**

***KEY PRIORITIES:***

* *Develop local priorities for reducing emergency diagnoses locally*
* *Ensure all other health systems for cancer diagnosis are optimal (screening programmes, symptom awareness, access to primary care, primary care diagnostics, access to investigations and specialist services*
* *Improving care for emergency presenters*
* *Encourage participation in the case control study of emergency diagnosis (EMPRESS)*

*Zhou Y et al. Diagnosis of cancer as an emergency: a critical review of current evidence. Nature Reviews Clinical Oncology (2016).* [*http://dx.doi.org/10.1038/nrclinonc.2016.155*](http://dx.doi.org/10.1038/nrclinonc.2016.155)

[*Elliss-Brookes L*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Elliss-Brookes%20L%5BAuthor%5D&cauthor=true&cauthor_uid=22996611)*,*[*McPhail S*](https://www.ncbi.nlm.nih.gov/pubmed/?term=McPhail%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22996611)*,*[*Ives A*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ives%20A%5BAuthor%5D&cauthor=true&cauthor_uid=22996611)*, [Greenslade M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Greenslade%20M%5BAuthor%5D&cauthor=true&cauthor_uid=22996611),*[*Shelton J*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Shelton%20J%5BAuthor%5D&cauthor=true&cauthor_uid=22996611)*, [Hiom S](https://www.ncbi.nlm.nih.gov/pubmed/?term=Hiom%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22996611),*[*Richards M*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Richards%20M%5BAuthor%5D&cauthor=true&cauthor_uid=22996611)*. Routes to diagnosis for cancer - determining the patient journey using multiple routine data sets.* [*Br J Cancer.*](https://www.ncbi.nlm.nih.gov/pubmed/22996611)*2012 107(8):1220-6.* [*https://doi.org/10.1038/bjc.2012.408*](https://doi.org/10.1038/bjc.2012.408)*.*

*Wallace D et al. Identifying patients at risk of emergency admissions for colorectal cancer. Br J Cancer 111, 577-580 (2014)* [*https://doi.org/10.1038/bjc.2014.300*](https://doi.org/10.1038/bjc.2014.300)