Nationally, what didn’t we know?
• How people come to get diagnosed with cancer
• Whether late diagnosis arises where patients have not gone through the screening or suspected cancer route

Nationally, what did we want to know?
• Can we use routinely available datasets to define the route to diagnosis for patients diagnosed with cancer?
• If so, how do routes differ by cancer site, age, sex, ethnicity, deprivation or geography?
• Are there differences in survival for different routes?

Method:
Routes to Diagnosis uses routinely collected data sources to work backwards through patient pathways to examine the sequence of events that led to a cancer diagnosis. The methodology identifies over 70 individual pathways and then categorises patients into one of eight broad Routes (see table to right).

1. Registration records for cancers newly diagnosed in 2006 to 2008 (ICD-10 COC-C37 excluding C44) for England residents were extracted from the National Cancer Data Repository.
2. Records were linked at patient level to national datasets for inpatient and outpatient activity, Cancer Waiting Times (CWT) monitoring and breast, cervical and bowel cancer screening.
3. Hospital Episode Statistics (HES) data were used to categorise the Route for each cancer individually, the algorithm is described in the three flow diagrams below.
4. Screening and CWT data were then examined with the Route potentially changing to either a Screening or Two Week Wait (urgent referral for suspected cancer) Route.

Results: The percentage of patients diagnosed through each Route was broken down by cancer type, age, sex, deprivation, geography, ethnicity and year for 38 specific cancer types. Relative survival estimates were calculated for 1, 3, 6, 9 and 12 month periods. Across all cancer types, one-year relative survival was significantly lower for Emergency Presentations.

Conclusions: The small selection of results presented show that linked cancer registration and administrative data can be used to robustly categorise the route to a cancer diagnosis for all patients.

The methodology outlined allows for automation of analysis and is robust, with results aligning to several other studies. It is also broadly transferable to other countries, allowing international comparisons.

However it is not without its limitations. A small level of impact from background admissions will be present as the algorithm assumes patient activity prior to diagnosis is associated with the diagnosis itself. The method cannot be used to identify presenting symptoms (of cancer or any other illness).

The full methodology published in the British Journal of Cancer*, an information supplement and an Excel workbook containing all available results are available from the NCIN website: www.ncin.org.uk