	Appraisal of quality of indicator for provisional CCG OIS
Indicator ref.: 1.9	**Indicator title:** Cancers diagnosed via emergency routes
Key considerations for the NICE Committee	• The source of this data is the National Cancer Intelligence Network (NCIN) from the Cancer Analysis System (CAS). • There is no sample data for this indicator. • NCIN have produced similar indicators at a national level and for breast, colorectal, lung and prostate cancers at PCT level. • **Summary: the HSCIC view is that this indicator is feasible – subject to having sufficient good quality data at CCG level.**
Rationale	Cancer is a major cause of death, accounting for around a quarter of deaths in England. Cancer outcomes in England are poor compared to the best in Europe. In January 2011 the Government published Improving Outcomes – a Strategy for Cancer. This document sets out how the Government plans to improve cancer outcomes, including improving survival rates through tackling late diagnosis of cancer. Research into the way in which patients are first diagnosed with cancer showed that about a quarter of cancer patients are diagnosed via emergency routes and that the survival rates for those diagnosed via emergency routes are considerably lower than for other cancer patients. The study by the NCIN showed that those patients diagnosed following an initial emergency presentation to secondary care had worse outcomes across all cancer sites. By identifying the proportion of patients who first present as an emergency, it's possible to investigate why these patients present as emergencies and how some patients could present earlier through a different route. An increase in the proportion of patients who present through a more managed process will correspond with improved outcomes. An indicator on the proportion of cancers diagnosed via an emergency route is, therefore, a useful proxy for assessing improvements in early diagnosis.
Suitability of indicator for purpose	**Data Quality dimensions:** **Completeness** All relevant cases of cancer are likely to be included, as multiple routine datasets are used to populate the cancer registry databases. **Accuracy** Multiple data sources are amalgamated and cross-checked to ensure the data is accurate. **Timeliness** Due to the current delay in publishing cancer registration data, latest available data are for tumours diagnosed in 2010. Patient level data for tumours diagnosed for 2009 and 2010 are expected to be available from the middle of 2013. This will include practice code where available and postcode, from which it should be possible to determine the patient's CCG. Data for 2013-14 may not be available before the end of 2014. While hospital episode statistics (HES) data is more rapidly available, on its own it cannot give a true measure of the proportion of patients who present as an emergency, as it doesn't give all cancers for the denominator. (GP data is not included, for example. Neither are patients whose first notification of cancer is via a death certificate.) A robust, rapidly

	available indicator will be developed during 2013 using data from the CAS. **Accessibility** NCIN has worked with the United Kingdom Association of Cancer Registries (UKACR) and other data owners to agree access mechanisms for these data and an overarching access policy. **Relevance** CCGs could help promote awareness of cancer generally, so that people are more likely to see a doctor about potential symptoms before they result in an emergency presentation of cancer. CCGs could impact on cancer diagnosis routes in a number of ways, including encouraging compliance with screening programmes among their patients and encouraging people to see their GP with potential symptoms of cancer when these first become noticeable, even if they do not represent an immediate major health issue. However, it could be several years before any effect is noticed and it would be difficult to isolate the effect of local interventions over national awareness programmes.
What is measured	**Source of data** Data will be provided by NCIN from the CAS. The CAS acts as a portal into the ENCORE database, which will be under the aegis of Public Health England (PHE) Disease Registration from April 2013. NCIN have produced a lot of work looking at Routes to Diagnosis at a national level. This includes detailed comparison by type of cancer and other breakdowns of the data. Also included is an analysis of incidence by route for breast, colorectal, lung and prostate cancer at PCT level. **Denominator** All invasive cases of cancer, excluding non-melanoma skin cancer (ICD-10 codes C00-C97, excluding C44) diagnosed during the respective year. **Numerator** Of data in the denominator, newly diagnosed tumours where the first presentation to secondary care is traced back to an emergency route. Emergency routes are: inpatient admission methods (with method of admission code): • an emergency via accident and emergency (A&E) services, including the casualty department of the provider (21), • GP (22), • bed bureau, including the Central Bureau (23), • other means, including patients who arrive via the A&E department of another healthcare provider (a transfer) (28), outpatient source of referral (with source of referral code): • following an emergency admission (01), • referral from an A&E department (04), • following an A&E attendance (10).

	Note that non-melanoma skin cancer is a non-basal cell carcinoma which is regularly excluded from cancer indicators as its impact on health is much less than other cancers and there are comparatively large numbers of cases which could significantly impact any statistic that includes it. Data from this source has not yet been tested due to the current migration of cancer registration data to a single system. It is not yet of a sufficient quality and completeness for use as a baseline and it will continue to evolve during 2013, although this may not be able to provide any data before the end of 2013. As it is fed with different data sources, the methodology will need to be adapted. It is expected the data will be available to develop the new methodology by September 2013.
How data are aggregated	This indicator will be given as a percentage at CCG level. It is expected that it will be possible to identify the patient's CCG from the data. If the patient's GP and/or practice code is not available, this would have to be based on the patient's home postcode. We would have to consider options where GP or practice code is only available for some patients (and this would depend on the proportion where it was available). Both denominator and numerator will be ascribed to a CCG on the same basis.
Risk adjustment	No adjustment is anticipated for this indicator.
Scientific validity	The assignment of a CCG to a patient will be based on GP or practice code where possible and if not, then on the patient's home postcode. As the numerator is a subset of the denominator, the same method will be used for any particular patient. If the practice is not available for any of the data, a different approach may be required.
Interpretation	A low rate is desirable. Outliers could be identified from a suitable graph of the data which shows appropriate confidence limits.
Equality assessment	The proposed indicator may show some geographic variation, although this might be due to any number of reasons, including custom by GPs, procedures of the hospital trusts, or social factors including deprivation and/or ethnicity. Examination of the underlying data, when this becomes available, may show other variations which may need to be taken into account when developing the indicator.
Use, follow-up investigation and action	There will be a cost associated with extracting the data from the CAS, although this will be relatively small, as the system is required for other purposes anyway. There may be a cost associated with adding the practice to the data if this is not done routinely and it is difficult to see how this could be re-attributed to this indicator. There is no perverse incentive with this indicator.

Feedback from HSCIC consultation

Question	N	Response (%)				
Organisation	3	Clinical Network (33.3%), Acute Trust (33.3%), General Practice (33.3%)				
		Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**	**Don't Know**
Well defined	3	33.3%	66.7%	0.0%	0.0%	0.0%
Well constructed	3	0.0%	100.0%	0.0%	0.0%	0.0%
		Yes, significant issues	**Yes, minor issues**	**No Issues**	**Don't Know**	
Data Quality issues	3	0.0%	66.7%	33.3%	0.0%	
		Highly likely	**Quite likely**	**Quite unlikely**	**Highly unlikely**	**Don’t know**
Likely service improvements	3	33.3%	33.3%	33.3%	0.0%	0.0%
Results group dependant	3	66.7%	0.0%	33.3%	0.0%	0.0%
Likely perverse incentives	3	0.0%	33.3%	66.7%	0.0%	0.0%

If you expect that there will be data quality issues associated with this indicator please provide more detail as to what you think these might be.

- Incorrect coding for emergency admissions.
- Ensuring the staffing are in place to collect and report these data and that A+E teams are educated as to the relevance of the data.

If you would expect to see different results for particular groups please describe what differences you would expect to see and for which groups

- Granularity of data collection will make this difficult to analyse. All groups mentioned are less likely to be aware of potential cancer diagnosis.
- I would expect more deprived to be diagnosed by the emergency route.

Sample data

There is no sample data for this indicator.