



Urgent referral for suspected cancer

A retrospective cohort study found that general practices in England that frequently used the urgent referral pathway for people with suspected cancer had lower mortality rates among their patients subsequently diagnosed with cancer.

Overview:

- A retrospective cohort study assessed the effect on mortality of the urgent referral pathway for cancer in England, which ensures that people are seen by a specialist service within 2 weeks if their GP suspects they have cancer.
- The study found that use of the urgent referral pathway by general practices was associated with lower mortality rates among their patients who were subsequently diagnosed with cancer.
- General practices should review the referral routes of their patients who have cancer and consider ways of optimising their selection of patients for referral.

Background: The time between first presentation of cancer symptoms in primary care and diagnosis can affect survival, with longer intervals associated with higher mortality ([Tørring et al. 2013](#)).

Since 2000, GPs in England have been expected to refer people with suspected cancer to be seen by a specialist within 2 weeks or less ([Department of Health 2000](#)). However, use of this urgent referral pathway varies among practices ([Baughan et al. 2011](#)), which could affect cancer survival rates.



Current advice: NICE guidance on [suspected cancer](#) recommends that healthcare professionals in primary care should refer people with symptoms and findings suggestive of cancer to a specialist service. Once the decision to refer has been made, the referral should be made within 1 working day.

How quickly someone is seen by a specialist service depends on their symptoms. People referred using a suspected cancer pathway referral should be seen within 2 weeks.

The NICE pathway on [suspected cancer recognition and referral](#) brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams.

New evidence: A retrospective cohort study by [Møller et al. \(2015\)](#) assessed whether use of the urgent referral pathway for cancer in England was associated with cancer mortality rates.

Data on urgent referrals for suspected cancer and cancer diagnoses were collected from the National Cancer Waiting Times database. Data on survival were taken from the National Cancer Register.

These data were linked back to general practices using a database of all patients registered with a GP in England and Wales (the NHS Exeter database). Whether a practice's use of the urgent referral pathway was higher or lower than average was quantified using a ratio of the observed number of urgent referrals to the expected number of referrals (referral ratio).

The study cohort comprised 215,284 people diagnosed with cancer at 8049 general practices in England in 2009. A total of 91,620 of these people died during the 4-year follow-up period. Practices were divided into high, intermediate (reference) and low users of the urgent referral pathway on the basis of their referral ratio.

High use of the urgent ('two-week wait') referral pathway by a general practice (median referral ratio=1.39) was associated with lower mortality among its patients who had been diagnosed with cancer (hazard ratio [HR]=0.97, 95% confidence interval [CI] 0.96 to 0.99). Low use of the pathway (median referral ratio=0.68) was linked to higher risk of cancer mortality (HR=1.05, 95% CI 1.04 to 1.07).

The authors retrospectively assessed what proportion of diagnosed cancers had resulted from an urgent referral for suspected cancer by general practice (detection rate). Practices with a high detection rate (median=54%) had a lower mortality risk than average in people diagnosed with cancer (HR=0.96, 95% CI 0.95 to 0.98), whereas practices with a low detection rate (median=33%) had a higher mortality risk (HR=1.04, 95% CI 1.02 to 1.06).

The mortality risk in practices with the highest referral rates and detection rates was 47%, compared with 53% in those with the lowest rates.

The authors also considered what proportion of urgent referrals for suspected cancer resulted in a diagnosis of cancer (conversion rate). Conversion rates were a median of 17% among practices with the highest referral rates and 8% in those with the lowest rates. Conversion rate was not associated with mortality in people with cancer.

Strengths of this study include that it used complete national population data for England and controlled for practice list size and patient population. Weaknesses include that individual practices often had small numbers of referrals and cancer cases, little information was available on stage of cancer, and that the analyses could not control for the time between cancer diagnosis and death.

Commentary by Professor Michael D Peake, Honorary Consultant and Professor of Respiratory Medicine, University of Leicester and Clinical Lead, National Cancer Registration and Analysis Service, Public Health England:

"This an important study because it is the first to show a mortality benefit of GPs using the urgent referral pathway for patients they suspect may have cancer.

"Showing such an effect at the level of 1 general practice is extremely difficult because of the small number of new cancers they diagnose in one year. But the authors of this study used high quality population-based data to show that practices that used the urgent referral pathway more often (that is, had a high referral rate) were associated with significantly lower risk of death among patients with cancer over the 4 years after diagnosis. In addition, for those patients in these practices who developed cancer, practices where higher proportion had reached secondary care via an urgent referral route (a high detection rate) had a lower risk of death.

"The authors estimated that had all practices behaved like those with the highest referral and detection rates, 2,400 fewer deaths would have been seen over the 4 year study period. Five years is the most commonly used follow-up period in international studies of cancer survival.

However, it is highly unlikely that the results of this study would have been materially different had 5 year follow-up been possible. The estimated size of the mortality benefit seen in practices most likely to use the urgent referral route is of the same order of magnitude of the difference in cancer mortality rates between England and many other Western countries.

“The proportion of patients that practices referred via the urgent route who turned out to have cancer (the conversion rate) was not associated with a mortality benefit. Intuitively, this fits with the idea that practices with a high conversion rate would have a higher threshold for referral (that is, would tend to refer only patients with very firm, often more advanced, signs of cancer) and thus would be more likely to miss patients with earlier stage disease.

“It is difficult to assess the magnitude of the effect at the level of an individual general practice, let alone that of individual GPs. Nevertheless, this study suggests that practices should be regularly reviewing the referral routes and outcomes of their cancer patients and considering ways of optimising their selection of patients for referral for a specialist opinion.”

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