National Cancer Registry Ireland

Cancer Trends

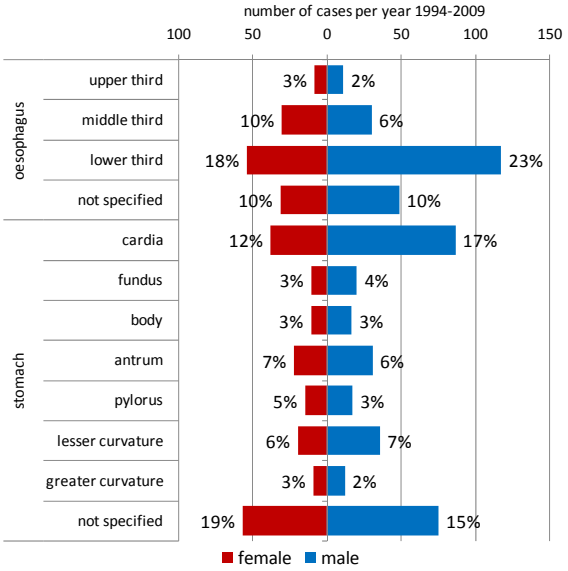
Cancers of the oesophagus and stomach

Anatomical sites

Information on two cancer sites—oesophagus and stomach—is given in this report, as there are considerable similarities in aetiology and behaviour between adenocarcinoma of the lower oesophagus and that of the adjoining stomach (cardia).

An annual average of 331 oesophageal cancers—124 (38%) in females and 207 (62%) in males—and 475 stomach cancers—182 (38%) in females and 293 (62%) in males—was registered between 1994 and 2009. The lower third was the commonest site of oesophageal cancer in both sexes (Figure 1). For most subsites, cancer was more common in men; however, upper oesophageal cancers were more common in women (13%) than in men (8%). The commonest site of stomach cancer in both sexes was the cardia, but for many the anatomical site was not specified. Cancers of the lower oesophagus and the adjoining part of the stomach (cardia) accounted for 30% of all gastro-oesophageal cancers in women and 40% in men.

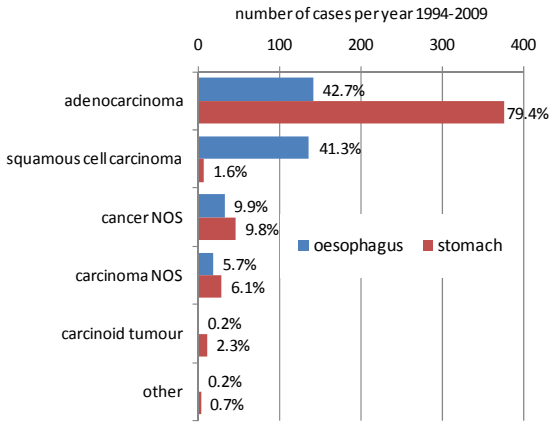
Figure 1. Anatomical site of oesophageal and stomach cancers, 1994-2009



Histological types

Almost 80% of stomach cancers were adenocarcinoma (Figure 2), while oesophageal cancers were approximately equally divided between adenocarcinoma (43%) and squamous carcinoma (41%). Other types were rare, the commonest being carcinoid of the stomach (2.3%).

Figure 2. Histological type of oesophageal and stomach cancers, 1994-2009



Time trends

The incidence rate for squamous carcinoma of the oesophagus fell by 0.9% annually for females and 1.4% for males between 1994 and 2009 (Figures 3 and 4), while the incidence rate for adenocarcinoma increased by 2.2% annually for women and 3.0% for men. This increase in oesophageal adenocarcinoma has been noted in many developed countries and has been attributed to "western" lifestyle.

Figure 3. Oesophageal cancer incidence rates by histological type, females, 1994-2009

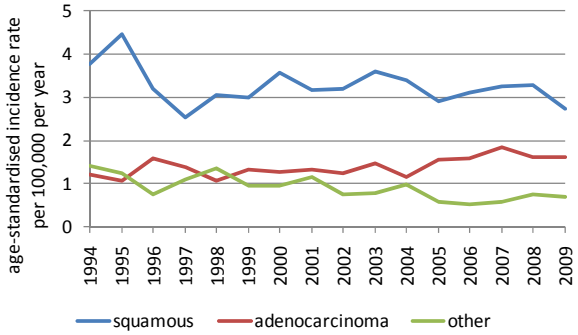
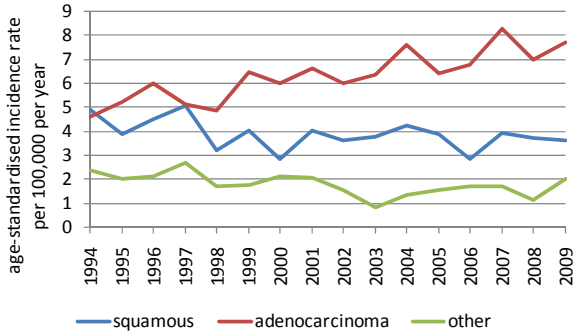


Figure 4. Oesophageal cancer incidence rates by histological type, males, 1994-2009



The age-standardised incidence rate for cancers of the stomach fell by 1.7% annually for women and 2.1% for men between 1994 and 2009. However, the incidence rates for cancer of the gastric cardia increased by 1.3% annually in women and 0.2% in men; the rate for all other subsites fell (Figures 5 and 6).

Figure 5. Stomach cancer incidence rates by subsite, females, 1994-2009

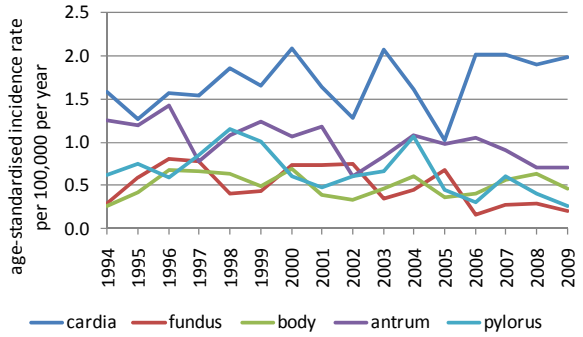
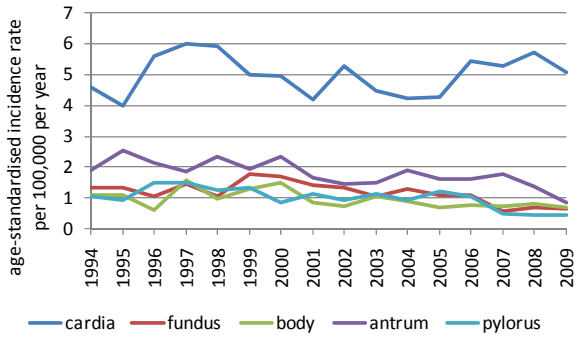


Figure 6. Stomach cancer incidence rates by subsite, males, 1994-2009



Geographical variation in Europe

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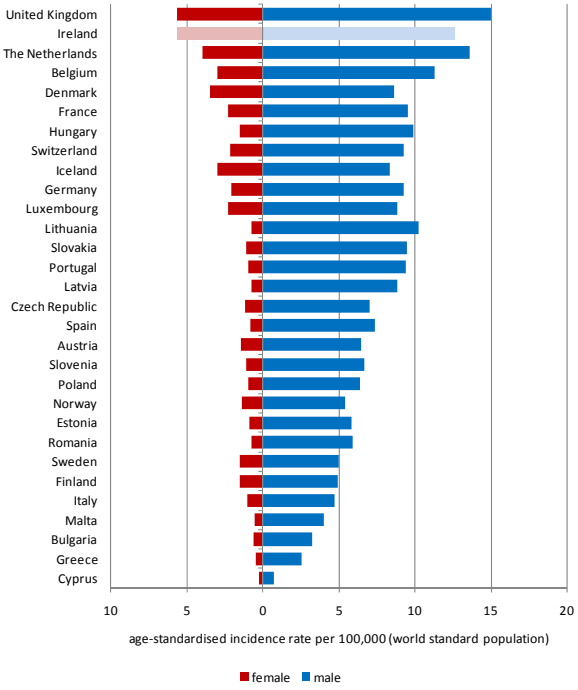
Figure 7. Estimated incidence of oesophageal cancer, 2008 (age- standardised rate)[1]



Within Europe, the highest incidence of oesophageal cancer, for both men and women, was in the UK, Ireland and the Netherlands (Figure 7). Oesophageal cancer was much more common in men than women; the highest male/female ratio was in the Baltic countries. The pattern of incidence for stomach cancer was quite different—the highest incidence for both sexes was in the Baltic countries, and although stomach cancer was commoner in men, the male/female ratio was much lower than for oesophageal cancers (Figure 8). There was a strong inverse relationship between GDP per capita and the risk of stomach cancer in men (Figure 9); a similar but weaker, relationship existed for women (not shown).

Figure 8. Estimated incidence of stomach cancer, 2008 (age- standardised rate)[1]

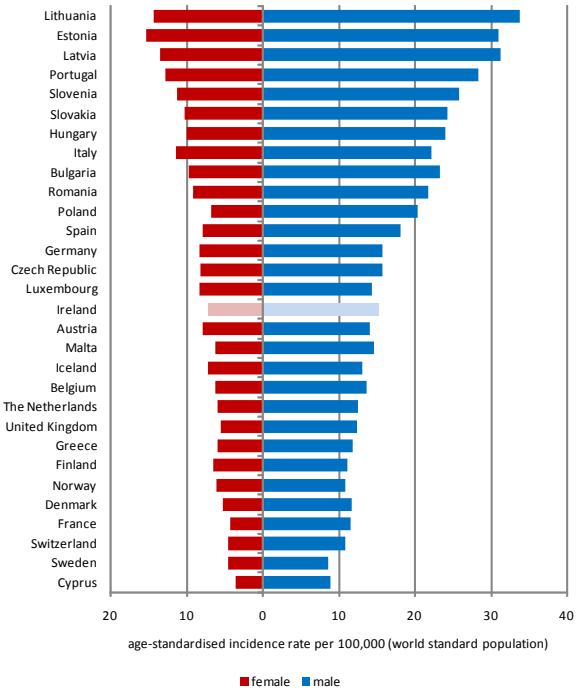
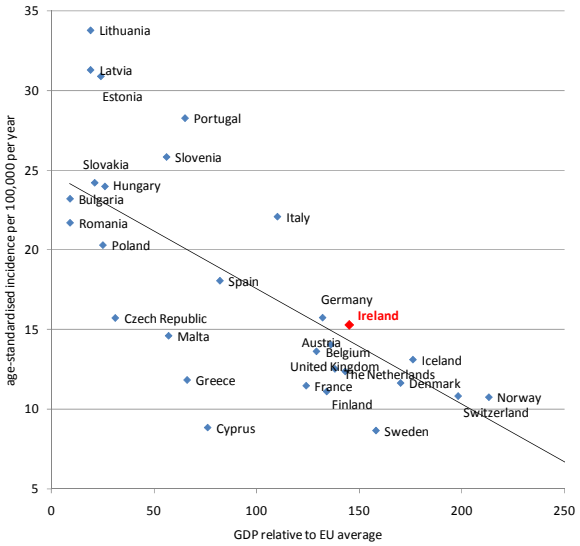


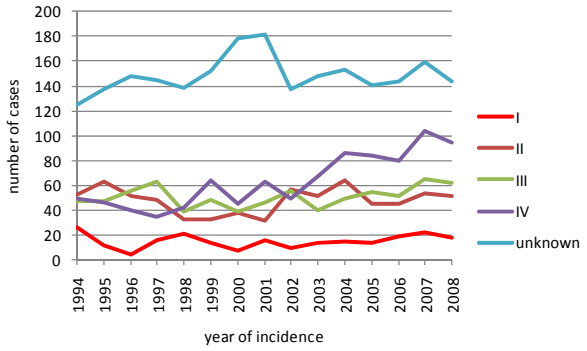
Figure 9. Estimated incidence of stomach cancer, 2008 (world age- standardised rate)[1] and GDP[6] 2000



Stage at diagnosis

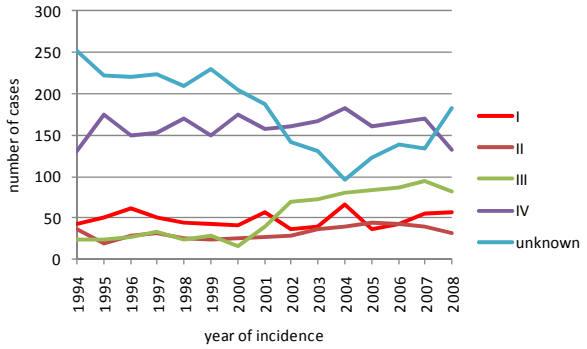
Staging of both oesophageal and stomach cancer is often incomplete; full stage information was not available for 46% of oesophageal and 38% of stomach cancers in 1994-2008.[2] There has been a significant increase (10% annually since 2000) in the number of stage IV oesophageal cancers (Figure 10). This increase occurred equally in adenocarcinoma and squamous carcinoma and may be due, in part, to an improvement in imaging and other staging procedures.

Figure 10. Oesophageal cancer, numbers of cases by stage 1994-2008[2]



The number of stage III stomach cancers increased by 18% annually between 2000 and 2008; there was little change in the numbers at other stages (Figure 11). The number of unstaged cancers fell rapidly between 1999 and 2004, but has increased slightly since then.

Figure 11. Stomach cancer, numbers of cancers by stage 1994-2008[2]



Treatment

Overall, 26% of patients diagnosed with oesophageal cancer in 1994-2008[2] had definitive surgery, 31% had chemotherapy and 43% radiotherapy. While the percentage having surgery did not alter much, the use of chemotherapy increased from 16% to 40% of cases, and of radiotherapy from 33% to 46% of cases (Figure 12). Similar trends were seen for stomach cancer (Figure 13), although the percentage having surgery was higher, and the percentage having radiotherapy much lower, than for oesophageal cancer.

Figure 12.Treatment for oesophageal cancer 1994-2008[2]

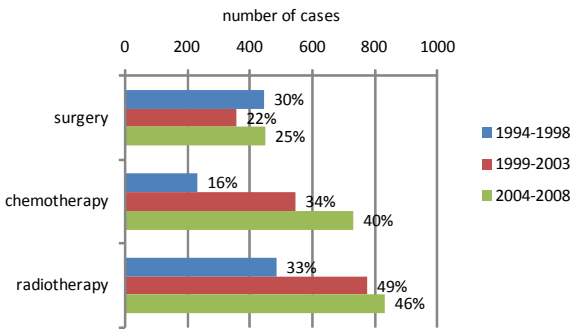
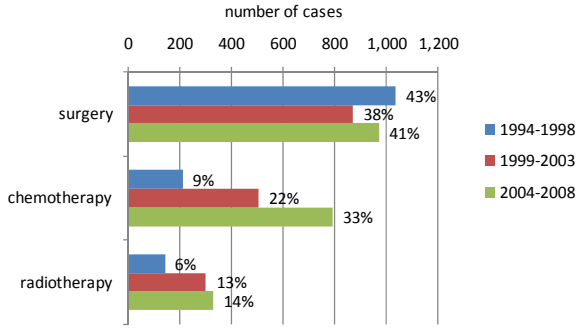


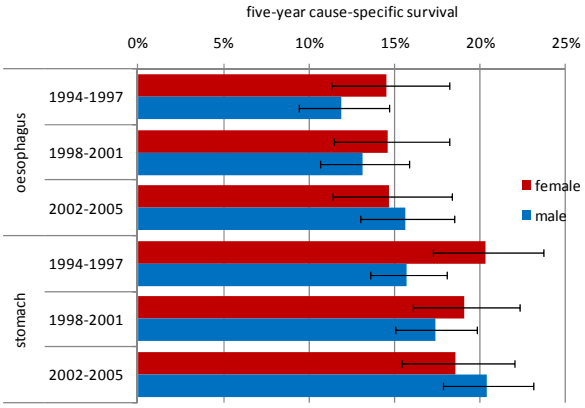
Figure 13. Treatment for stomach cancer 1994-2008[2]



Survival

Overall survival for cases of oesophageal cancer diagnosed 1994-2005 was 15% (95% confidence interval 14%-16%) at five years after diagnosis and for stomach cancer 19% (18%-20%). Although survival for both sites was slightly better for women, this was not statistically significant (Figure 14).

Figure 14. Cause-specific¶ five-year survival for cancers diagnosed 1994-2005



There was no significant improvement in survival for either oesophageal or stomach cancer between 1994-1997 and 2002-2005 (Figure 14).

The most recent data on oesophageal cancer survival in Europe are for patients diagnosed in 1994-1999.[3] At that time survival for both males and females in Ireland was among the best in Europe (Figure 15). Period relative survival estimates* are available for stomach cancers diagnosed in 2000-2002 (Figure 16).[4] By contrast with oesophageal cancer, survival was relatively poor in Ireland and similar to that in the UK.

¶ "Cause-specific" survival includes only deaths from the cancer being described. "Relative" survival includes deaths from all causes but corrects for non-cancer deaths by comparing this to general population survival. The two measures should be very similar.

* Period" relative survival is an modification of relative survival which allows survival to be estimated even if full follow-up to five years is not possible for all years of diagnosis.

Figure 15. Five year relative survival¶ for oesophageal cancers diagnosed 1995-1999

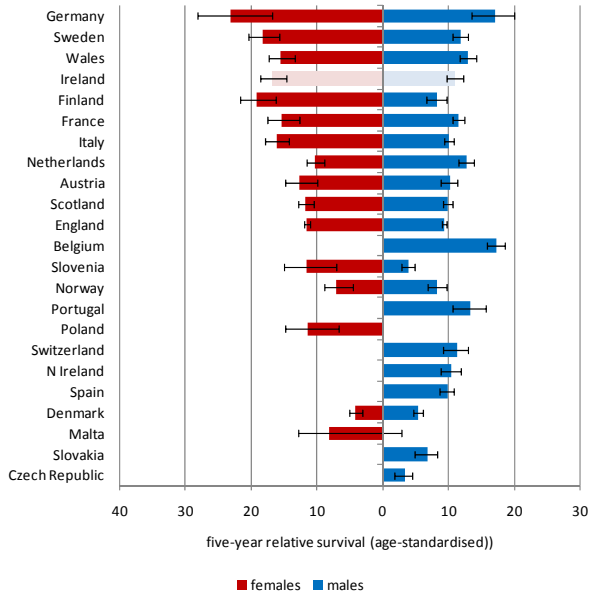


Figure 16. Five year relative survival for stomach cancers diagnosed 2000—2002

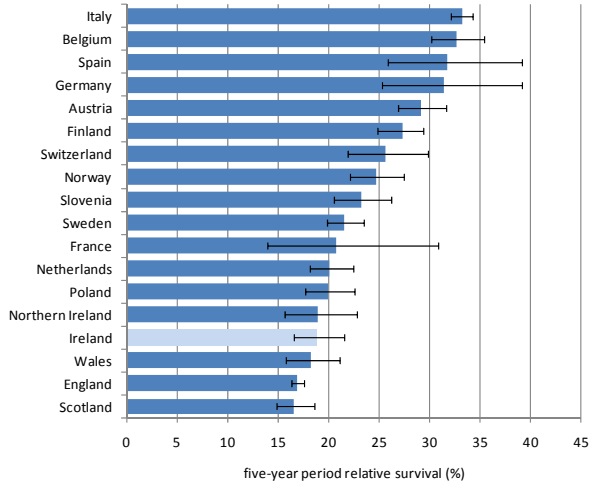


Figure 17. Age-standardised mortality rate (world standard population) for oesophageal cancer 1950-2008

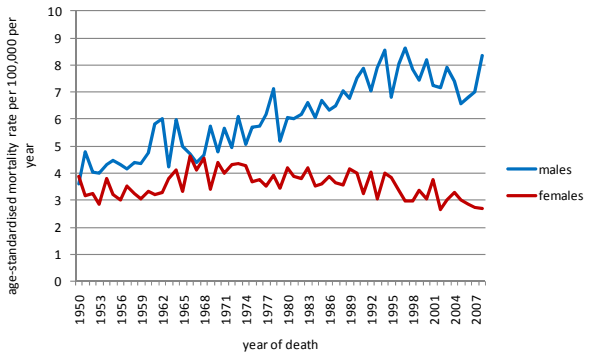
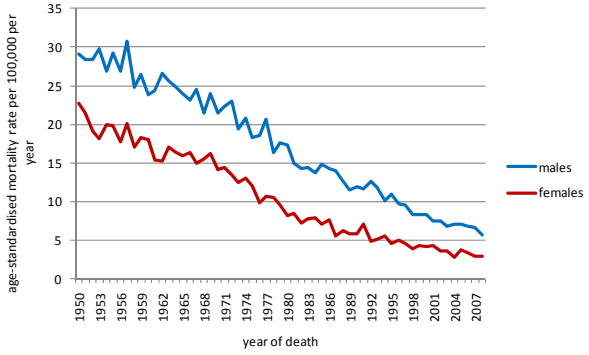


Figure 18 . Age-standardised mortality rate (world standard population) for stomach cancer 1950-2008



Mortality

Time trends

In 1950-1954 there was an average of 85 oesophageal cancer deaths in men and 56 in women; by 2004-2008 the average number of deaths had risen to 209 in men and 118 in women. The oesophageal cancer mortality rate for men increased by about 2% annually between 1965 and 1995, but has levelled off since then (Figure 17).[5] For females, there has been a fall of just under 1% a year in mortality rate since 1965.

For stomach cancer there was an average of 552 male deaths and 407 female in 1950-1954, compared to 197 and 124 respectively in 2004-2008. There has been a consistent fall in the mortality rate, by 2.8% annually for men and 3.6% for women, since 1950 (Figure 18). The male/female ratio in mortality has increased from 1.4 in 1950-1954 to 2.1 in 2004-2008.

Geographical variation in Europe

Due to the poor survival from both oesophageal and stomach cancer, geographical variation in mortality within Europe is almost identical to that for incidence and is not shown here.

References and notes

1. European Cancer Observatory (ECO) http://eu-cancer.iarc.fr/
2. Stage and treatment data is incomplete for 2009 and is not reported on here.
3. EUROCARE-4 database http://www.eurocare.it/Portals/0/CDEU4/Forms/SA9599.aspx
4. Recent cancer survival in Europe: a 2000-02 period analysis of EUROCARE-4 data. Verdecchia A, Francisci S, Brenner H, Gatta G, Micheli A, Mangone L, Kunkler I; EUROCARE-4 Working Group. Lancet Oncol. 2007 Sep:8(9):784-96.
5. WHO mortality database http://www-dep.iarc.fr/WHOdb/WHOdb.htm
6. EUROSTAT National Accounts 2000 http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database

