

## Chapter 15:

# Cancer of the uterus (C54-C55)

### KEY FINDINGS

#### - INCIDENCE AND MORTALITY

- There were 446 cases diagnosed each year between 2000 and 2004.
- Incidence rates increased by 2.3% each year in Ireland between 1994 and 2004.
- There was no significant relationship between deprivation and incidence rates during 2000-2004.
- Incidence rates during 1994-2004 were higher than expected in Antrim district council and county Kildare compared to all of Ireland.
- Ireland had some of the lowest incidence rates during 1998-2000 among developed countries.
- There were on average 104 deaths from cancer of the uterus each year during 2000-2004.
- There was no significant change in mortality rates during 1994-2004.

#### - SURVIVAL AND PREVALENCE

- Five-year (age-standardised) relative survival for patients diagnosed in 2000-2004 was estimated to be 71.6%.
- There was no significant change in age-standardised relative survival between patients diagnosed in 1994-1996 and 1997-1999.
- There were 2,922 people alive at the end of 2004 after being diagnosed with cancer of the uterus during 1994-2004.

#### - NORTH/SOUTH COMPARISONS

- Incidence rates were 12.9% greater in Northern Ireland than Republic of Ireland during 2000-2004.
- During 1994-2004 incidence rates increased in Northern Ireland by 3.8% compared to 1.5% in Republic of Ireland.
- Five-year (age-standardised) relative survival did not vary significantly by country.
- There was no significant difference in mortality rates between Northern Ireland and Republic of Ireland during 2000-2004.
- There was no significant change in mortality rates during 1994-2004 in Republic of Ireland, however mortality rates increased in Northern Ireland by 3.6% per year.
- At the end of 2004 the number of people living with cancer of the uterus having been diagnosed within the previous five years per 100,000 persons was 28.7% greater in Northern Ireland than Republic of Ireland.

### 15.1: Incidence

Cancer of the uterus was the fifth most common female cancer in Ireland during 2000-2004 making up 4.2% of all female cases (excluding NMSC). On average there were 446 cases diagnosed each year which corresponded to 15.7 per 100,000 females in the population. Females had a cumulative risk of developing the disease before the age of 75 of 1.4%.

Incidence of the disease was higher in Northern Ireland than Republic of Ireland during 2000-2004 with European age standardised incidence rates (EASIR) 12.9% (p=0.012) greater in Northern Ireland. (Tab. 15.1)

**Table 15.1:** Summary statistics for incidence of cancer of the uterus: 2000-2004

	Northern Ireland	Republic of Ireland	Ireland
<b>Number of cases per year</b>	161	285	446
<b>% of all cancer cases (ex. NMSC)</b>	4.7%	4.0%	4.2%
<b>Rank (ex. NMSC)</b>	5	6	5
<b>Median age at diagnosis</b>	65	63	64
<b>Cumulative risk (Aged 0 to 74)</b>	1.5%	1.3%	1.4%
<b>Crude rate per 100,000 persons</b>	18.5	14.5	15.7
<b>EASIR ± 95% CI</b>	17.2 ±1.2	15.2 ±0.8	15.9 ±0.7
<b>% difference (NI vs ROI) ± 95% CI (+ NI higher, - NI lower)</b>			12.9% ±10.1

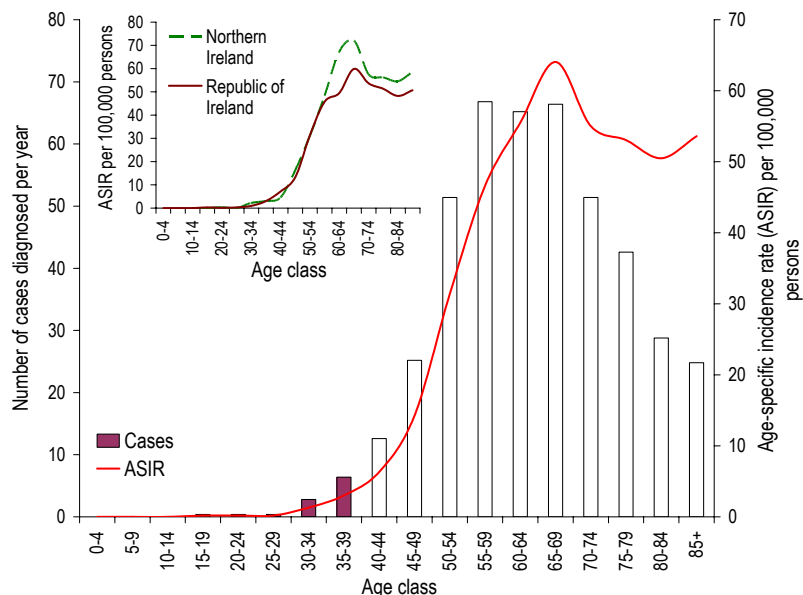
EASIR: European age-standardised incidence rate per 100,000 persons; CI: Confidence interval

#### 15.1.1: Age distribution

During 2000-2004 the median age at diagnosis for females with cancer of the uterus was 64 years of age with diagnosis occurring on average at a slightly later age in Northern Ireland than Republic of Ireland (NI: 65 years; ROI: 63 years). 15.0% of cases diagnosed in Ireland were among those aged 55-59 although those aged 60-64 and 65-69 also had a similar number of cases diagnosed each year. (Fig. 15.1)

Age-specific incidence rates (ASIR) were highest among those aged 65-69 in both Northern Ireland and Republic of Ireland although ASIRs were higher for this age class in Northern Ireland as were those for females aged 69 and over. (Fig. 15.1)

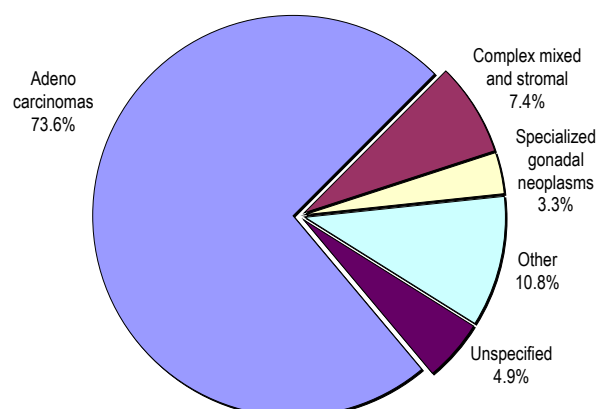
**Figure 15.1:** Number of cases of cancer of the uterus diagnosed per year by age with age-specific incidence rate (ASIR) per 100,000 persons: 2000-2004



#### 15.1.2: Cell type

Adenocarcinomas were the most common cancer of the uterus diagnosed during 2000-2004 in Ireland constituting 73.6% of the total number of cases of this type of cancer. Cancers of the uterus with an unspecified cell type made up 4.9% of these cases with both Northern Ireland and Republic of Ireland having the same proportion unspecified. (Fig. 15.2)

**Figure 15.2:** Types of cancer of the uterus diagnosed in Ireland: 2000-2004

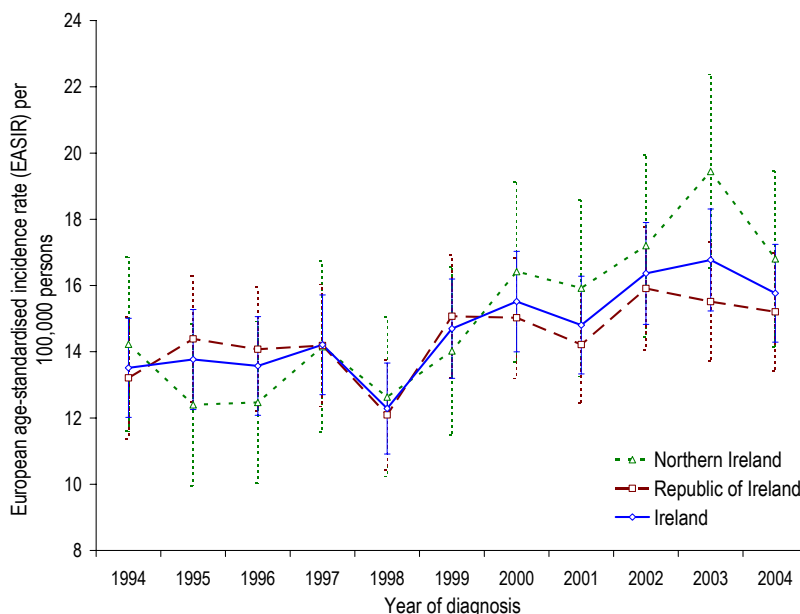


**15.1.3: Trends**

Incidence of cancer of the uterus increased during 1994 and 2004 with European age-standardised incidence rates (EASIR) having increased by 2.3% (p=0.003) each year in Ireland. Both countries exhibited this rise although the magnitude of the increase was larger in Northern Ireland with an annual increase of 3.8% (p=0.001) in EASIRs compared to an annual increase of 1.5% (p=0.035) in Republic of Ireland. (Fig. 15.3, Tab 15.2)

In terms of the number of cases the increasing incidence rates and changing population size and structure resulted in an additional 15.3 cases of cancer of the uterus being diagnosed each year in Ireland. Northern Ireland contributed 6.7 of these cases each year while Republic of Ireland had an annual increase of 8.6 cases. (Fig. 15.3, Tab 15.2)

**Figure 15.3:** Trends in European age-standardised incidence rates (EASIR) for cancer of the uterus by country: 1994-2004

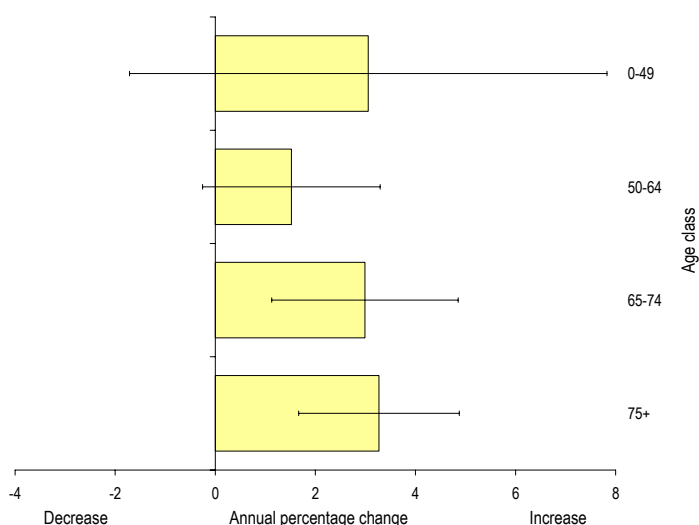


**Table 15.2:** Number of cases and European age-standardised incidence rates (EASIR) for cancer of the uterus by year of diagnosis and country: 1994-2004

	Northern Ireland		Republic of Ireland		Ireland	
	Cases	EASIR	Cases	EASIR	Cases	EASIR
1994	124	14.2 ±2.6	215	13.2 ±1.8	339	13.5 ±1.5
1995	109	12.4 ±2.4	234	14.4 ±1.9	343	13.8 ±1.5
1996	109	12.5 ±2.4	231	14.1 ±1.9	340	13.6 ±1.5
1997	125	14.2 ±2.6	239	14.2 ±1.9	364	14.2 ±1.5
1998	115	12.6 ±2.4	214	12.1 ±1.7	329	12.3 ±1.4
1999	126	14.0 ±2.5	264	15.1 ±1.9	390	14.7 ±1.5
2000	149	16.4 ±2.7	274	15.0 ±1.8	423	15.5 ±1.5
2001	147	15.9 ±2.7	262	14.2 ±1.8	409	14.8 ±1.5
2002	160	17.2 ±2.7	296	15.9 ±1.8	456	16.4 ±1.5
2003	182	19.4 ±2.9	299	15.5 ±1.8	481	16.8 ±1.5
2004	166	16.8 ±2.7	293	15.2 ±1.8	459	15.8 ±1.5

EASIR: European age-standardised incidence rate with 95% CI

**Figure 15.4:** Annual percentage change (APC) in European age-standardised incidence rates (EASIR) for cancer of the uterus by sex and age: 1994-2004



Positive annual percentage changes (APC) in EASIRs of cancer of the uterus were observed for all age groups during 1994-2004 although the changes were only significant for those aged 65-74 and 75 and over with increases of 3.0% (p=0.005) and 3.3% (p=0.001) respectively. For those aged 0-49 the APC was of a similar magnitude but was not a conclusive change (p=0.185) due to the small number of cases involved in the analysis. For those aged 50-64 there was an APC of 1.5% (p=0.085) which was also not statistically significant. (Fig. 15.4)

**15.1.4: Socio-economic variations**

During 2000-2004 there was no apparent relationship between incidence of cancer of the uterus and deprivation in either Northern Ireland or Republic of Ireland, with no significant difference between European age-standardised incidence rates (EASIR) for each

population quintile. EASIRs in the fourth deprivation quintile (representing the 20-40% most affluent population based upon the socio-economic characteristics of area of residence) were significantly higher in Northern Ireland than the equivalent population in Republic of Ireland. This however was in part related to higher incidence of cancer of the uterus in Northern Ireland as a whole. (Fig. 15.5)

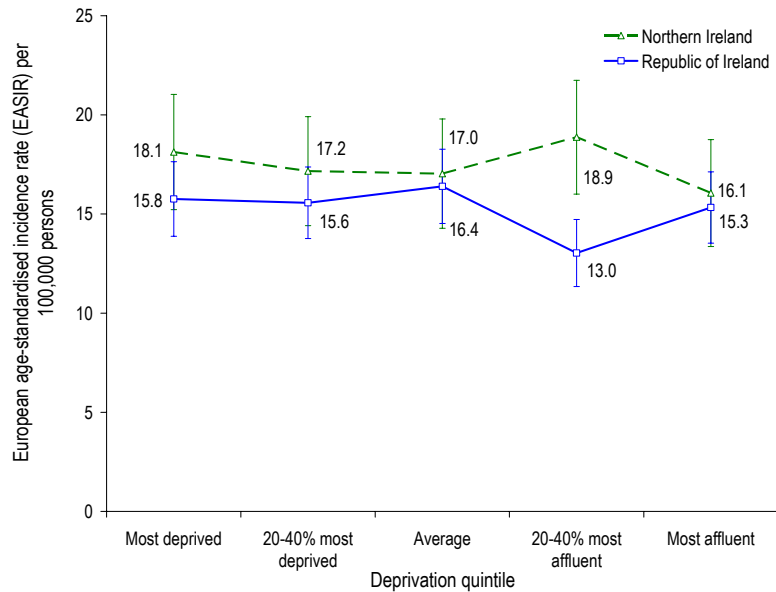
**15.1.5: Geographic variations**

Compared to all of Ireland incidence rates of cancer of the uterus during 1994-2004 were higher than expected in Antrim district council and county Kildare. Lower than expected rates were present in counties Dublin, Laois, Kilkenny and Meath. On average there were 25 cases of cancer of the uterus diagnosed in Belfast each year, while there was as average of 68 diagnosed in Dublin annually. (Fig. 15.6)

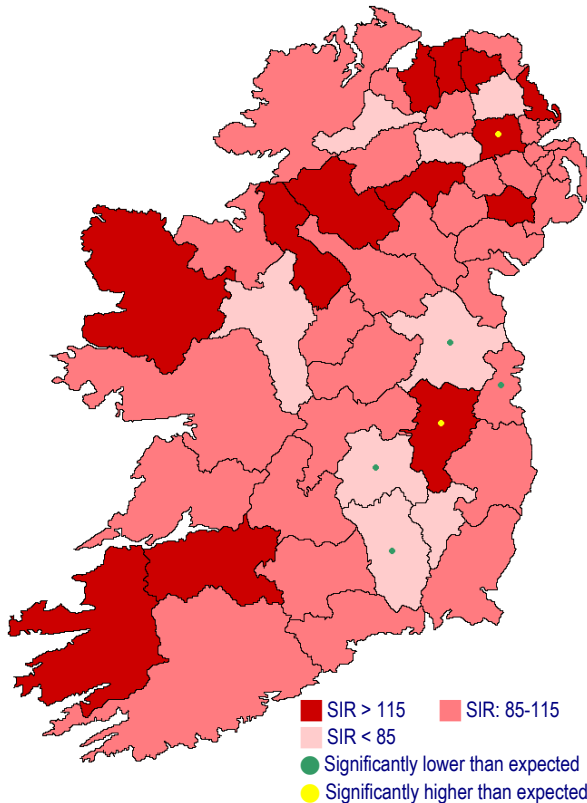
**15.1.6: International comparisons**

Ireland had some of the lowest incidence rates of cancer of the uterus during 1998-2000 among developed countries with world age-standardised incidence rates 7.0% lower than those in the UK, 16.1% lower than those in European Union (15 countries) and 40.8% lower than those in the USA. (Fig. 15.7)

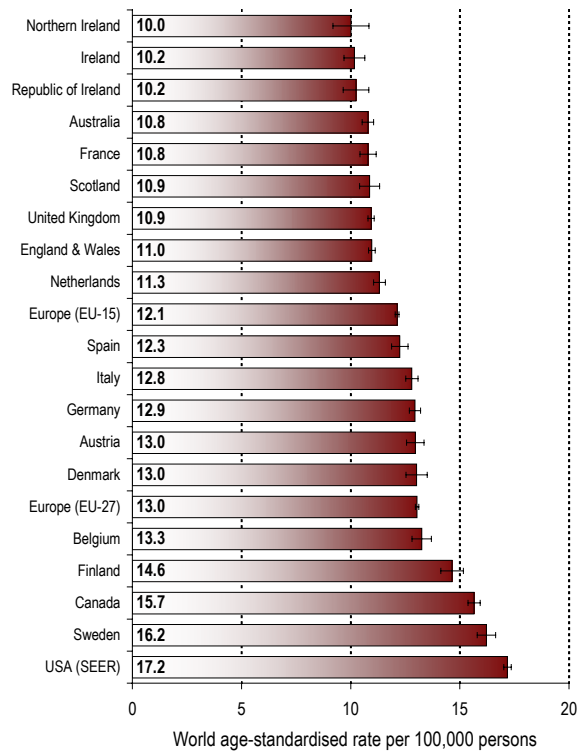
**Figure 15.5:** European age-standardised incidence rates (EASIR) for cancer of the uterus by country specific deprivation quintile: 2000-2004



**Figure 15.6:** Significant differences in county/council standardised incidence ratios for cancer of the uterus compared to Ireland as a whole: 1994-2004



**Figure 15.7:** International comparisons of world age-standardised incidence rates for cancer of the uterus: 1998-2000



Source: IARC<sup>114</sup>

## 15.2: Survival

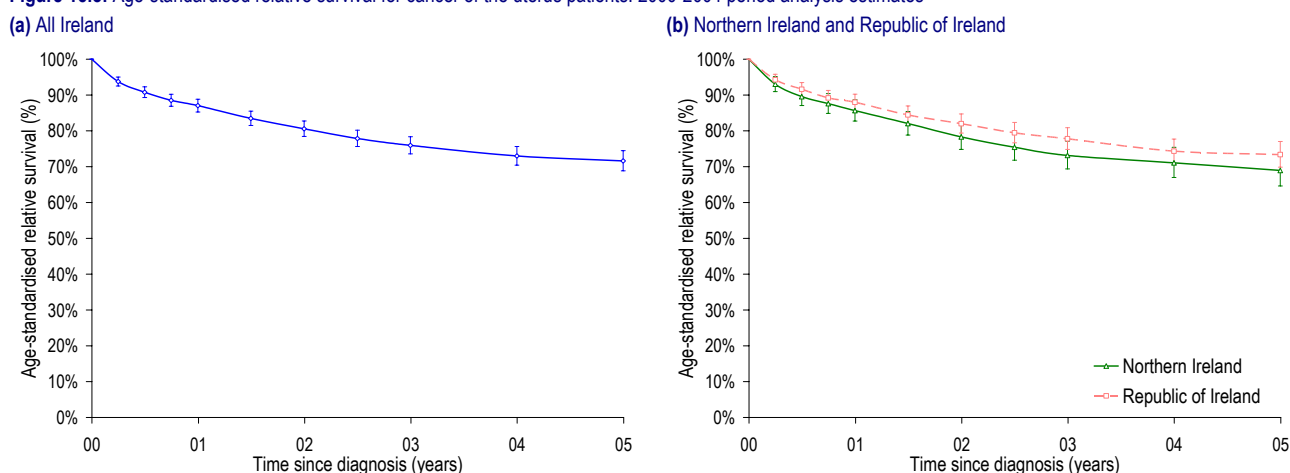
Survival from cancer of the uterus in Ireland was moderate during 2000-2004 with five-year (age-standardised) relative survival for female patients diagnosed with the disease during this five-year period estimated to be 71.6%. (Fig. 15.8, Tab. 15.3)

**Table 15.3:** Age-standardised relative survival for cancer of the uterus patients by country: 2000-2004 period analysis five-year estimates

	Age-standardised relative survival (95% CI)		
	Northern Ireland	Republic of Ireland	Ireland
1-year	85.7% (82.7%, 88.7%)	88.0% (85.8%, 90.2%)	87.0% (85.3%, 88.8%)
5-year	69.0% (64.6%, 73.6%)	73.4% (69.9%, 77.0%)	71.6% (68.8%, 74.5%)

Five-year (age-standardised) relative survival from cancer of the uterus did not vary significantly by country for patients diagnosed in 2000-2004 with rates estimated to be 69.0% in Northern Ireland compared to 73.4% in Republic of Ireland, a difference of 4.4% that may be a result of random factors ( $p=0.285$ ). (Fig. 15.8, Tab. 15.3)

**Figure 15.8:** Age-standardised relative survival for cancer of the uterus patients: 2000-2004 period analysis estimates



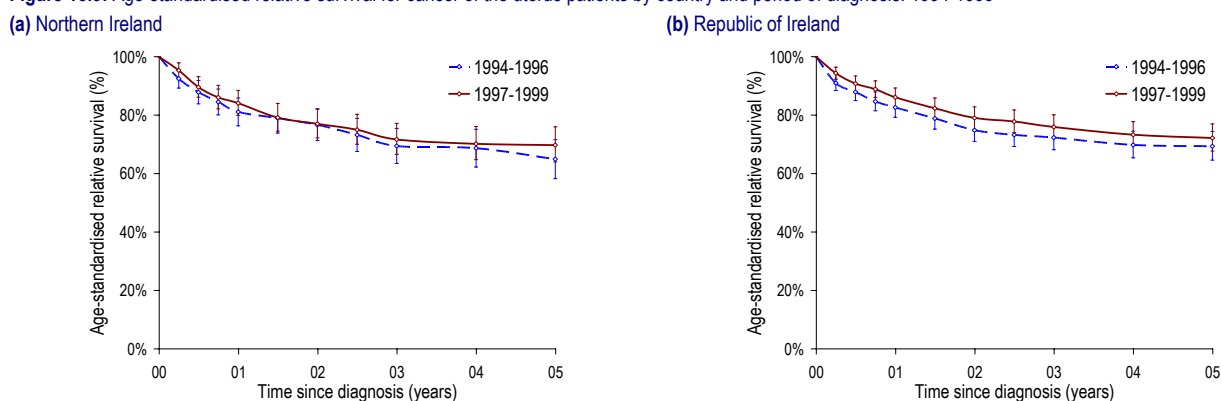
### 15.2.1: Changes in survival over time

There was no significant change in either one or five-year (age-standardised) relative survival in Ireland for cancer of the uterus between 1994-1996 and 1997-1999 despite a change of 3.7% ( $p=0.330$ ) at the five-year point. Likewise there was no significant change in Northern Ireland or Republic of Ireland considered separately. (Fig. 15.9, Tab. 15.4)

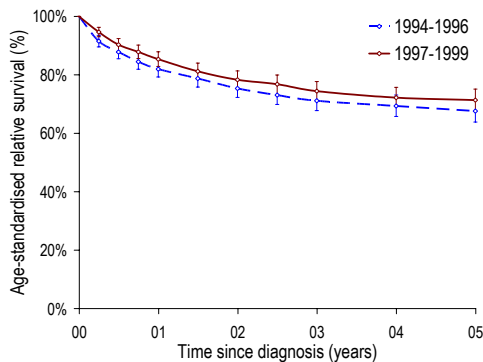
**Table 15.4:** Age-standardised relative survival for cancer of the uterus patients by country and period of diagnosis: 1994-1999

	Age-standardised relative survival (95% CI)			
	1-year		5-year	
	1994-1996	1997-1999	1994-1996	1997-1999
Northern Ireland	81.1% (76.6%, 85.9%)	84.1% (79.9%, 88.5%)	64.9% (58.9%, 71.6%)	69.7% (64.0%, 76.0%)
Republic of Ireland	82.6% (79.3%, 86.1%)	86.1% (83.1%, 89.3%)	69.4% (64.6%, 74.4%)	72.2% (67.7%, 77.0%)
Ireland	82.0% (79.3%, 84.8%)	85.4% (82.9%, 87.9%)	67.6% (63.9%, 71.6%)	71.4% (67.8%, 75.1%)

**Figure 15.9:** Age-standardised relative survival for cancer of the uterus patients by country and period of diagnosis: 1994-1999



**Figure 15.9 cont.**  
(c) Ireland



**Table 15.5:** Observed survival for cancer of the uterus patients by country and period of diagnosis: 1994-1999

	Observed survival (95% CI)	
	1-year	
	1994-1996	1997-1999
Northern Ireland	81.4% (77.2%, 85.8%)	83.6% (79.8%, 87.7%)
Republic of Ireland	82.9% (80.1%, 85.9%)	85.8% (83.2%, 88.6%)
Ireland	82.4% (80.1%, 84.9%)	85.1% (82.9%, 87.3%)
	5-year	
	1994-1996	1997-1999
Northern Ireland	60.9% (55.7%, 66.5%)	64.6% (59.7%, 69.9%)
Republic of Ireland	63.9% (60.3%, 67.7%)	67.0% (63.5%, 70.7%)
Ireland	62.9% (59.9%, 66.0%)	66.2% (63.3%, 69.2%)

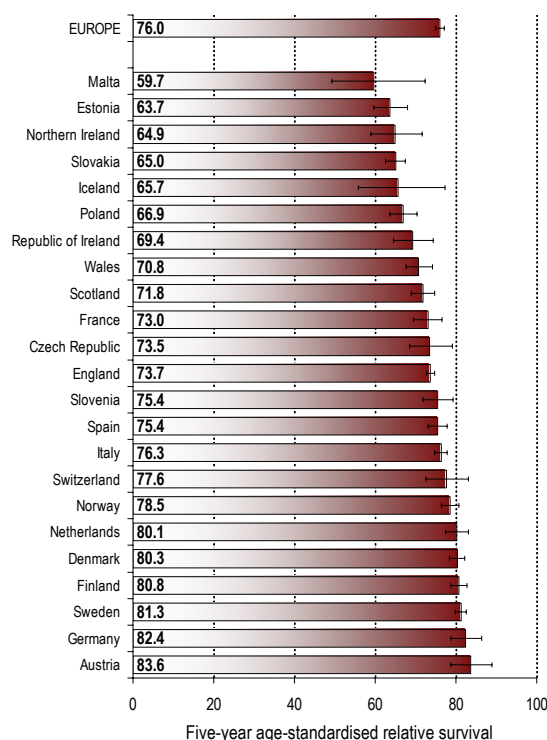
**15.2.2: Observed survival**

Observed survival from cancer of the uterus for those diagnosed in 1997-1999 was 85.1% after one year and 66.2% after five years, which was approximately 5% lower than the value for age-standardised relative survival, as observed survival includes other causes of deaths. Neither one nor five-year observed survival varied by country; while changes in five-year observed survival between 1994-1996 and 1997-1999 were not statistically significant. (Tab. 15.5)

**15.2.3: European comparisons**

Five-year (age-standardised) relative survival from cancer of the uterus in Europe for patients diagnosed in 1990-1994 ranged from 59.7% in Malta to 83.6% in Austria. The average among European countries was 76.0%. For patients diagnosed in 1994-1996 five-year (age-standardised) relative survival from cancer of the uterus was 69.4% in Republic of Ireland and 64.9% in Northern Ireland. Both were significantly lower than the 1990-1994 European average. Survival in Northern Ireland was also significantly lower than that in England, with many other European countries also having better survival from the disease than in both countries in Ireland. (Fig. 15.10)

**Figure 15.10:** European comparisons of five-year age-standardised relative survival for cancer of the uterus patients: 1990-1994 (EUROCARE III), 1994-1996 (NI & ROI)



Source: EUROCARE-III<sup>15</sup>

**15.3: Mortality**

During 2000-2004 there were on average 104 deaths from cancer of the uterus each year. This made up 1.0% of all female cancer deaths (excluding NMSC) making it the twelfth most common female cancer death. The odds of a female dying from the disease, in the absence of other causes of deaths, were 1 in 424. (Tab. 15.6)

European age-standardised mortality rates (EASMR) from cancer of the uterus during 2000-2004 did not differ significantly between Northern Ireland and Republic of Ireland although some weak evidence (p=0.067) existed for higher mortality rates in Northern Ireland. (Tab. 15.6)

**Table 15.6:** Summary statistics for deaths from cancer of the uterus: 2000-2004

	Northern Ireland	Republic of Ireland	Ireland
Number of deaths per year	40	65	104
% of all cancer deaths (ex. NMSC)	1.2%	0.9%	1.0%
Rank (ex. NMSC)	9	14	12
Median age at death	74	74	74
Cumulative risk (Aged 0 to 74)	0.3%	0.2%	0.2%
Crude rate per 100,000 persons	4.6	3.3	3.7
EASMR ± 95% CI	3.6 ± 0.5	2.9 ± 0.3	3.2 ± 0.3
% difference (NI vs ROI) ± 95% CI (+ NI higher, - NI lower)			21.1% ± 22.5

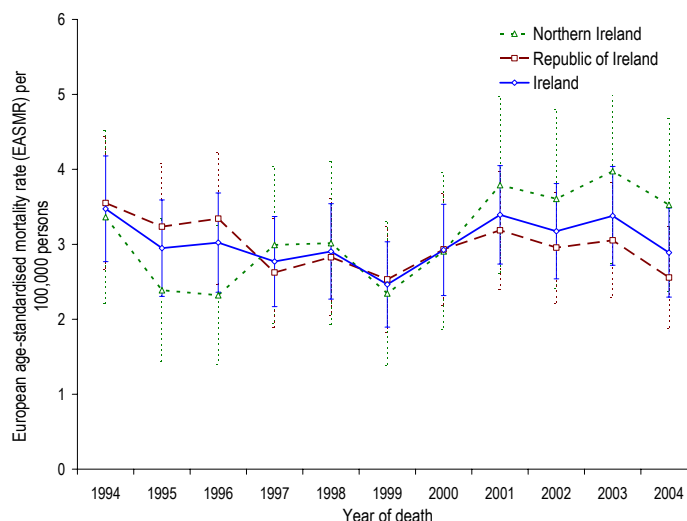
EASMR: European age-standardised mortality rate per 100,000 persons; CI: Confidence interval

### 15.3.1: Trends

There was no significant change in European age-standardised mortality rates (EASMR) during 1994-2004 in Ireland as a whole, or in Republic of Ireland, however EASMRs increased in Northern Ireland by 3.6% ( $p=0.037$ ) per year. (Fig. 15.11)

In Republic of Ireland the actual number of deaths per year from cancer of the uterus remained virtually static with an average increase of one death every three years between 1994 and 2004. In Northern Ireland the increase in EASMRs and the growth and ageing of the population resulted in an annual increase of 1.2 deaths from the disease. (Fig. 15.11)

**Figure 15.11:** Trends in European age-standardised mortality rates (EASMR) for cancer of the uterus by country: 1994-2004



## 15.4: Prevalence

Between 1994 and 2004 there were 4,333 people diagnosed with cancer of the uterus. 67.4% of these patients (2,922 people) were still alive at the end of 2004, with 1,710 of these diagnosed in the 2000-2004 period. At the end of 2004 the

number of people living with cancer of the uterus diagnosed within the previous five years per 100,000 persons was 28.7% greater in Northern Ireland than Republic of Ireland. (Tab. 15.7)

**Table 15.7:** Prevalence of cancer of the uterus in Ireland at the end of 2004 by country and period of diagnosis

	Diagnosed 1994-2004		Diagnosed 2000-2004	
	Prevalence	% of cases diagnosed during period	Prevalence	% of cases diagnosed during period
Northern Ireland	1,007	66.6%	609	75.7%
Republic of Ireland	1,915	67.9%	1,101	77.3%
Ireland	2,922	67.4%	1,710	76.8%

## 15.5: Discussion

The uterus (or womb) is the part of the woman's reproductive system where a baby grows during pregnancy. Cancer of the uterus, which is sometimes known as endometrial cancer, is associated with several symptoms depending upon how advanced the cancer is. The most common symptom at an early stage is vaginal bleeding after menopause or between periods. At a later stage the presence of cancer of the uterus can be associated with loss of appetite or weight, tiredness, sickness, constipation, more frequent urinating or pain in the back of the legs.<sup>116</sup>

Females who are obese and/or have a diet high in fat have a higher risk of developing cancer of the body of the uterus than females who have a healthy weight and/or a balanced diet.<sup>117</sup> Reproductive and menstrual history is also related to the development of cancer of the uterus. Having children is considered to be protective with the risk of endometrial cancer decreasing as the number of children given birth to increases.<sup>118</sup> A late menopause, early first period, irregular periods or longer than usual periods all increase risk.<sup>119</sup> The use of the contraceptive pill however has a protective effect.<sup>120</sup> The use of Hormone Replacement Therapy (HRT) has been linked to a rise in endometrial cancer,<sup>121</sup> as has the use of tamoxifen, although the benefits in preventing breast cancer outweigh the risk caused by its use.<sup>122</sup> Endometrial hyperplasia and polycystic ovary syndrome are also linked to an increased risk of developing cancer of the uterus.<sup>123</sup> Family history is also a factor as the inheritance of a faulty HNPCC (hereditary non-polyposis colorectal cancer) gene can increase the risk of developing several types of cancer including endometrial cancer.<sup>123</sup>

Cancer of the uterus affects approximately 189,000 women each year worldwide, with 45,000 deaths from the disease each year. The highest incidence rates of the disease occur in USA and Canada but it is also high in Europe, Australia and New Zealand. The lowest incidence rates are found in Africa and Asia. Most countries however are experiencing a decline in both incidence and

mortality of the disease or at least have stable rates. This makes the observed increase in Ireland particularly noteworthy and requires further examination as to the exact causes, although increases in obesity levels are a likely contributory factor.

The primary treatment for the disease is surgery with radiotherapy used as a follow up in some cases or in the event that the cancer is inoperable. Chemotherapy is used in the event of advance or metastatic disease, although survival for this stage of the disease is poor. Provided the disease is diagnosed at a relatively early stage however survival from the disease is very good. Early detection of symptoms is the most likely manner in which this can be achieved as this prompts histological sampling that can lead to a definite diagnosis of the disease at an early stage. The onus however is on women to make their GP aware of any possible symptoms of the disease.

Prevention strategies can also assist in the control of the disease due to its link with diet and obesity. Many general health strategies exist in order to prompt the general public into leading healthier lifestyles and if effective they will assist in reversing the increasing levels of cancer of the uterus in Ireland.