

For Dungannon & South
Tyrone Borough Council

“Study in respect of Cranlome”

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Northern Ireland Cancer Registry: Aim, data sources etc

- Aim: to provide accurate, timely information on cancers occurring in the population of NI
- Multiple data sources; hospital records, path labs, Central Services Agency (GP records), death certs etc
- Funded DHSS&PS, in QUB
- Web page - www.qub.ac.uk/nicr has all reports and most up-to-date data



Cranlome Mast: Media Coverage

BBC NEWS

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Monday, 16 December, 2002, 09:16 GMT

Health fears over phone mast



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The mast forms part of NIE's communication system.

People living near a telecommunications mast in County Tyrone, which was destroyed by vandals, have said they believe it is responsible for cancer-related illnesses in the area.

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The mast, which stands in the Upper Cranlome Road area of Ballygawley, was cut down on Saturday evening.

The mast forms part of Northern Ireland Electricity's (NIE) communication system.

It is also used by several mobile telephone companies.

Study Aim

- to exploit all available data to investigate the burden of cancer in the region of the Cranlome Telecommunications Mast, with a view to determining whether or not cancer incidence and mortality in the area are higher than the Northern Ireland average.
- “Is there more cancer in Cranlome than expected?”

Is the Cluster true?

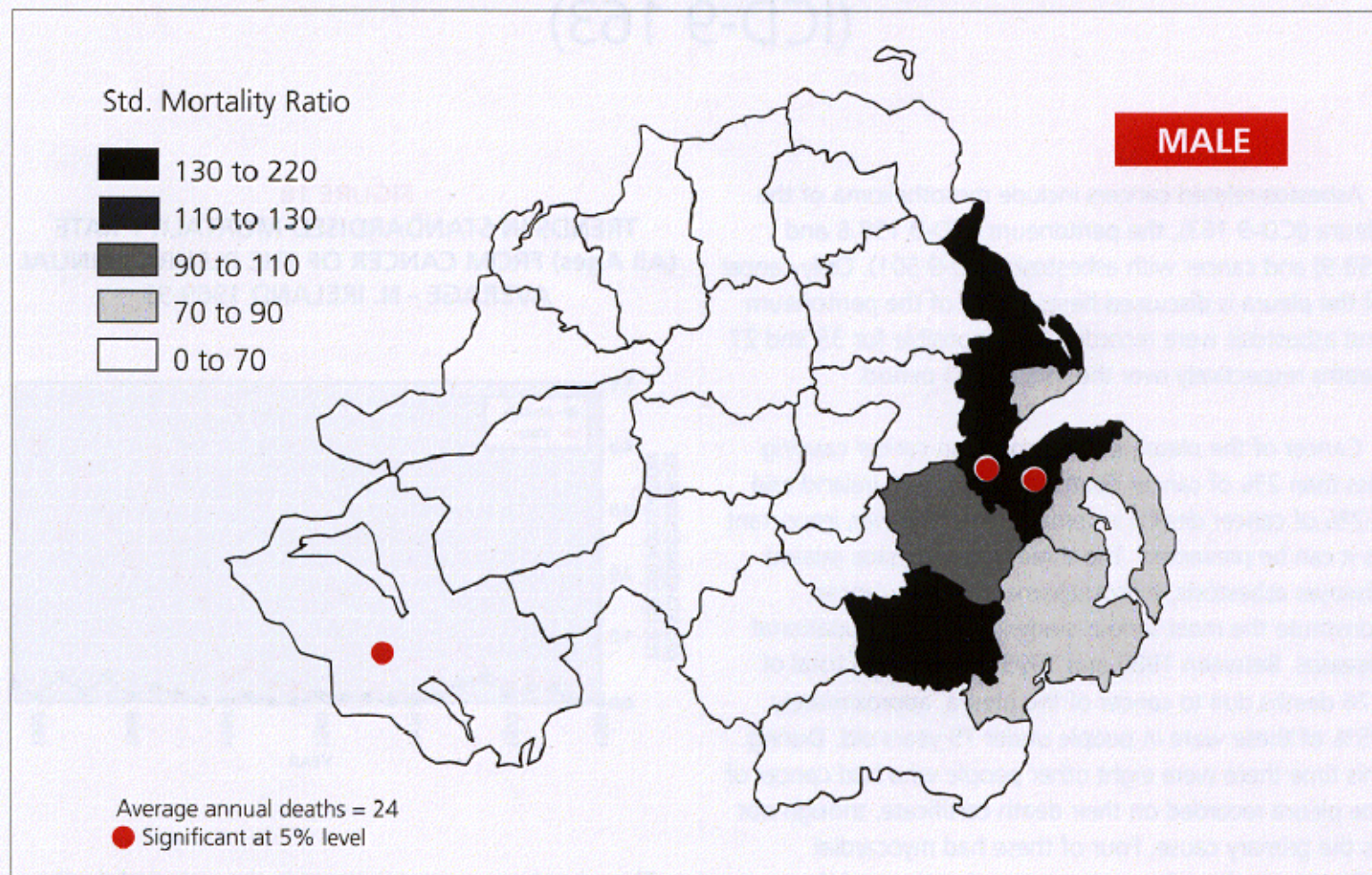
1. Specific geographical area/group of people?
2. One type of cancer, vs several different types
3. A rare type vs common cancer
4. Different age-groups to normal

NB: The occurrence of several types of cancer in a group of people or a geographic area generally does not constitute a cancer cluster

Have the NICR ever uncovered
greater numbers of cancer cases
or deaths than expected?

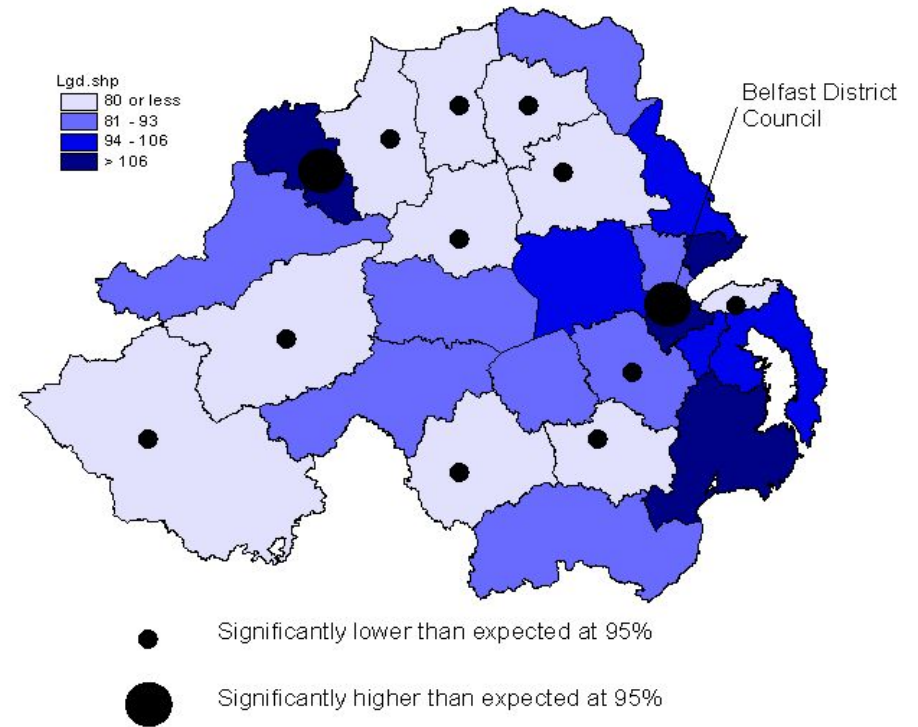
Pleural Cancer: Mortality rates higher than expected around Belfast (1989-1993) – shipbuilding regions

DEATHS UNDER 75 FROM CANCER OF THE PLEURA IN N. IRELAND 1989-93
STANDARDISED MORTALITY RATIO BY DISTRICT COUNCIL



Lung Cancer:
Incidence rates
higher than
expected in
Belfast & Derry
district council
areas (1993-2001)

All Age Male Standardised Incidence Ratios (SIRs) by District Council 1993-2001,
Cancer of the Lung



Some Causes of Apparent Clusters

- Age e.g. old peoples' home
- Hereditary/Family e.g. colon, breast
- Radon gas
- Lifestyle e.g. tobacco
- Workplace e.g. asbestos

Cancer is increasing due to:

- Ageing population
- Control of other diseases
- Better diagnosis

Better Diagnosis

Increased opportunities non-invasive investigation

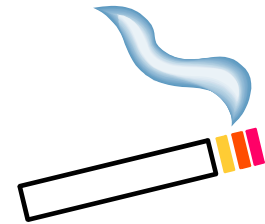
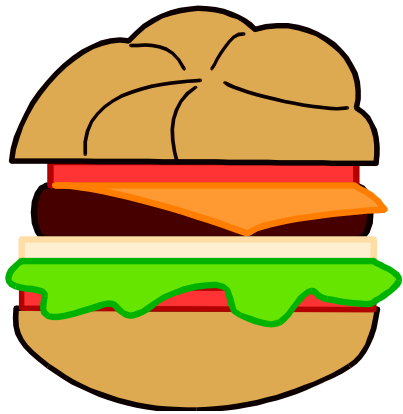


Population more informed

More openness regarding cancer



Lifestyle Changes



- Lung cancer
 - 1912 - 12 deaths
 - 1999 - 900 cases

Cancer is increasing due to:

- Ageing population
- Control of other diseases
- Better diagnosis
- Lifestyle - tobacco, diet, lack of exercise, obesity
- More awareness of cases in community

Cluster Analysis: Steps Involved

- (1) Is there a link between phone masts and cancer?
- (2) Verification of cases
- (3) Analysis of data using special statistical methods

Study Methods(1): Link between phone masts & cancer?

☐ Phone Masts and Health - What is known?

Study Methods(1): Link between phone masts & cancer?



**INDEPENDENT EXPERT GROUP
ON MOBILE PHONES**

Mobile Phones and Health

September 1999 - May 2000

CHAIRMAN

Sir William Stewart

www.iegmp.org.uk

(a) Stewart Report 2000

“Balance of evidence...no general risk to health of people living near to base stations on the basis that exposures are expected to be small fractions of guidelines”

(b) Independent Advisory Group Report Jan 2004

- Report “Health Effects from Radiofrequency Electromagnetic Fields: Summary of the Report of an Independent Advisory Group on Non-Ionizing Radiation”
- Reviewed all literature to date, especially work carried out since Stewart Report 2000
- findings as in Stewart Report – no cause for concern

Cluster Analysis: Steps Involved

❑ (1) Link between phone masts and cancer?

No evidence to date of an association

❑ (2) Verification of cases

Study Methods(2): Verification of cases N.Ireland Cancer Registry

- ❑ Multiple sources of information on all cancers from hospital records, labs, GPs, CSA, death certificates, etc
- ❑ Where there is any doubt, hospital and GP records checked
- ❑ Data of international standard
- ❑ Data verified by recent checks with GP records



Cluster Analysis: Steps Involved

- ❑ (1) Link between phone masts and cancer?
No evidence to date of an association
- ❑ (2) Verification of cases
- ❑ (3) Analysis of data using special statistical methods

Study Methods(3): Analysis

Defining the areas studied

1. Dungannon District Council Area (pop = 47,849)
2. Ballygawley Electoral Ward (pop = 2,296)
3. “Cranlome” (including Townlands of Cranlome and Ballynahaye) (pop = 684)
4. Areas representing concentric circles of radius 1, 2, 3, 4 and 5km from the mast site (with the help of Ordnance Survey)

Study Methods(3): Analysis

Defining the areas studied

□ Method – to compare the numbers of cancers observed in each of these pre-defined areas with the number of cancers diagnosed in the wider population of:

1. Northern Ireland

2. Dungannon district council area

(expected numbers derived from these pops)

Aim: To determine whether there are more cases in the study area than expected

Study Methods: Summary

- ❑ Define geographical areas to be studied
- ❑ List Cancers monitored
 - all cancers combined (inc. + exc. NMS)
 - 3 most common for males + females
 - brain cancer/lymphomas/leukaemias
- ❑ Ascertainment of alleged cases
- ❑ Ascertainment of unreported cases
- ❑ Analysis of data

Results: Verification of **reported** cases

- ❑ Alleged cases – 11 (2001-2002)
- ❑ Information obtained from community on 6 (validated against NICR database)
 - 2 not cancer
 - 1 non-malignant condition
 - 3 cancer
- ❑ Despite our best efforts - no information on 5 remaining alleged cases

Results: Highlighting **unreported** cases

- Additional Cases (2001-2002)?

- Within 5km radius of the mast –

17 additional cases found using NICR database (linked with Ordnance Survey data)

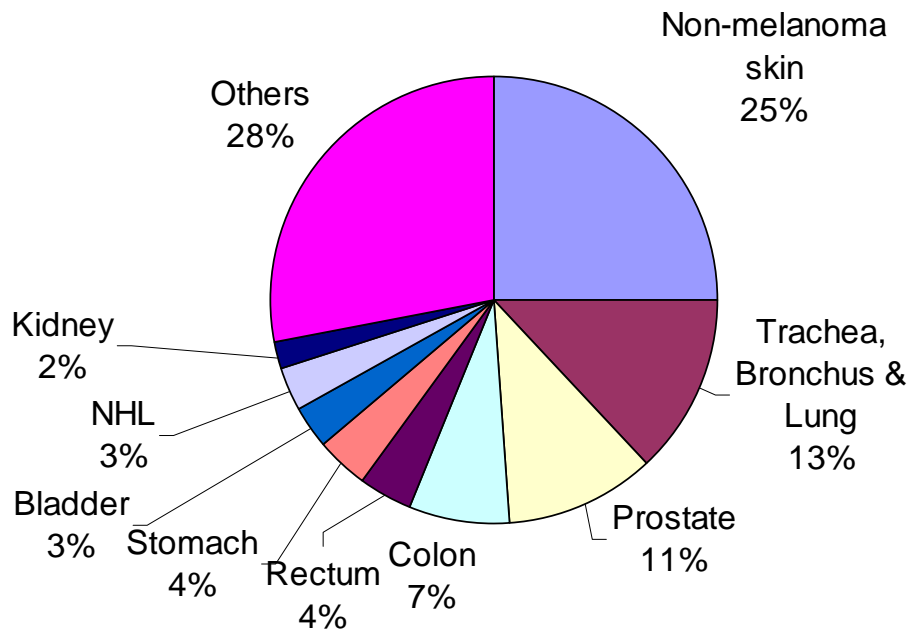
(we presume the 5 alleged cases are contained within these 17 since no additional cases known in community)

Total Cases (within 5km of mast) =20

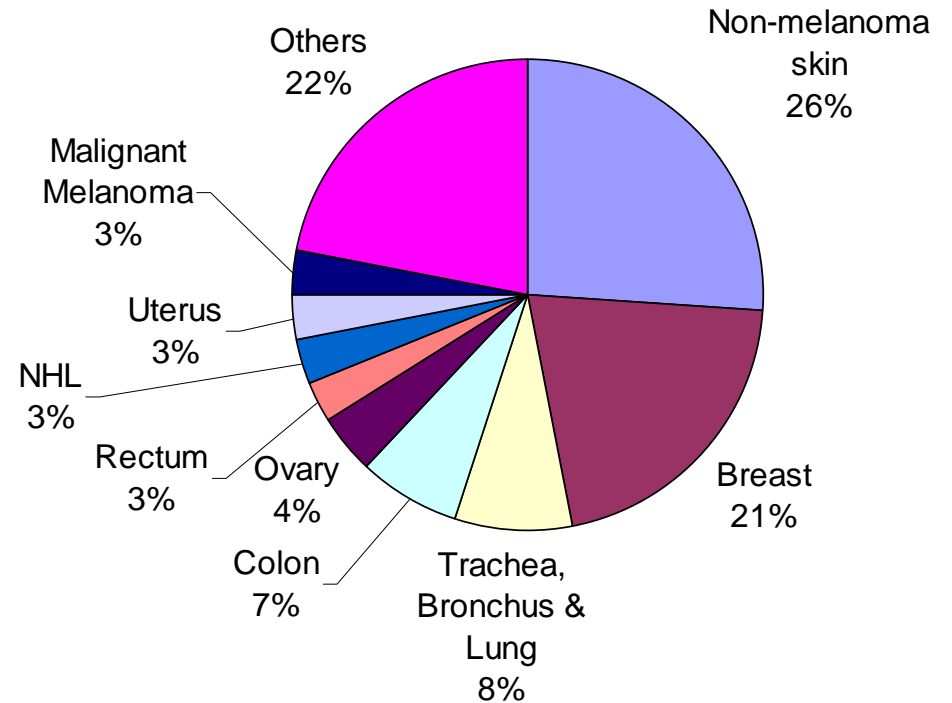
6 non-melanoma skin cancers	(30%)	← (Readily treatable/ rarely cause death)
3 breast cancers	(15%)	
3 colon	(15%)	
2 rectum	(10%)	
2 leukaemia's (in older people)	(10%)	
1 lymphoma	(5%)	
1 bladder	(5%)	
1 ovary	(5%)	
1 lung	(5%)	

Distribution of cancer in NI (1993-2001)

MALES



FEMALES



Area Results (1)

Comparing Dungannon vs NI

Table 1: Number of cancers observed & expected in Dungannon (1993-2001)

ALL CANCERS	Observed (in Dungannon)	Expected (compared with NI)
Males	976	1029
females	1039	1041

- Lower than expected for all cancers, lung, colorectal (men)
- Lower than expected lung (female)
- No difference from expected:
 - all cancers, breast, colorectal (female)
 - prostate (men)

Area Results(2)

Comparing Ballygawley vs NI/Dungannon

Table 2: Number of cancers observed & expected in Ballygawley (1993-2001)

Ballygawley compared with: ↓	Obsd	Expd.	result
Northern Ireland	81	106	lower
Dungannon	81	103	lower

❑ Ballygawley vs NI

lower than expected for all cancers (inc and exc NMS)

❑ Ballygawley vs Dungannon


lower than expected for all cancers

no difference from expected for all cancers exc NMS

Area Results(3)

Comparing Cranlome vs NI/Dungannon

Table 3: Number of cancers observed & expected in Cranlome (1993-2001)

Cranlome compared with:	Obsd.	Expd	result
			
Northern Ireland	32	34	No difference
Dungannon	32	33	No difference

- No difference between numbers of cancers diagnosed in “Cranlome” and wider population of NI or Dungannon

Area Results(4): Circles of radius 1, 2, . . . 5km around the mast

- No evidence of excess risk of cancer in areas encompassing 0-3km and 3-5 km from the mast

Is the cluster true?

1. Specific geographical area/group of people?
2. One type of cancer, vs several different types
3. A rare type vs common cancer
4. Different age-groups to normal

NB: The occurrence of several types of cancer in a group of people or a geographic area generally does not constitute a cancer cluster

Conclusion

So, after a thorough investigation and having identified 20 cancer cases within 5km of the mast (2001-2002):-

- ❑ This area does not appear to have higher cancer rates than Dungannon or Northern Ireland
- ❑ No evidence of a cancer cluster in the nearer or wider Cranlome area
- ❑ Cancer is a common disease – 1 in 3 people will be diagnosed with cancer in their lifetime

Acknowledgements

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