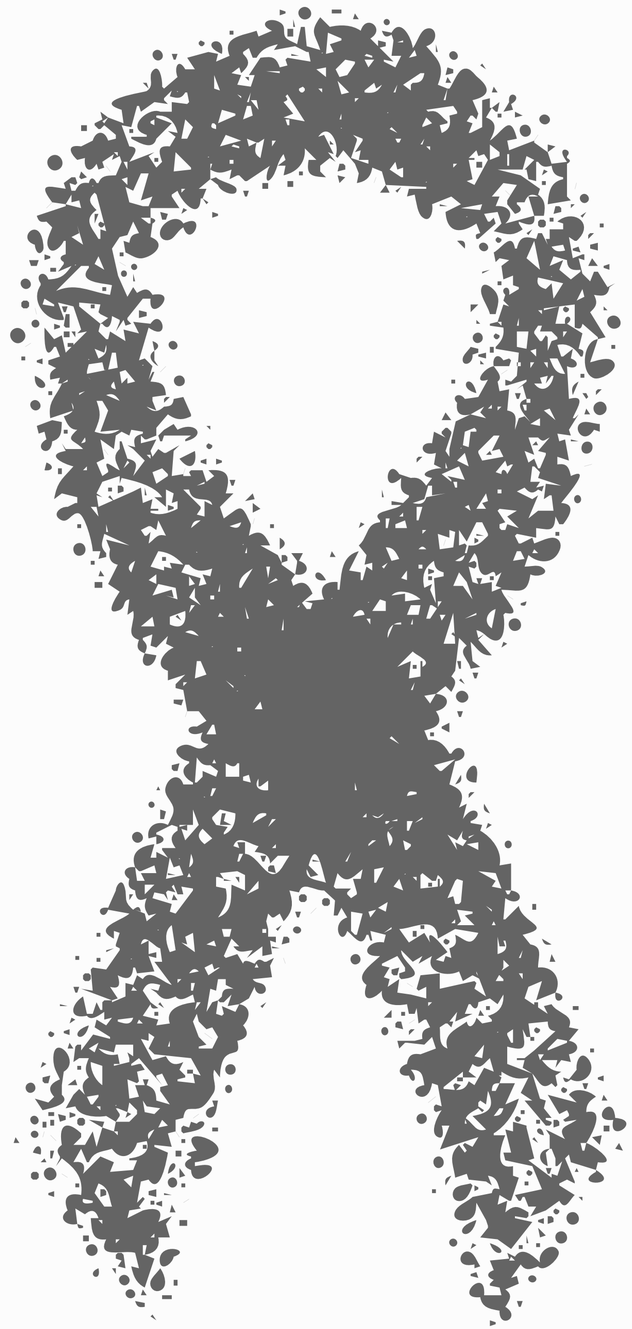
Melanoma tumour thickness in Norway

An analysis of survival and trend, 1983–2019



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I alone cannot change the world, but I can cast a stone across the waters to create many ripples.

Mother Teresa (1910–1997)

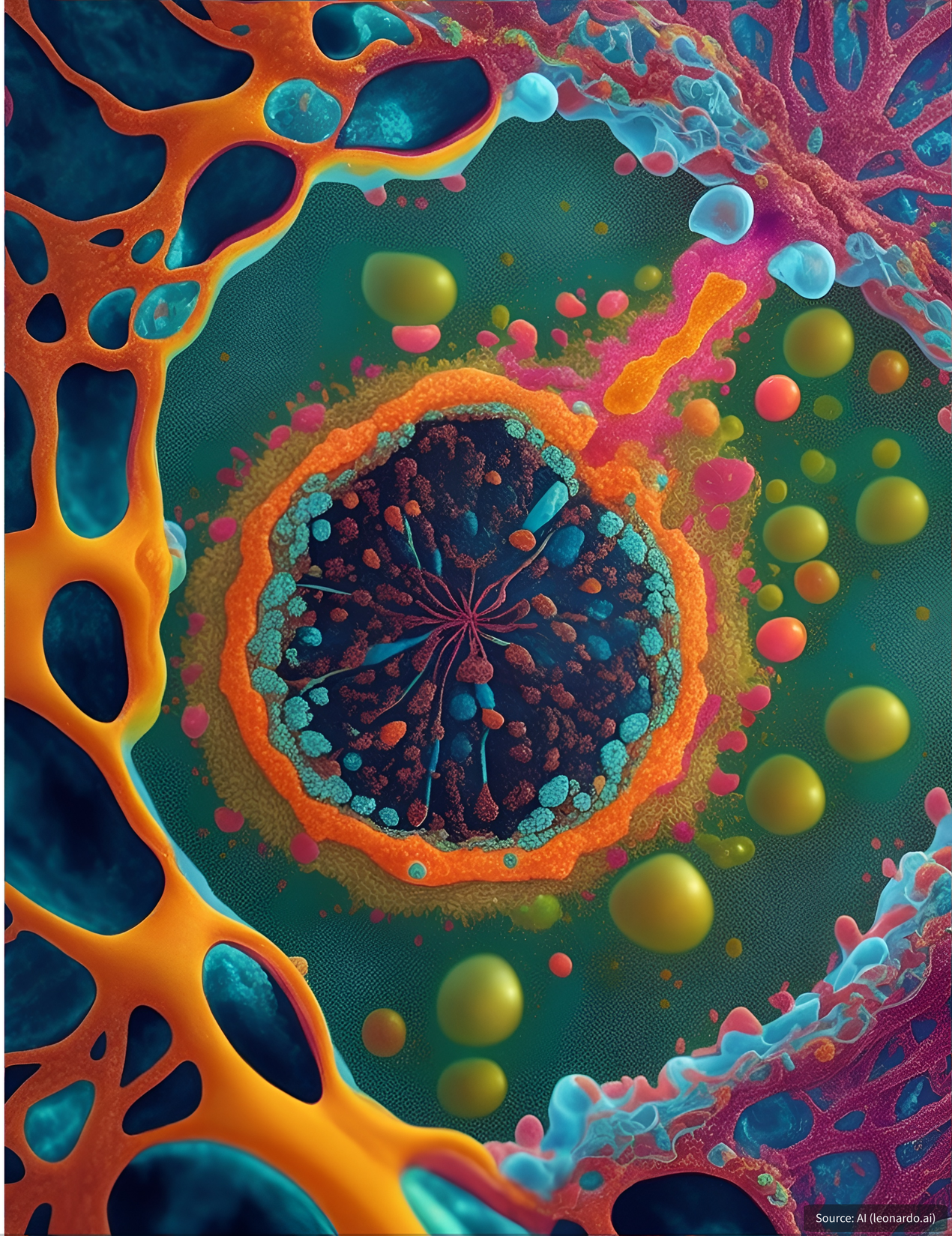
Social worker, Nurse

Research Interest

- Cutaneous melanoma (CM) is the *most aggressive* and *lethal* form of skin cancer.

- Norway is ranked *fifth in incidence* and *second in mortality* worldwide.
- More people *diagnosis with thinner tumour* and more people *die from thicker tumour*.

- It’s *highly curable* if caught early.
- *Important role of tumour thickness* in prognosis.



Source: AI (leonardo.ai)

Outline

- ⊙ Background
- ⊙ Data and Methods
- ⊙ Results
- ⊙ Outlook and Summary

Source: AI (leonardo.ai)

Research Objective

To examine **melanoma survival** and **trend** by tumour thickness in overall and in important subgroups such as *sex* and *age* in a unique nationwide case series over a 35-year time period.

Background

Data from Cancer Registry of Norway (CRN)

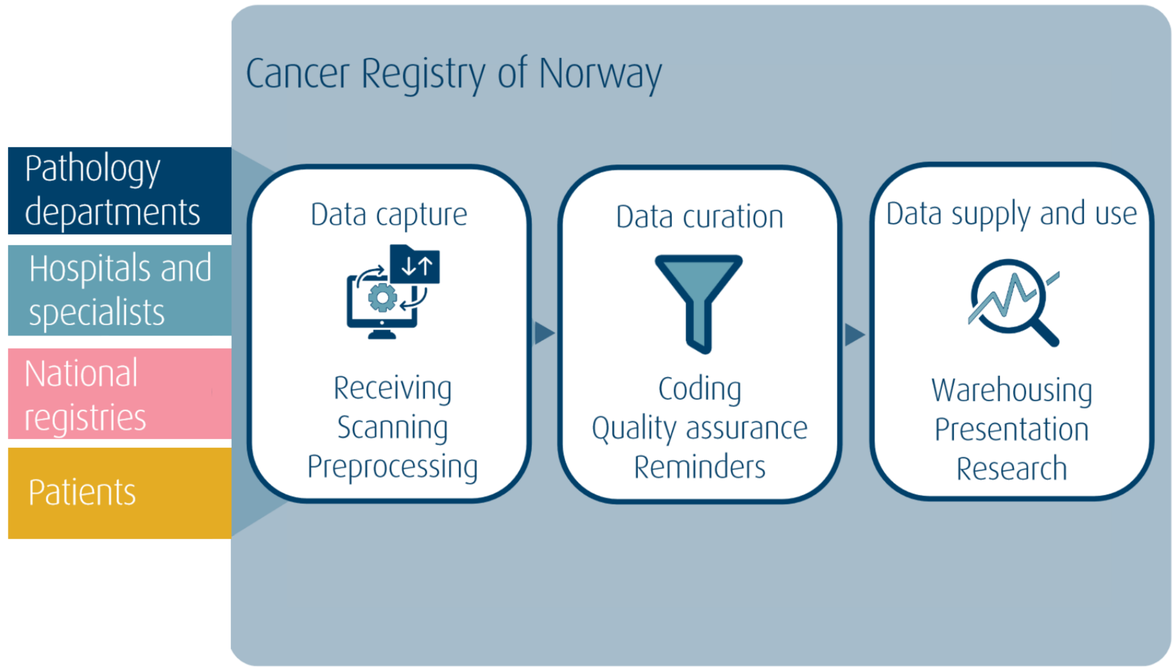
Histologically verified data

Tumour thickness recorded since 1980 are *now digitized*

Melanoma registry established in 2008 under CRN provides the data

Here we will use data from *1983 to 2019*

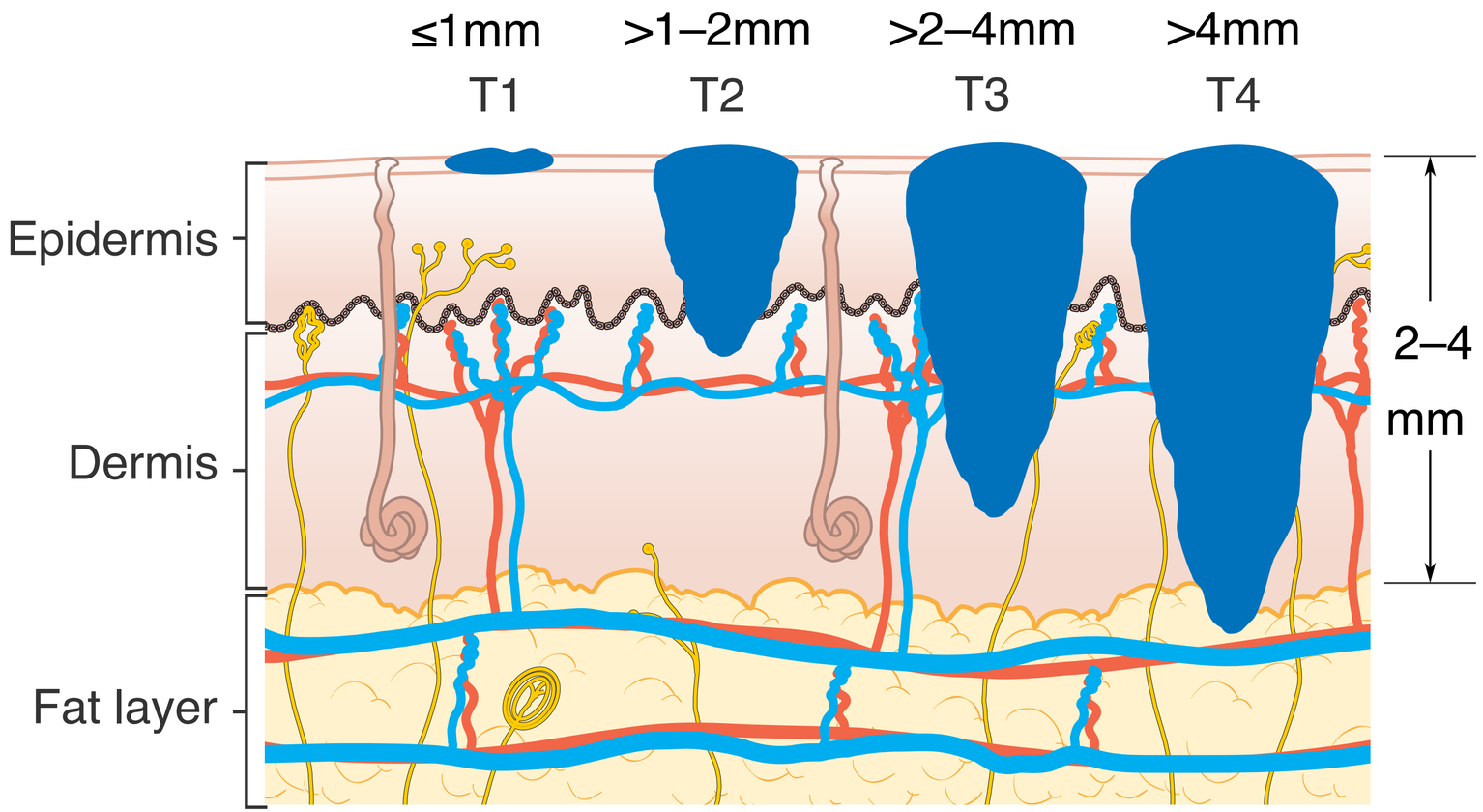
Figure 3.1: Sources of information and the process of cancer registration at the Cancer Registry of Norway



Sources: Cancer Registry of Norway

Melanoma and tumour thickness

T-categories



Source: https://www.cancerresearchuk.org/about-cancer/melanoma/stages-types/tnm-staging

Data & Methods

Basic characteristics of data

Age at diagnosis

Age at diagnosis has increased in the recent period than earlier.

Characteristic	Sex	1983–1999	2000–2007	2008–2019	Overall
Number of cases, n (%)	Women	7,720 (54%)	4,632 (53%)	11,267 (50%)	23,619 (52%)
	Men	6,578 (46%)	4,150 (47%)	11,465 (50%)	22,193 (48%)
Age at diagnosis (years), median (IQR)	Women	**56** (42 – 71)	**60** (46 – 75)	**63** (50 – 75)	61 (46 – 73)
	Men	**59** (46 – 71)	**63** (52 – 75)	**67** (56 – 76)	64 (52 – 74)
Tumour thickness (mm), median (IQR)	Women	**1.0** (0.6 – 2.0)	**1.0** (0.6 – 2.0)	**0.9** (0.5 – 1.8)	1.0 (0.6 – 2.0)
	Men	**1.3** (0.7 – 2.8)	**1.3** (0.7 – 3.0)	**1.0** (0.6 – 2.3)	1.1 (0.7 – 2.5)

IQR: interquartile range

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Trend in relative survival	*Changes in relative survival* over a certain period.

Results

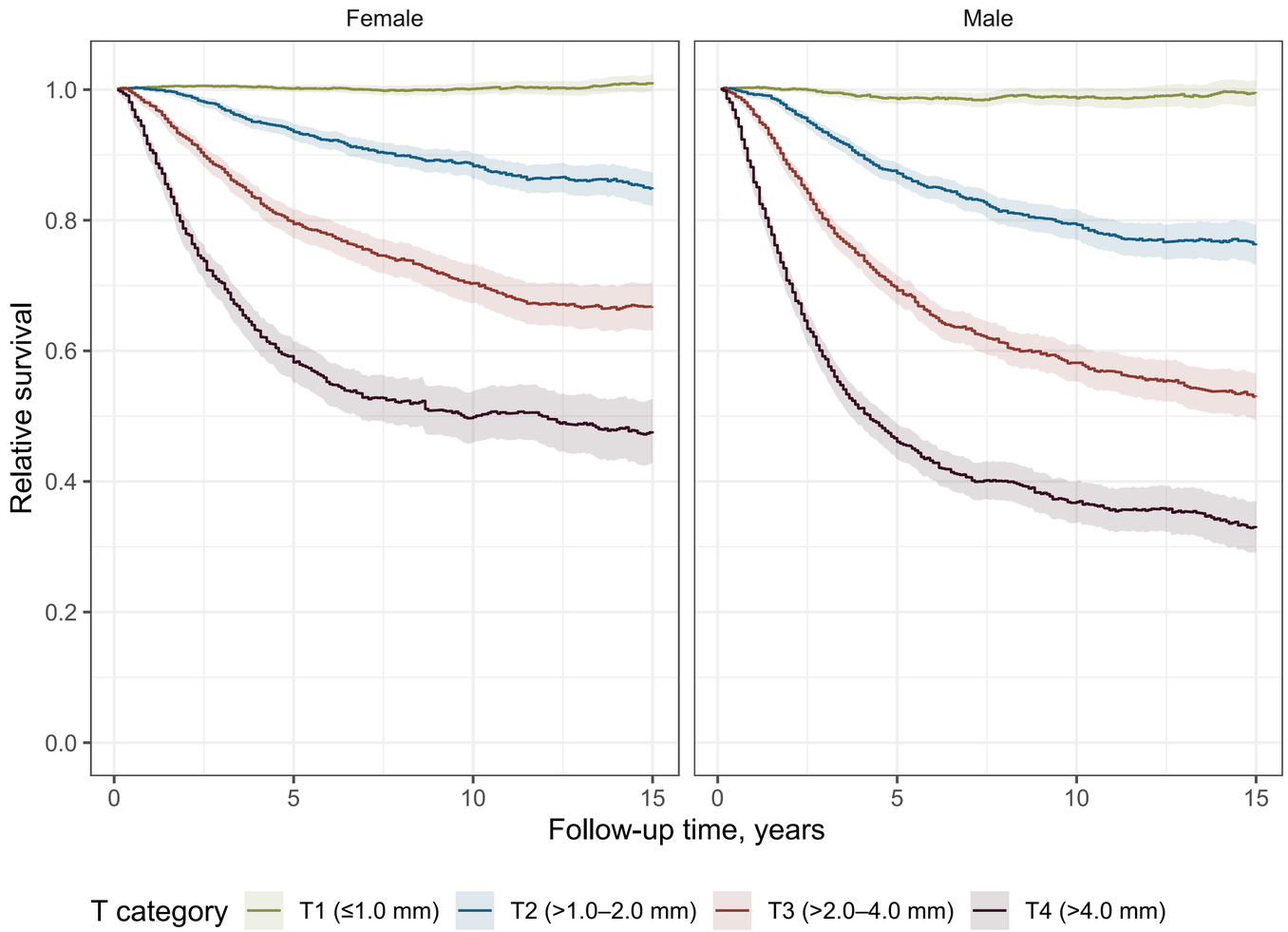
Relative survival

Patients with thinner melanoma (T1) have similar survival as general population.

The 5-year survival for patients with T4 melanoma is less than 60% compared to general population.

Men have lower survival compared to women in all T-categories.

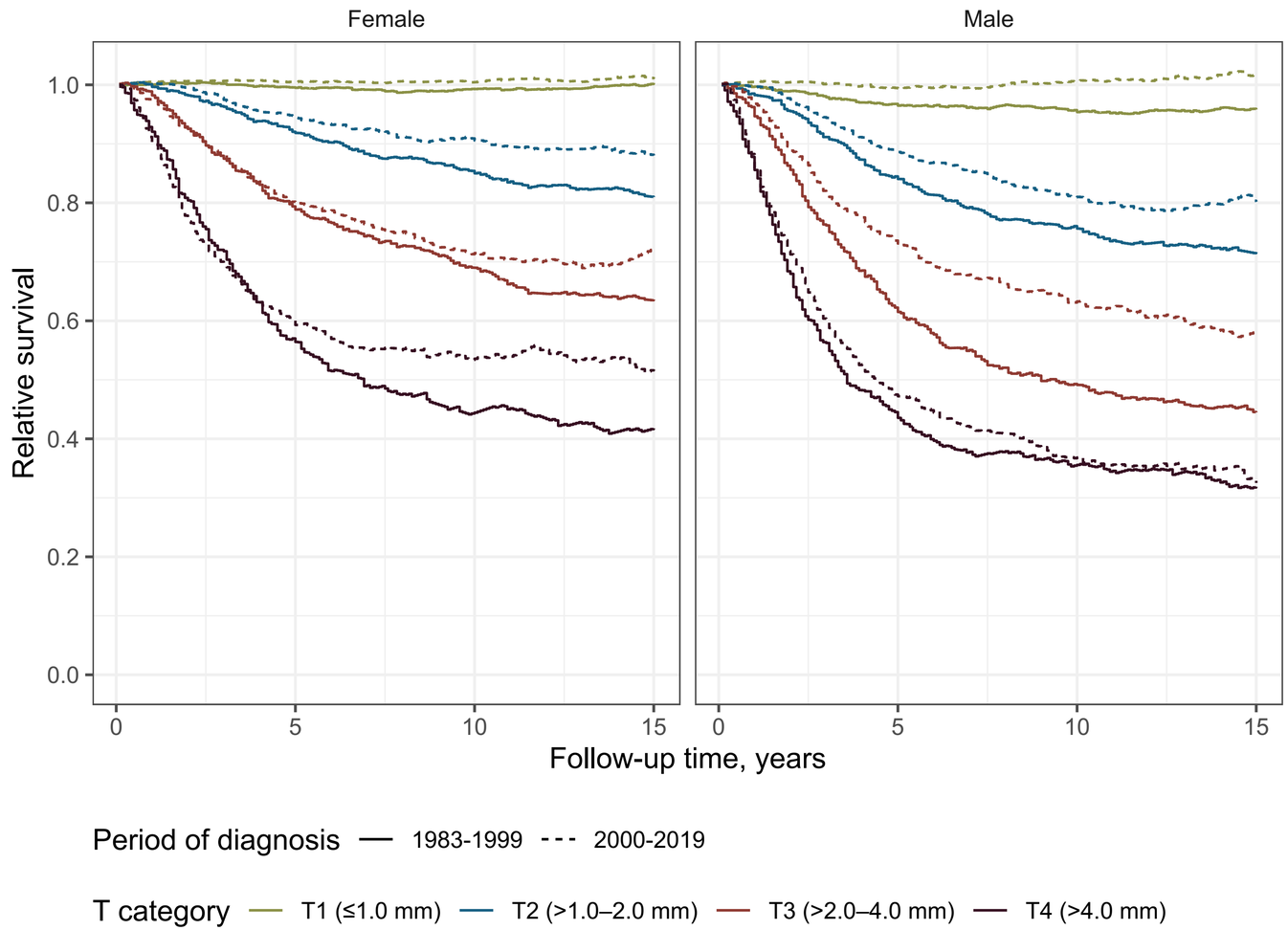
Clear difference in survival by T-categories reflects the importants of tumour thickness in prognosis.



Relative survival (before & after 2000)

Changes in long-term survival of T1 and T3 melanoma diagnosed from 2000 is larger in men than in women compared to those diagnosed before 2000.

In T4 melanoma, only small change is observed in men.

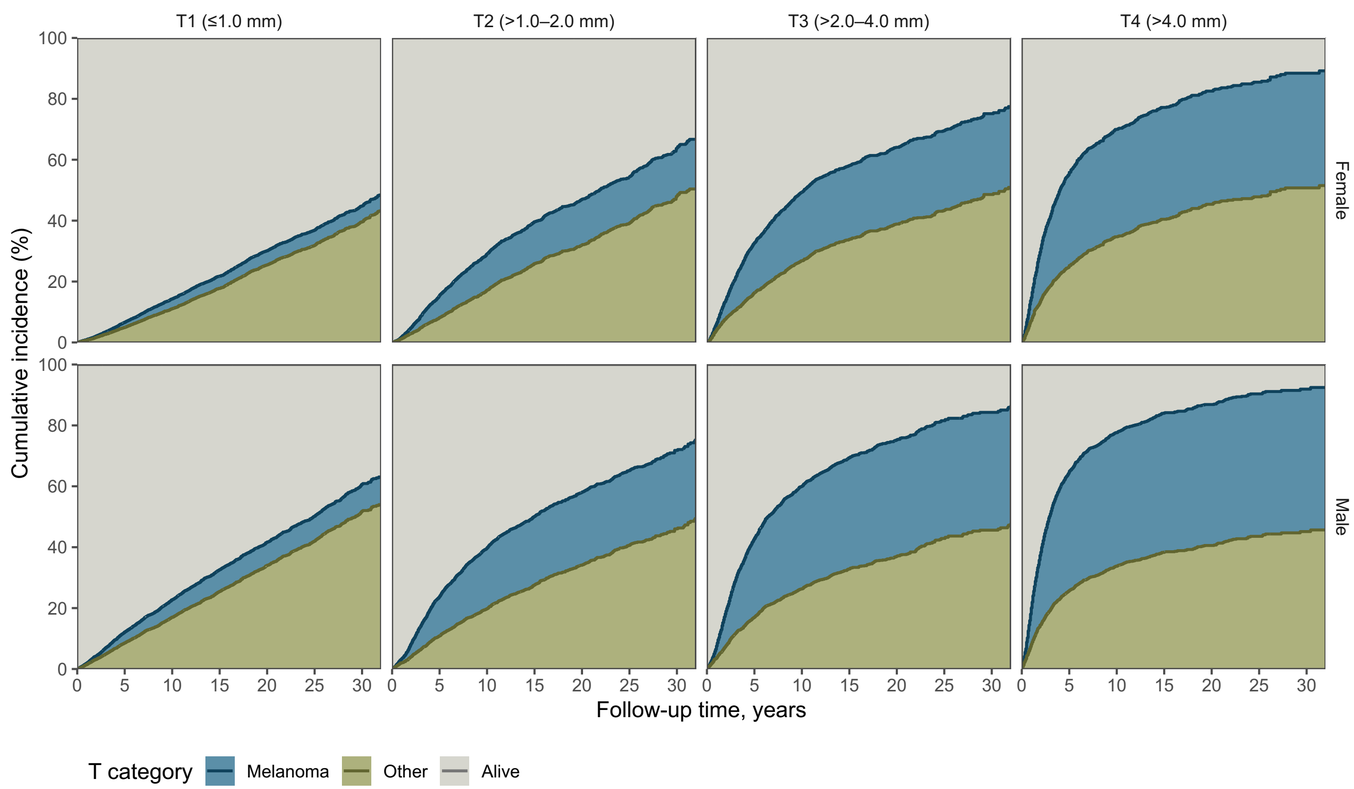


Cumulative incidence

In melanoma patients with T1 tumour, the proportion of dying from melanoma is similar to dying from other cause.

The difference in the proportion of melanoma patients dying from melanoma compared to dying from other disease grows as tumour thickness increases.

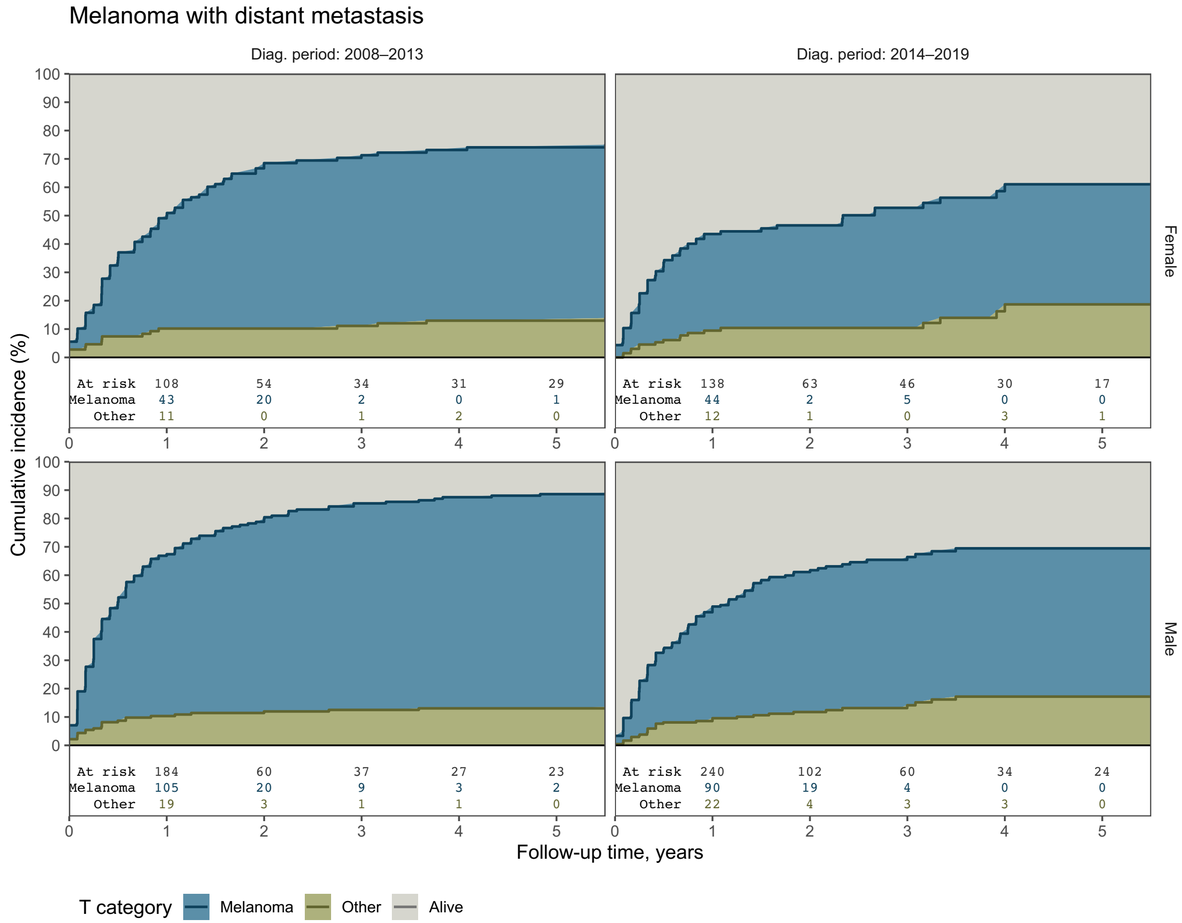
Men have poor prognosis compared to women (high cumulative incidence).



Is this the effect of treatment?

Comparing cumulative incidence within distant metastasis cases diagnosed between 2008–2013 and 2014–2019, we observed a drop in melanoma specific deaths in the later period.

Around year 2014, new treatment immunotherapy was introduced in stage IV melanoma.

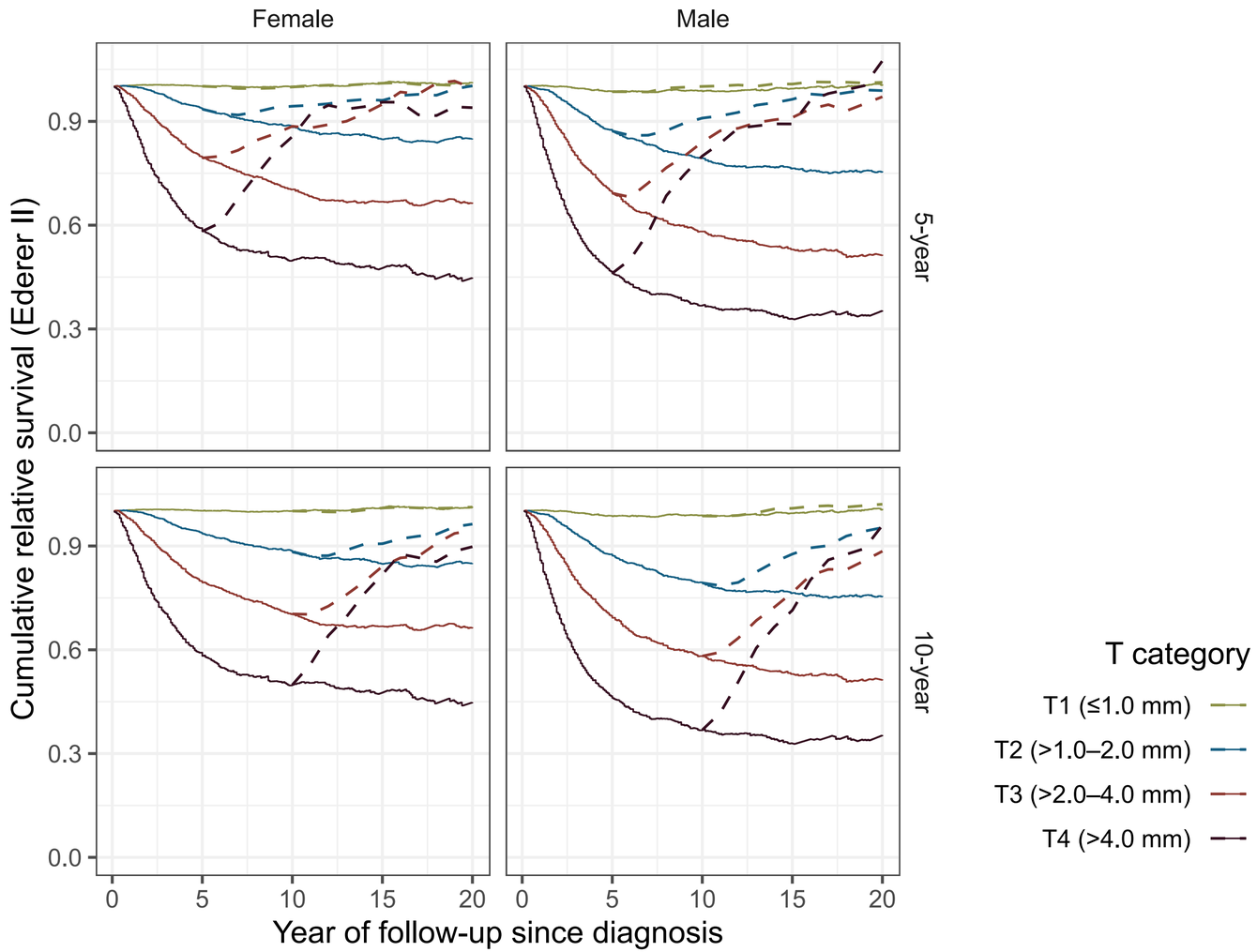


Conditional relative survival

The dashed line represents the 5 and 10-year relative survival after the patients survived for 0, 1, 2, 3, … years (scale in grey color).

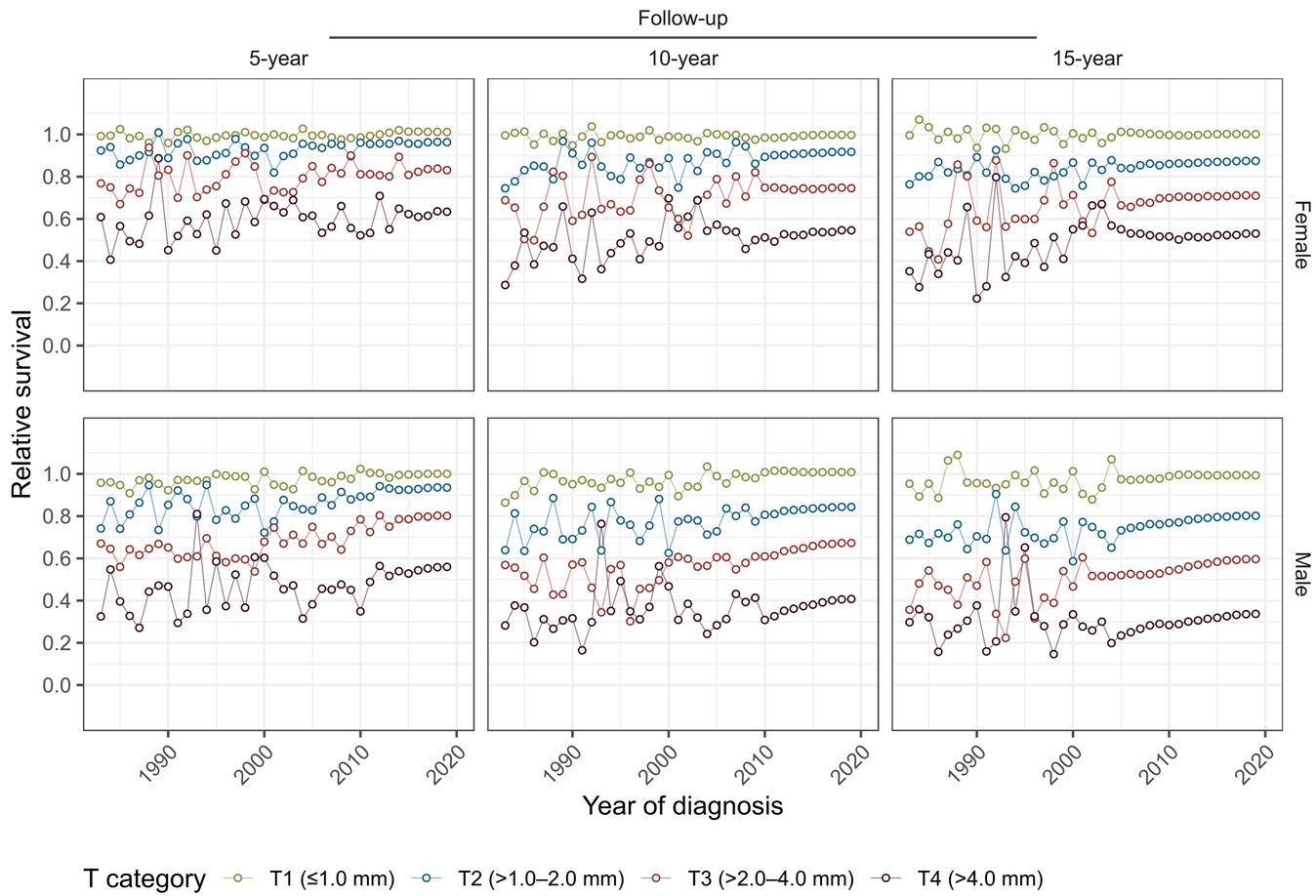
We see that in all T-categories, both 5-year and 10-year relative survival condition on surviving certain number of years starts to becomes similar when the conditional year increases.

For example, two patients diagnosed with T1 and T3 melanoma respectively have similar 5-year relative survival after surviving from 15 years.



Relative survival trend

The smooth tail in the trend is because of different (hybrid) method used to calculate the relative survival using more recent data. Longer the follow-up loger the smooth tail.



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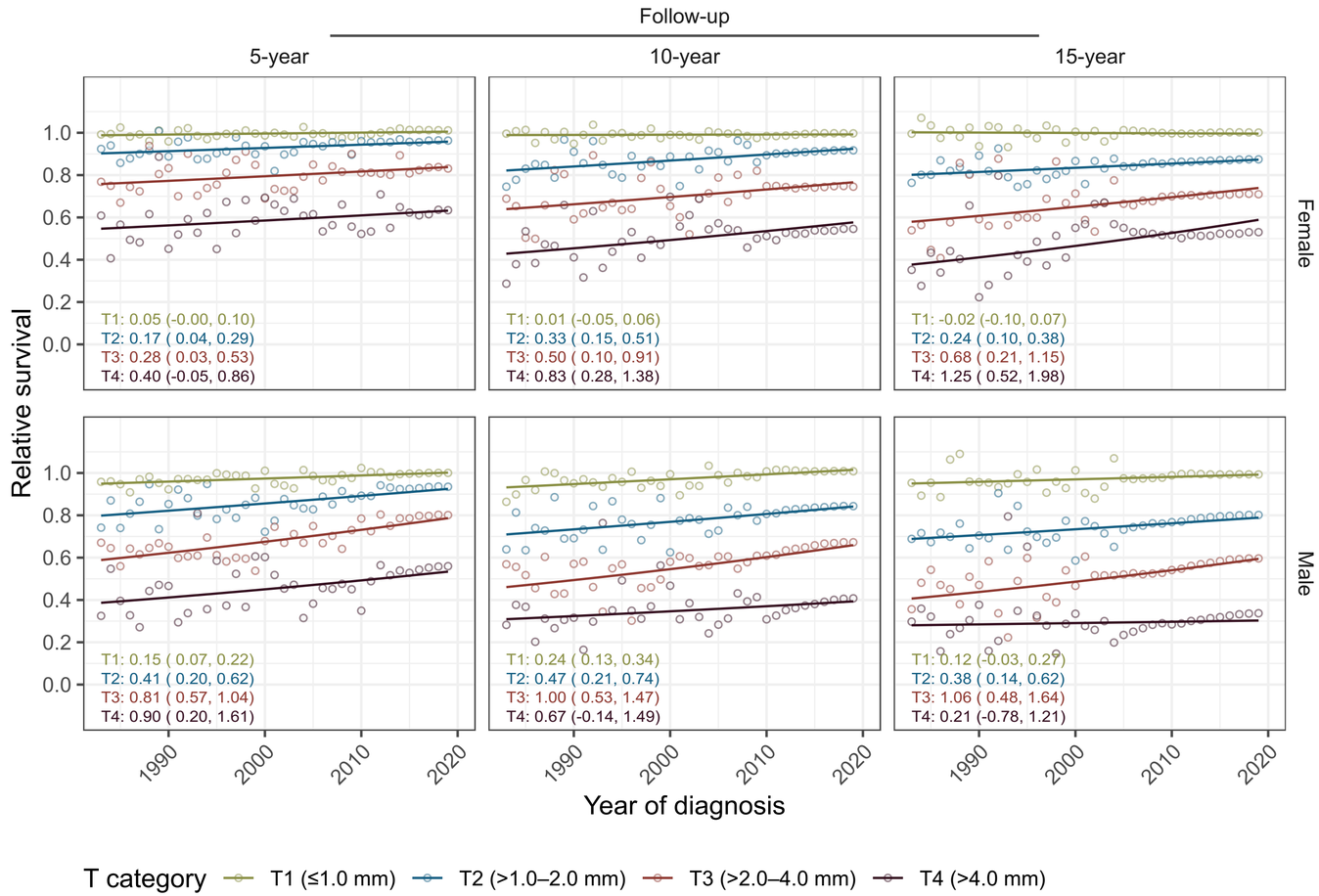
The 5-year, 10-year and 15-year relative survival in all T-categories has stable or slight increasing trend.

In the case of thicker melanoma, women have higher increasing trend in T4 melanoma and men have in T3. This pattern is observed in 5-year, 10-year and 15-year follow-up.



Wrap-up

Outlook

Upcoming: Incidence and trend

Increasing T1 incidence with plateau around before 2005. Thicker cases are more pronounced in older men.

In progress: Survival and trend

Men have lower survival mainly in thicker cases than women. In thicker cases, more patients die from melnaoma than other cause.

Planned: Cut-point analysis

The *cut-points* are important criteria for *risk assessment*, *diagnosis* and *follow-up*

Summary

- Despite *stable melanoma mortality* was seen in cancer reports in Norway for last few years, Norway *ranks second in mortality* worldwide.

- Older men diagnosed more with *thicker melanoma* and has *higher mortality*

- Awareness focused on *elderly males* may be effective for *early detection*.
- *Risk stratification* and *targeted* screening

Source: AI (leonardo.ai)

Collaborators

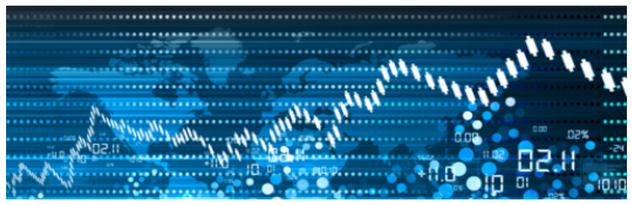
UNIVERSITY OF OSLO

Cancer Registry of Norway

QIMR Berghofer Medical Research Institute

International Agency for Research on Cancer

World Health Organization



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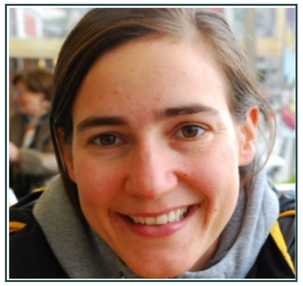

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ASANTE
TAK
Teşekkür ederim
SUWUN
hvala
Salamat
HVALA
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Ευχαριστώ
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merci
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MAHALO
Рахмет
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ありがとう
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Благодарам
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ASANTE
多謝
SALAMAT
grazie
спасибо
gracias

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