

# BRAIN TUMOUR INSIGHTS

TO DRIVE FUNDRAISING AND CAMPAIGNING

THE  
BRAIN  
TUMOUR  
CHARITY



DAVID WRIGHT  
FINAL PROJECT

**1. DIFFERENCE IN LOW/HIGH GRADE  
TUMOURS**

**2. HOW DO THESE DIFFER IN  
ADULTS/PAEDIATRIC**

**3. IS THERE VARIANCE ACROSS  
SCOTLAND**

**4. COMPARITIVE ON OTHER CANCERS  
EG. LUEKAEMIA**



## **Malignant Tumours**

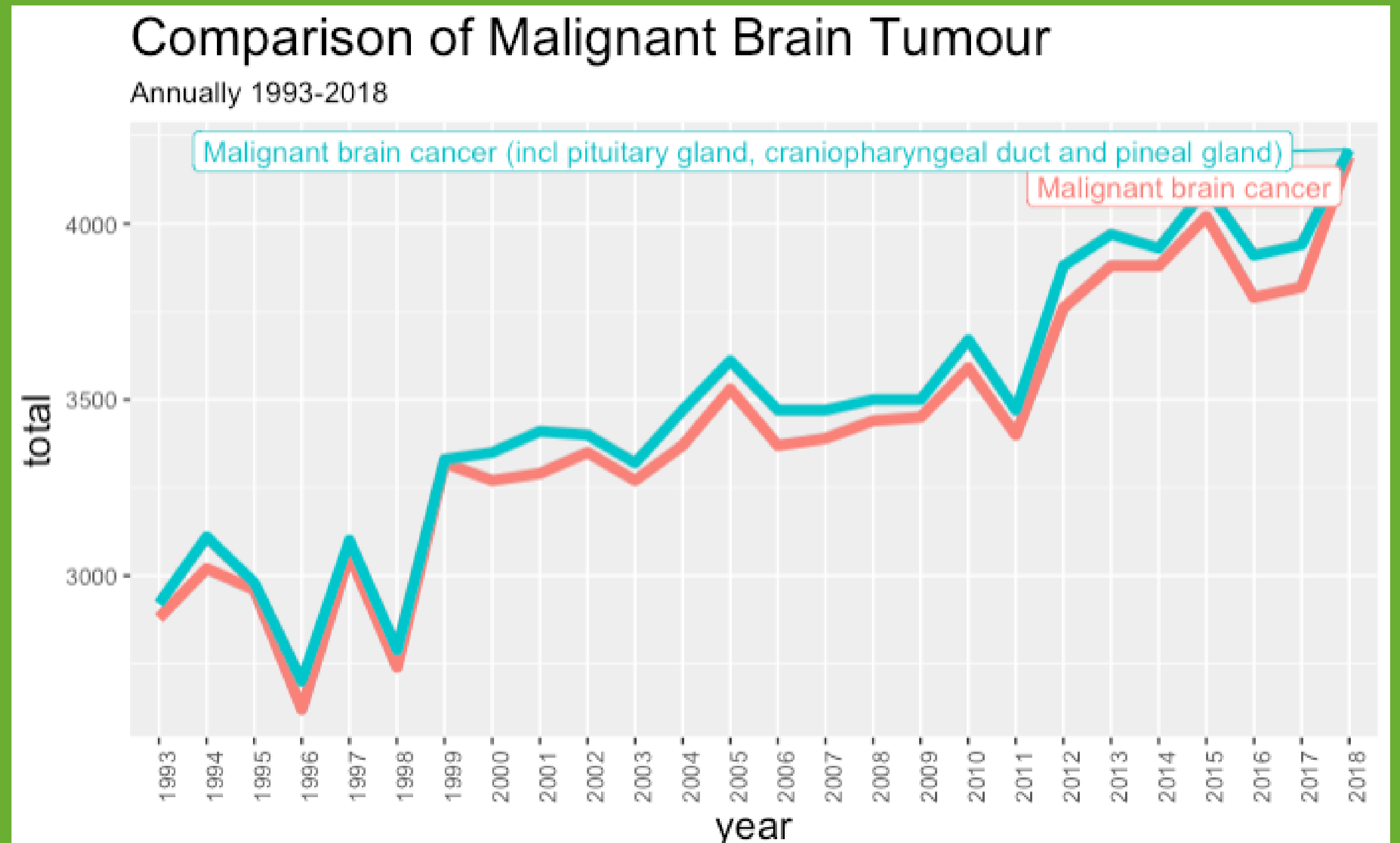


**Malignant brain cancer**  
(incl pituitary gland, craniopharyngeal duct and pineal gland)

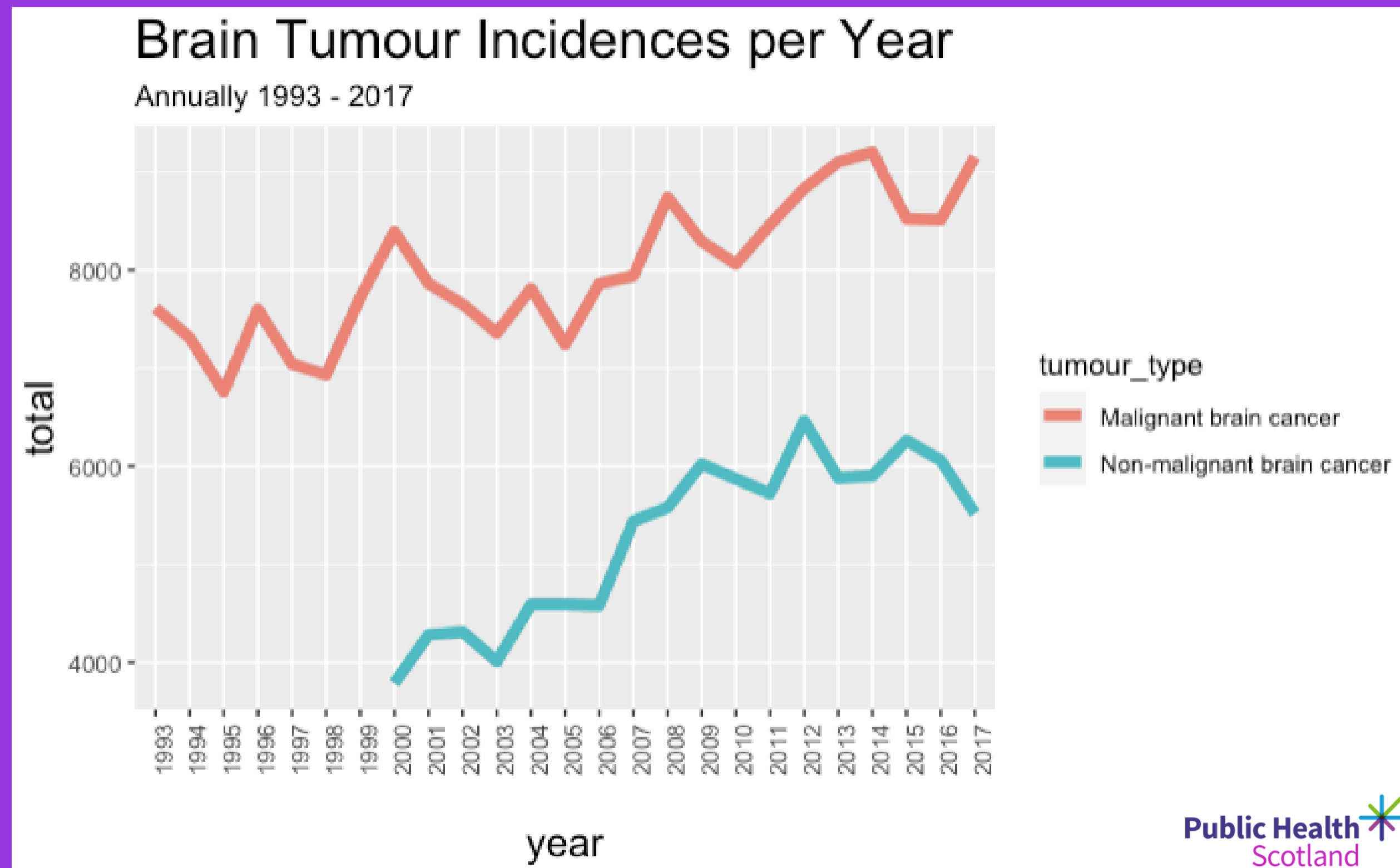


**Non Malignant Tumours**  
(incl pituitary gland, craniopharyngeal duct and pineal gland)

# INCIDENCES



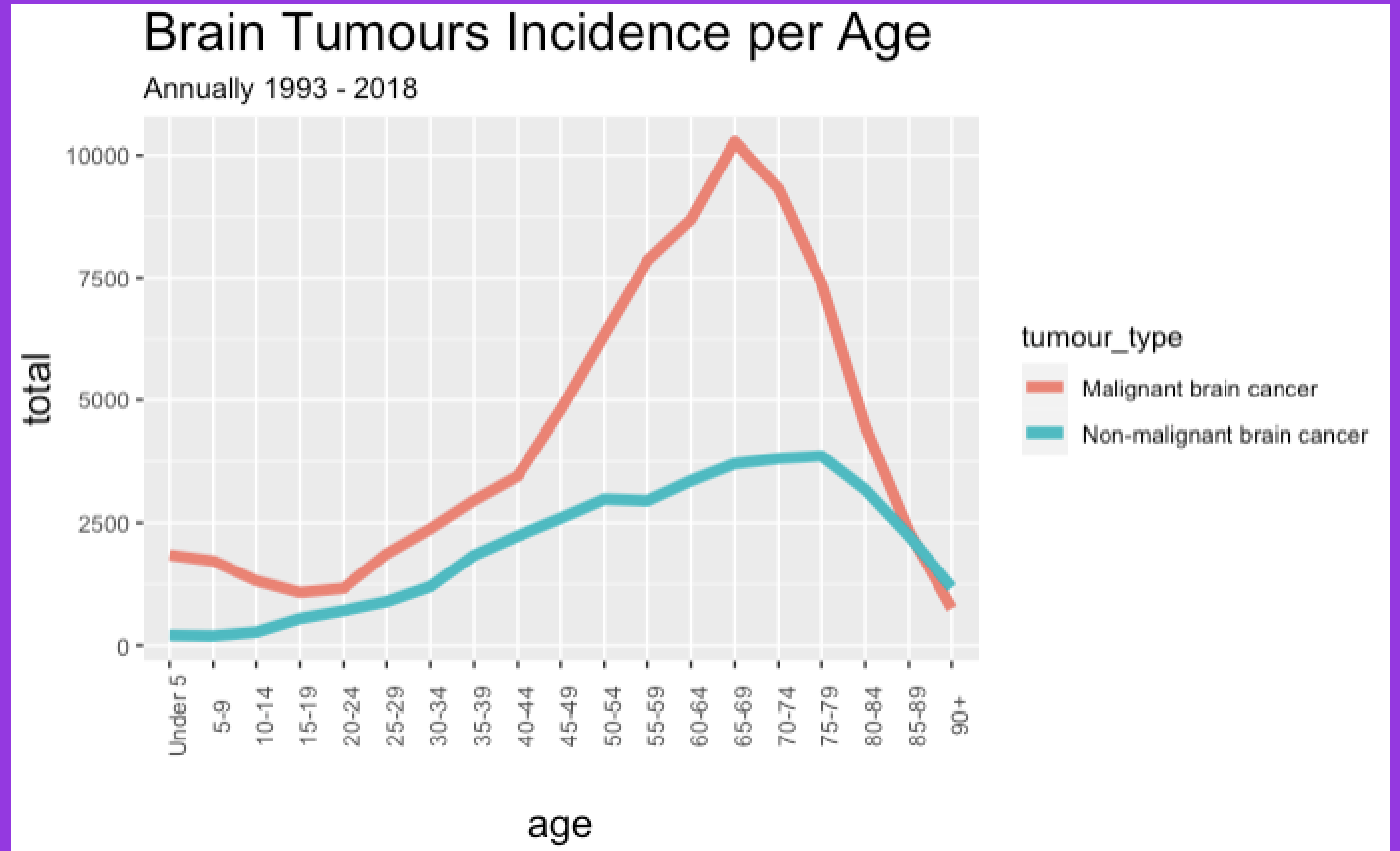
# INCIDENCES



**steady upward trend**

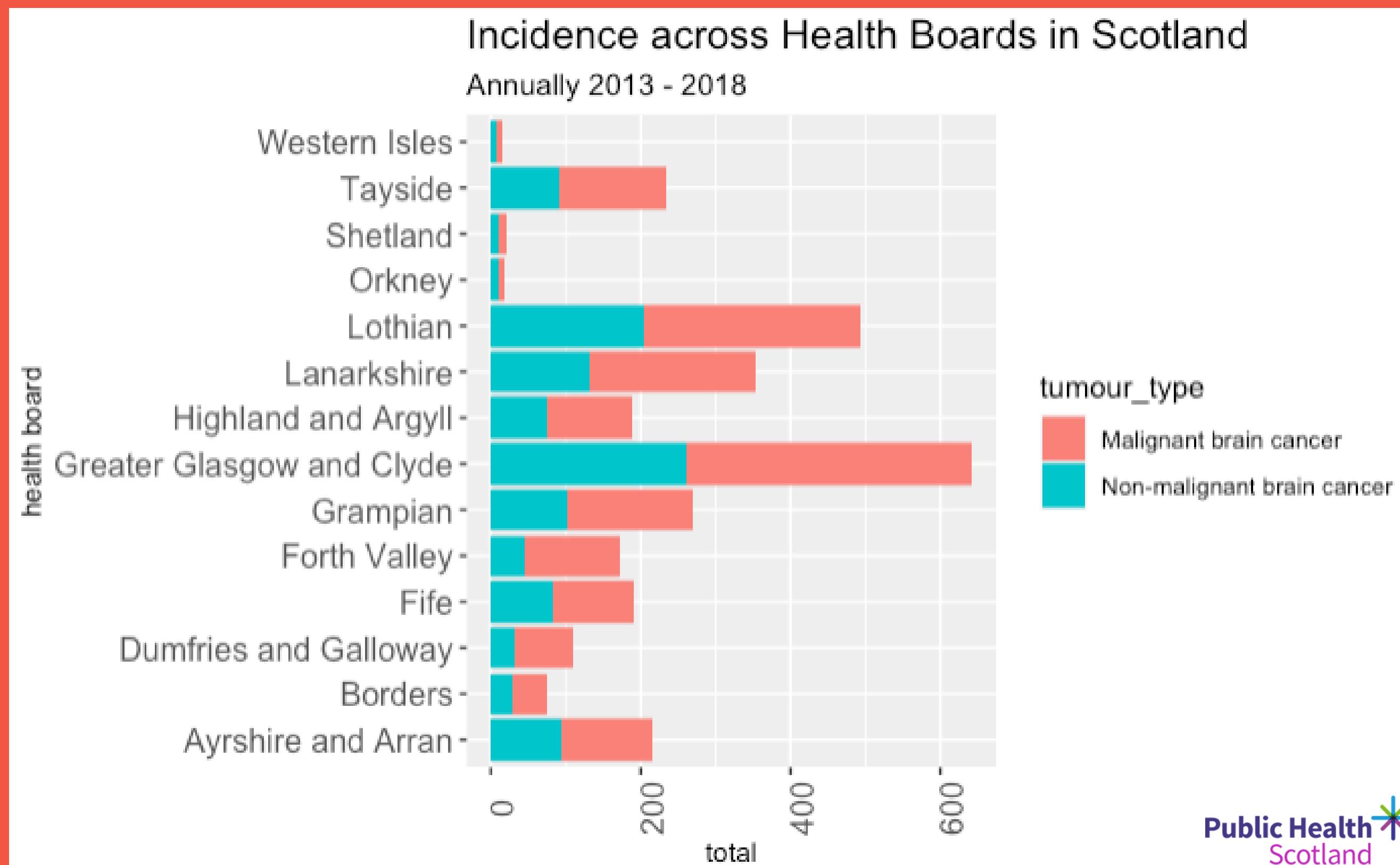


# INCIDENCES



**dramatic increase in malignant tumour 40 +**

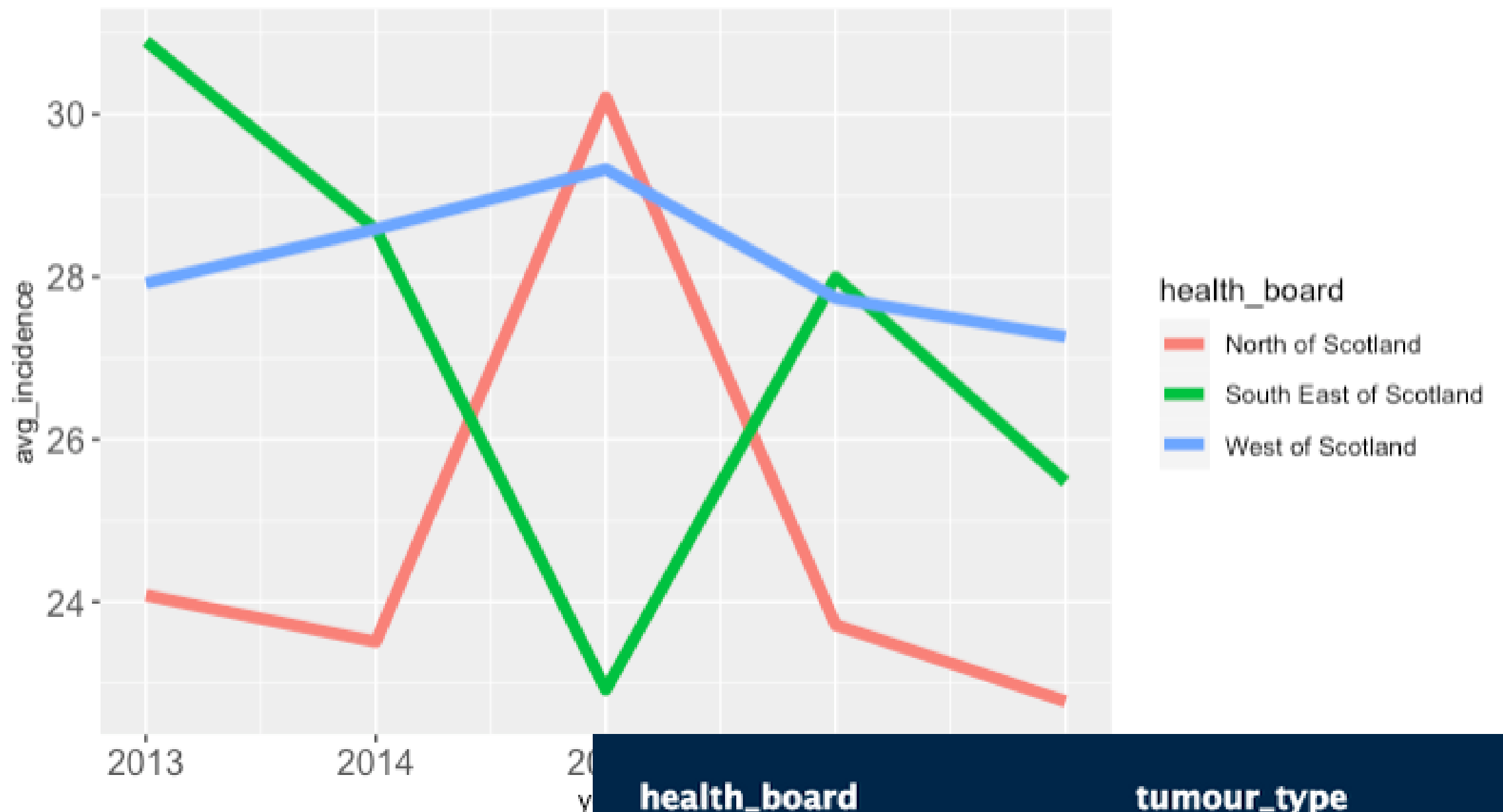
# INCIDENCES



**pretty proportional to match findings above further research  
could be done on Forth Vallet and Dumfries and Galloway**

Incidence rate across Health Boards in Scotland

Annually 2003 - 2018



DATA  
INCONSISTENCIES!

health_board	tumour_type	year	incidence_rate
<chr>	<chr>	<dbl>	<dbl>
South East of Scotland	All brain and CNS tumours	2013	0.0000000
South East of Scotland	All brain and CNS tumours	2014	9.7132173
South East of Scotland	All brain and CNS tumours	2015	0.0000000
South East of Scotland	All brain and CNS tumours	2016	4.9784681
South East of Scotland	All brain and CNS tumours	2017	0.0000000
South East of Scotland	All brain and CNS tumours	2013	7.3432222



# INCIDENCE SUMMARY



**inconsistences in incidence rate data, need to work out using no of registrations and health board population**



**both malignant and non malignant incidences are on a steady rise  
answers could be in better research/detection/medication**



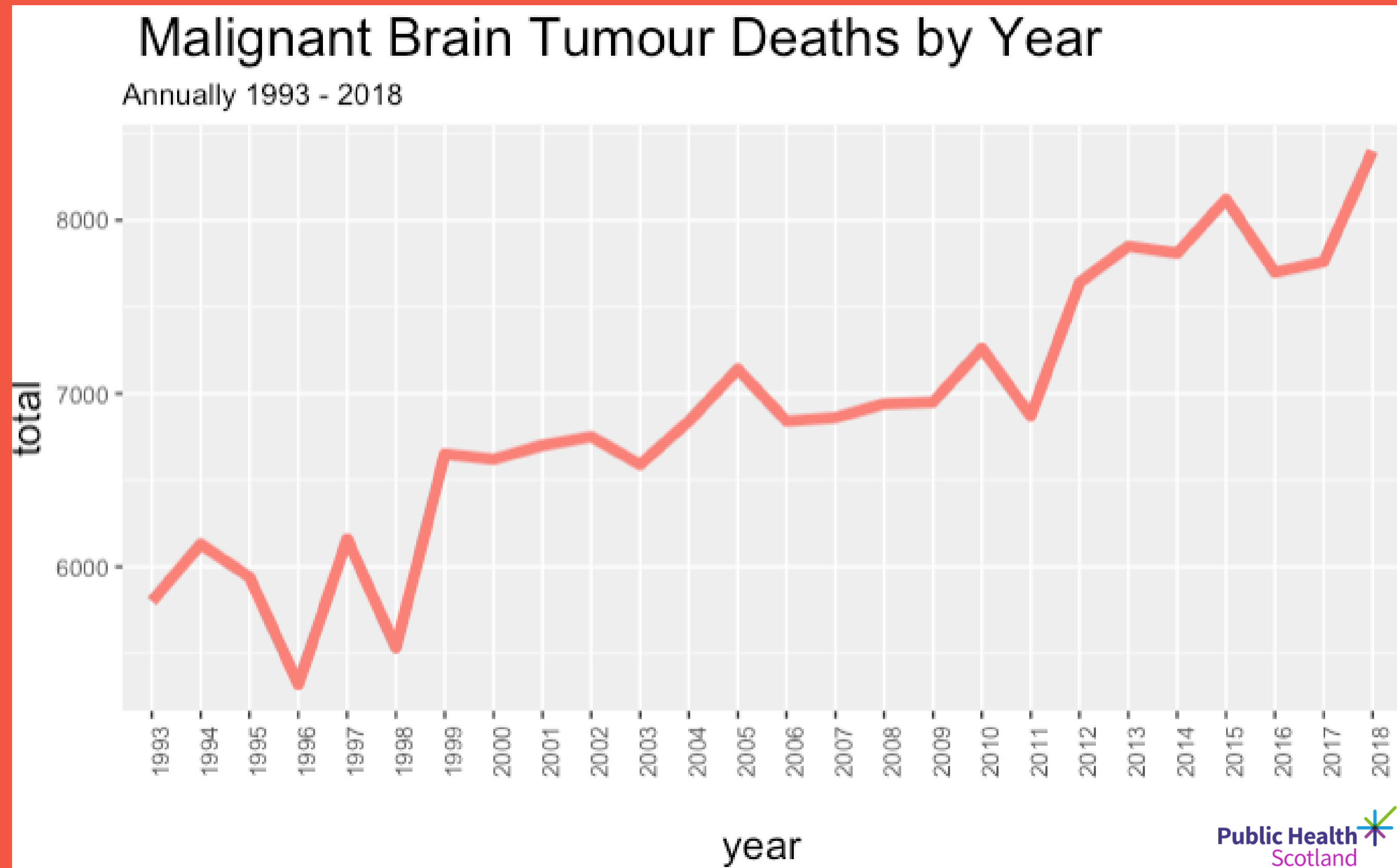
**malignant tumours rise significantly from 40+**



**malignant tumours twice as prevalent and, detection is either better or there is a rise in cause (stress/anxiety/sleep)**

**MORTALITY**

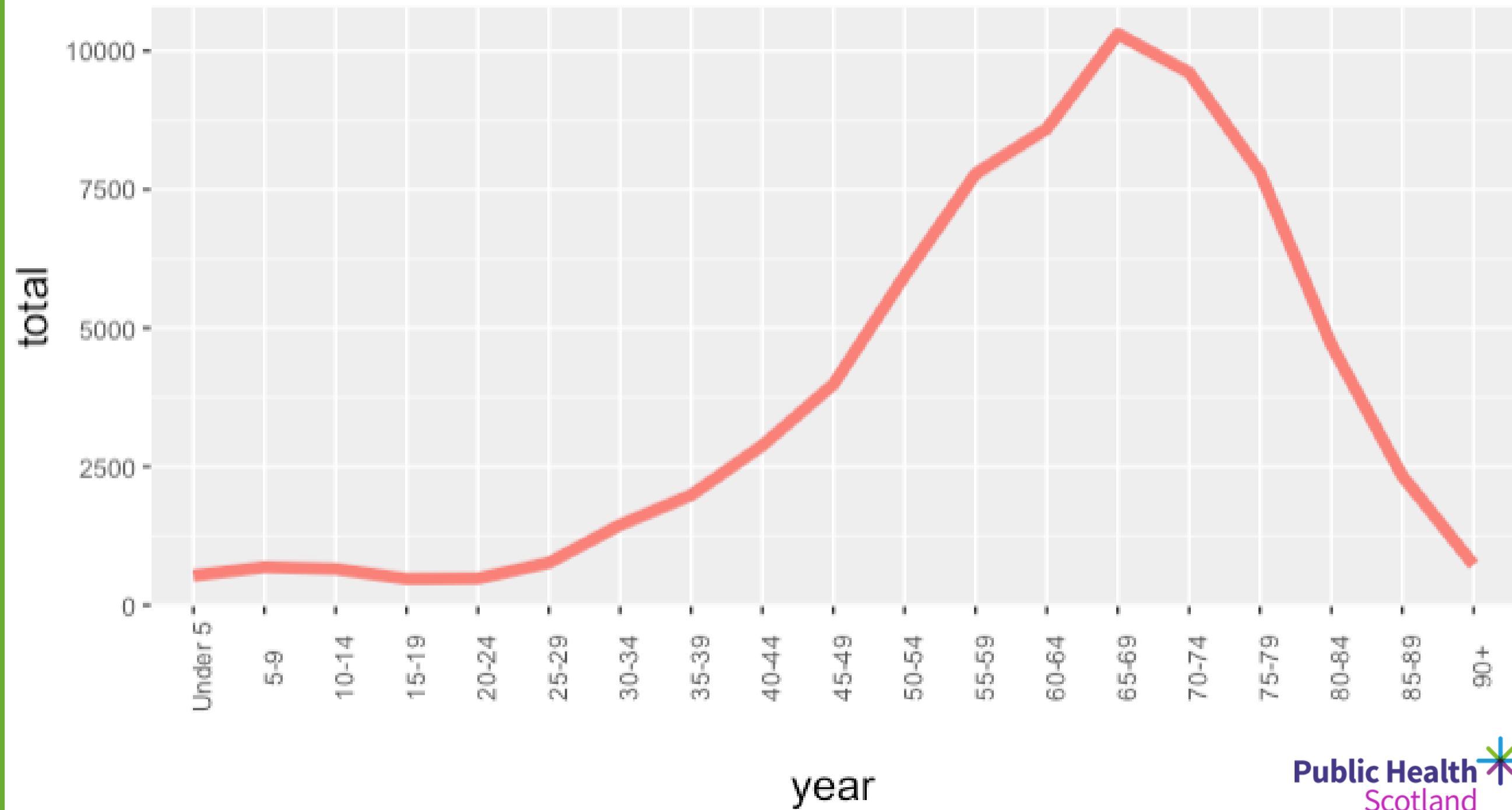
# MORTALITY



**steady rise in death, matches with rising incidences/detection.**

# Deaths by Age in Scotland

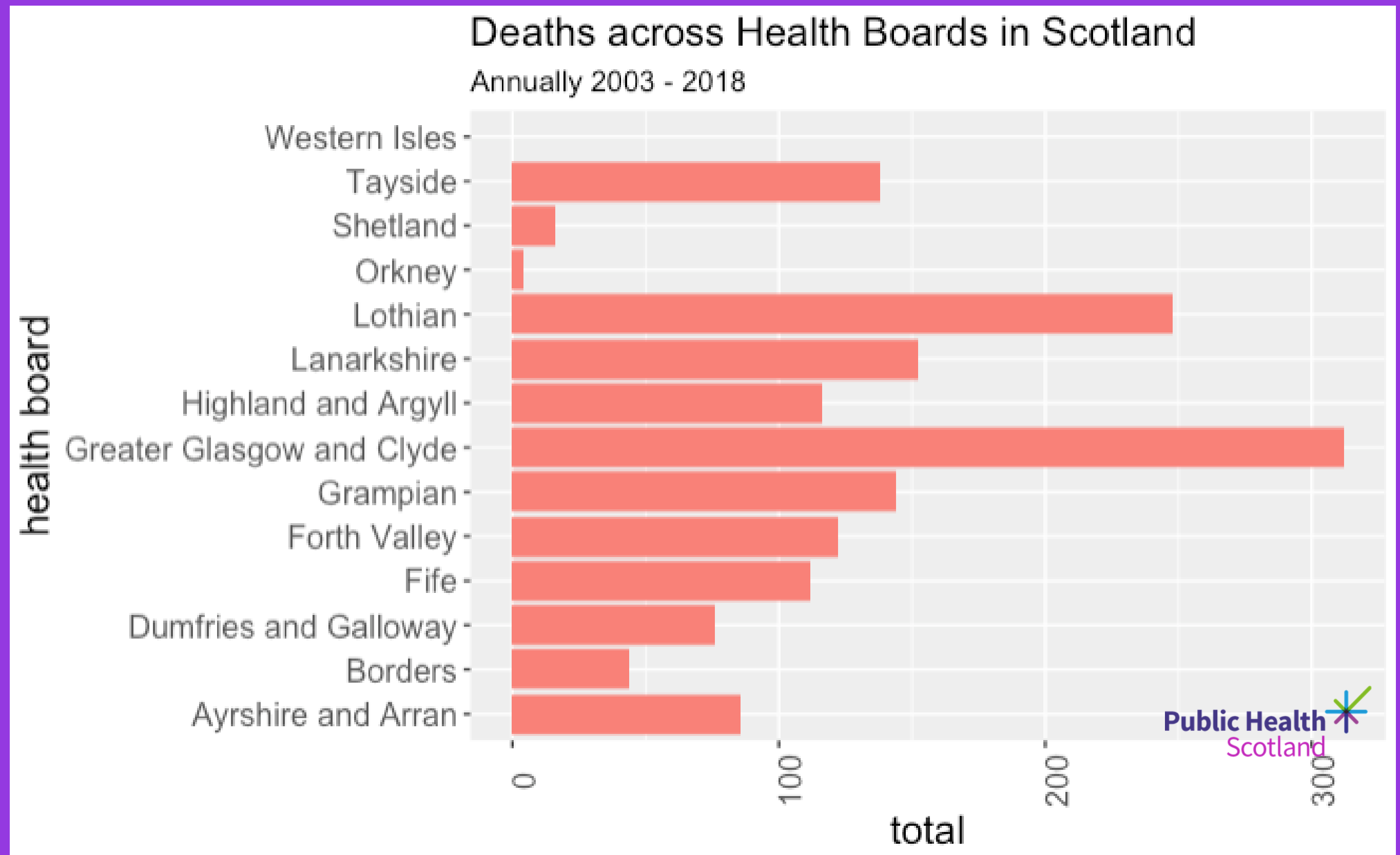
Annually 1993 - 2018



**dramatic rise in deaths from 40+**

**MORTALITY**

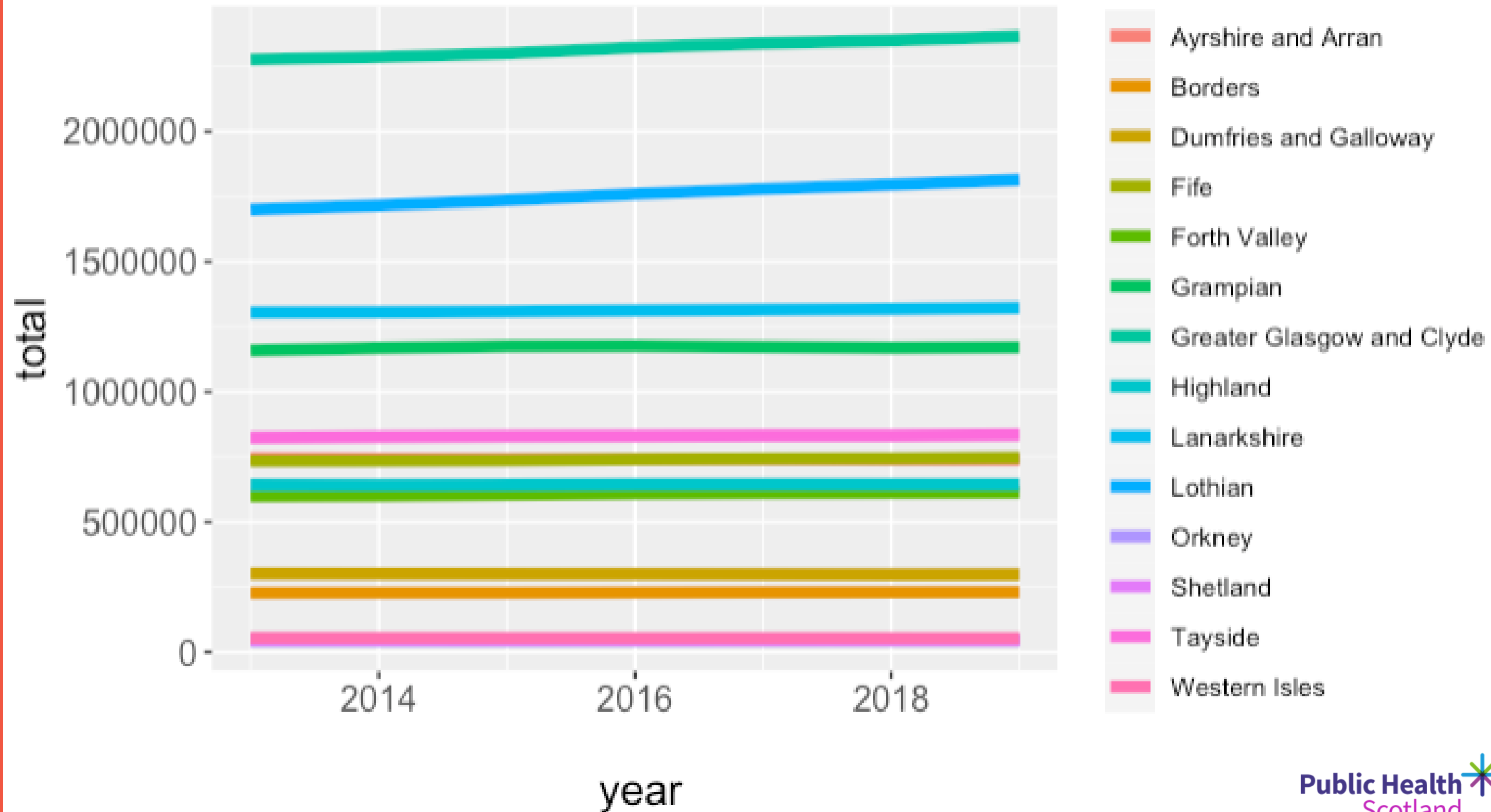
# MORTALITY

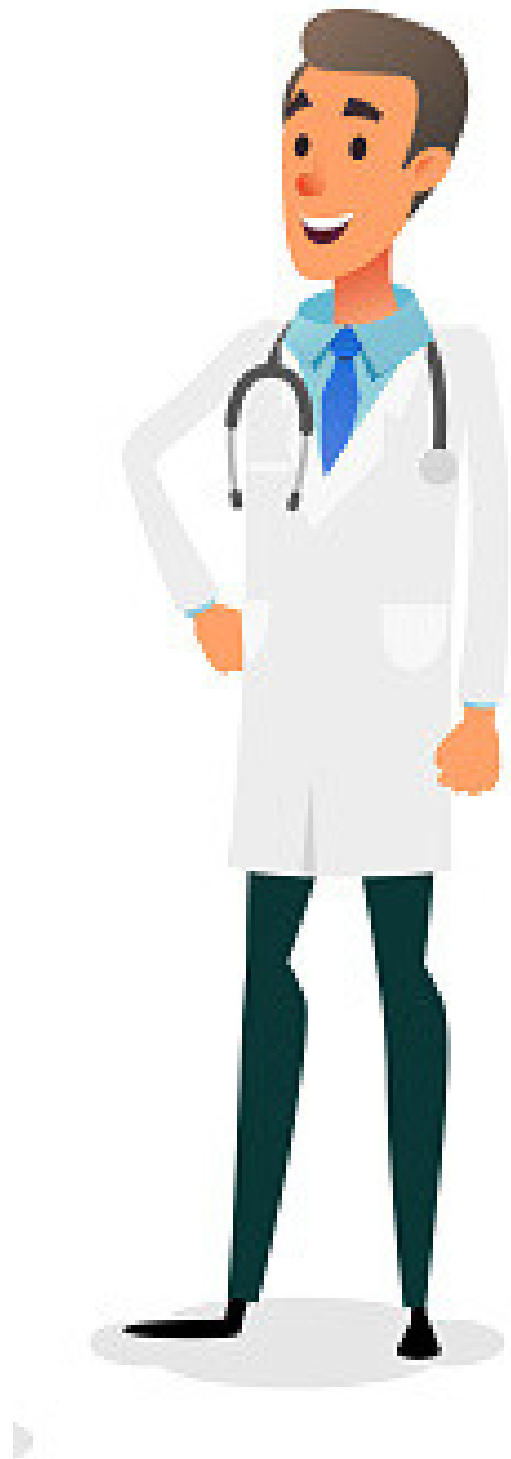


**fairly proportional in regards to  
health board population**

# Population per Health Board

Annually 2013 - 2018 (Public Health Scotland)



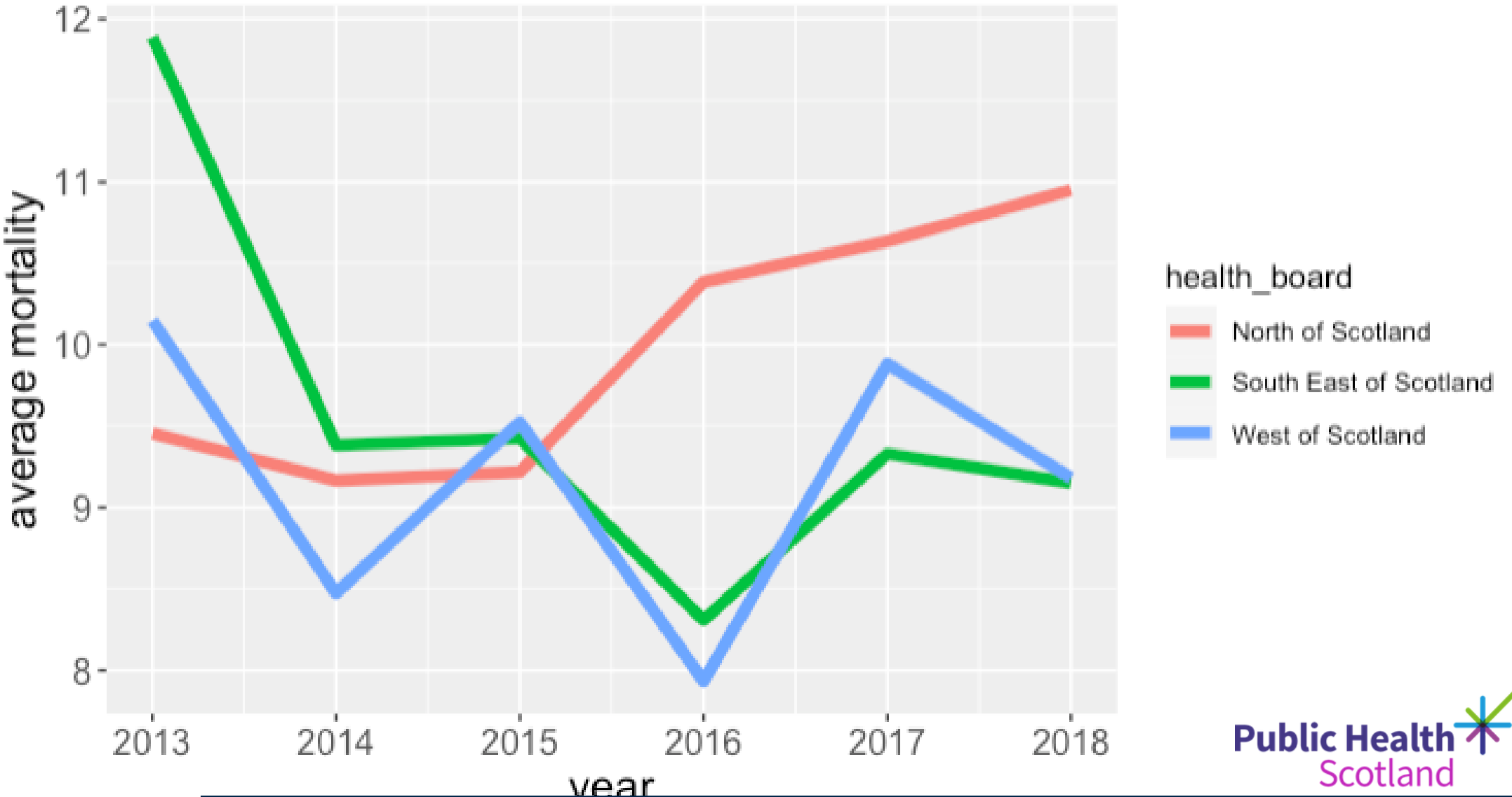


# POPULATION

**THERE'S LITTLE  
FLUCTUATIONS IN  
POPULATION WITHIN  
EACH HEALTH BOARD**

# Death rate across Health Boards in Scotland

Annually 2003 - 2018 (Public Health Scotland)



health_board<chr>	tumour_type<chr>	year<dbl>	mortality_rate<dbl>
North of Scotland	Malignant brain cancer	2013	0.0000000
North of Scotland	Malignant brain cancer	2014	1.3625463
North of Scotland	Malignant brain cancer	2015	0.0000000
North of Scotland	Malignant brain cancer	2016	0.0000000
North of Scotland	Malignant brain cancer	2017	2.8378455
North of Scotland	Malignant brain cancer	2018	0.0000000
North of Scotland	Malignant brain cancer	2013	0.0000000





# MORTALITY SUMMARY



**inconsistences in mortality rate data, need to work out using no of registrations and health board population**



**data used switched between health boards and regional/national**



**BT deaths rise significantly from 40+**

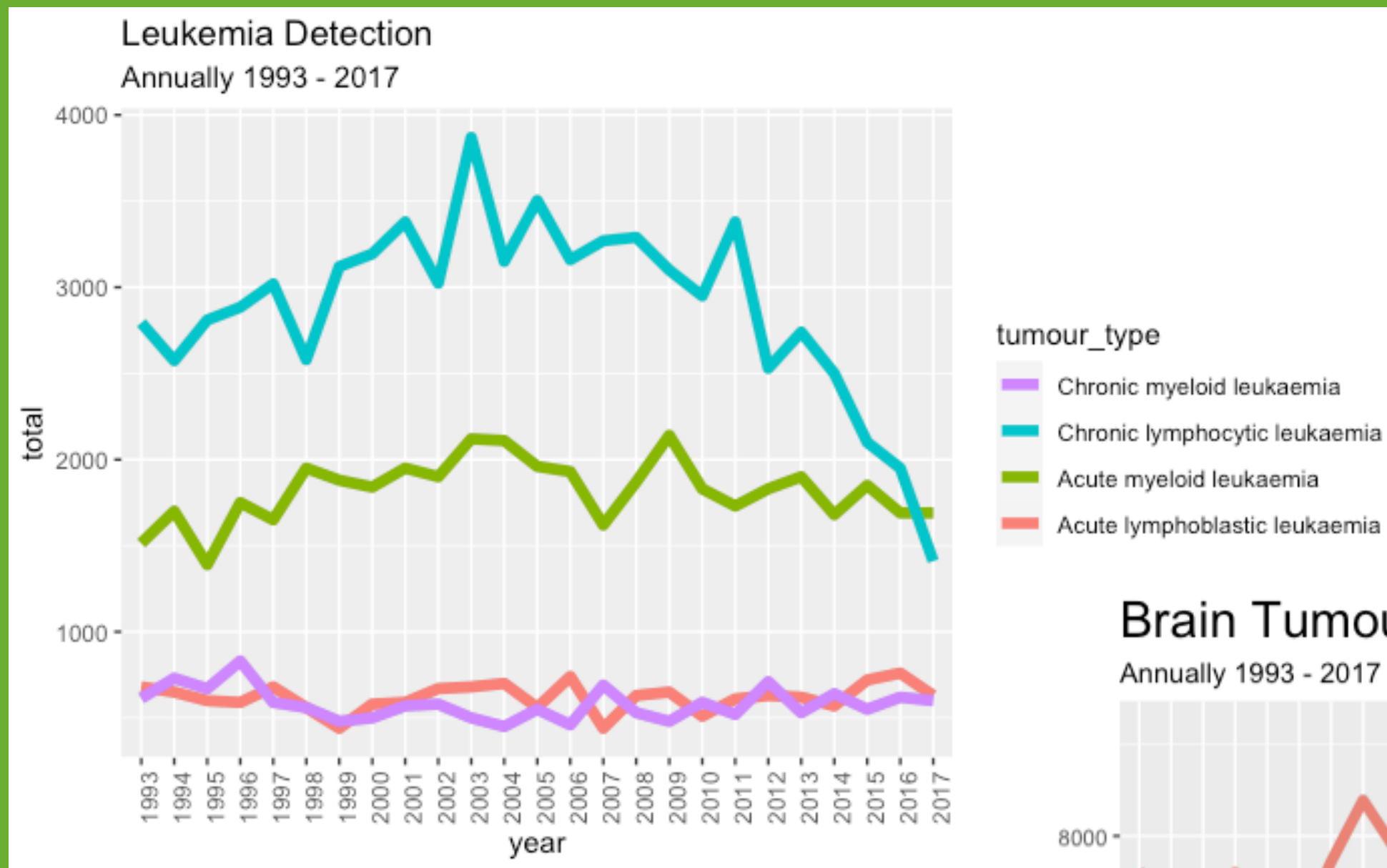


**deaths continue to rise year on year as a results of malignant tumours**

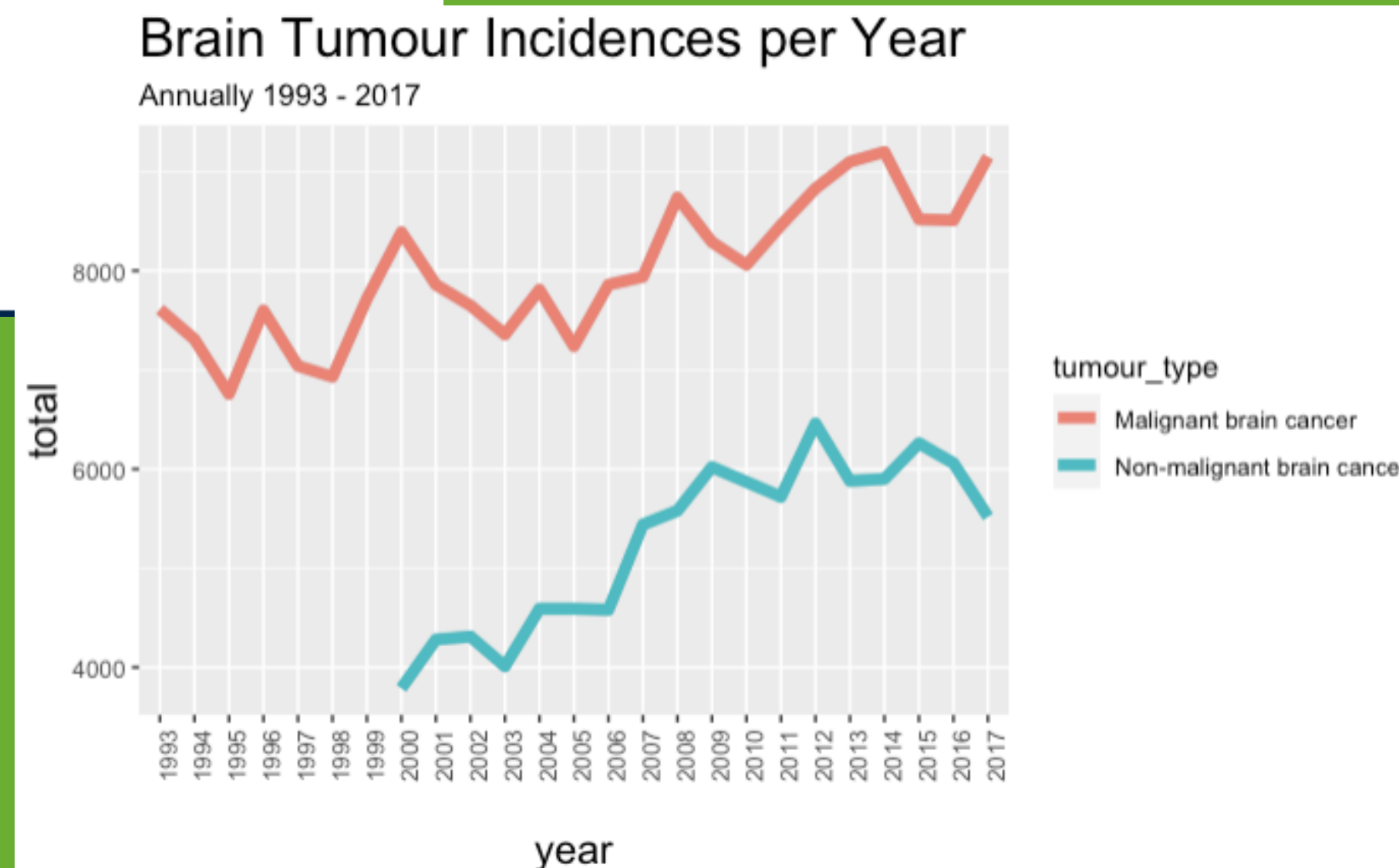
# **COMPARISON WITH OTHER CANCERS**

**(focus on leukaemias)**



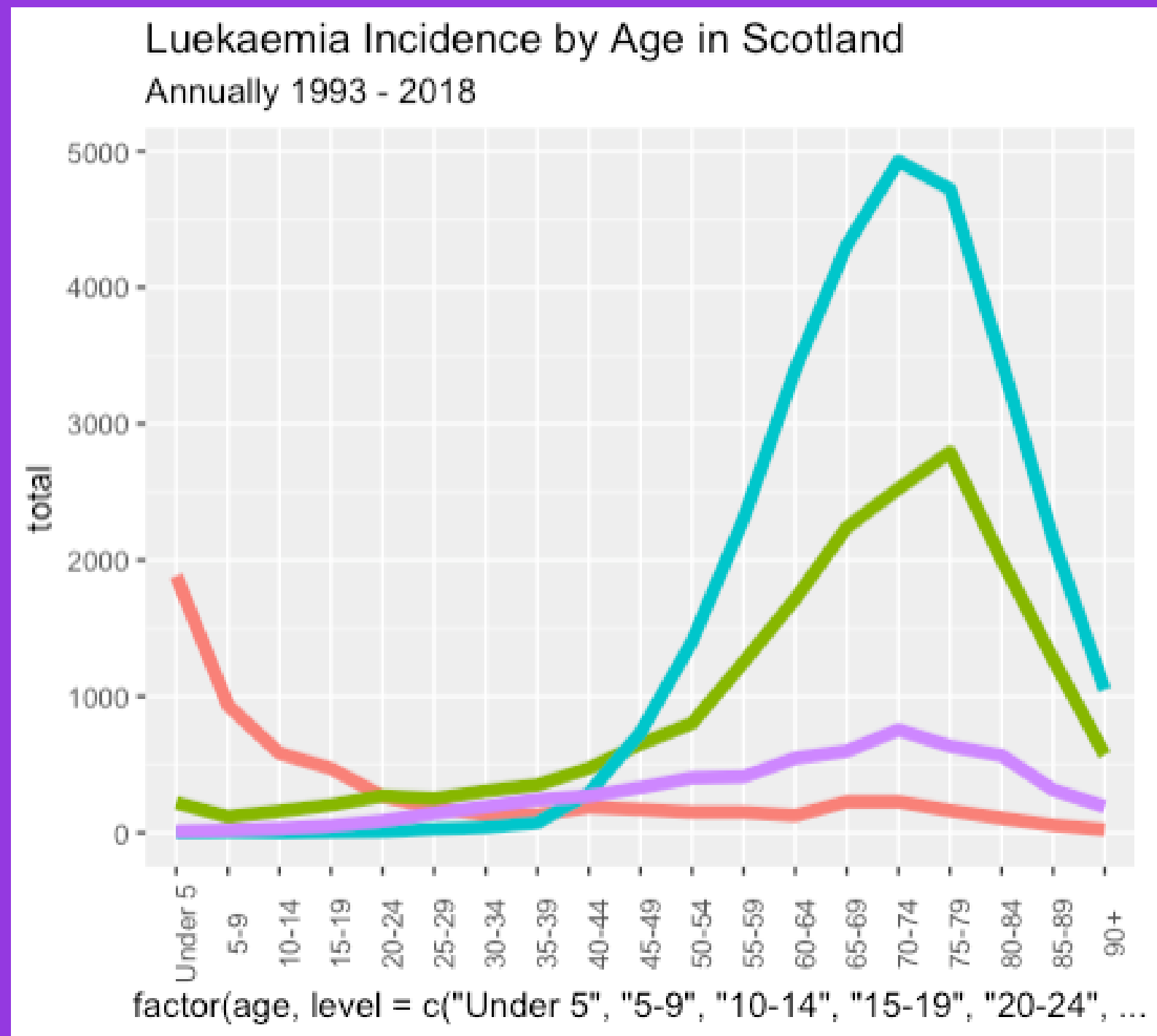


**BT are on the rise  
twice as prevalent**

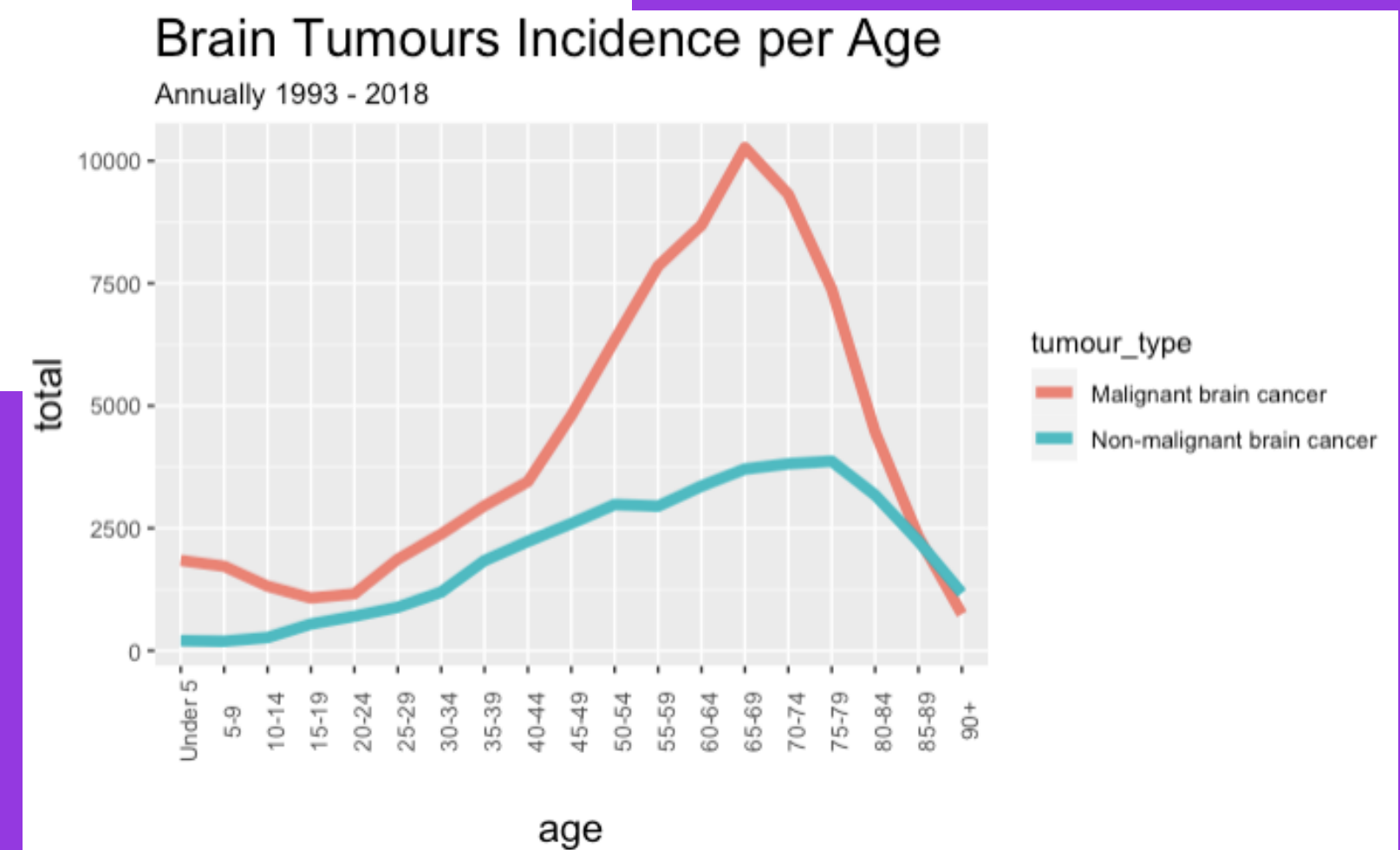


**COMPARISON**

# COMPARISON



**dramatic spike from 40 +**



# BT FINDINGS (ROUGHLY)

**steady rise in both malignant and non malignant tumours**



**35-40 sees a dramatic increase in chance of having a malignant BT.**

**frequency of incidences and deaths are relatively proportional across scotland**



# FINDINGS (ROUGHLY)

**leukaemia has a steady or downward trend in number of incidences detected in scotland**



**brain tumours are nearly twice as prevalent as other cancers like leukaemia in regards to age**

**X2**

**35-40 sees a dramatic increase in chance of having a malignant BT as well as chronic lymphocytic or acute myeloid leukaemias**



# MORE TIME/NEXT?



 **explore more data sources...**

 **gather more insight on 40+  
for campaigns/fundraising**



 **emotional triggers**

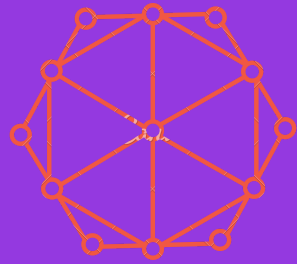


 **contextualise insights for regional  
campaigns**

 **lag in results (year) = relevance**



# MORE TIME/NEXT?



**future projections/modelling**



**add stats**



**mapping/leaflet**

**comparison to other cancers (funding/research etc)**



**impact of covid**







**FINITO**

