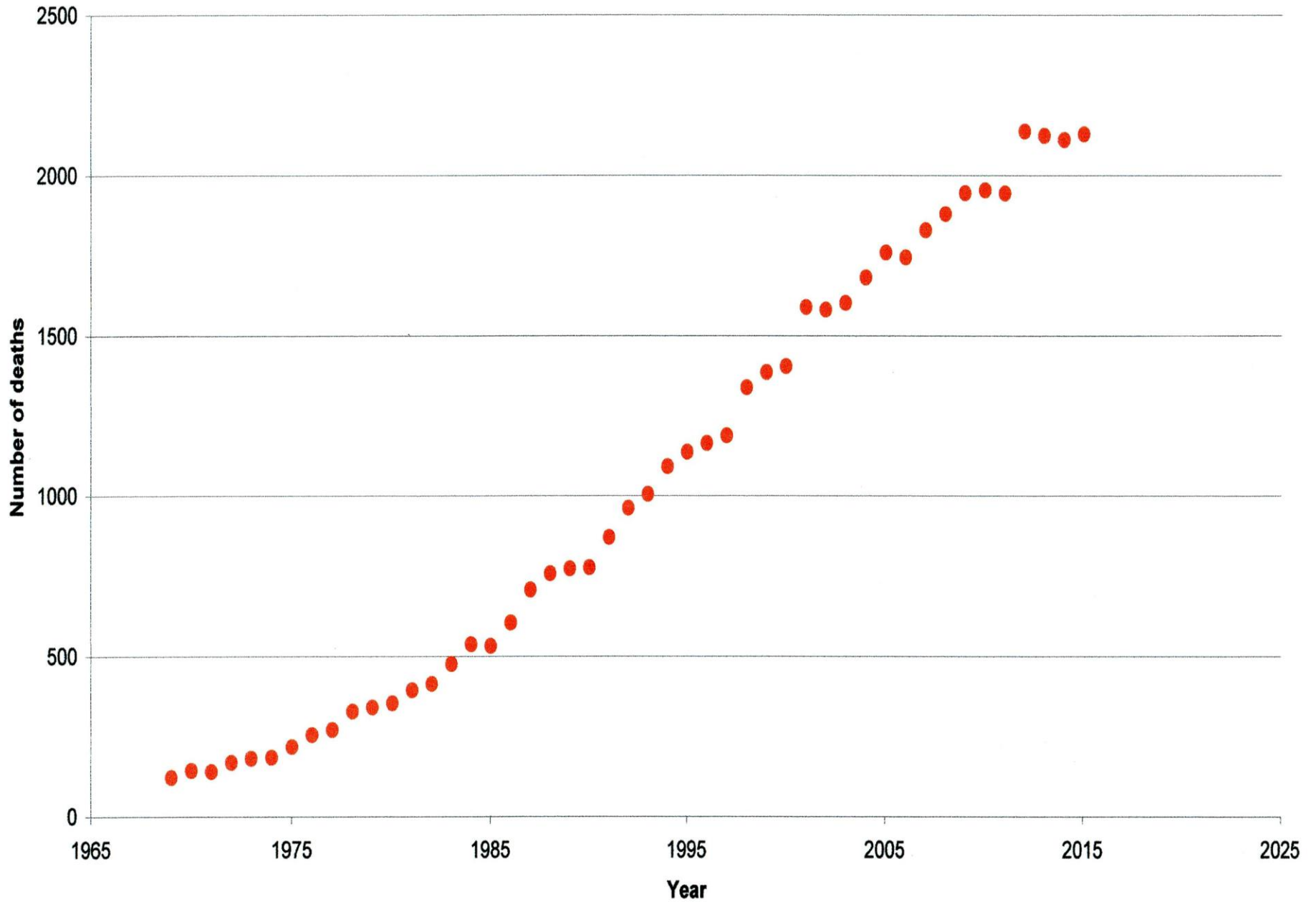


**Assessment of the consequences
of increasing life expectancy on
mesothelioma deaths and on
the risks from current and
future exposures to asbestos**

*Robin Howie,
Robin Howie Associates,
Edinburgh*

Annual male mesothelioma deaths in UK



Mesothelioma deaths to date

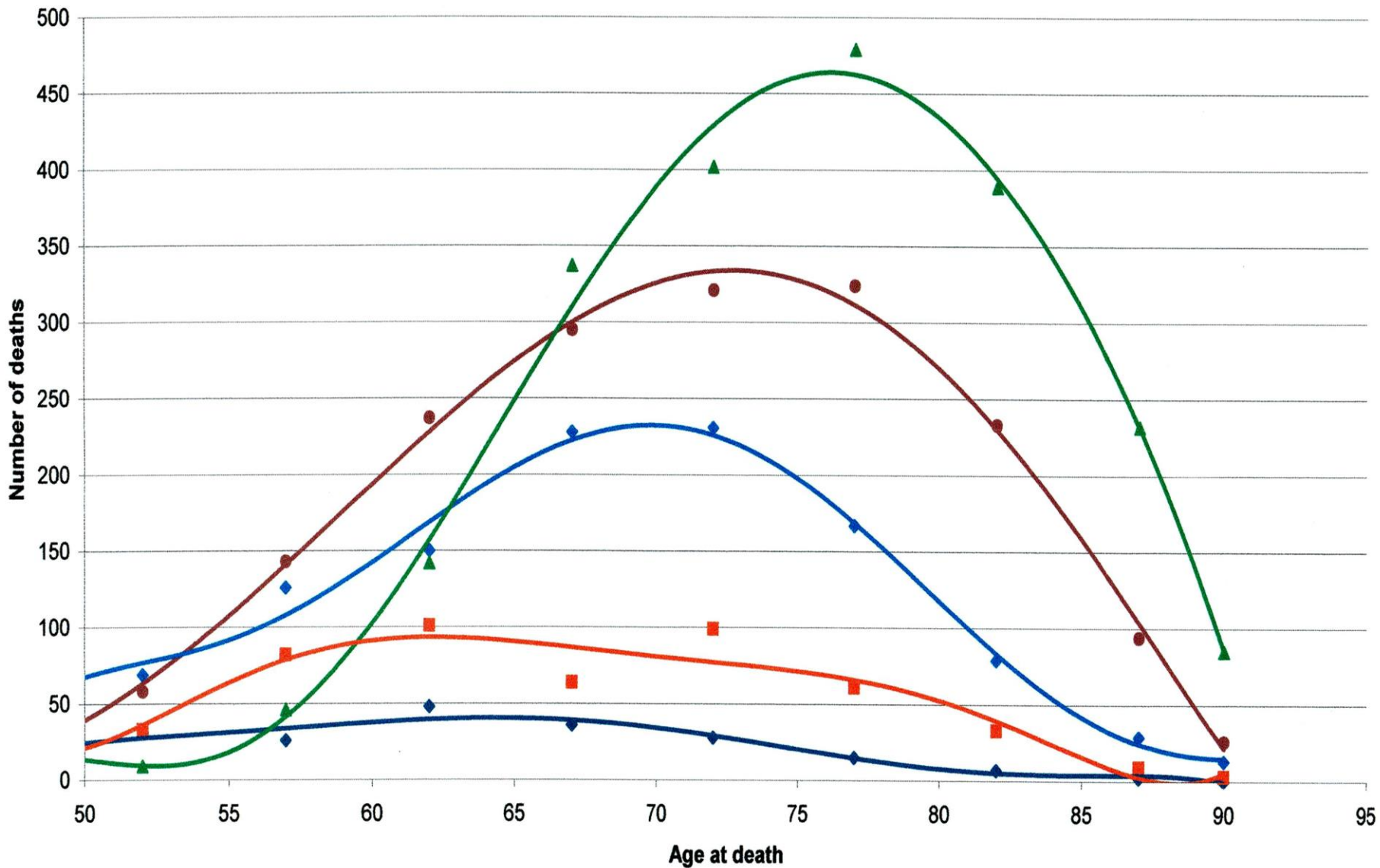
These data indicate that there has been about 48,000 male deaths 1968-2015.

As female mesothelioma deaths are about 1/6 of those of males, there will also have been about 8,000 female deaths.

Predicted mesothelioma deaths

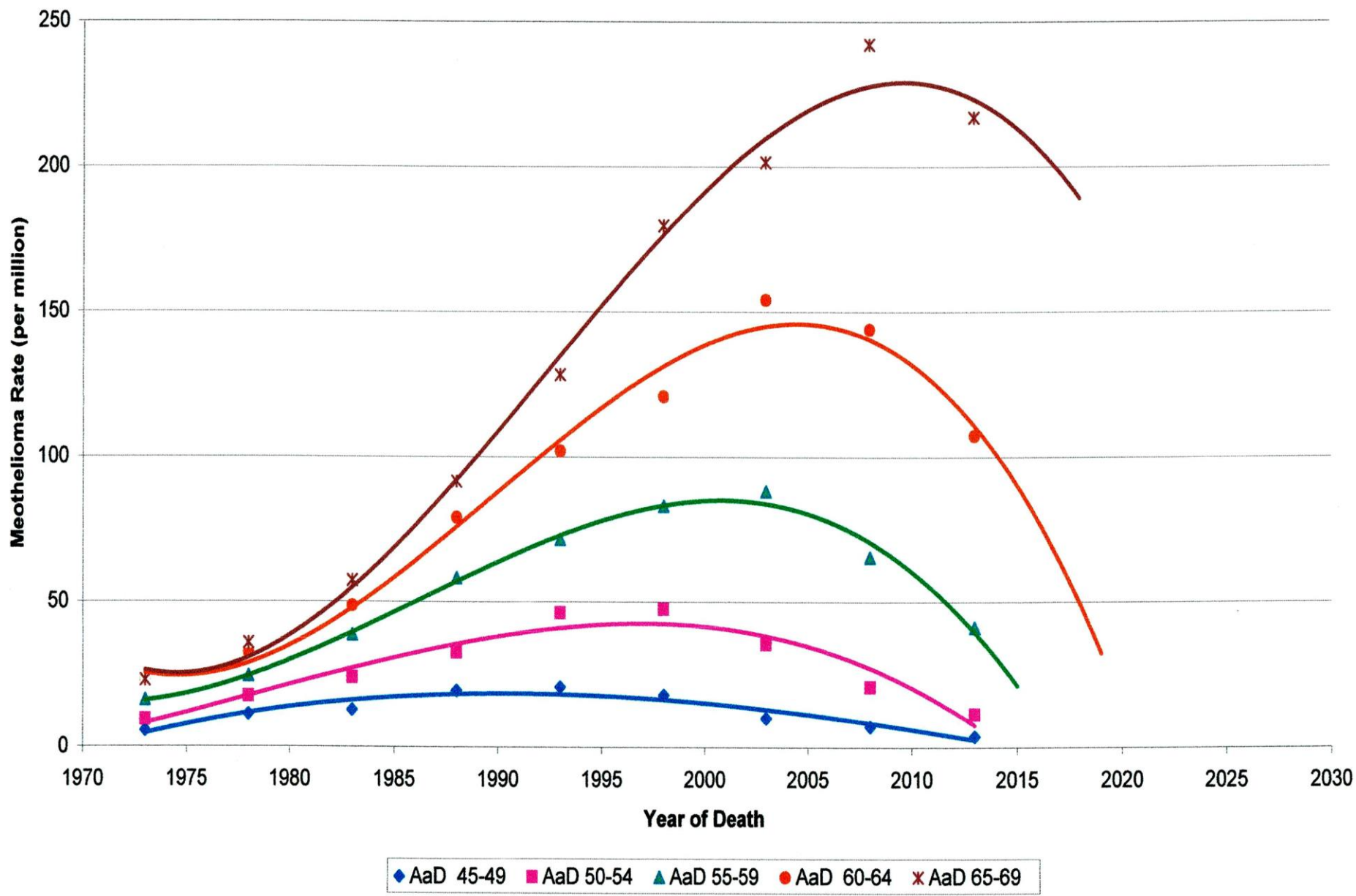
Tan & Warren (2009) predicted that annual male deaths will peak at about 2,040 in 2016 and that total deaths 1968-2050 will be about 91,000.

Age distribution of male mesothelioma deaths v Year of death

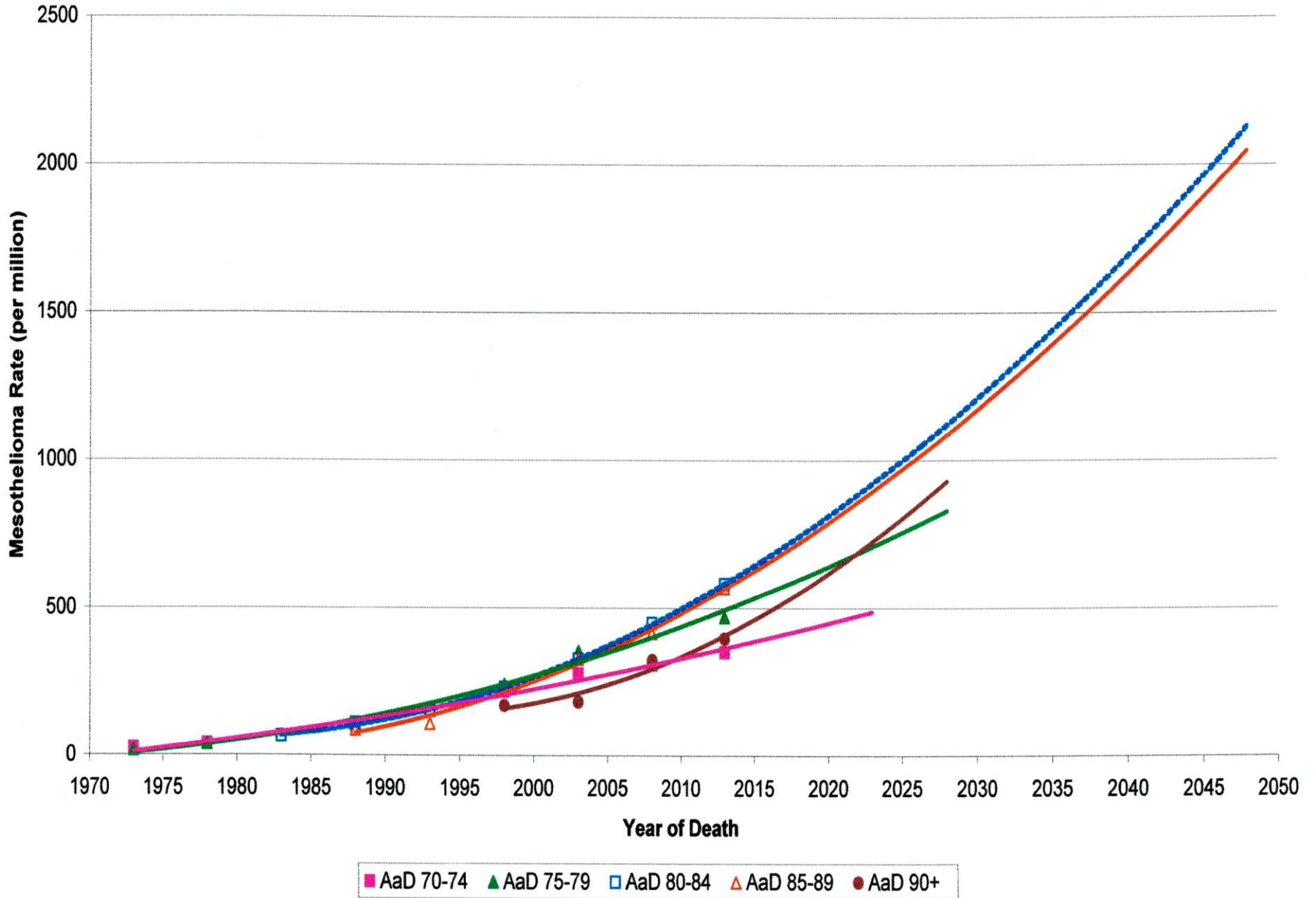


◆ 1975 ■ 1985 ◆ 1995 ● 2005 ▲ 2015

Male mesothelioma rates v Age and year of death for ages 40-69

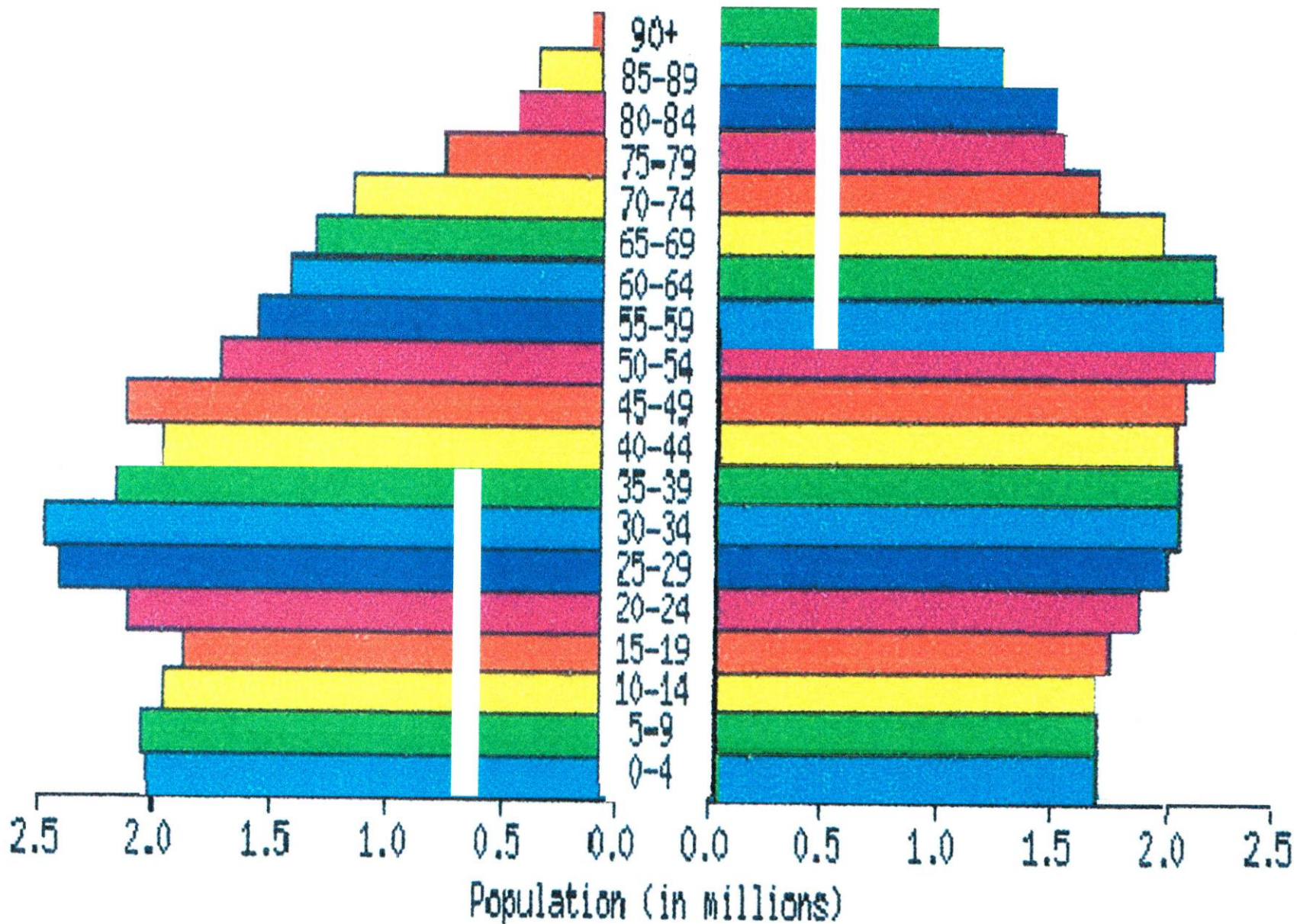


Male mesothelioma rates v Age and year of death for ages 70-90+



1995

2050



Predicted mesothelioma deaths

Multiplication of predicted mesothelioma rates by the corresponding ONS population predictions indicates that there will be a further about 60,000 deaths by 2035 and a total of about 200,000 deaths 1968-2050.

Mesothelioma risk

As risk increases as time since exposure to the power 3-4 and as lower exposures tend to have longer latent periods, e.g. see Bianchi et al (1997), longer life expectation indicates that a higher proportion of people exposed to asbestos will live long enough to develop mesothelioma than have to date.

Mesothelioma risk

ONS (2016) predicts that today's toddlers in the UK have a 1/3-1/2 chance of surviving to age 100.

Effect of age on mesothelioma risk for life expectation to ages 90 and (100)

Age at first exposure	30	15	10	5	0
Relative risk re 30 yr old to age 80	1	3 (9)	4 (11)	5 (14)	7 (17)

Mesothelioma risk

School children exposed to an average of 1,000 fibres/m³ (0.001 fibre/ml) of amosite between ages 5 to 15 would have a mesothelioma risk of about 250 or 400 per million for average survival to ages 90 or 100 respectively.

after Hodgson & Darnton (2000)

Mesothelioma risk

As there are likely to many more people exposed at low levels than were ever exposed at high levels, e.g. in the UK there are about 10,000,000 children in our schools and 5,000,000 children living in Local Authority, or equivalent housing assuming survival to about age 90 or above, it is essential to ensure that exposures in homes and schools are reduced “so far as is technically possible” as required by Article 5 of 2004/37/EC.