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# Is there evidence of a 'cured' sub-population amongst women with screen-detected breast cancer?

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*Results from New South Wales, Australia, and the West Midlands region of England*



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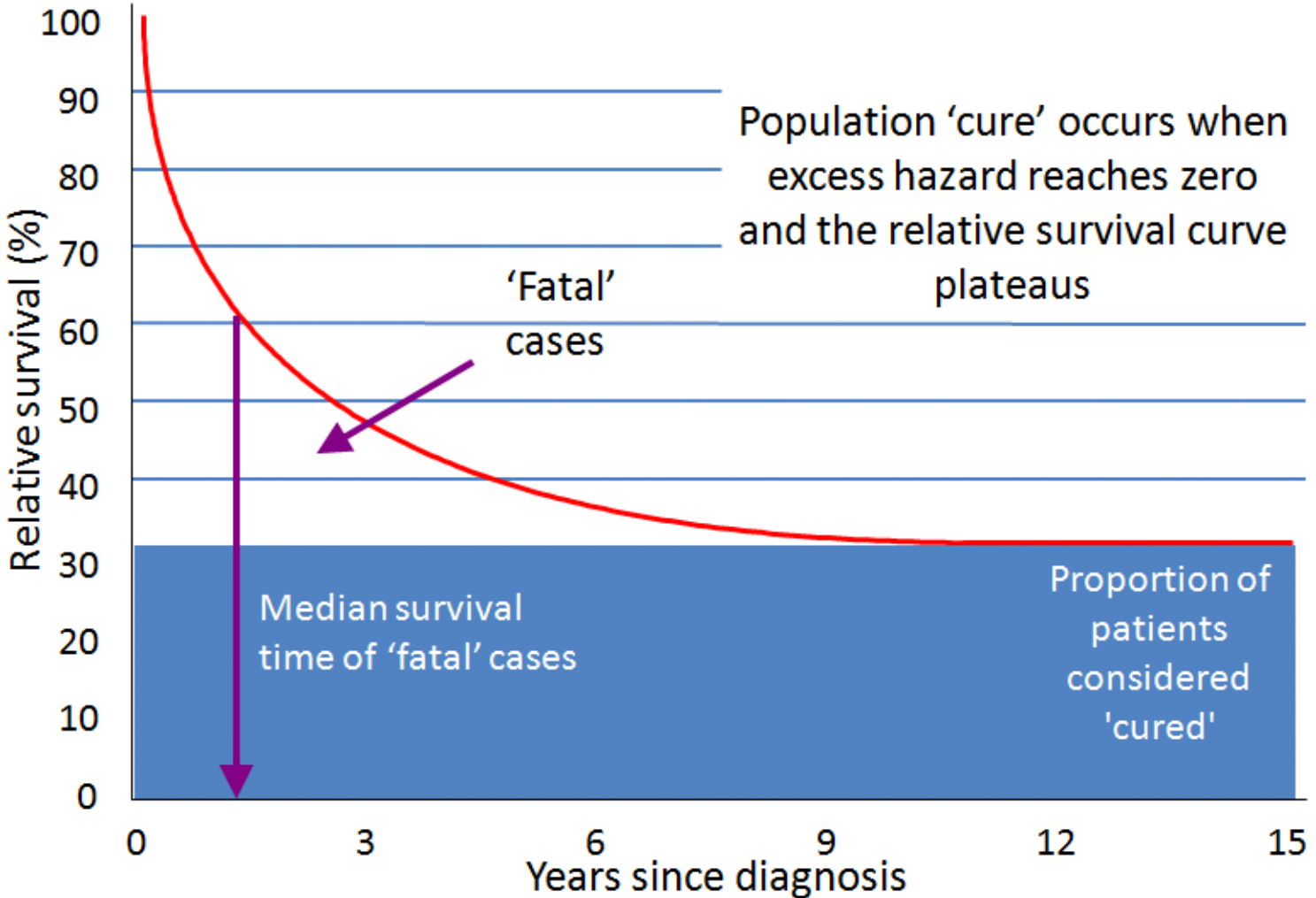
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West Midlands  
Cancer Intelligence Unit

# Concept



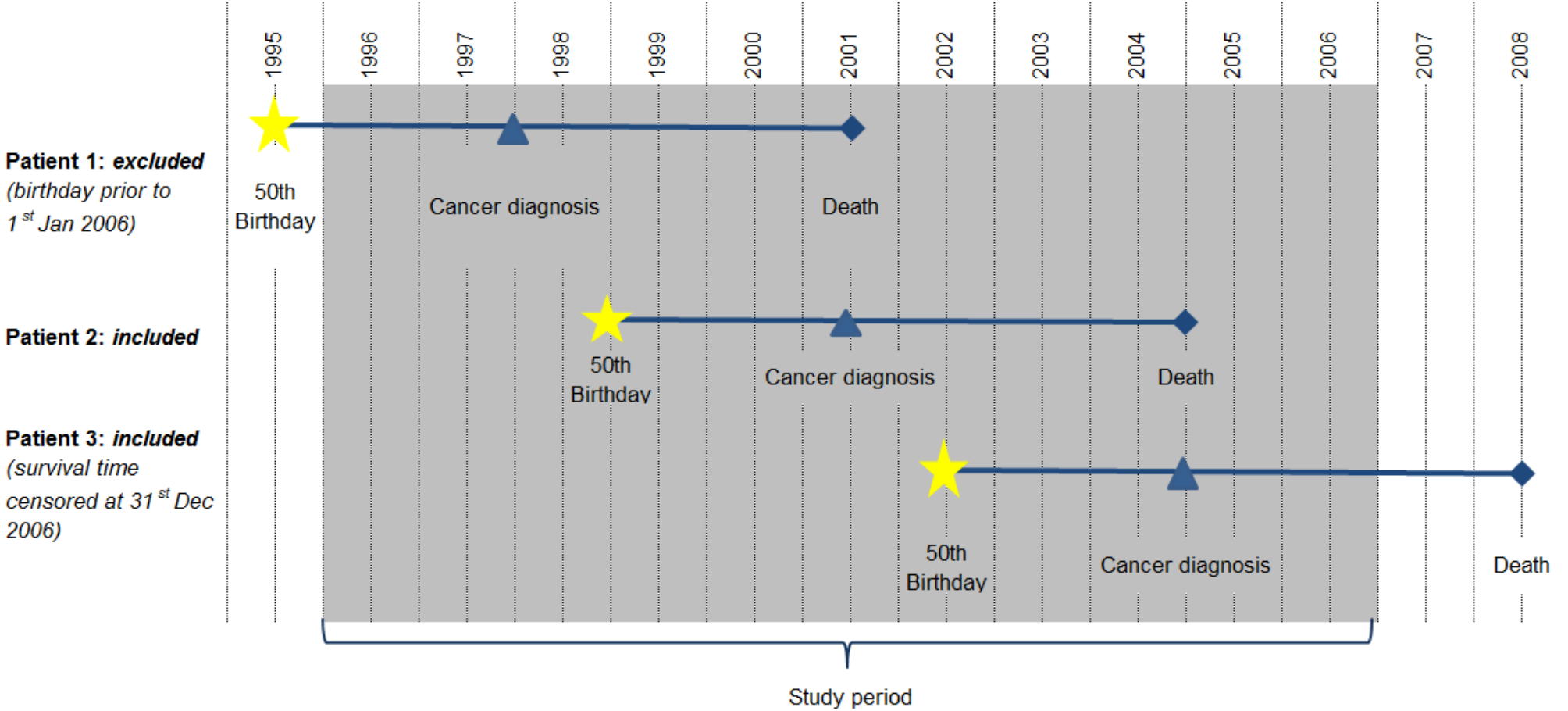
# Background

- Long-term excess mortality from breast cancer
- Our previous work:
  - Women with apparently localised disease
  - ‘Cure’ seldom attained
  - Inflexible approach?
- Statistical developments: flexible models
- ‘Cure’ and breast cancer screening

# Hypothesis

That a sub-population of women diagnosed with asymptomatic disease via screening have no excess mortality, in comparison to their counterparts, and that the presence of this 'cured' population could be detected using a flexible modelling approach.

# Cohort included in analyses



# Materials and Methods

- 6,396 women in New South Wales,
- 5,717 women in West Midlands
- Non-parametric flexible (spline-based) relative survival model, adjusted for age:
  - 'cure' option assumes zero excess mortality after the last knot
- Reduction of 3 AIC to indicate better fitting model

# Results

Region	Screening category	AIC non-'cure' model	AIC 'cure' model	Difference	Evidence of cure?
NSW	Not screen-detected	3054.63	3067.33	12.70	No
NSW	Screen-detected	774.97	775.01	0.05	Yes
NSW	Lapsed attender	155.32	156.69	1.36	Yes
NSW	Interval cancer	664.74	663.57	-1.18	Yes
WM	Not screen-detected	2490.48	2510.85	20.38	No
WM	Screen-detected	1138.46	1136.54	-1.92	Yes
WM	Lapsed attender	164.31	*	-	-
WM	Interval cancer	1555.11	1556.55	1.44	Yes



# Conclusions

- Evidence of 'cure' for screen-detected women

## Next steps

- Examination by stage of diagnosis for the non-screened (missing values)

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