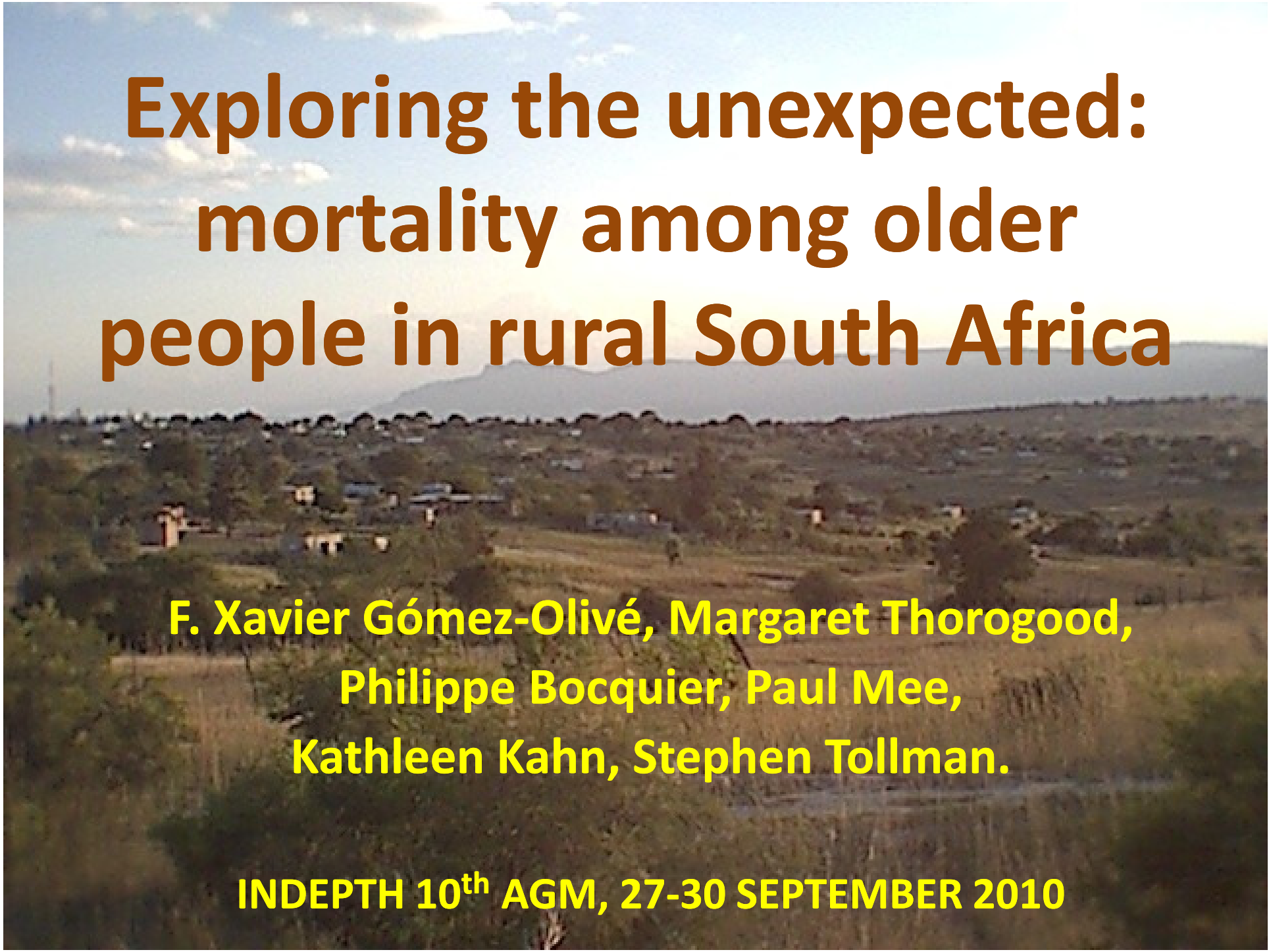


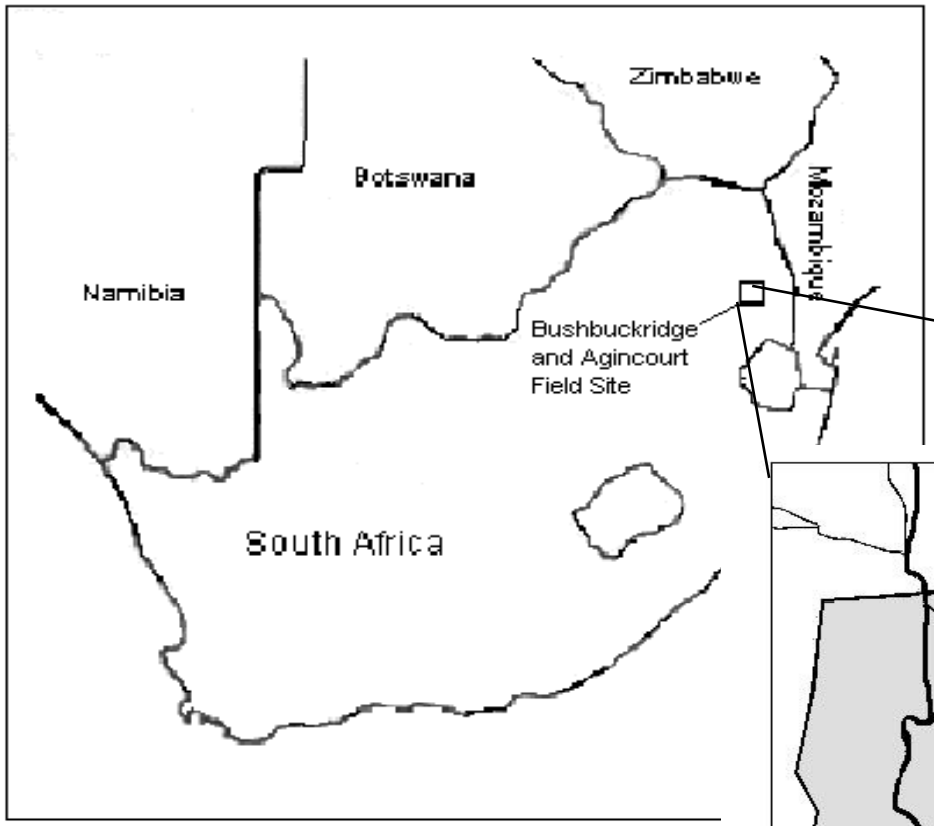
Exploring the unexpected: mortality among older people in rural South Africa

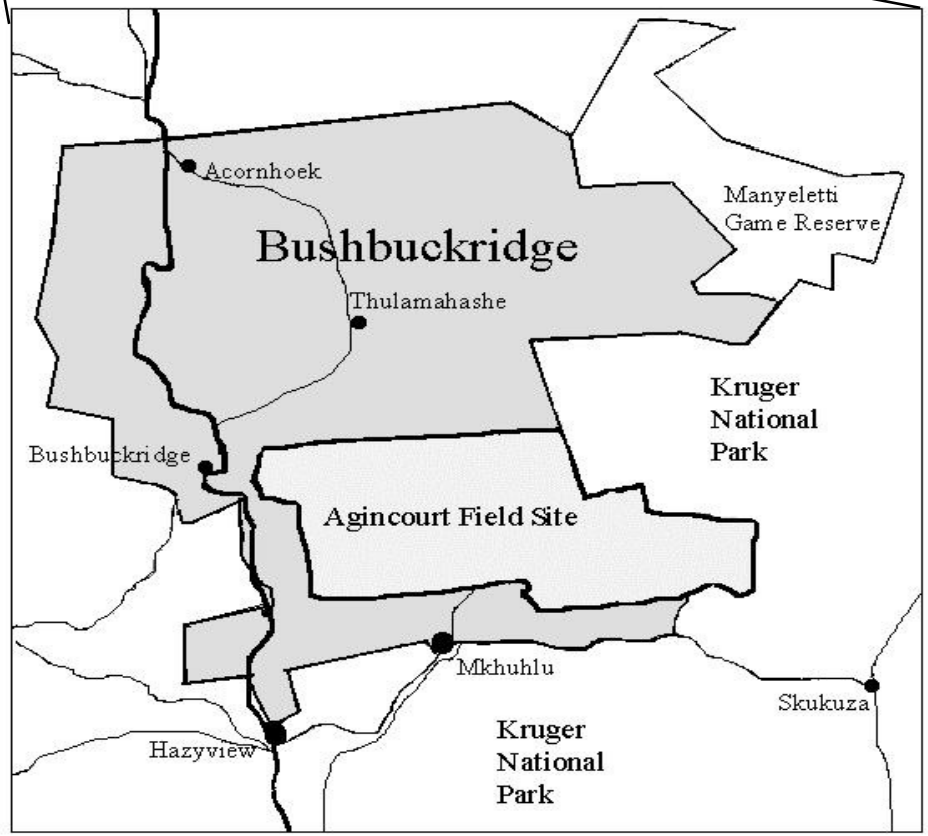
F. Xavier Gómez-Olivé, Margaret Thorogood, Philippe Bocquier, Paul Mee, Kathleen Kahn, Stephen Tollman.

INDEPTH 10th AGM, 27-30 SEPTEMBER 2010

Agincourt HDSS Site

25 villages over 450 sq km
84,000 people; in 15,500 Households
2 health centres, 6 fixed clinics
3 hospitals 25 – 60 km away





AIM

To describe factors predicting survival, in particular the available measures of health or wellbeing.

POPULATION

- Population: persons 50 years old or older at 1st May 2006 (**1012 males, 3069 females**)
- Subsequently followed up for three years to 2009 census (**12,354 person years, 394 deaths**)

Hypothesis

Variables measuring health and/or wellbeing will have a varying effect on survival after allowing for the effects of demographic variables

Methods

- Data Collection: during 2006 census, questionnaire on health status, function and quality of life.
- Questionnaire based on **S**tudy on global **AGE**ing and adult health
  - Collaboration between WHO and INDEPTH.
  - Research tool: short version of the SAGE questionnaire

ANALYSIS

- X^2 was used to compare proportions.
- T test was used to compare means.
- Univariate analysis was used to select variables found to have a significant effect at the 10% level
- A pre-determined conceptual model used to order entry of variables in the Cox regression model

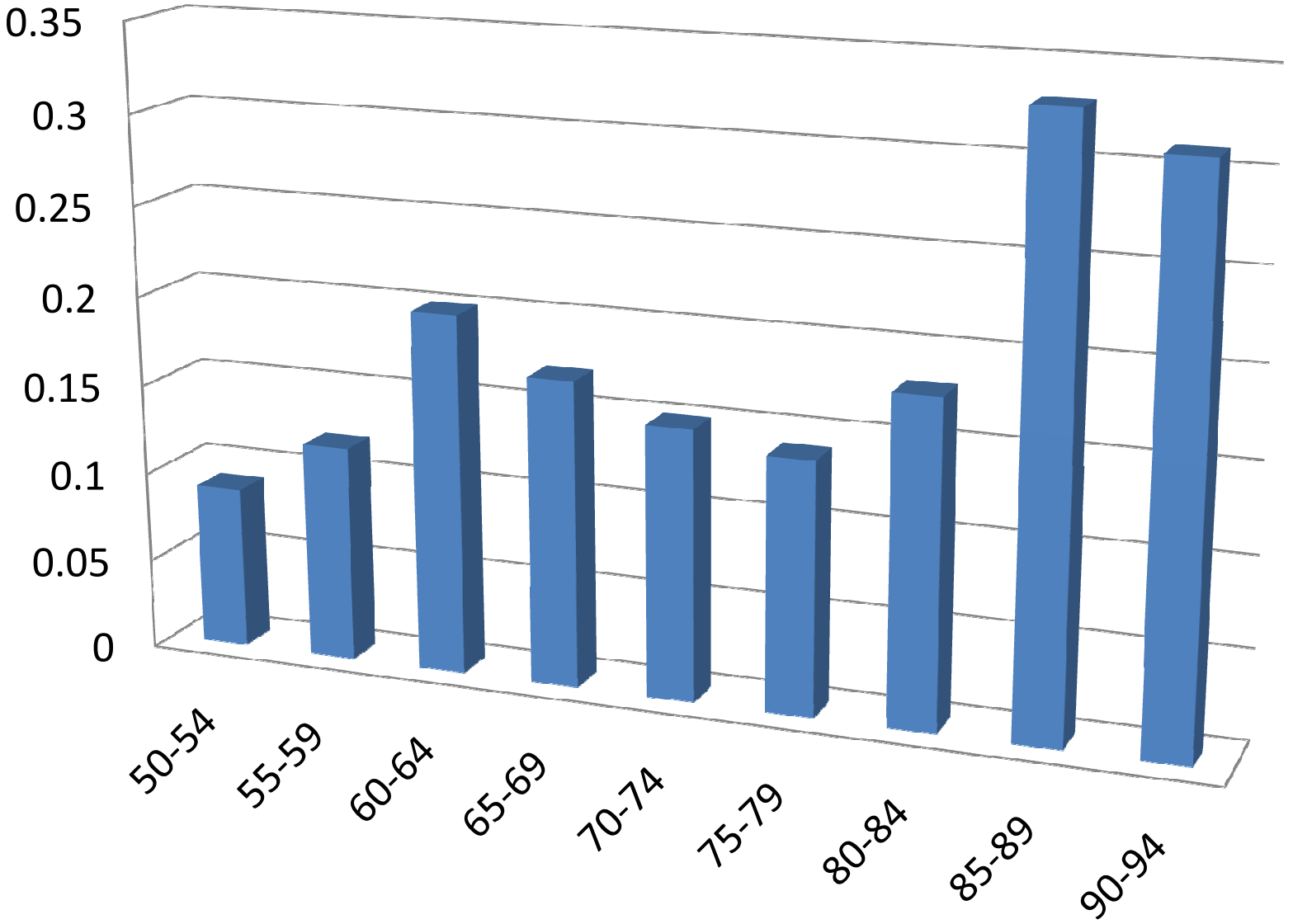
INDEPTH Workshop at Harvard – April 19-22, 2010

Sex		
	Men	1
	Women	0.34 (0.27, 0.42)*
Age group		
	50-59 years	1
	60-69 years	1.33 (1.00, 1.75)*
	70-79 years	1.07 (0.80, 1.43)
	80+	1.75 (1.28, 2.38)*
Marital status		
	Married	1
	Single	1.52 (1.2 - 1.92)*

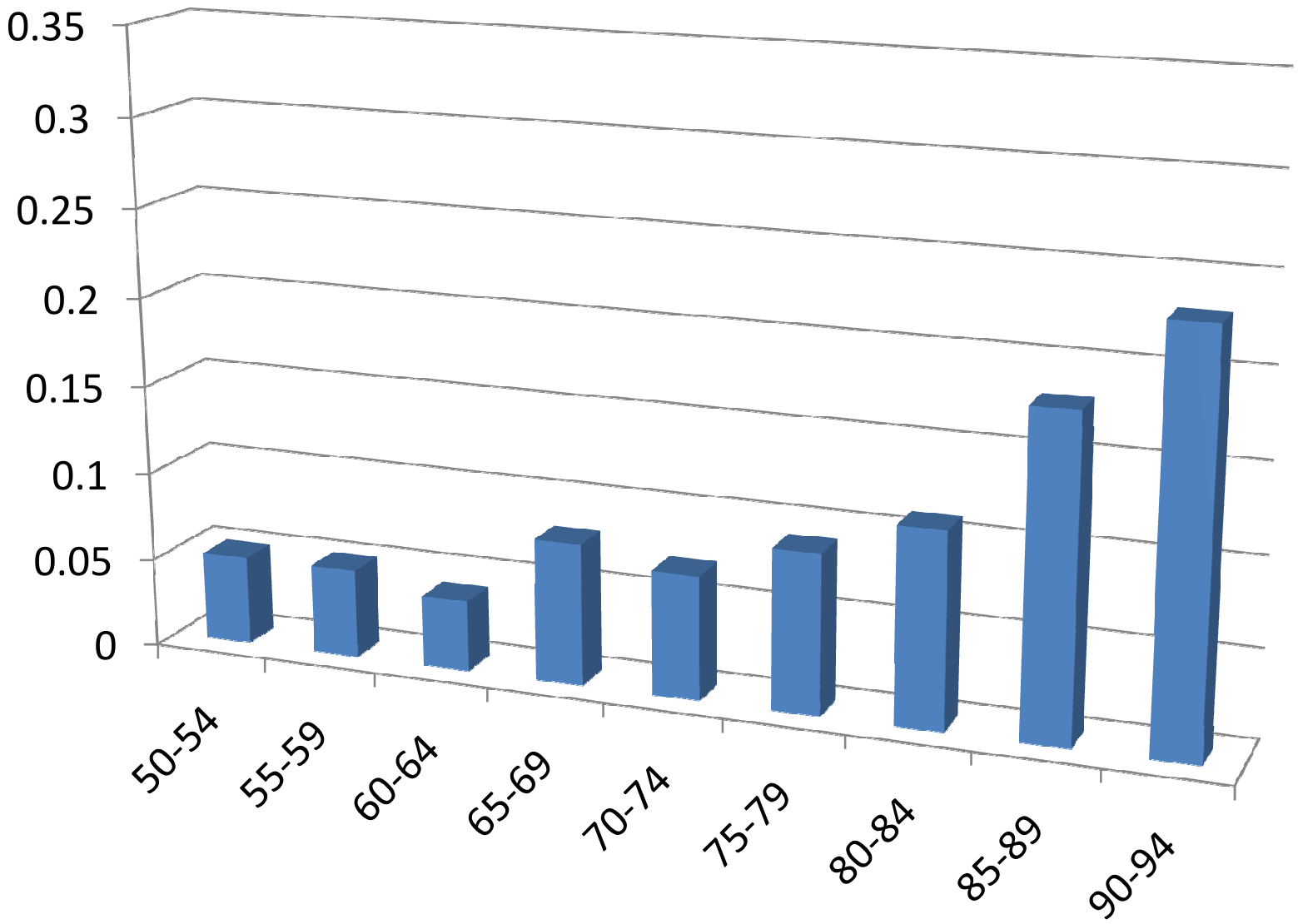
WAS THIS AN ERROR IN OUR DATA?

- We checked again the population age, enumeration and recalculated death rates of our SAGE participants…
- And those were the real figures.

Male Death Rates

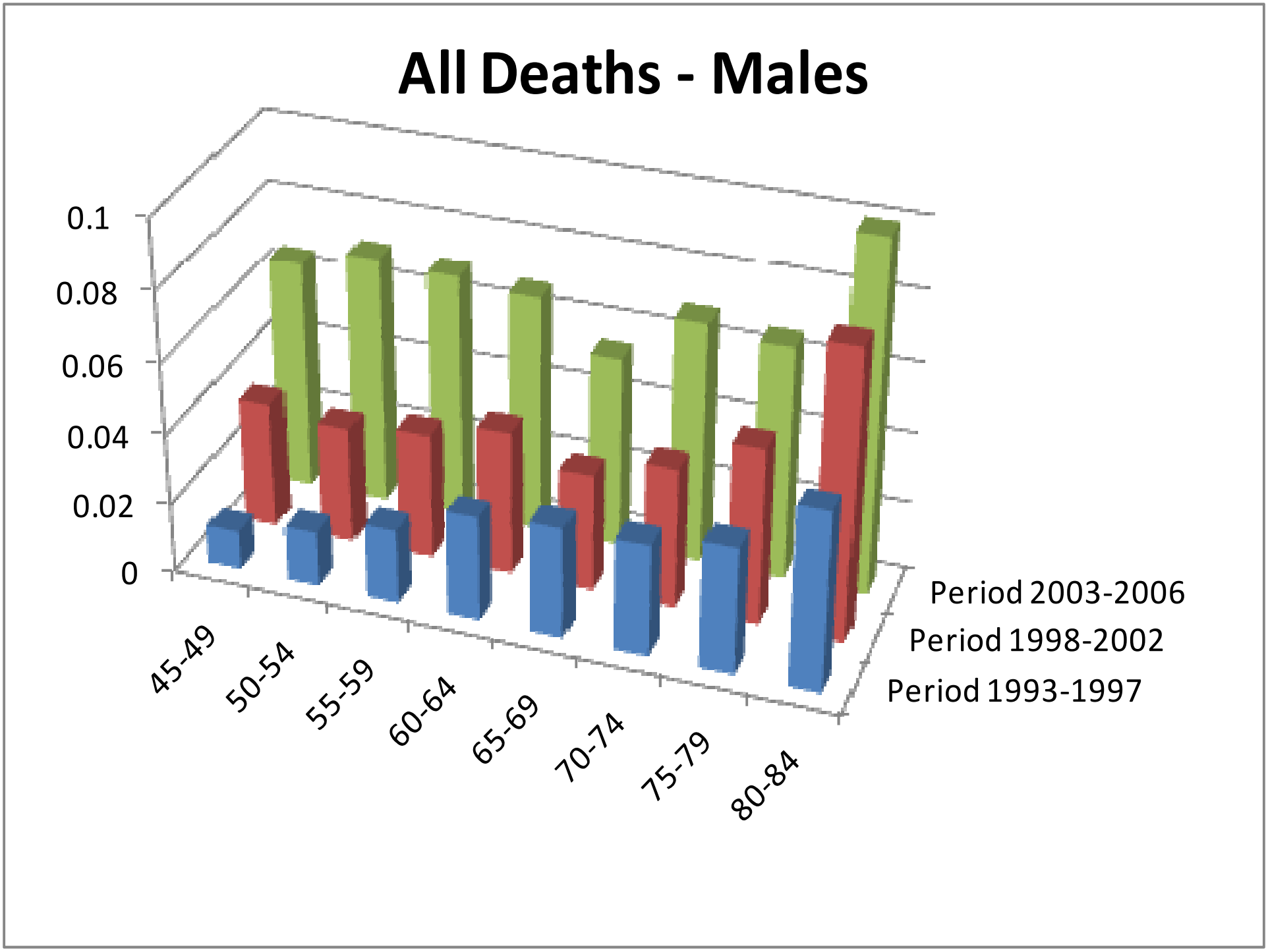


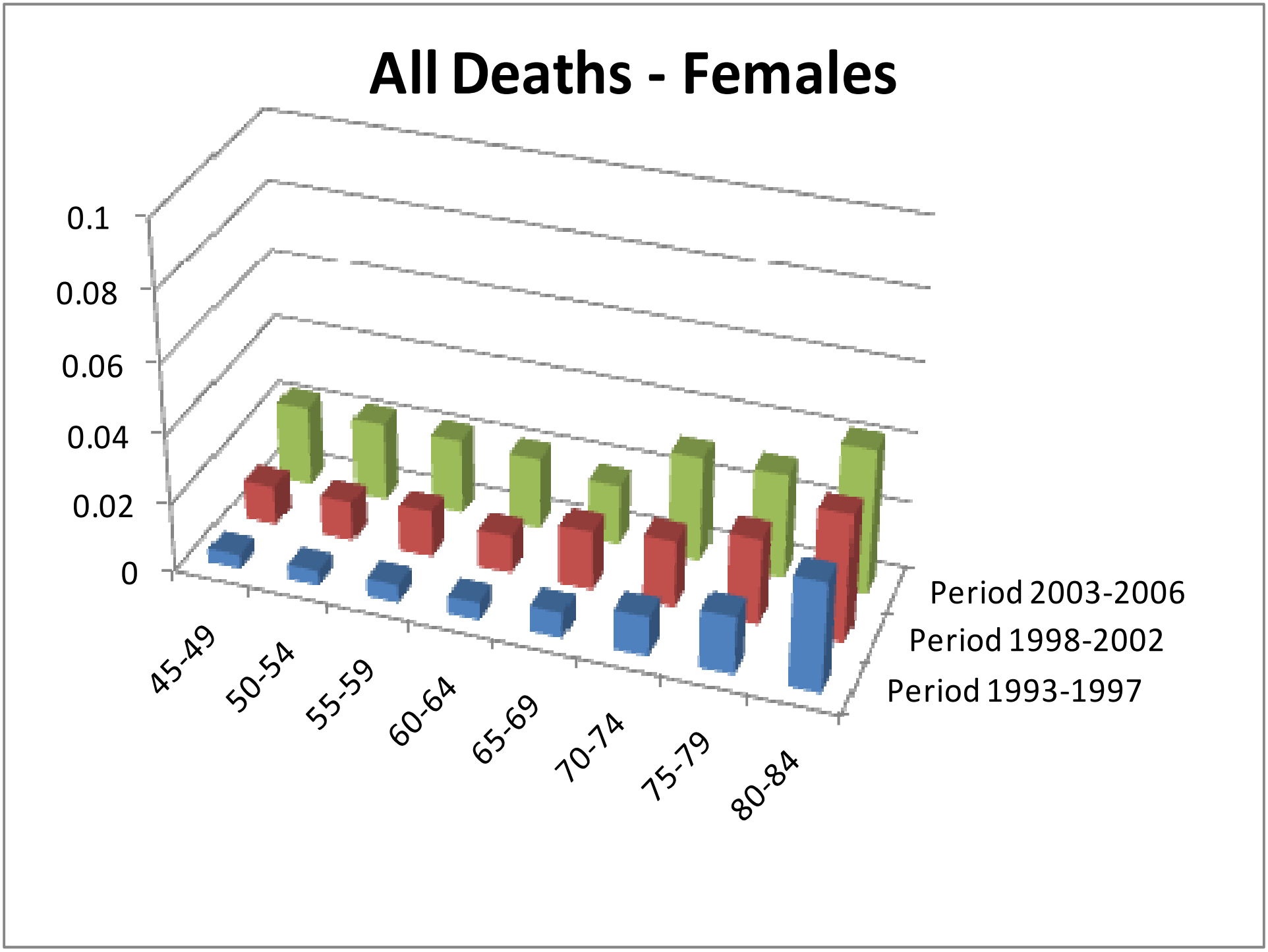
Female Death Rates



IS THIS A BIRTH COHORT EFFECT?

- Agincourt HDSS has death rates back to 1993.
- We analysed death rates for the Agincourt population over the full time period by 5-year birth cohorts.

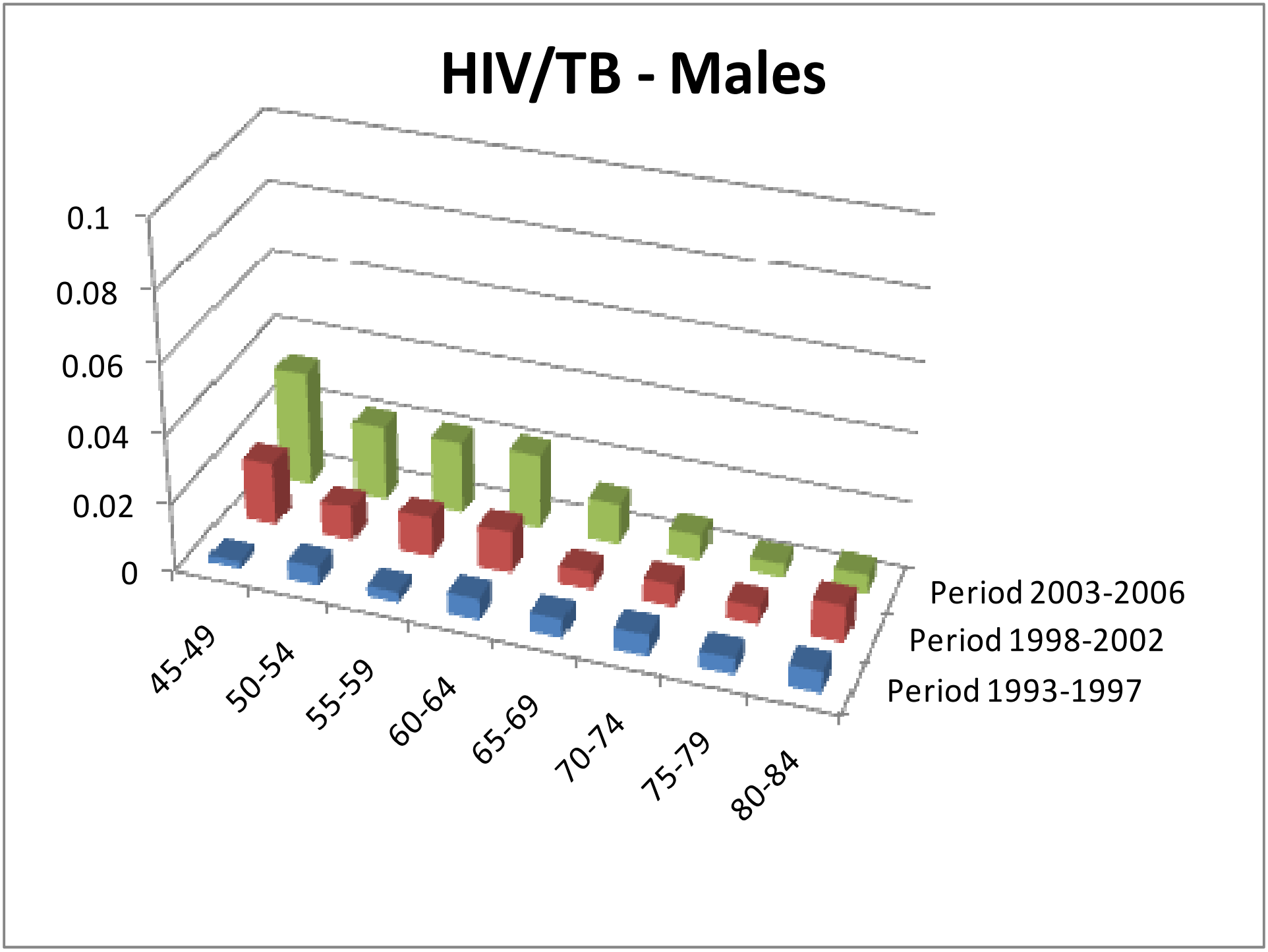

All Deaths - Males
0.1
0.08
0.06
0.04
0.02
0
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
Period 2003-2006
Period 1998-2002
Period 1993-1997

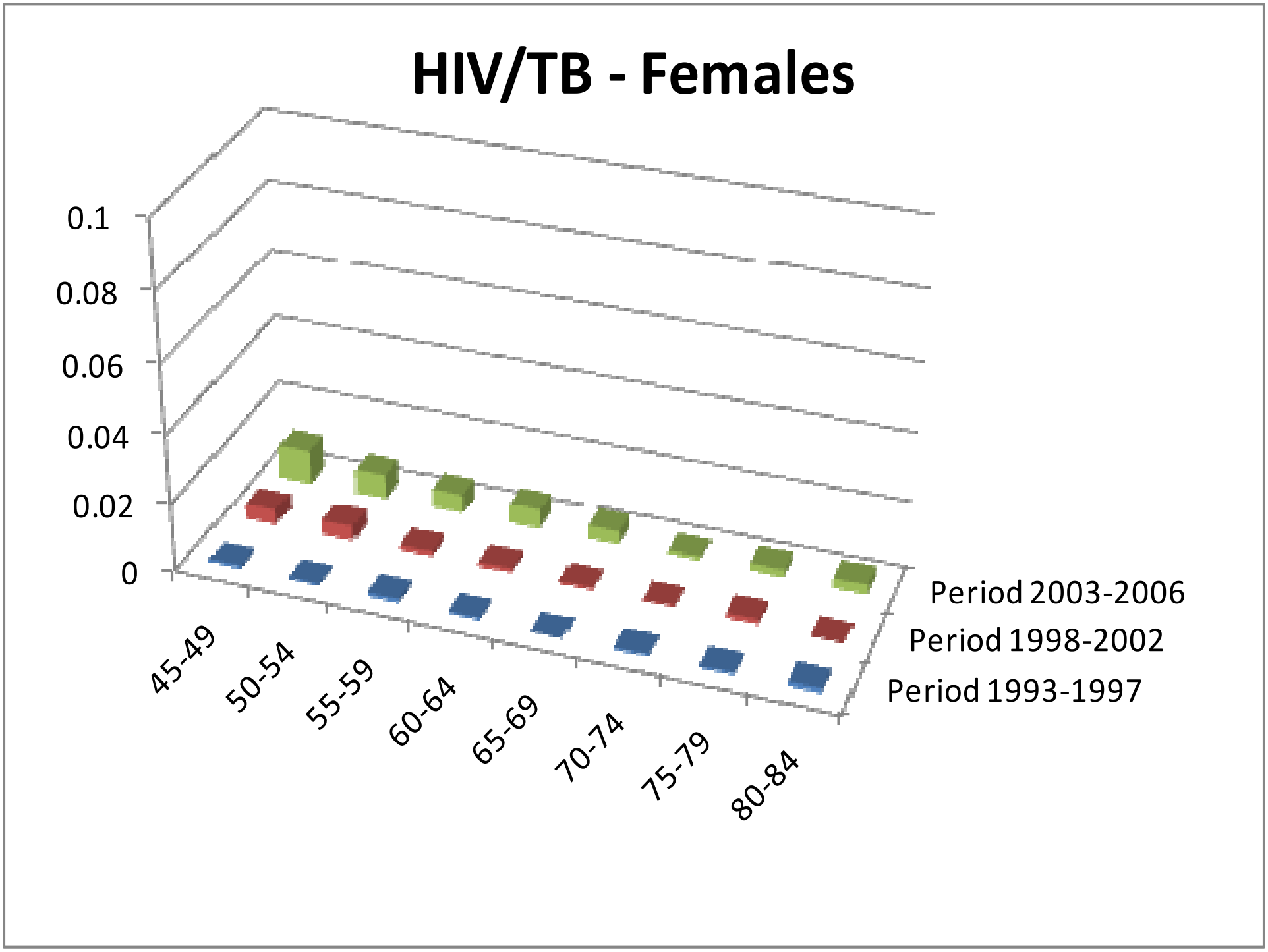

All Deaths - Females
0.1
0.08
0.06
0.04
0.02
0
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
Period 2003-2006
Period 1998-2002
Period 1993-1997

WHAT IS THE CAUSE OF THIS COHORT EFFECT?

- South Africa has an estimated all-age HIV prevalence of 11% increasing to 17% for the age group 15-49.
- It is generally believed that HIV affects young adults directly and only indirectly affects older adults.

But is that actually the case?


HIV/TB - Males
0.1
0.08
0.06
0.04
0.02
0
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
Period 2003-2006
Period 1998-2002
Period 1993-1997


HIV/TB - Females
0.1
0.08
0.06
0.04
0.02
0
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
Period 2003-2006
Period 1998-2002
Period 1993-1997

Conclusions

- The dip in the mortality curve among elders can be explained!!
- There is a new problem to tackle:
  - HIV is not only affecting older people indirectly.
  - Older people also suffer an increase in their mortality due to HIV (and TB) infection.
- Coming generations of older people may have an excess of mortality due to HIV/AIDS (and TB).
- Will we see the same mortality increase in women in future years as we see today in men?
- As ARTs are rolled out, research will be needed to establish their impact on the mortality of older people.

Chips
MABELE