

# Society of Actuaries in Ireland

Pensioner Mortality Investigation

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# Mortality Sub-Committee

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# Contents

- Brief recap on data and methodology
- Final results
- Results by pension band
- Mortality shape
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# Initial Results

- Initial results were reported December 2007
- Some minor data issues cleared up but overall results remain consistent
- Final results now available



# Data Received

	Male	Female	Total
Lives	59,000	34,400	93,400
Deaths	5,061	2,892	7,953

- Number of lives is as at end of investigation



# Actual Deaths by Age Group

	Male Amounts	Female Amounts	Male Lives	Female Lives
Ages 60-69	12.4m	4.2m	838	273
Ages 70-79	26.1m	8.3m	1,795	682
Ages 80-89	30.5m	15.2m	1,748	1,131
Ages 90+	8.7m	8.4m	598	598
Age 60+	77.7m	36.1m	4,979	2,684



# Source of Data

<b>Source</b>	<b>Number of Schemes</b>	<b>Number of lives (end of investigation)</b>
Consultancies	45	55,400
Public Servants	4	38,000
Total	49	93,400

- 40% public servants
- 20% in previous study
- Impact upon results



# Methodology

- Compiled actual deaths by age
- Compiled exposure by age
- Calculated expected deaths
- Compared actual versus expected
- Rates below 60 very high; presumably due to ill-health retirements





# Final Results

- Actual versus PMF92C01
- Previous study 120% PMA92C01

Age Range	Male Amounts PMA92C01	Female Amounts PFA92C01	Male Lives PML92C01	Female Lives PFL92C01
60-69	103%	96%	89%	106%
70-79	87%	76%	87%	88%
80-89	97%	105%	103%	101%
90+	113%	121%	117%	106%
Age 60+	96%	98%	95%	99%



# Final Results

- Significant improvements since previous study
- Impact of change in mix of schemes
- Improvements of approx 4% p.a. when control for change of mix
- SAI guidance will need to be reviewed
- Currently based on medium cohort



# Final Results

- Actual versus 2000 series tables

Age Range	Male Amounts PNMA00	Female Amounts PNFA00	Male Lives PNML00	Female Lives PNFL00
60-69	98%	106%	101%	121%
70-79	98%	83%	99%	97%
80-89	102%	102%	110%	102%
90+	113%	100%	121%	96%
Age 60+	101%	97%	105%	101%



# Results removing public servants

- Significant impact upon female lives
- Females mostly dependents when public servants removed

Age Range	Male Amounts PNMA00	Female Amounts PNFA00	Male Lives PNML00	Female Lives PNFL00
Age 60+	105%	118%	108%	115%



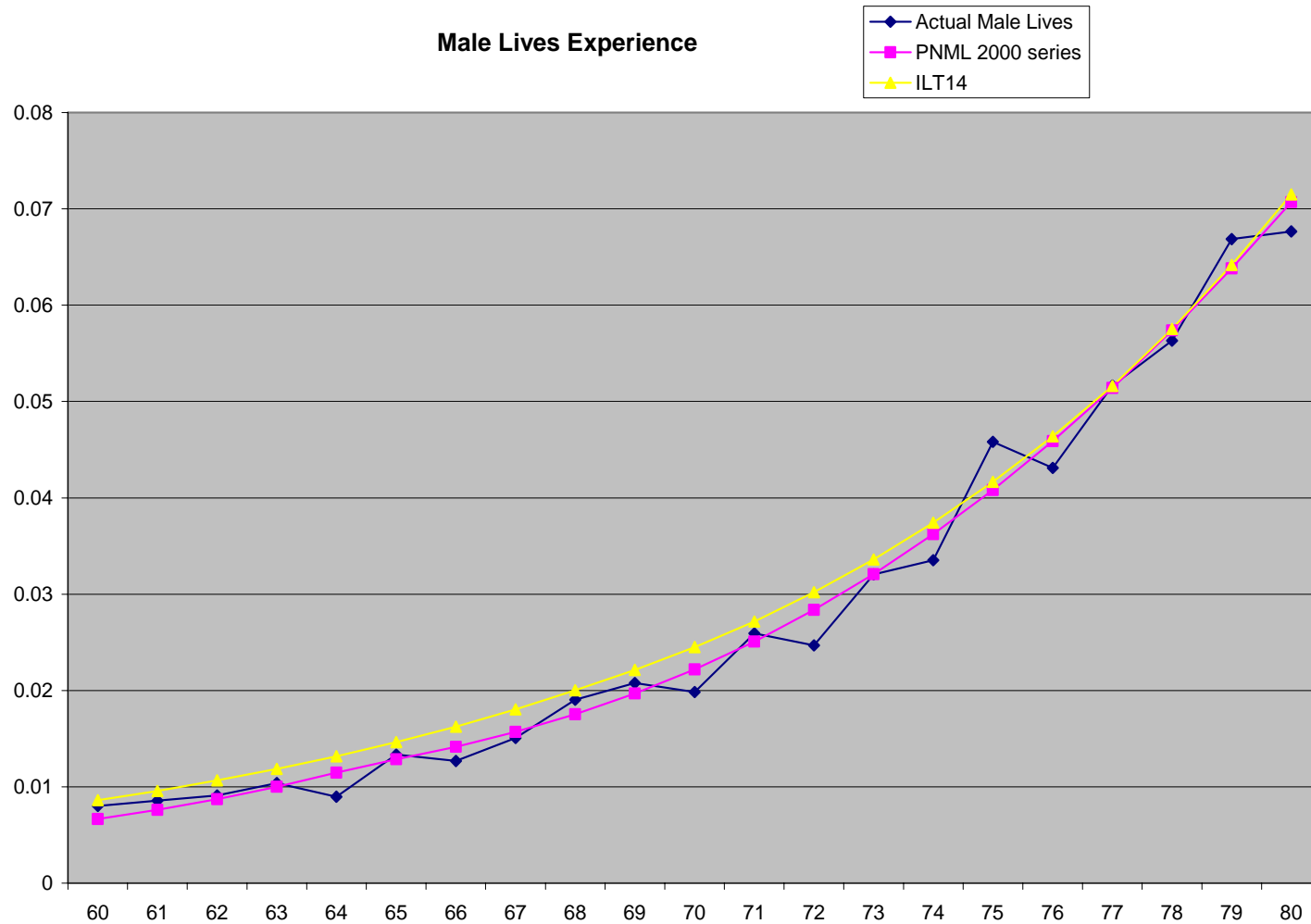
# Results by pension band

- Final band has significant impact on overall figures
- Public servants' pensions not integrated

Pension Band	Male A/E PNMA00	Female A/E PNFA00	Proportion of lives
< €5k	143%	146%	27%
€5k - €10k	135%	103%	15%
€10k - €30k	126%	117%	34%
> €30k	91%	83%	24%
Overall	104%	101%	



# Mortality Shape to age 80

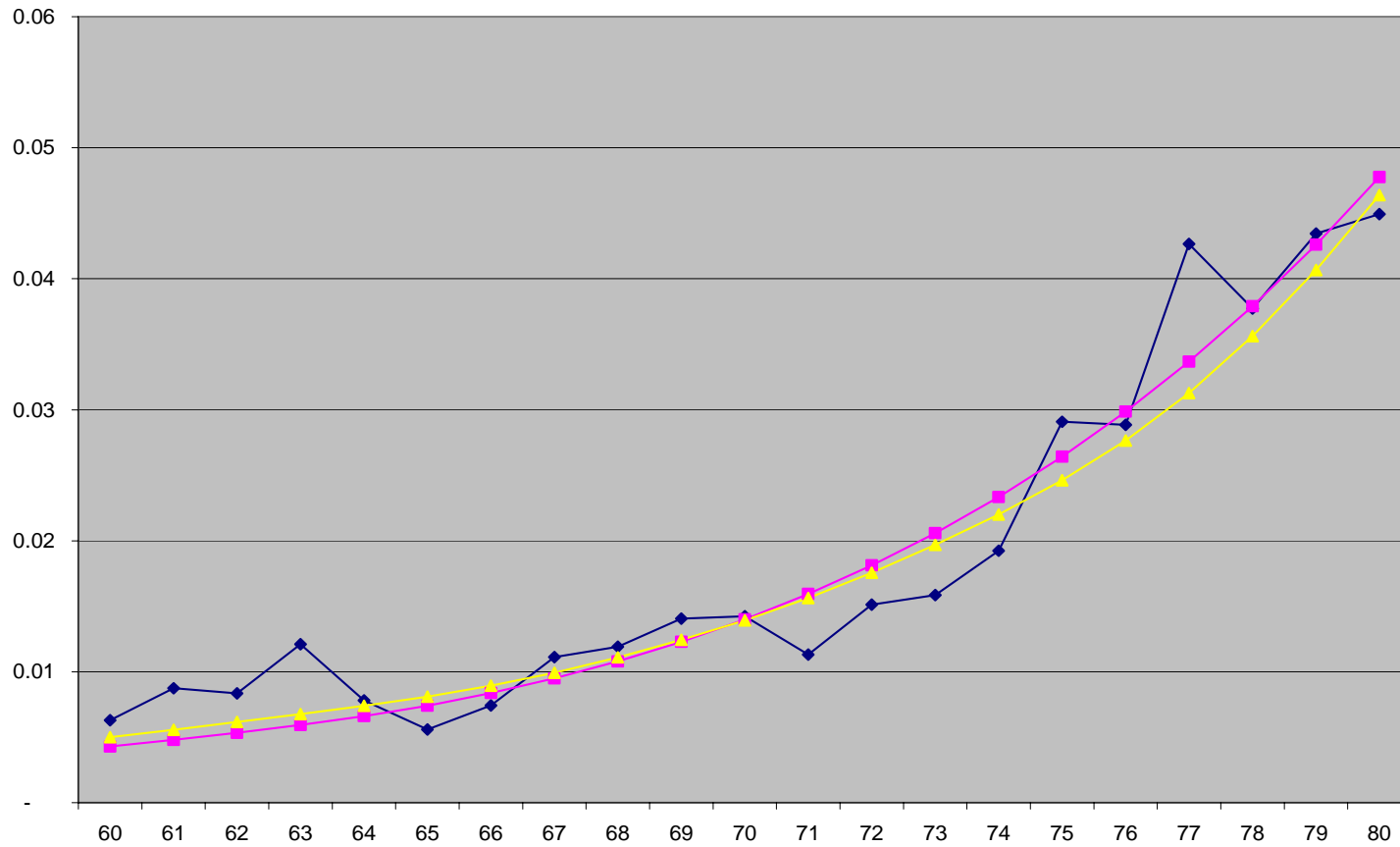




# Mortality Shape to age 80

Female Lives Experience

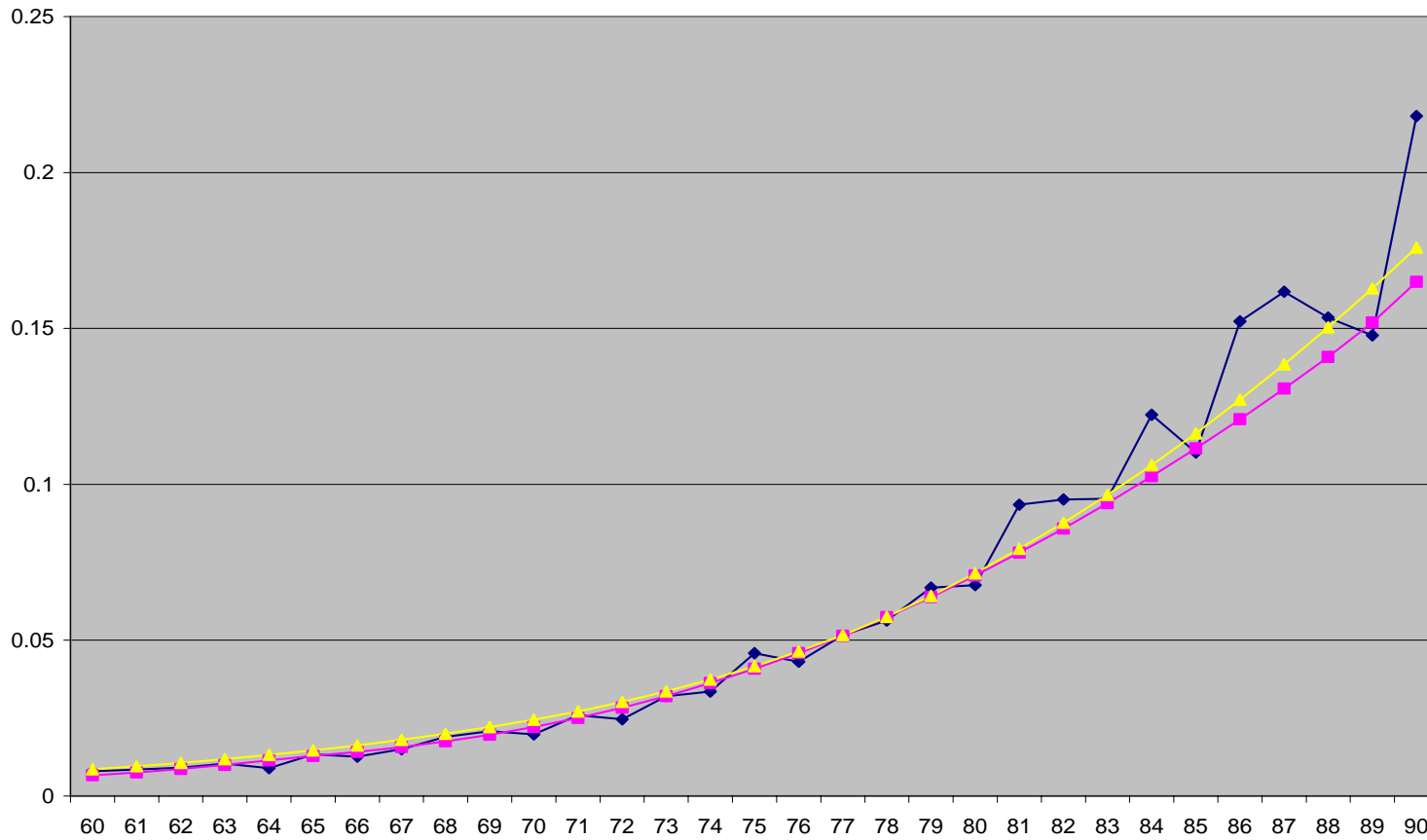
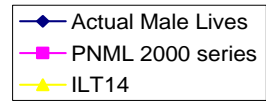
- Actual Female Lives
- PNFL 2000 series
- ILT14





# Mortality Shape to age 90

Male Lives Experience

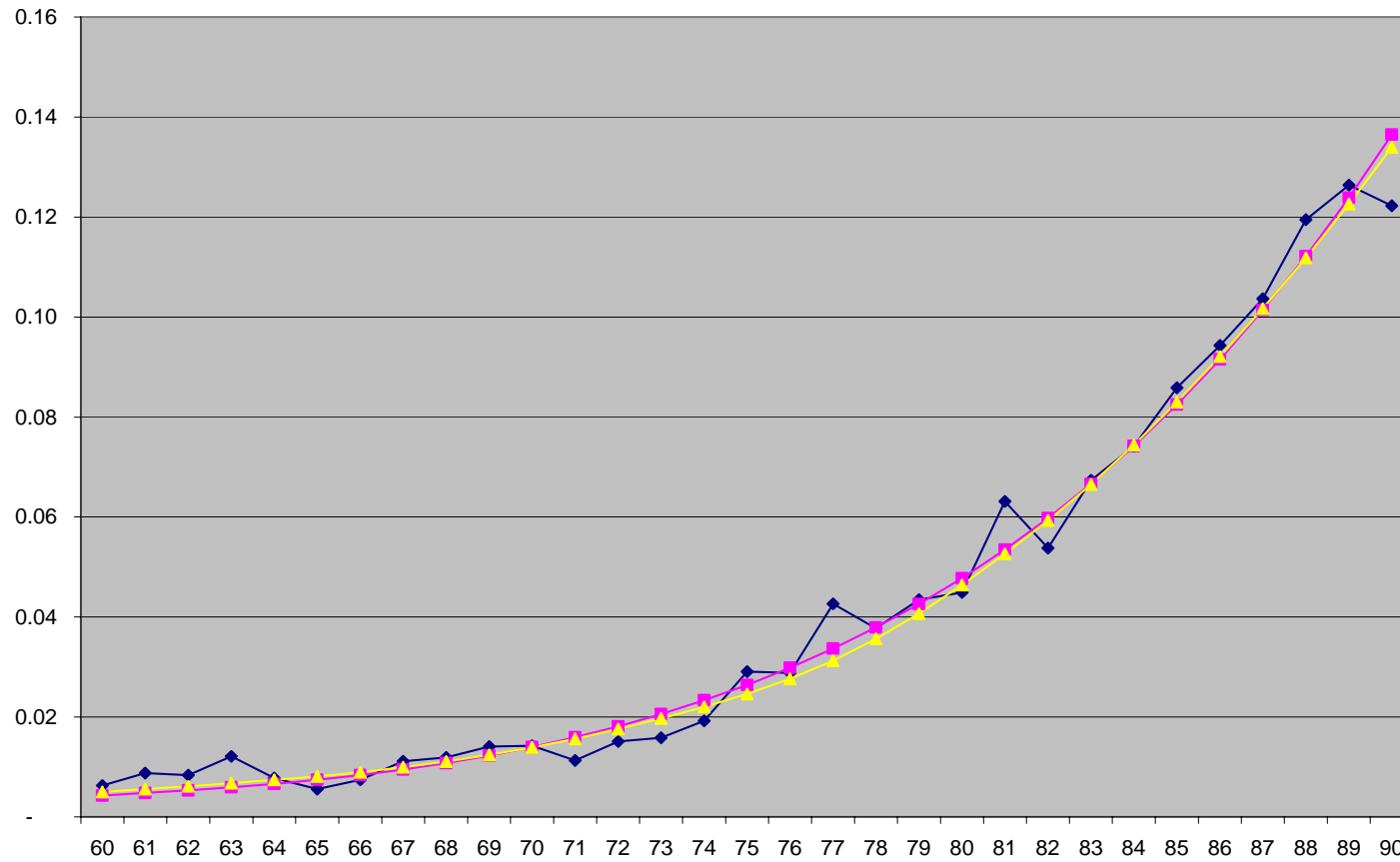
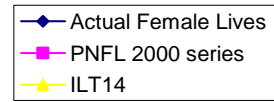






# Mortality Shape to age 90

Female Lives Experience





# Mortality Shape

- Comparison is with 80% of ILT14 tables
- PNML a relatively good fit up to age 80 but less so between 80 and 90
- PNFL a relatively good fit, as is 80% ILT14



# Conclusions

- Improvements since previous study
- Approximately 4% per annum
- SAI Guidance will need to be reviewed
- Experience varies with pension amount
- Next study in 2010 based on 2007 to 2009