

# The impact of a 48-month reminder letter intervention targeting under-screened women for cervical screening

COSA - IACR - ANZGOSA 2008 Joint Scientific Meeting  
Sydney  
20 November 2008

Noore Alam, Heather McElroy, Grace Kwaan, Deborah Baker,  
Robyn Godding, Lyn Sartori

The NSW Government agency dedicated to the control and cure of cancer through prevention, detection, innovation, research and information.



# Outline of presentation

- Background
- Methods
- Results
- Discussion

# Cervical cancer in NSW

## In 2006:

### Incidence

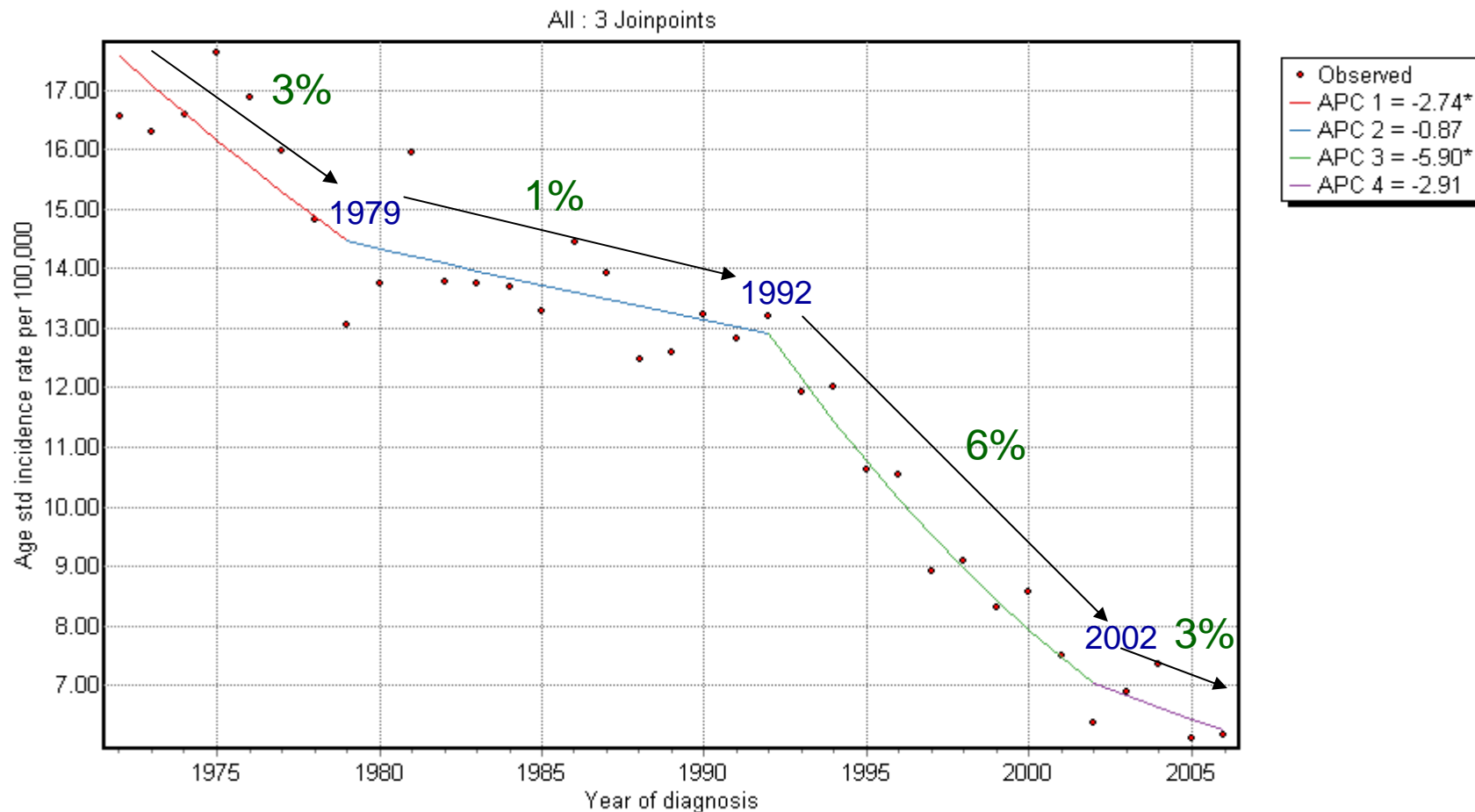
- 222 new cases (1.5% of all cancers in females)
- Age standardised incidence rate: 6.2 per 100,000

### Mortality

- 81 deaths (1.4% of female cancer deaths)
- Age standardised mortality rate: 2.1 per 100,000
- Incidence & mortality fell<sup>1</sup> by 40.0% & 38.3% respectively between 1997 and 2006

1 Tracey E, Alam N, Chen W, Bishop J. *Cancer in New South Wales: Incidence and Mortality 2006*. Sydney: Cancer Institute NSW, November 2008.

# Figure 1: Trend of the incidence of cervical cancer, NSW, 1972-2006



Source: NSW Central Cancer Registry

# Overview of the project

- In Australia, the recommended cervical screening interval is 2-yearly for women aged 20–69 years
- In NSW, the biennial cervical screening rate was 57.7% in 2005
- This means that approx. 42% (~500,000) of eligible women did not have a Pap test at the recommended two years screening interval

# Objectives

- To gain knowledge of the socioeconomic and demographic characteristics of the under-screened women
- To assess the screening impacts of the 48-month reminder letter intervention

# Methods

Source of participants: NSW Pap Test Register (PTR)

Eligibility criteria:

- NSW women aged 20-69 years
- Last recorded Pap test  $\geq 4$  years ago
- Active (not opted-off) on the PTR mailing list

Exclusion criteria:

- Aged  $>69$  years, hysterectomy, cervix removed, deceased, moved interstate

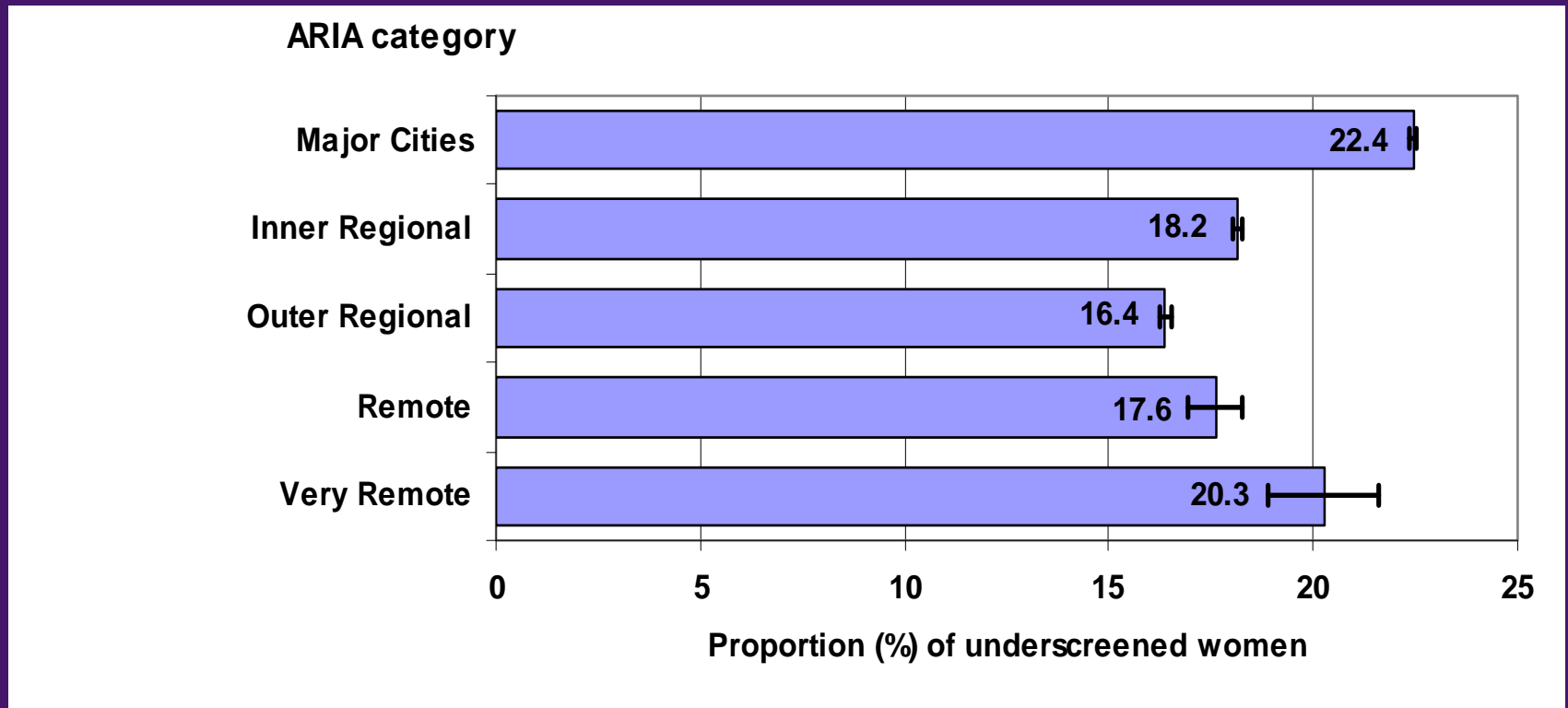
Method of administration:

- ~10,000 personally-addressed letters sent each week between Aug '06 and Oct '07

# Results

- 519,163 letters were dispatched
- 116,822 returned (22.5%)
- 9,980 (1.9%) became ineligible & excluded
- 392,361 retained for analysis
- Median age 41.0 years (interquartile range: 33-50 years)
- Median overdue period: 7.1 years (IQR: 5.8-8.4 years)
- Of the participants:
  - 29.5% had their Pap test overdue for 4-<6yrs
  - 36.9% for 6-<8 years
  - 33.6% for  $\geq 8$  years

## Proportion (%) of eligible women who were under-screened by place of residence (ARIA), NSW, 2006-2007

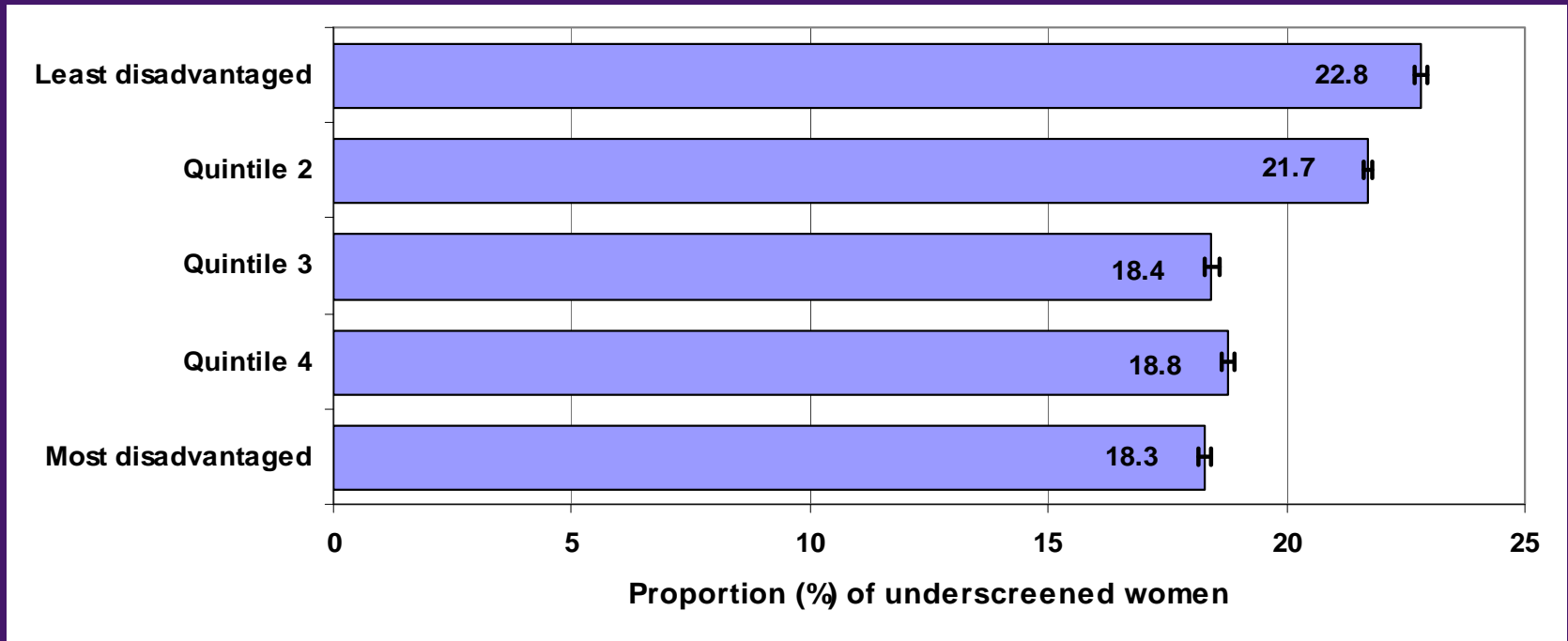


No significant trend observed ( $\chi^2$  for linear trend 1.4,  $p=0.24$ )

**Denominator:** Total number of NSW women aged 20-69 years (excluding women who had a hysterectomy) at each ARIA category

**Numerator:** Number of NSW women in the same age group (excl. hysterectomy) who were under-screened at each ARIA category.

## Proportion (%) of under-screened women by socioeconomic disadvantage (SEIFA), NSW, 2006-2007



Statistically significant trend observed ( $\chi^2$  for linear trend 8.8,  $p=0.002$ )

**Denominator:** Total number of NSW women aged 20-69 years (excluding women who had a hysterectomy) at each SEIFA quintile

**Numerator:** Number of NSW women in the same age group (excl. hysterectomy) who were under-screened at each SEIFA quintile.

# Impacts

- 13,900 or 3.5% screened within 90-days of intervention
- Median day for screening: 40 days (IQR 21-63)

# Impacts (cont'd)

Measures	Better	Worse	p-value
<b>Age</b>	5071 (4.8%) in older (50-69 yrs) women	8813 (3.1%) in younger (20-49 yrs) women	p<0.0001
<b>Overdue period</b>	6266 (5.4%) in 4-<6 yrs screen-overdue women	2328 (1.8%) in 8+ yrs screen-overdue women	P <sub>trend</sub> =0.001
<b>Place of residence (ARIA)</b>	1501 (4.5%) in outer regional areas	18 (2.6%) in very remote areas	p<0.0001
<b>Socioeconomic disadvantage (SEIFA)</b>	2857 (4.0%) in most disadvantaged quintiles	4377 (3.1%) in least disadvantaged quintile	P <sub>trend</sub> <0.0001

# Impact (cont'd)

- 575 women (0.1% of the subjects) had a histology test post-intervention. Of them:
  - 298 (51.8%) had a negative test result
  - 85 (14.8%) had Atypia/HPV/CIN1 (LSIL or PLSIL)
  - 171 (29.7%) had CIN2/CIN3 (PHSIL/HSIL)
  - 21 (3.7%) had cervical cancer
- These 192 high-grade+ cases could have been detected early had they had a biennial cervical screening.

# Discussion

- Biennial cervical screening – a central focus
- Knowledge of the characteristics of participants and their response to the intervention may help design appropriate intervention
- Results appear to contradict with the spatial and socio-economic trends in screening (higher under-screened were in major cities and in higher SES areas)

# Discussion (cont'd)

- Low impact of the intervention may partly be attributed to high population movement
- In NSW, approx. 56% of the population aged 25-64 yrs remain at the same address during the previous 5 years<sup>1</sup>
- Response rate could be higher if everyone received the letter

---

<sup>1</sup>Australian Bureau of Statistics, Cat. No. 2068.0. 2006 Census Tables

# Limitations

- No comparison group
- High non-response rate (22.5%)
- Limited generalisability

# Conclusions

- The intervention appears to have a modest impact on screening rates
- Impact was greater in shorter (4-<6yrs) screen-overdue women than the longer (8+yrs) overdue women
- Knowledge of the characteristics of the under-screened women may help design appropriate future interventions.

# Acknowledgement

- Dr Stephen Morrell
  - Prof. James F. Bishop
- Cancer Institute NSW

NSW Pap Test Register