



australia's aluminium



The Role of Folate in Preventing Neural Tube Defects

Prof Fiona Stanley AC

Director Telethon Institute for Child Health Research

**Going with the Grain:
Folate Fortification - An Australian Health Policy Matter**

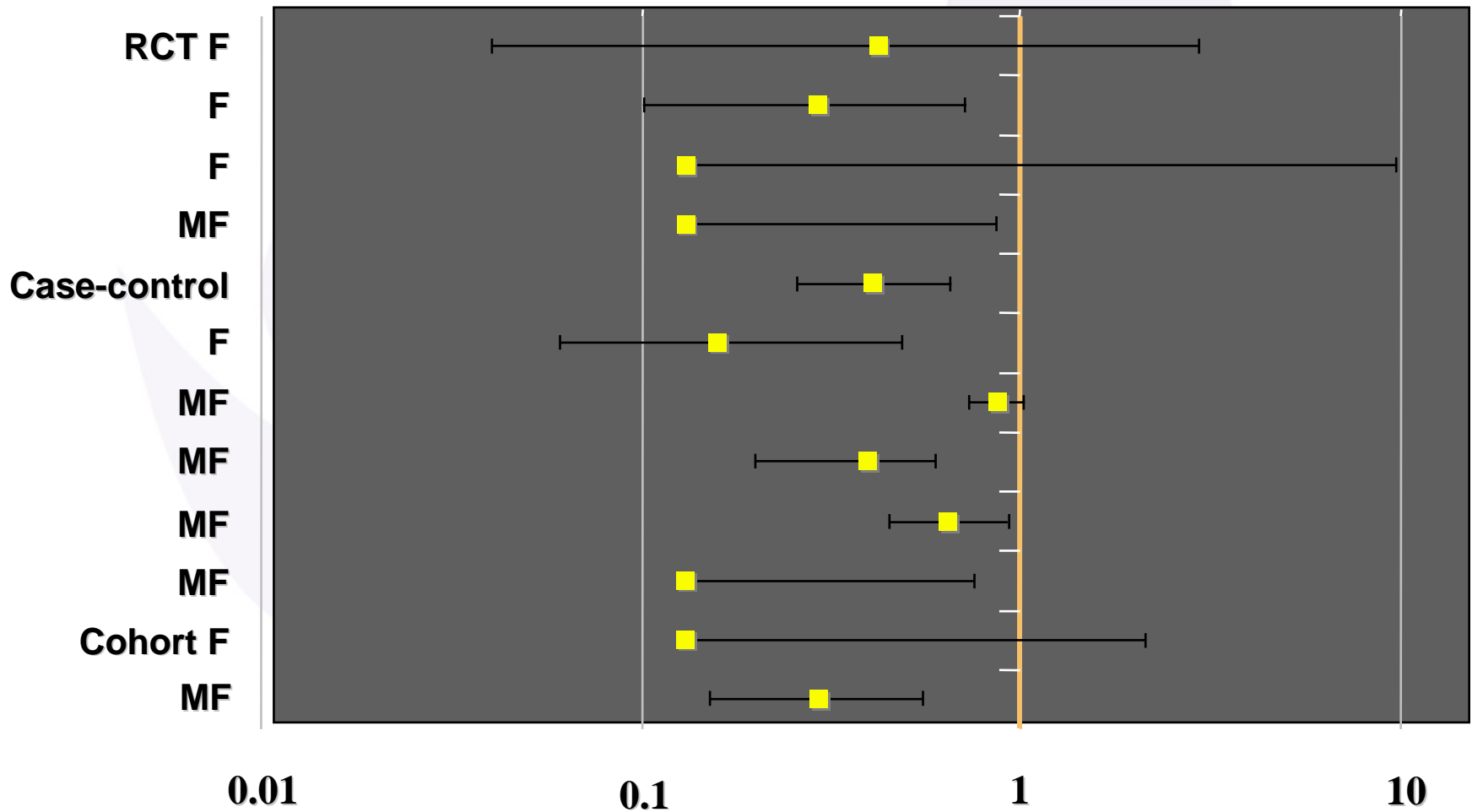
27 July 2005

Sydney

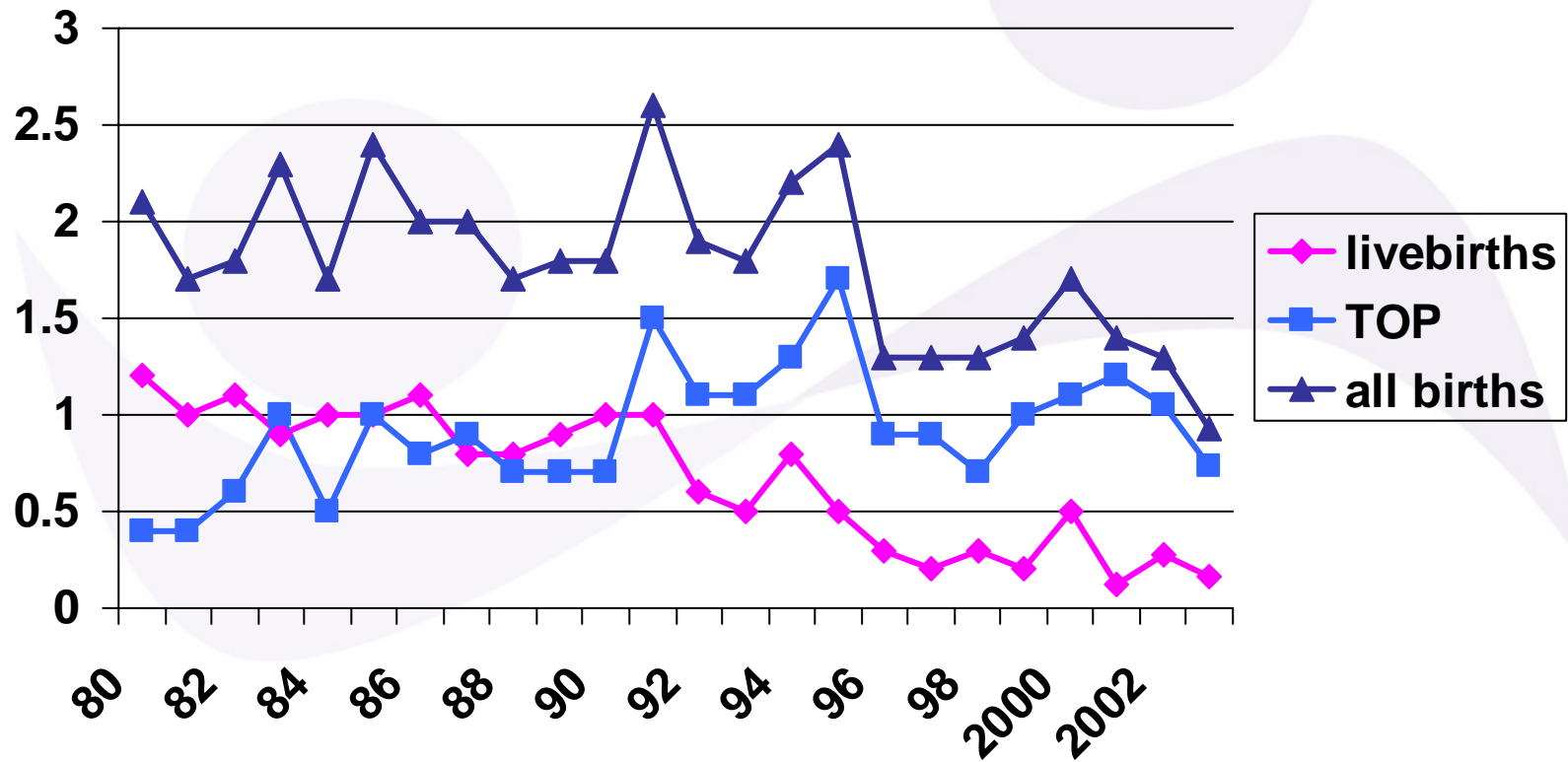
Background

- **1991-1993: RCT evidence of folic acid preventing NTD**
- **1992, 1993: NHMRC recommendations**
 - increase dietary folate
 - periconceptional supplements
 - fortification of staple foods
 - education, research and monitoring
- **1992+: Health promotion programs in WA, SA, Victoria, NSW**
 - Inform health professionals of folate-NTD link
 - Inform women of childbearing age
 - Promote use of folic acid supplements

Studies of Periconceptional Folate & Neural Tube Defects



Trends in NTD in WA



WA case control study of folate and neural tube defects 1997-2000

- **Use of folic acid supplements**
 - 30% of controls took periconceptional supplements
 - OR = 0.94 (0.45-2.04)
 - Modified by knowledge - Unaware: OR = 0.37, Aware: OR = 2.56

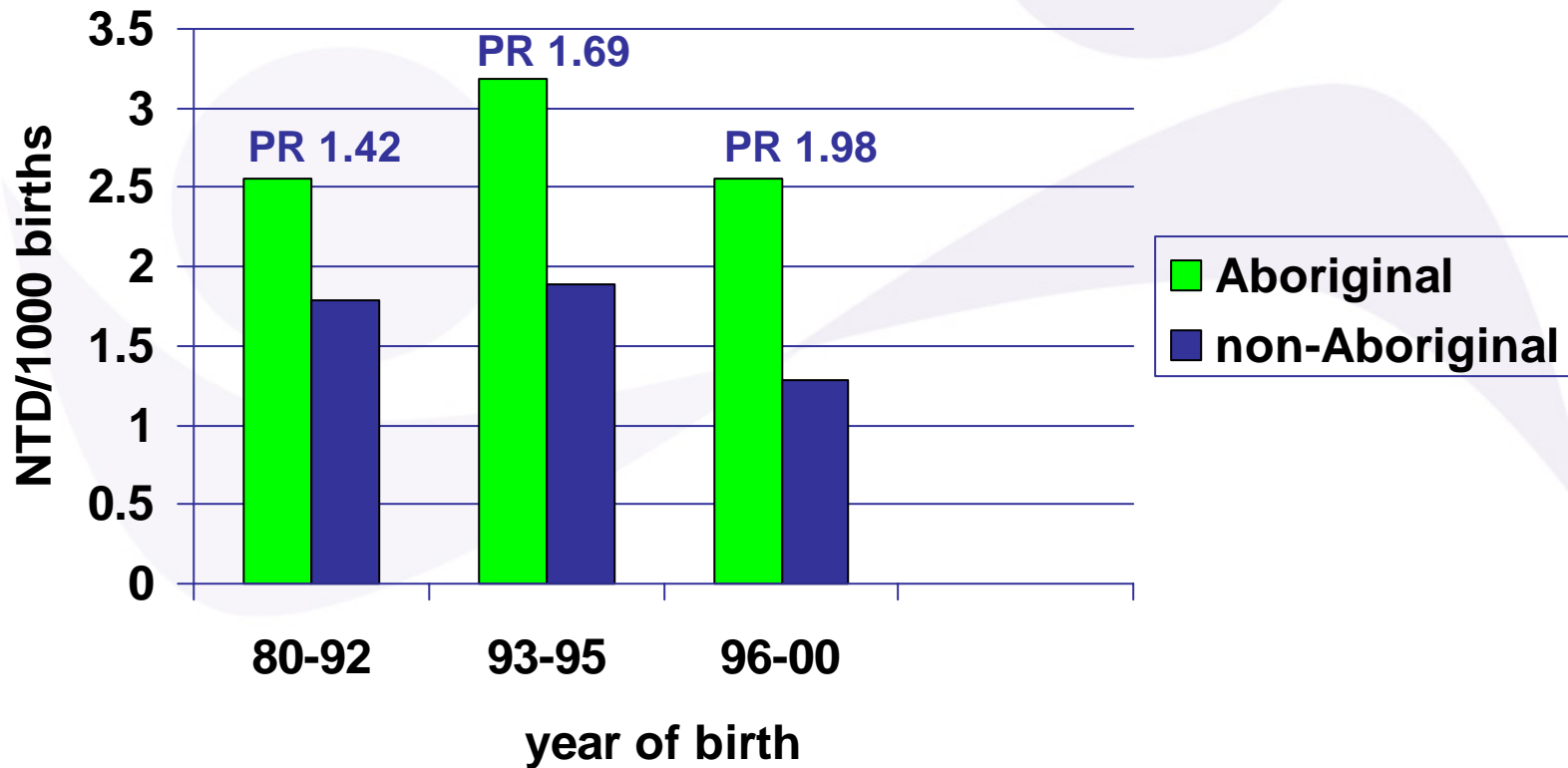
In the 70% of women not taking supplements

- **Dietary folate from non-fortified foods**
 - 60% of controls > 300ug folate daily
 - OR = 0.37 (0.15 - 0.94)
- **Dietary folate from fortified foods**
 - 90% of controls some folate from fortified food
 - OR = 0.43 (0.14 - 1.29)

Controls from case control study

- Not taking periconceptional folic acid supplements significantly more likely in young, single mothers, first pregnancy, lower education, public patients, smokers, unplanned pregnancies
- No such disparities with consumption of fortified foods

NTD in Indigenous and non-Indigenous infants by grouped years of birth



Odds ratios for demographic factors

	Unaware of association	No folic acid supplements	No fortified food
<25yoa	3.6	2.4	1.5
First preg	1.7	1.2	0.9
Single	5.2	3.8	1.5
Public patient	2.7	2.4	1.5

Odds ratios for behavioural factors

	Unaware of association	No folic acid supplements	No fortified food
Unplanned pregnancy	2.9	4.5	0.9
Smoker	2.4	1.5	1.1
No exercise	2.5	1.7	1.8
No folic acid supps	5.0	-	1.0

Summary

- 12+ years since firm evidence of protection with folate
- 12 years of health promotion
- 8 years of voluntary fortification
- Best achieved result is 30% prevention; with widening disparities