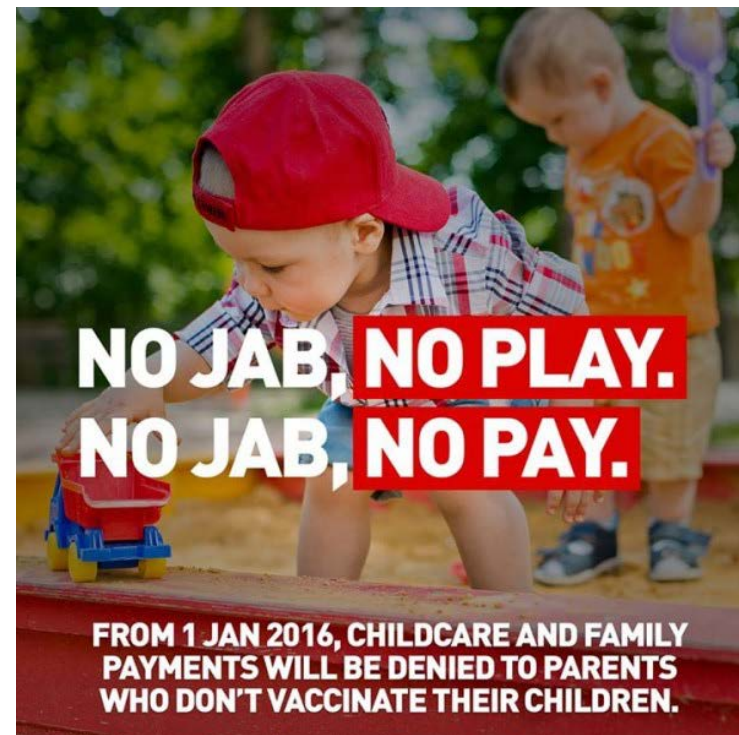
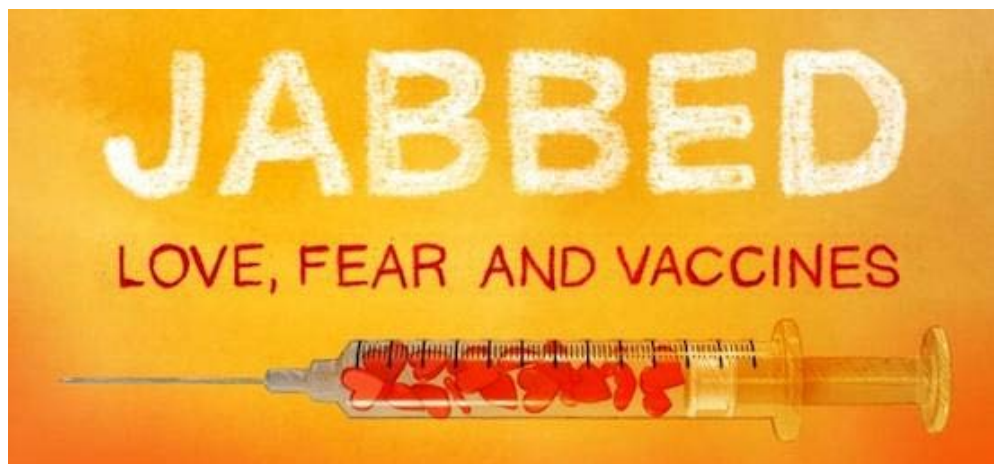




# Parental Immunisation Needs and Attitudes (PINA) Survey of parents attending General Paediatric Clinics in a Tertiary Paediatric Hospital, and Community Maternal Child Health Centres in Melbourne, Australia

**Jessica Costa-Pinto,<sup>1</sup> Harold Willaby<sup>2</sup>, Julie Leask<sup>2</sup>, Tibor Schuster<sup>3,4</sup>, Alice Ghazarian<sup>3</sup>, Jacinta O'Keefe<sup>3</sup>, Margie Danchin<sup>1,3,4</sup>**

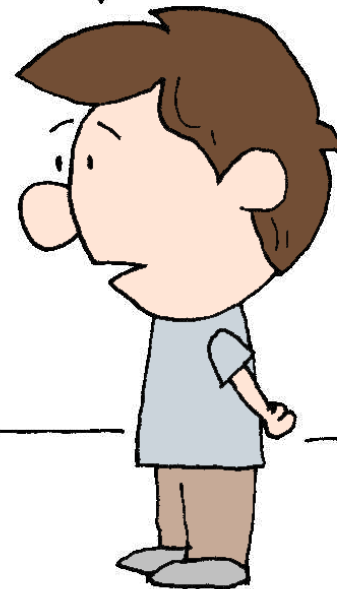
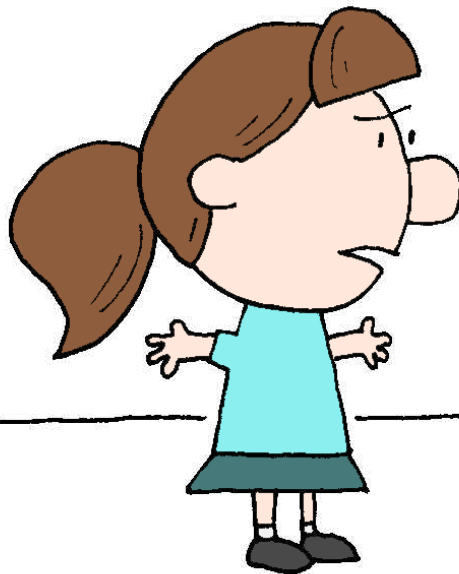
<sup>1</sup>Department of General Medicine, The Royal Children's Hospital, <sup>2</sup>University of Sydney, Sydney Medical School, School of Public Health, Sydney, New South Wales, Australia <sup>3</sup>Murdoch Childrens Research Institute, <sup>4</sup>University of Melbourne, Melbourne, Victoria, Australia.





THE DATA IS CLEAR, THE SCIENCE IS SOUND - WHAT MORE DO YOU WANT?

ANECDOTAL EVIDENCE FROM BIASED NEWS ANCHORS WOULD BE NICE.

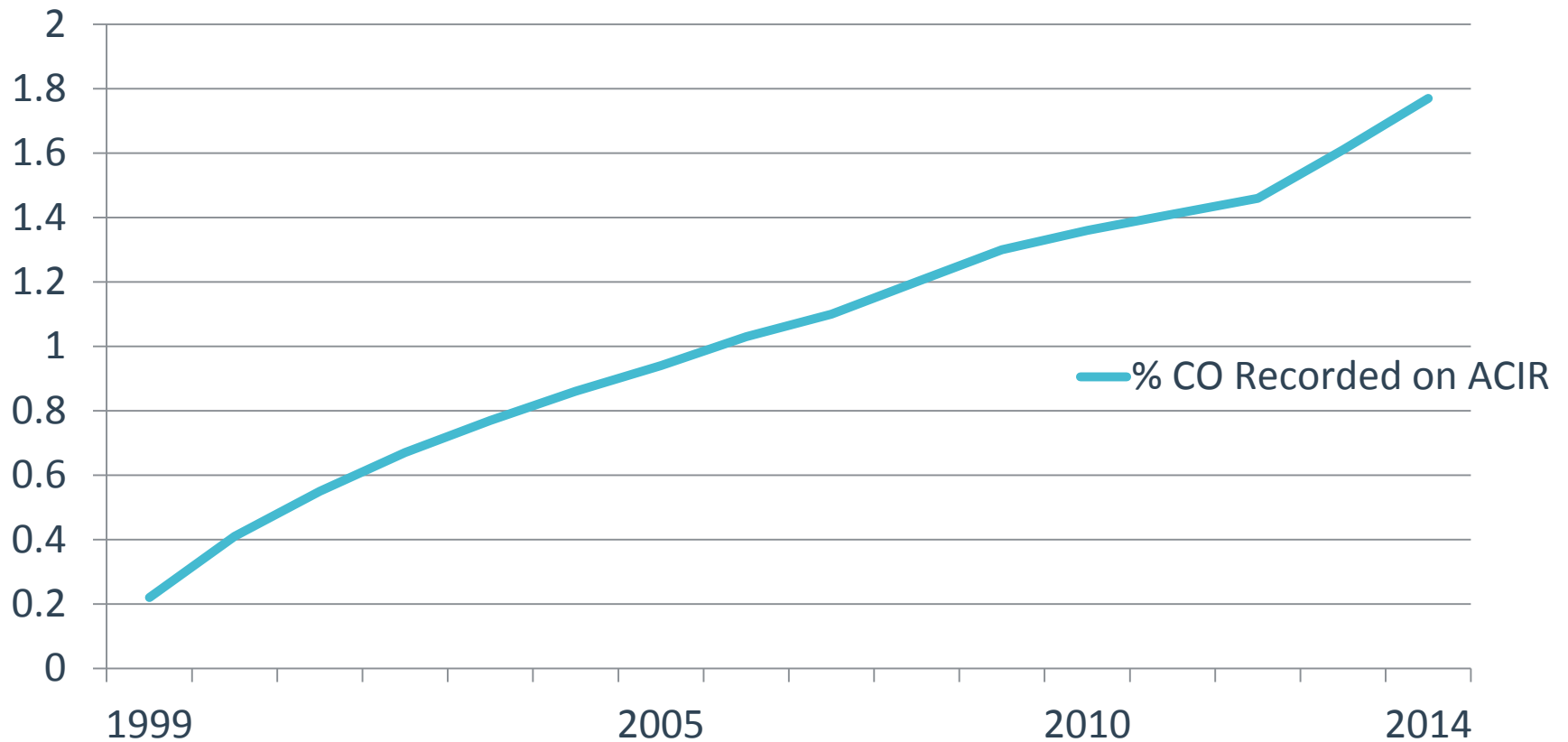


©PTW

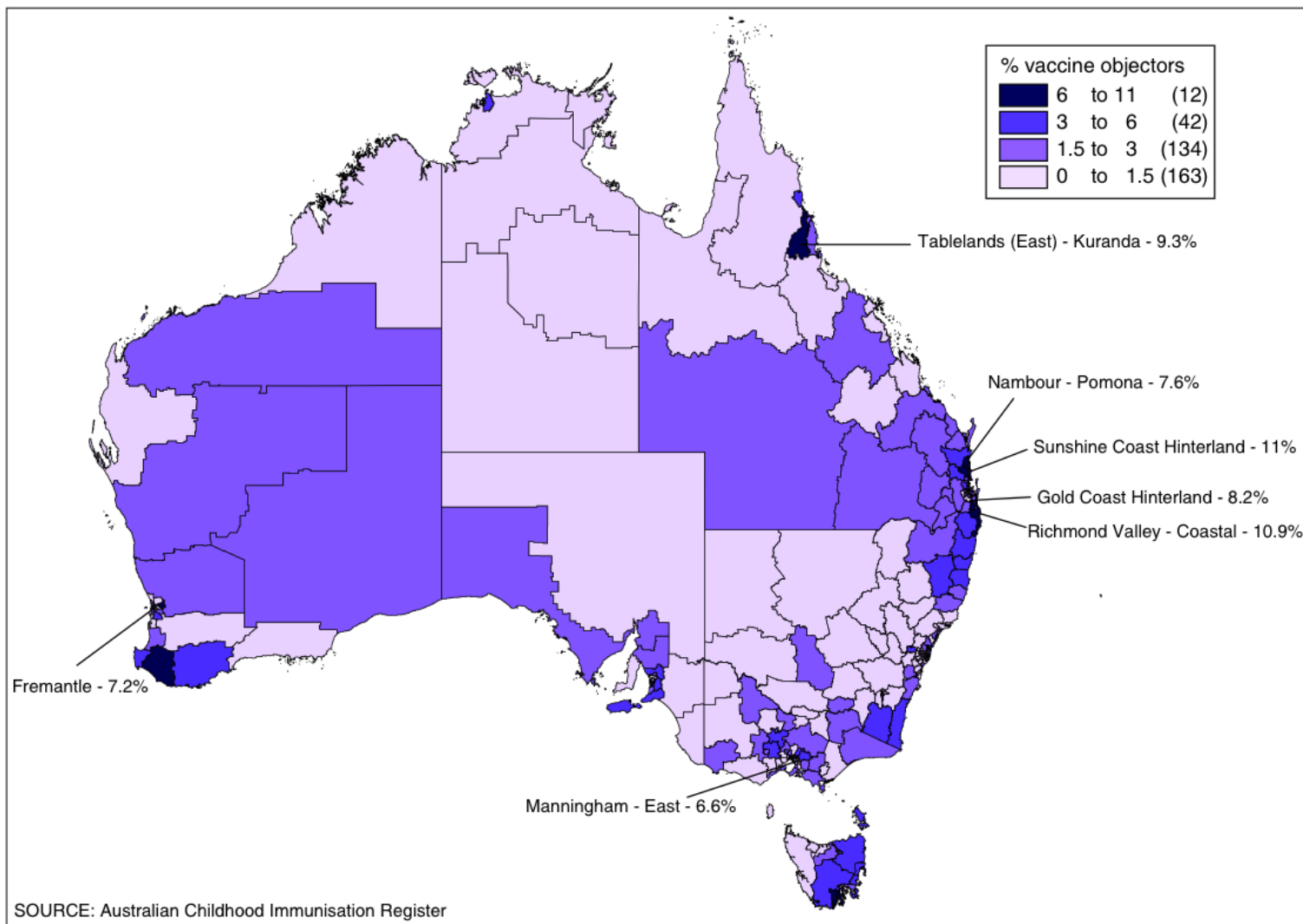
# Conscientious Objector Rates increasing



## % CO Recorded on ACIR



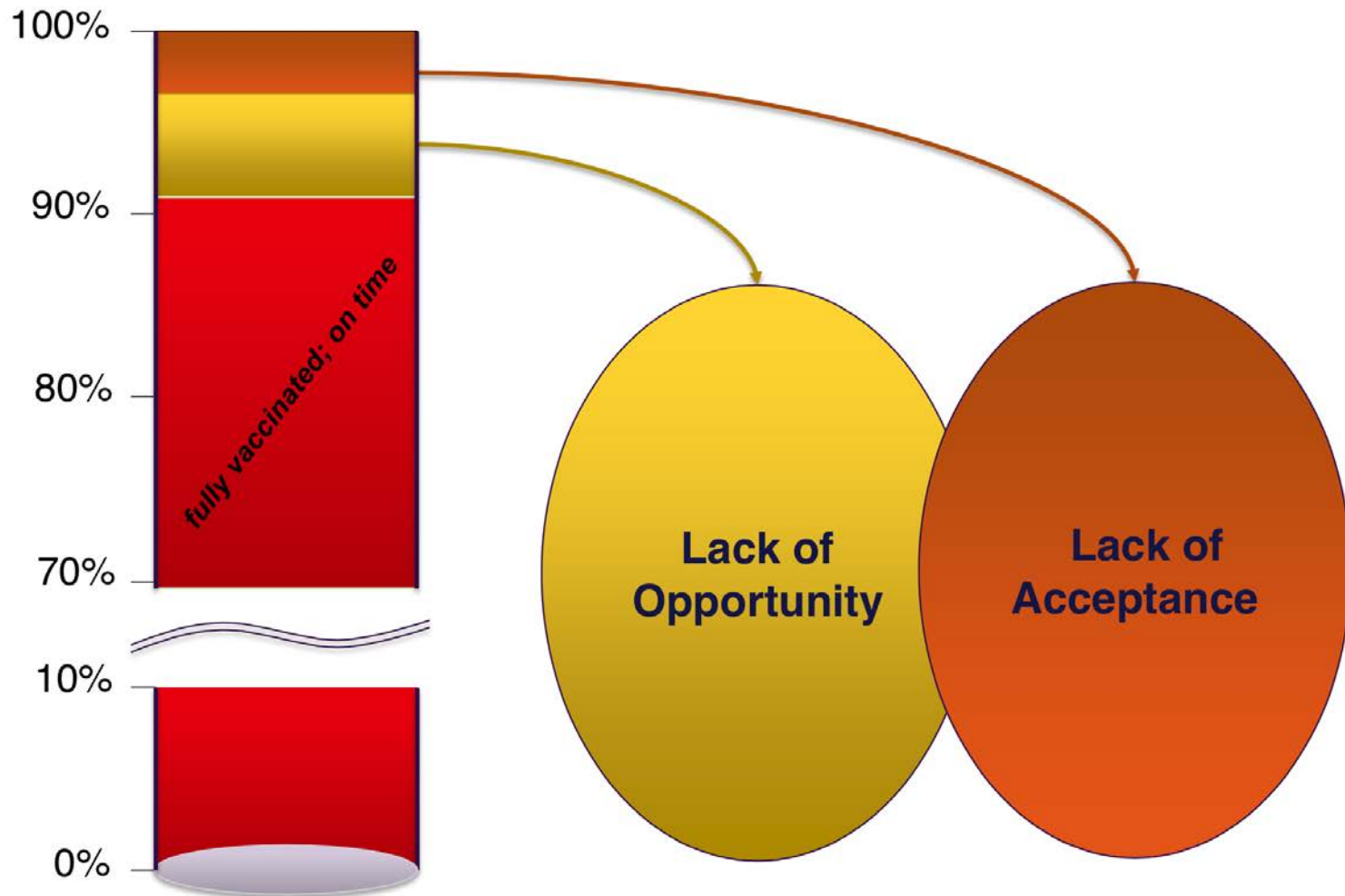
Health AGDO. **ACIR - National Vaccine Objection (Conscientious Objection) Data** [Internet]. [cited 2015 Sept 2015]; Available from: <http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-cons-object-hist.htm>



**Figure 17. Proportion of vaccine objectors by SA3, Australia, 2013.**

Cohort born January 2011 – December 2011.

# Two major contributors to incomplete vaccination



Courtesy of A/Prof Julie Leask

# Objectives of survey



- To determine:
  - (i) level of vaccination concerns;
  - (ii) specific concerns;
  - (iii) resources accessed and satisfaction
  - (iv) trust in HCPs;
  - (v) relationships between vaccine acceptance and SES, and vaccination status

# Hypothesis



- We hypothesised that:
  - (i) Significant proportion of parents have concerns
  - (ii) Concerns mainly relate to safety
  - (iii) Parents with concerns are more likely to delay, exclude or refuse all vaccines
  - (iv) Vaccine hesitant parents more likely to be of higher SES



# Methods - PINA-H

- Parents/guardians of children <5 years attending clinics at RCH
- Grant from the Victorian Department of Health
- Recruitment Sept 2014 – June 2015



**Murdoch Children  
Research Institute**  
*Healthier Kids. Healthier Future*



## Do you have a child under 5 years of age?

We would like to know how you feel about vaccination, and the questions you have.

If you are interested in completing a survey about vaccination, please contact:

Dr Margie Danchin on **9345 5186** or

Dr Jessica Amato on [Jessica.amato@rch.org.au](mailto:Jessica.amato@rch.org.au)

This survey is being conducted by researchers from the Vaccine and Immunisation group at MCR, (Dr Margie Danchin and Dr Jessica Amato).

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# Methods - PINA-C

- Mothers of children <19 months attending MCHN appointments
- 10 centres within 5 LGAs
- Grant from Bayside Medicare Local
- Recruitment December 2014 – May 2015



**Do you have a child who is  
18 months of age or younger?**

We would like to know how you feel about vaccination, and the questions you have.

If you are interested in completing a survey about vaccination, please contact:

Dr Margie Danchin on **9345 5186** or

Dr Jessica Amato on [Jessica.amato@rch.org.au](mailto:Jessica.amato@rch.org.au)

This survey is being conducted by researchers from the Vaccine and Immunisation group at MCRI, (Dr Margie Danchin and Dr Jessica Amato).



# Methods

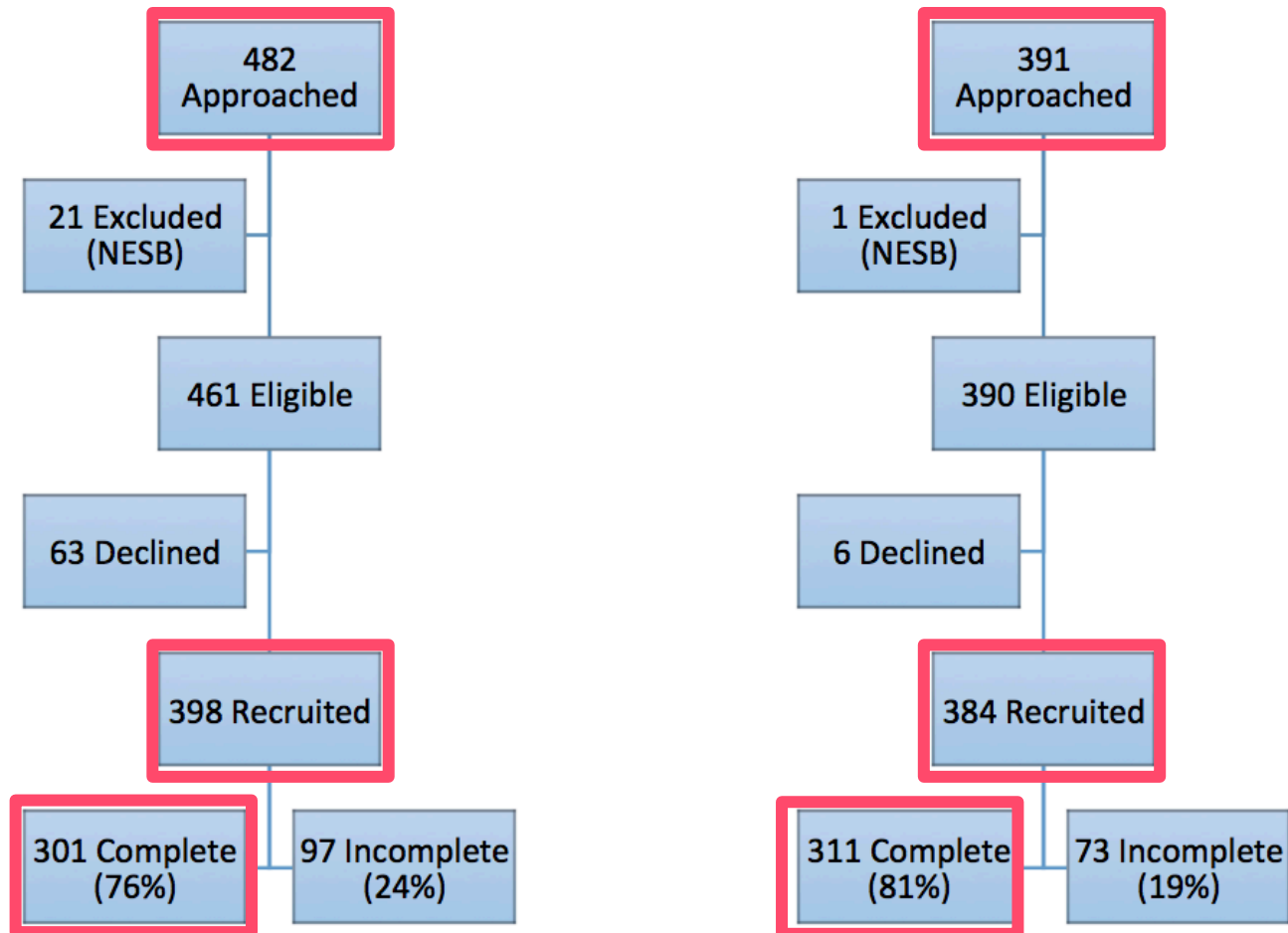


- Random selection
- Surveys administered on iPads using REDCap
- Consent for Australian Childhood Immunisation Register (ACIR) access

# Results



**Figure 1. PINA-H Recruitment (left) and PINA-C Recruitment (right)**

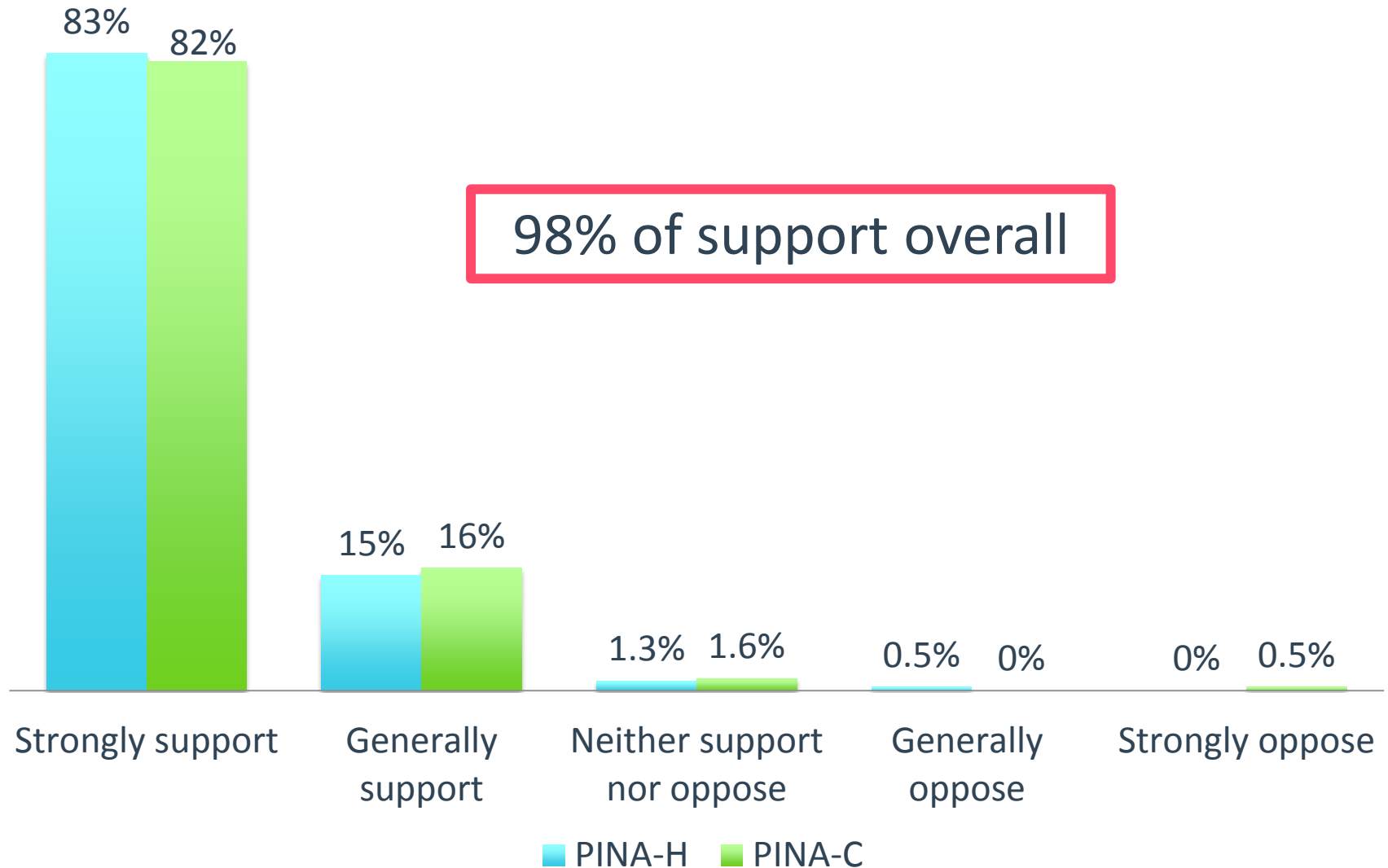


# Participants



Characteristics n (%)	PINA-H N = 301	PINA-C N = 311	P value
Mean child age (years)	2.38 (SD 1.73)	0.57 (SD 0.98)	<0.01
Mean parental age (years)	34.9 (SD 6.04)	34.8 (SD 4.62)	0.81
Born in Australia	207 (69)	201 (65)	0.28
Level of Education			<0.01
< Year 12	31 (10.3)	4 (1.3)	
Year 12	52 (17.3)	31 (10)	
TAFE/ Apprenticeship	48 (16.0)	29 (9.3)	
University Degree	170 (56.5)	247 (79.4)	
Marital Status			<0.01
Single/ never married	18 (6.0)	5 (1.6)	
Married/ defacto/ partnered	270 (89.7)	303 (97.4)	
Separated/ divorced	13 (4.3)	3 (1)	
Socioeconomic Index for Area (SEIFA) Disadvantage			<0.01
Low	193 (64.1)	36 (11.6)	
Medium	63 (20.9)	134 (43.1)	
High	45 (15)	141 (45.3)	

# Overall Support for vaccination



# Level of Vaccination Concerns



*Vaccine Communication Framework (VCF), Leask et al*

Statement	PINA-H	PINA-C	Total Agreement in % (95% CI)
Unquestioning acceptor	60 %	54%	57 (53-60)
Cautious acceptor	32 %	39%	35 (32-39)
Hesitant	6 %	3 %	4 (3-6)
Late selective	2.6 %	2.8 %	3 (2-4)
Refusers	0.0 %	1.4 %	1 (0-2)

Some concerns in over 40%

# Level of Vaccination Concerns



*Vaccine Communication Framework (VCF), Leask et al*

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Late selective	2.6 %	2.8 %	<b>3 (2-4)</b>
Refusers	0.0 %	1.4 %	<b>1 (0-2)</b>

Higher degrees of hesitancy in approximately 8%

Incomplete vaccination in approximately 4%



# Specific concerns



Statement	PINA-H Agree (%)	PINA-C Agree (%)	Total Agreement in % (95% CI)
Children get too many vaccines during the first two years of life	28	23	25 (22-29)
Vaccines contain ingredients that can cause serious harm	23	20	22 (19-25)
Children's immune systems could be weakened by vaccines	18	16	17 (14-20)
Vaccines can cause allergies	18	17	18 (15-21)
Vaccines can cause autism	11	10	11 (8-13)

# Resources accessed



Resource	PINA-H N (%)	PINA-C N (%)
Paediatrician	151 (46)	125 (38)
General Practitioner	236 (72)	225 (68)
Nurse	187 (57)	239 (72)
Complementary and alternative medicine practitioners	18 (5)	25 (8)
Internet	77 (23)	116 (35)
Vic Department of Health website	66 (20)	95 (29)
TV, radio, magazines	16 (5)	26 (8)
Anti-vaccination groups	7 (2)	9 (3)
Friends or family who are anti-vaccination	13 (4)	32 (10)

# Satisfaction with resources accessed



Resource	PINA-H N satisfied/ N total (%)	PINA-C N satisfied/ N total (%)
Paediatrician	143/149 (96)	118/124 (95)
General Practitioner	210/233 (90)	206/223 (92)
Nurse	169/185 (91)	233/239 (97)
Complementary and alternative medicine practitioners	16/18 (89)	21/25 (84)
Internet	56/76 (74)	85/116 (73)
Vic Department of Health website	62/65 (95)	89/94 (95)
TV, radio, magazines	13/15 (87)	17/26 (65)
Anti-vaccination groups	1/6 (17)	6/9 (67)

# Trust in practitioners



Health Care Provider	PINA-H	PINA-C
General Practitioner	91.8 %	97.1 %
Nurse	94.8 %	97.4 %
Paediatrician	96.9 %	98.6 %
Complementary and alternative medicine practitioners	89.6 %	93.1 %





23% of our parents believe they have insufficient knowledge to make good decisions about vaccination for their child (CI 20-26)

# What do they want to know?

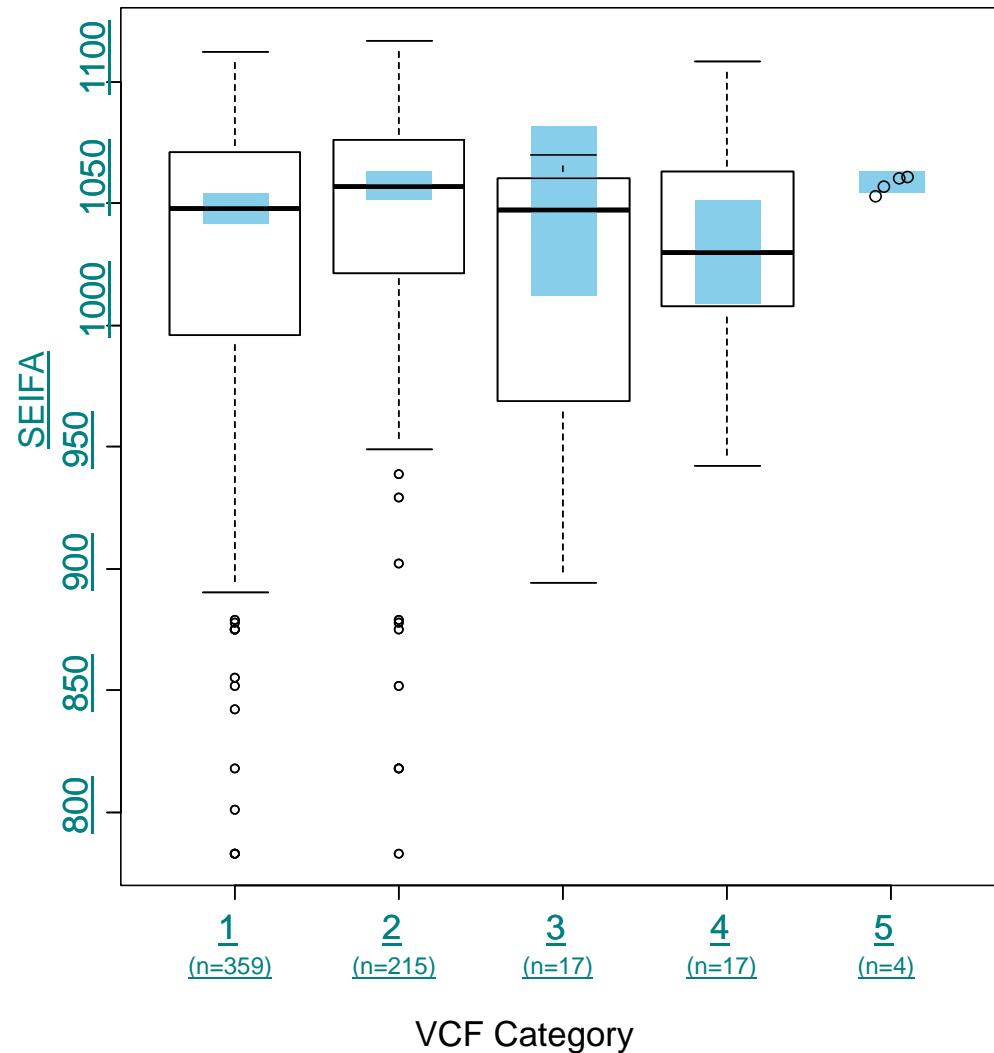


Topic	PINA-H (%)	PINA-C (%)
How vaccines work	54	42
How vaccines are tested for safety	65	75
Possible risks of vaccines	69	74
Possible side effects of vaccines	67	75
Risks of not having vaccines	54	54
Risks of delaying vaccines	59	60
The vaccine schedule	59	71
Risk of vaccine preventable diseases	57	63

# Relationship between SES and VCF position statement



Figure 1. Relationship between SEIFA score and VCF position statement (where 1= Unquestioning acceptor, 2= Cautious acceptor, 3= Hesitant, 4= Late or selective vaccinator, and 5= Refuser)



# Data from the Australian Childhood Immunisation Register (ACIR)



- PINA-H:
  - consent provided by 72%
  - data obtained for 54%
- PINA-C:
  - consent provided by 75%
  - data obtained for 59%



# ACIR Data – Adherence to schedule by VCF position statement and time point



Position Statement		2m	4m	6m	12m	18m	4yrs
Unquestioning acceptor	N	197	172	150	107	82	23
	<b>% Adherent</b>	<b>98</b>	<b>99</b>	<b>93</b>	<b>97</b>	<b>100</b>	<b>100</b>
Cautious acceptor	N	120	96	75	47	34	10
	<b>% Adherent</b>	<b>96</b>	<b>96</b>	<b>89</b>	<b>94</b>	<b>94</b>	<b>90</b>
Hesitant	N	8	8	7	3	3	1
	<b>N/ N adherent</b>	<b>8/8</b>	<b>8/8</b>	<b>7/7</b>	<b>3/3</b>	<b>3/3</b>	<b>1/1</b>
Late or selective vaccinator	N	5	5	2	1	1	0
	<b>N/ N adherent</b>	<b>5/5</b>	<b>3/5</b>	<b>0/2</b>	<b>1/1</b>	<b>1/1</b>	-
Refuser	N	0	0	0	0	0	0
	<b>N/ N adherent</b>	-	-	-	-	-	-
Total	N	330	281	234	158	120	34
	<b>% Adherent</b>	<b>97</b>	<b>97</b>	<b>91</b>	<b>96</b>	<b>98</b>	<b>97</b>

# Conclusions



- High levels of vaccination concerns (40-46%)
- Safety of vaccines is a major concern for parents
- ¼ of parents believe they have insufficient knowledge to make decisions
- HCPs are highly trusted and most commonly accessed

# Discussion



- Vaccine discussions should focus on vaccine safety
- Parental lack of decision making confidence and high trust in HCPs = compelling opportunity

# Strengths



- Provides recent data about concerns of Australian parents
- Good sample size
- High completion rates

# Limitations



- Selection bias (health seeking parents)
- Low rate of ACIR access (lower for hesitant groups)

# PINA-A



- PINA-Antenatal
  - **Melbourne:** RWH, Cabrini, Sandringham Hospital
  - **Adelaide:** Women's and Children's Hospital
  - **Perth:** King Edward Memorial Hospital, and St John of God



## Are you pregnant?

We would like to know how you feel about vaccination, and the questions you have.

If you are interested in completing a survey about vaccination, please contact:

Dr Jessica Amato on [Jessica.amato@rch.org.au](mailto:Jessica.amato@rch.org.au)

This survey is being conducted by researchers from the Vaccine and Immunisation group at MCRl, (Dr Margie Danchin and Dr Jessica Amato).



# National Survey of Paediatricians through the Australian Paediatric Research Network



Multi-Topic Survey 2015

## **Vaccine Hesitancy**

**Margie Danchin, Jessica Amato, Nicholas Wood, Helen Marshall & Harold Willaby**

**Approximately 92% of Australian children are fully vaccinated by the time they are 24 months old. However, we believe that a significant number of Australian parents have some concerns about vaccinating their children, which if not addressed may lead them to delay or exclude some vaccines, or refuse all vaccines. Through this survey we aim to find out how often Paediatricians are having vaccine related discussions with families, the specific topics discussed, and the challenges faced. We are also interested to find out how confident Paediatricians feel in their knowledge and skills regarding discussions with vaccine hesitant parents. This information will be useful for the development of online training resources.**

# Where to from here?



- Develop and test effective interventions to address vaccine hesitancy
- Develop an online educational tool to assist HCPs

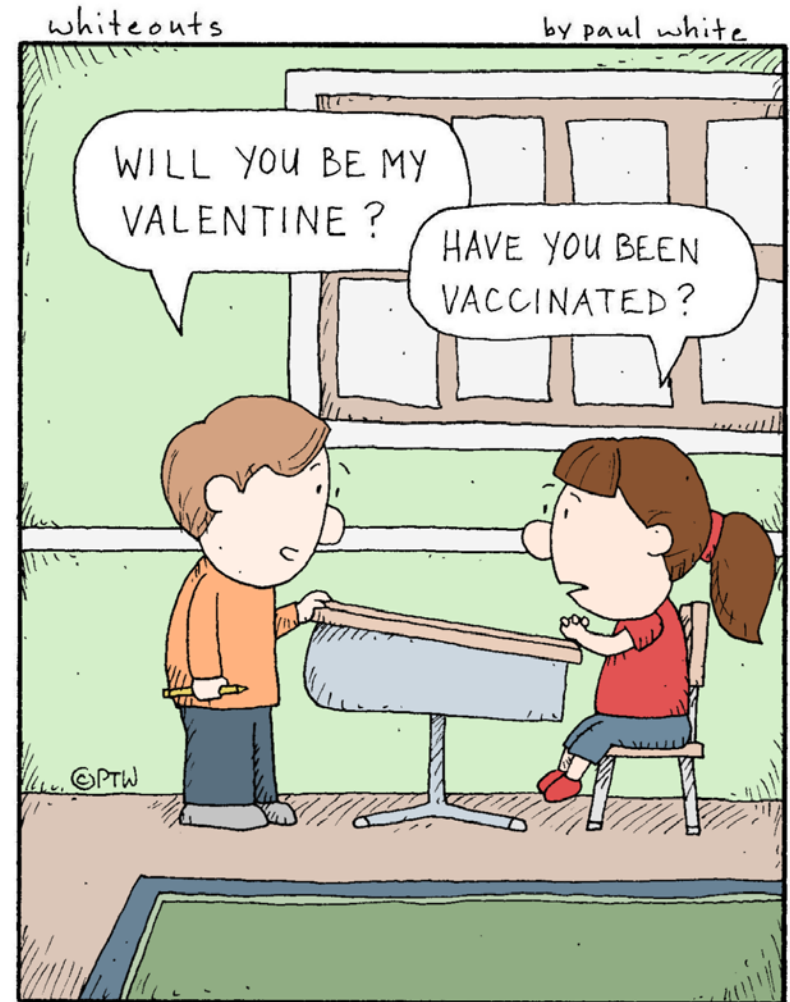




# Acknowledgements



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- A/Prof Julie Leask, University of Sydney
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- Michele Speak (Bayside Medicare Local)
- Research assistants: Alice Ghazarian and Jacinta O'Keefe





Thank you

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