



Prevention Research for  
Community, Family  
and Child Health



Partnership for Alcohol &  
AIDS Intervention Research

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# Home visiting by community health workers improves outcomes for mothers-infants over three years

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Mark Tomlinson, Sarah Skeen, Ingrid le Roux,  
Mary Jane Rotherham-Borus, Sandahl  
Nelson, Kwanie Mbewu

CCABA Symposium, Melbourne, 18 July 2014

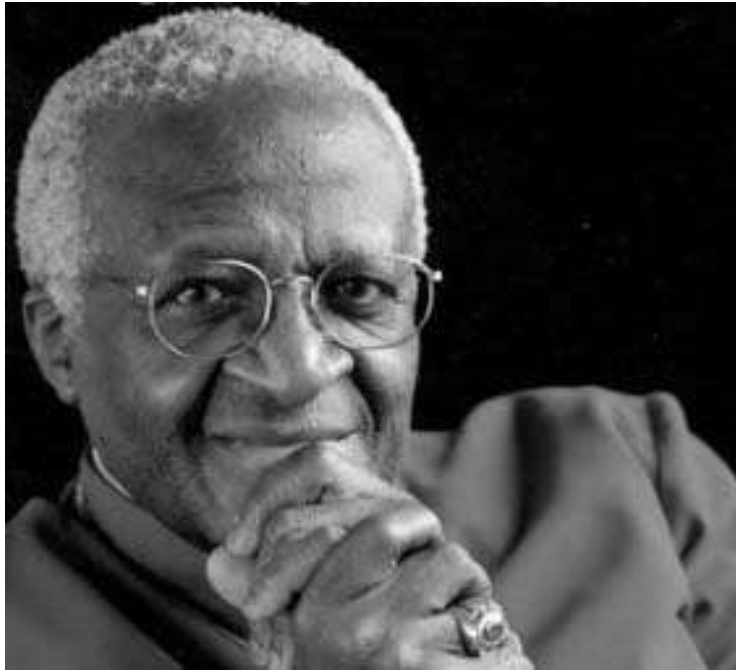




Prof. Mark Tomlinson, Dr Ingrid Le Roux (Philani, South Africa); Professor Mary Jane Rotheram-Borus (UCLA, USA); Professor Carol Worthman (Emory University, USA); Professor Mary O'Connor (UCLA, USA); Ms. Kwanie Mbewu (Philani, South Africa); Dr Jessica Harwood (UCLA, USA).



**Philani has been a  
community-based agency  
in Cape Town since 1979**



# Community health workers core to the Philani programme



# Programme components

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- Selection – mothers from the community
  - Training
  - Monitoring
  - Ongoing feedback
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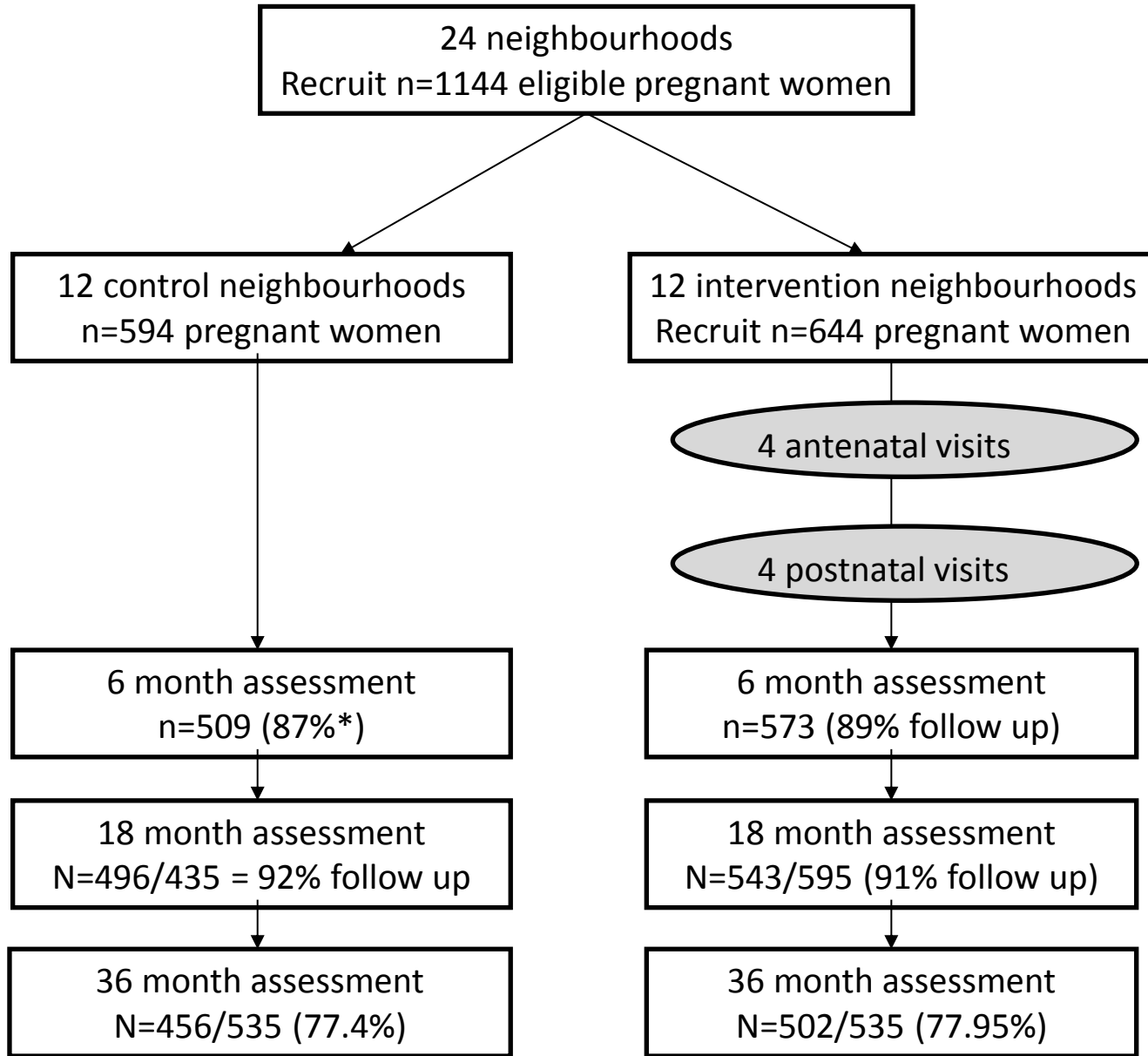
# Method

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- Cluster randomized controlled trial
- Khayelitsha and Mfuleni
- One CHW per neighbourhood cluster
- Neighbourhoods: 450-500 households









# Randomisation

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- Shebeens
- Size
- Density
- Water sources
- Formal / informal housing
- Rates of HIV



# Content and visits

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- Content:
    - HIV, PMTCT
    - Nutrition
    - Maternal and child health (including TB)
    - Alcohol use
    - Accessing child grant
    - Maternal mental health
    - Mother-infant relationship and infant communication
  - Antenatal and postnatal visit – variable number
- 



# CHW visit scheduling

Nokwezi Zungu

Week **20 Aug - 26 Aug** (4 visits)

Wed	Thu	Fri	Sat	Sun	Mon	Tue
<b>TODAY</b> 1 x AN1 - LATE!	Aug 21	22	23	24	25 2 x PN1	26 1 x AN1

Date	ID	Participant	Contact #	Visit Type
20/08/2008	<u>51612</u>	<b>Anna Poonen</b> z1305 Umlazi Phase 4	086 551 2145	AN1
25/08/2008	<u>15466</u>	<b>Margret Ntuli</b> C6 Umlazi	081 586 4564	PN1
	<u>56421</u>	<b>Lindi Nkosi</b> D548 Umlazi	na	PN1
26/08/2008	<u>32416</u>	<b>Cindy Mothle</b> B3478 Umlazi	076 541 5555	AN1



Select A Survey

- CHW Visit
- CHW missed visit

Options Next

CHW Visit

Please capture the participant's unique identifier:

Options Next

CHW Visit

Please indicate which visit was made:

- Antenatal 1
- Antenatal 2
- Postnatal 1: 24-48 hr
- Postnatal 2: 3-4 Day
- Postnatal 3: 10-14 Day

Options Next

CHW Visit

Are you booked for antenatal care?

- Yes
- No

Options Next

## 10610 - Jane Doe

Overview of participant details and life cycle



**Study Arm:** INTERVENTION

**Enrollment Status:** **Enrolled**

**Delivery:** Birth took place **23 days, 22 hrs ago** [Update Delivery Date](#)

### Participant Lifecycle

#### Antenatal



#### Postnatal



### Upcoming Visits and Milestones

Due in the next 4 weeks

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
TODAY		7	8	9	10	11	12
PN2 Visit (20 days late)		PN3 Visit (13 days late)	PN4 Visit				
13		14	15	16	17	18	19
20		21	22	23	24	25	26
27		28	29	30	31	August 1	2

Search by Participant NAME or ID

#### Details

Identifier: **10610**  
 Study Arm: **INTERVENTION**  
 Cluster: **1**  
 CHW Responsible: **Mickey Mouse**  
 Status: **Enrolled**

Last Milestone Completed: 6/15/2009  
 Next Milestone Due: 6/16/2009

#### Notes

Hide from DCM

# Mothers were highly similar across conditions

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- Age
- Education
- Income
- Number of previous children
- Previous low birth weight
- HIV status
- Partnerships

# Results - Baseline

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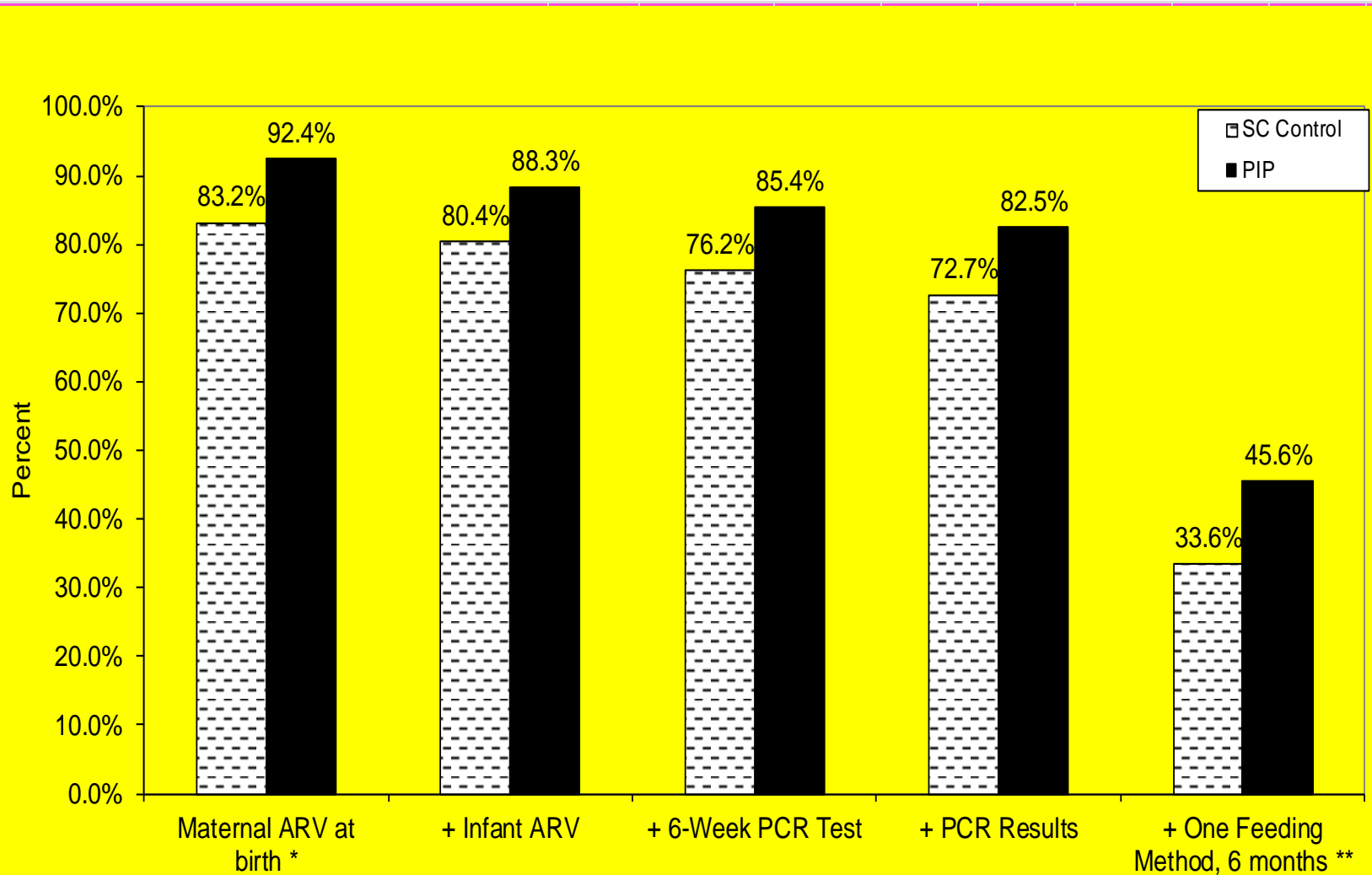
- 29% HIV+
- 25% using alcohol
- 17% low birth weight
- 30% depressed mood



# Demographics

	PIP (N=644)		SC (N=594)		Total (N=1238)	
	n (%)		n (%)		n (%)	
Demographic Characteristics						
Mean age (SD)	26.5	(5.5)	26.3	(5.6)	26.4	(5.5)
Mean highest education level (SD)	10.3	(1.8)	10.3	(1.8)	10.3	(1.8)
Married or lives with partner	377	(58.5)	324	(54.6)	701	(56.6)
Ever employed	129	(20.0)	104	(17.5)	233	(18.8)
Monthly household income >2000 Rand	280	(45.6)	279	(48.1)	559	(46.8)
Formal housing	197	(30.6)	191	(32.2)	388	(31.3)
Water on site	333	(51.7)	327	(55.1)	660	(53.3)
Flush toilet	340	(52.8)	343	(57.7)	683	(55.2)
Electricity	569	(88.4)	543	(91.4)	1112	(89.8)
Mother hungry past week	312	(48.4)	301	(50.7)	613	(49.5)
Children hungry past week	175	(27.2)	185	(31.1)	360	(29.1)

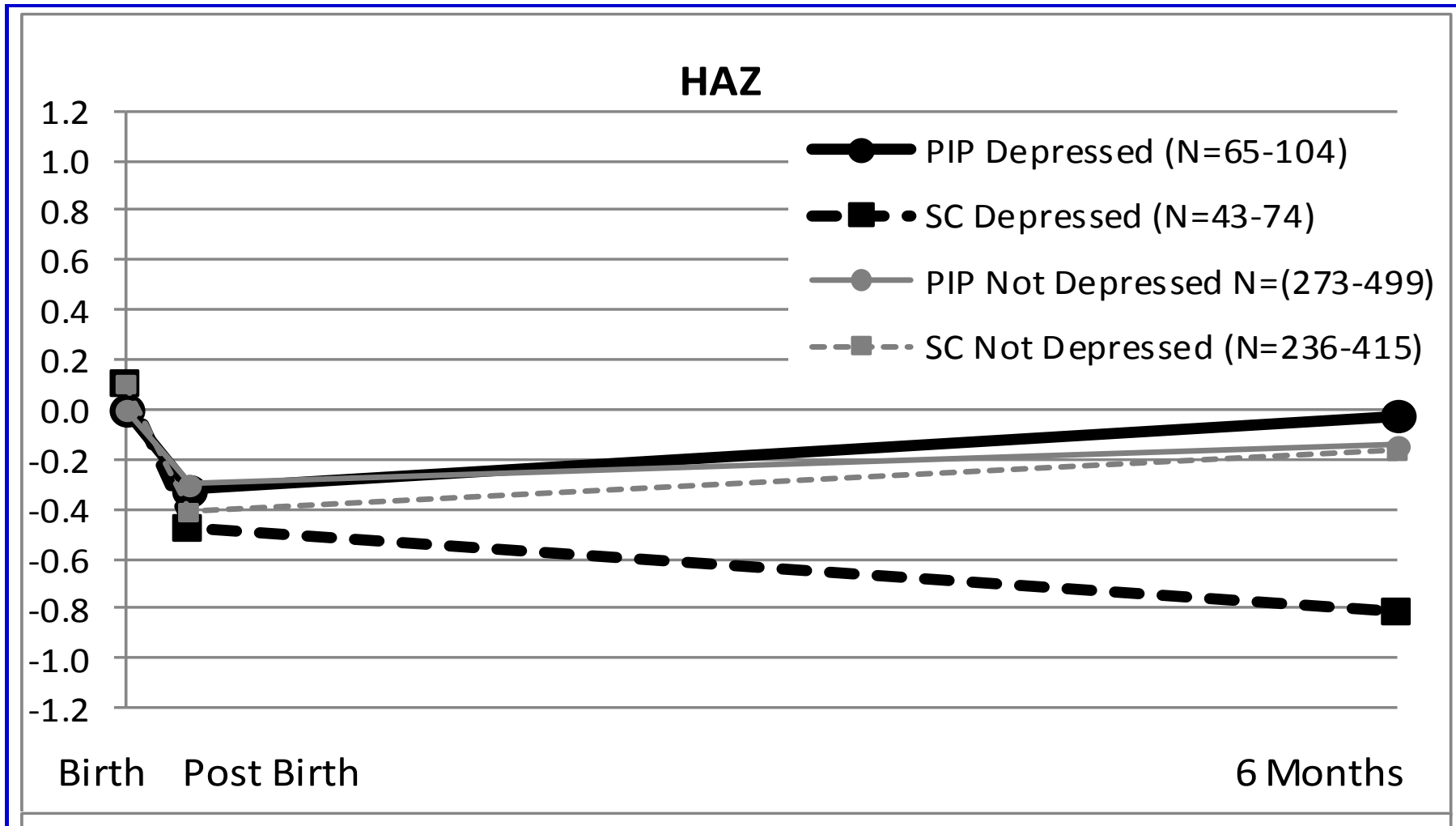
# PMTCT Adherence – 6 months



\*p<.05, \*\*p<.01

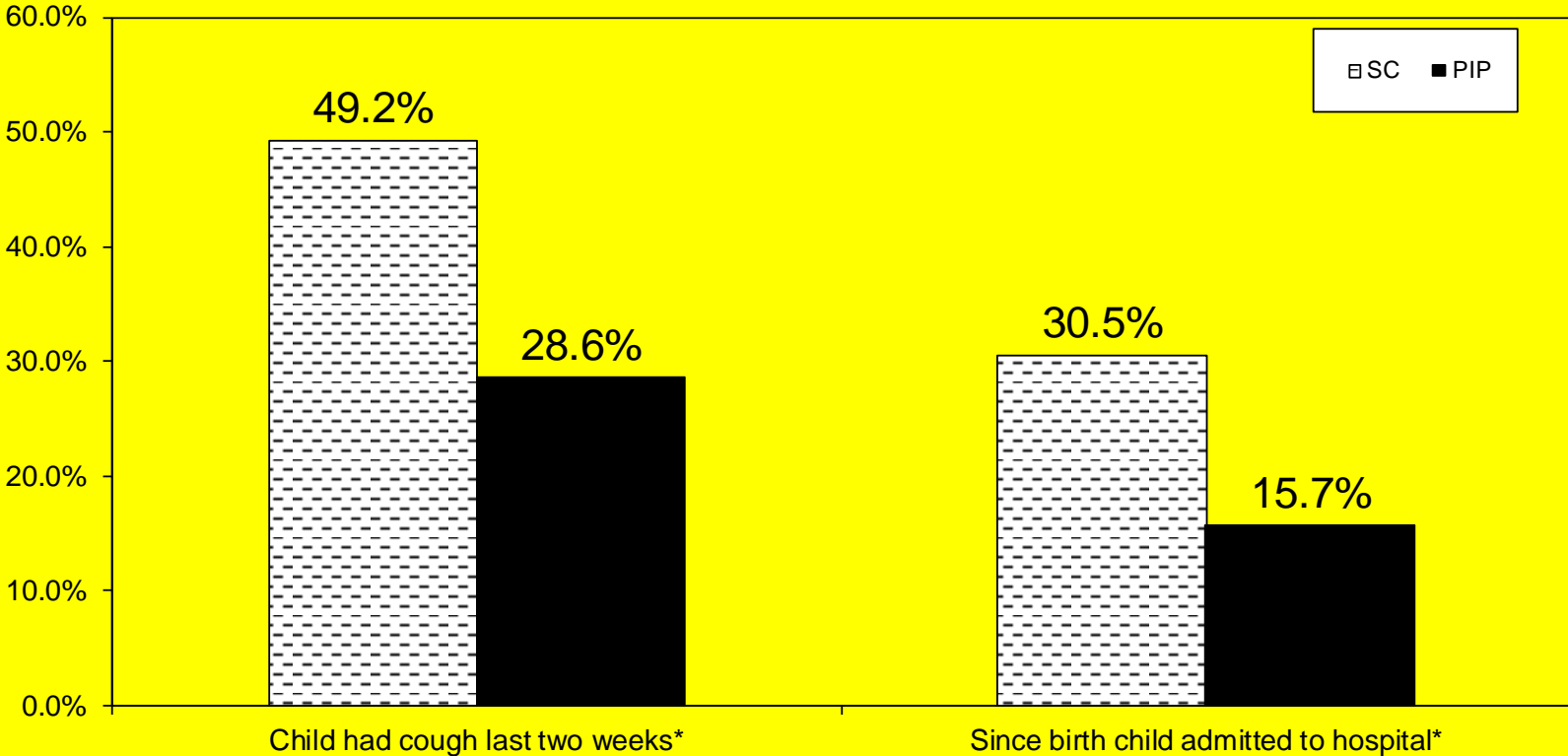


# Antenatal depression and infant growth - 6 months



# Maternal antenatal depression and infant health - 18 months

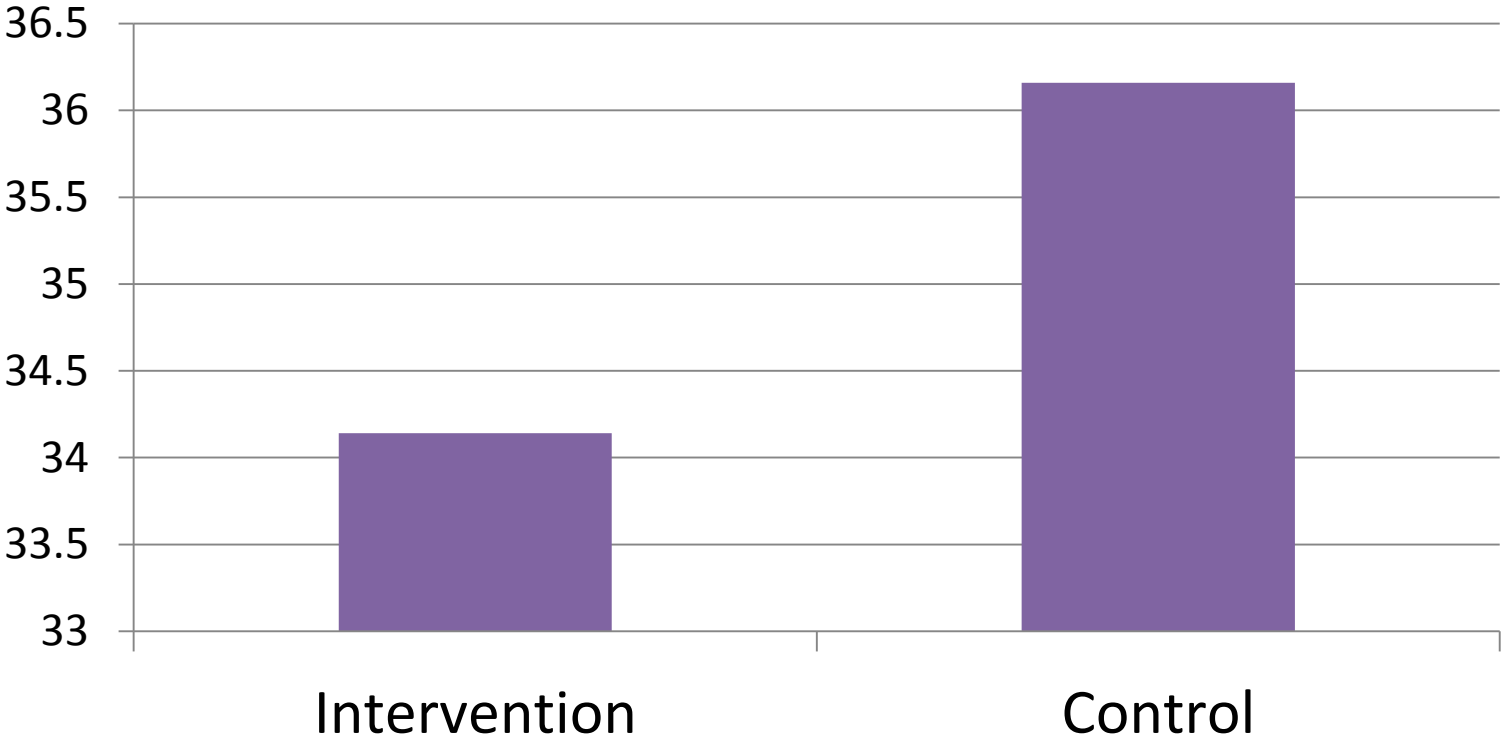
Mothers Depressed Antenatally (EPDS>18): Infant Health At 18 Months



\*Significant at the 5% level.

# Maternal depression – 36 months

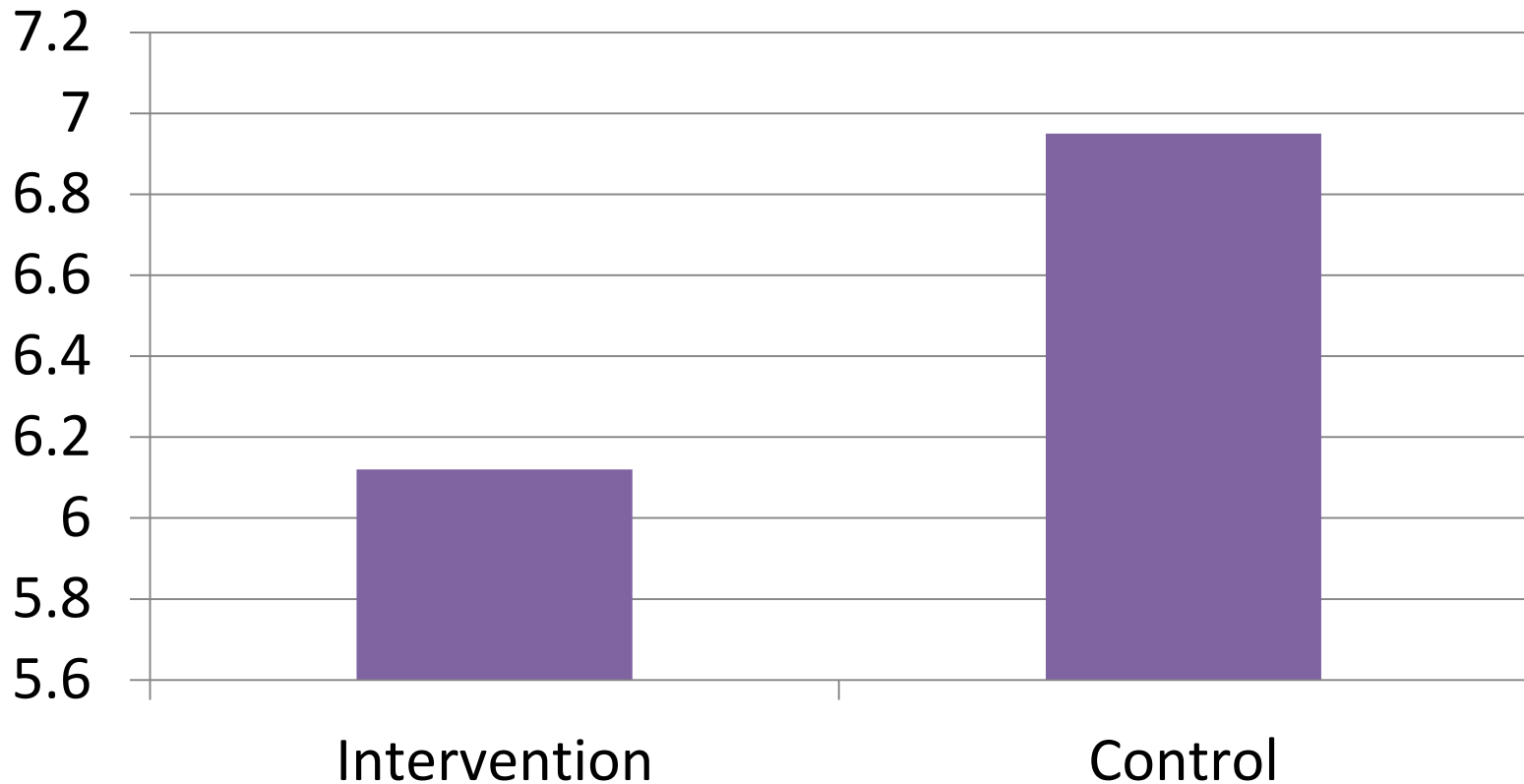
Hopkins Symptom Checklist



**p = 0.007**

# Maternal depression – 36 months

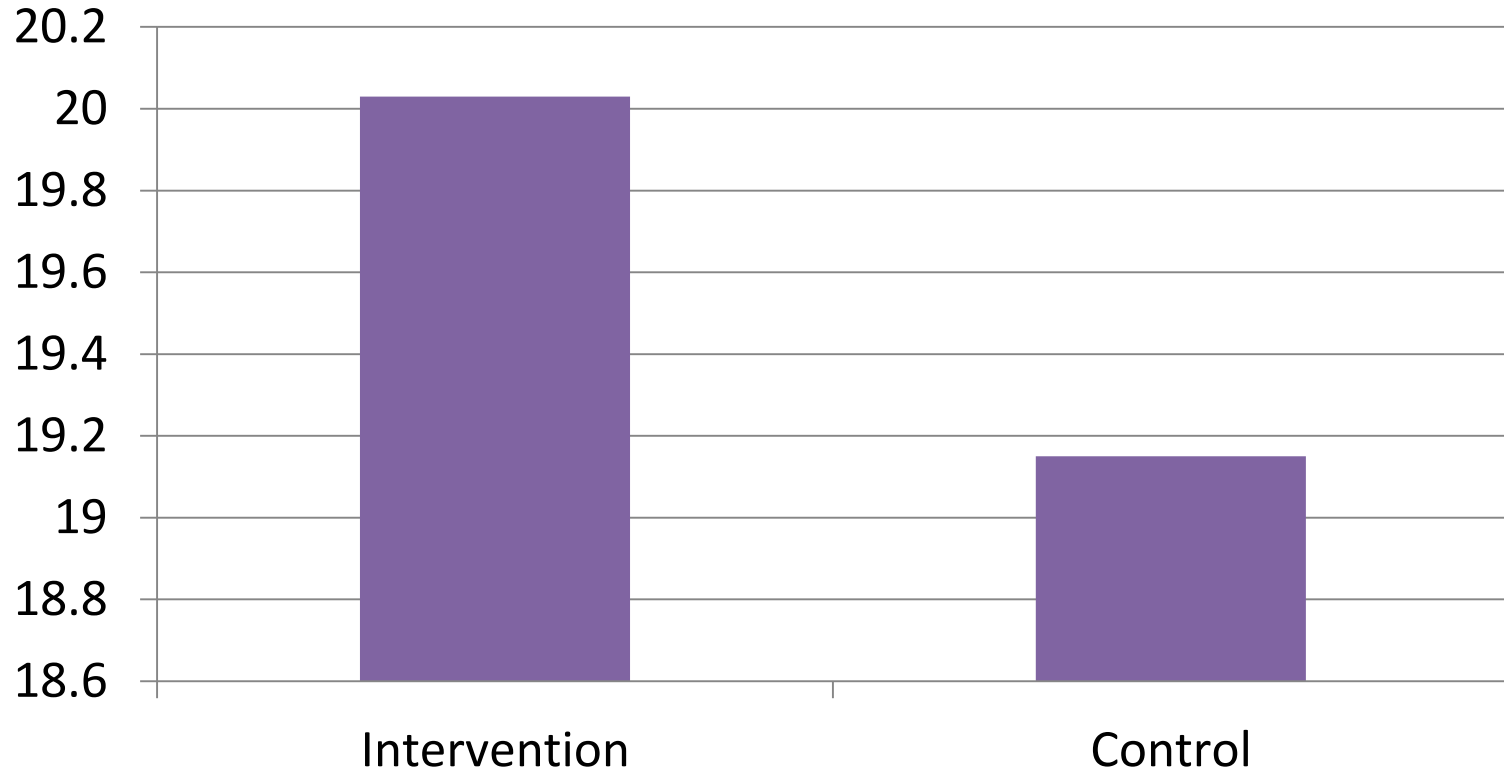
Edinburgh Postnatal Depression Scale



**p = 0.009**

# Child Cognition – 36 months

## Peabody Picture Vocabulary Test



**p = 0.009**

# Child Growth – 36 months

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- Tracked weight and height at 6, 18 and 36 months
- Standardised using WHO guidelines: weight for age, height for age, and weight for height.
- No differences between intervention and control



# Now: 5 year assessments



# Discussion

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- Modest, but significant differences, in each area addressed.
- Small gains often become magnified over time.
- Pregnancy and infancy are critical developmental phases with lifelong consequences.





# Discussion

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- Task shifting approach
  - In the context of a horizontally/diagonally integrated programme with potential to scale
  - Generalist approach – family wide impact
  - Training, supervision and management
  - Tailored to most salient health risks
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# Acknowledgements

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- The women and children who participated in the study
  - Research team in Khayelitsha, Cape Town
  - Funders:
    - Ilifa Labantwana  
National Institute of Alcoholism and Alcohol Abuse (USA)
    - Mark Tomlinson supported by National Research Foundation (South Africa)
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# Connect

Website: [www.preventionresearch.org.za](http://www.preventionresearch.org.za)

Twitter: [@familychildSU](https://twitter.com/familychildSU) and [@pair3](https://twitter.com/pair3)

Mark: [markt@sun.ac.za](mailto:markt@sun.ac.za)

Sarah: [skeen@sun.ac.za](mailto:skeen@sun.ac.za)