

Reducing SIDS risks whilst promoting breastfeeding

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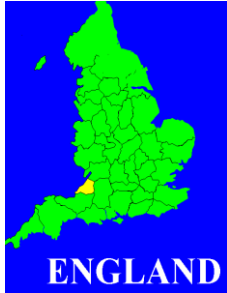


24TH ANNUAL
INTERNATIONAL MEETING

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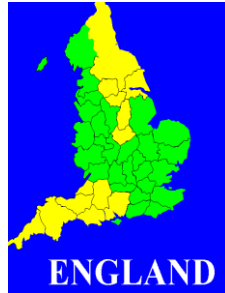


English Observational studies



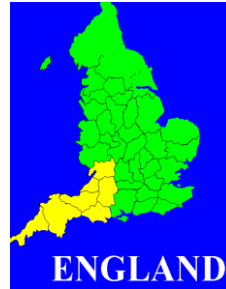
1) Avon Infant Mortality Study (AIMS)

1987-9: 72 SIDS & 144 controls



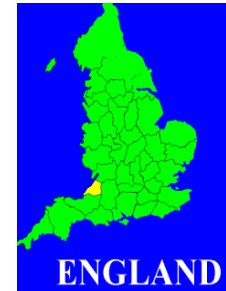
2) Confidential Enquiry into Stillbirths & Deaths in Infancy (CESDI) Study

1993-6: 325 SIDS & 1300 controls



3) South West Infant Sleep Scene (SWISS) Study

2003-6: 80 SIDS & 87 controls



4) Avon Cohort Study

*1984-2003
300 SIDS*

- Prospective
- Population-based
- Age-matched controls
- Contemporaneous
- Ref sleep within 24 hours of interview
- Face to face interviews

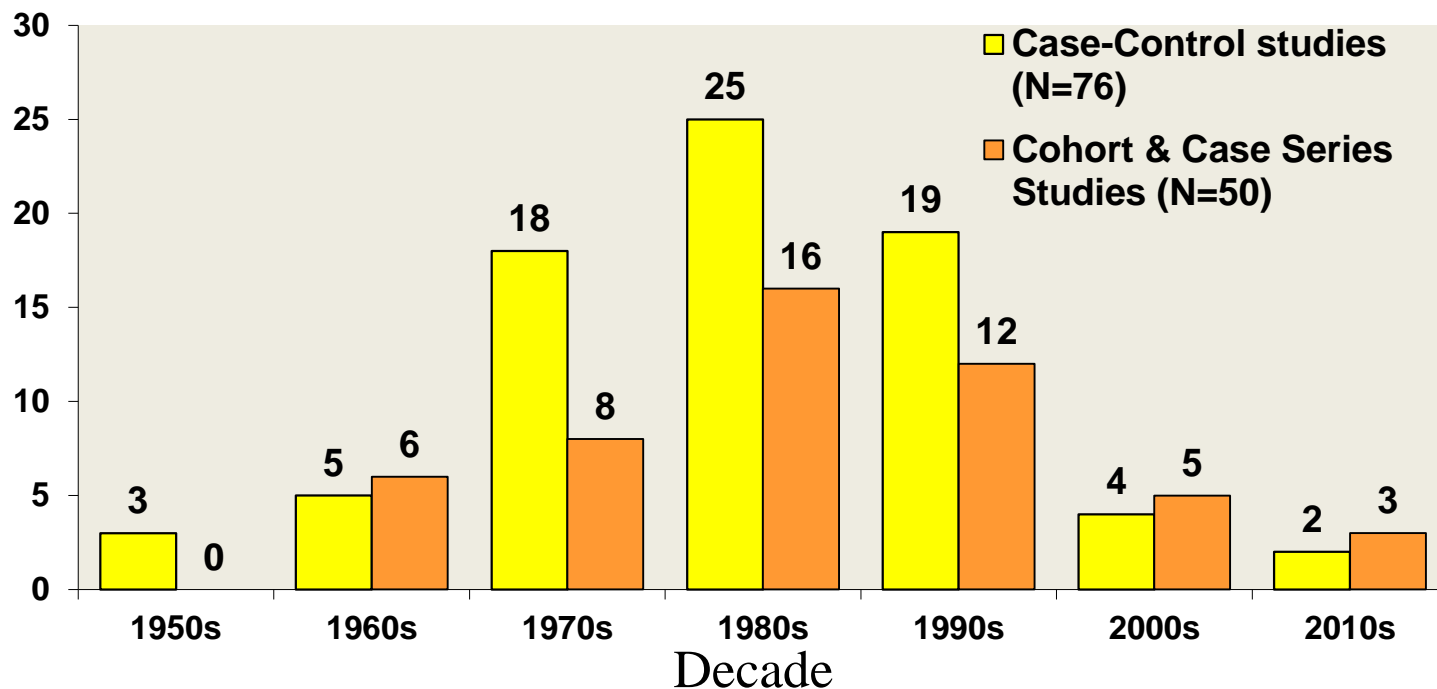
Sudden Infant Death Syndrome (SIDS)

“The sudden death of a baby that is unexpected by history and in whom a thorough necropsy examination fails to demonstrate an adequate cause of death”

Beckwith 1969

ICD Code R95 (798.0)

SIDS epidemiological observational studies





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MATTRESS COT DEATH LINK

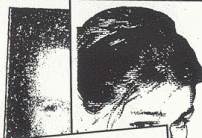
By STEPHANIE JOHNSTON

DEVOTED mum Mandy Ryan has criticised the latest cot death news as scare-mongering.

A recent survey by the Scottish Cot Death Trust, into 201 victims and 276 healthy infants, revealed that babies who sleep on hand-me-down mattresses may face a higher risk of cot death.

But Mandy, who lost her first child Connor to cot death in 1993, believes the latest advice could cause more confusion.

Mandy and husband Dave now have a daughter Shannon but since Connor's death the couple of Margaret Street, Cowaldtwistle, have received more than £15,000 in donations.



WARNING: Parents urged to boycott Boots mattresses

Cot death alert over poisoning link to bedding

Cot deaths 'could be linked to long flights'

Cot deaths are linked to too much coffee

Pregnant women who drink four cups of coffee or more each day 'significantly' raise the risk of their baby becoming a cot death.

By JENNY HOPE
Medical Correspondent

How smoke got in the eyes of the cot-death research

How coffee could kill your baby

By SEAN RAYMENT

Pregnant women who drink four cups of coffee or more each day 'significantly' raise the risk of their baby becoming a cot death.



Other drinks containing caffeine, such as tea and cola, also presented a risk.

Report blames family doctors for many sudden infant deaths

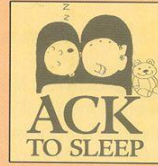
Lorry diesel fumes linked to cot deaths

Invisible soot particles are suspected of penetrating deep into lungs and causing blood clots. Nick Nuttall reports



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REDUCING THE RISK OF COT DEATH

THE DEPARTMENT OF HEALTH

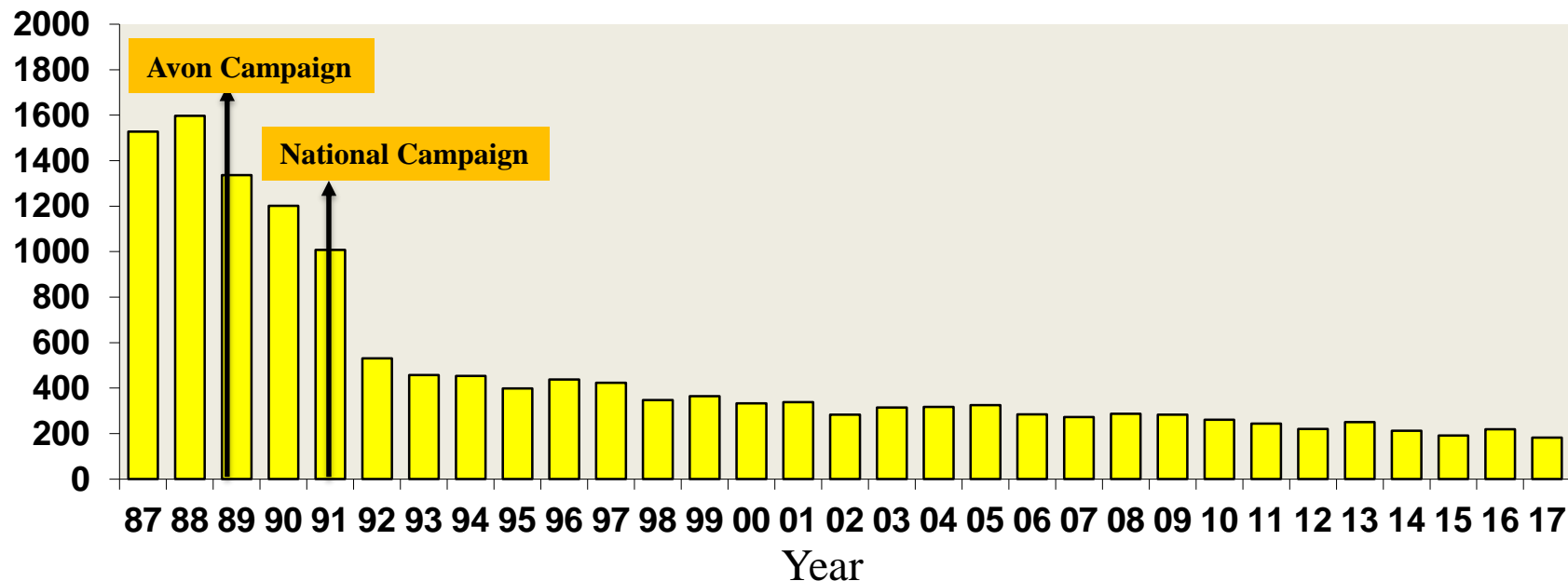
BTS1/E

Main messages

- 1) **Don't sleep babies on their front**
- 2) **Don't let your baby get too warm**
- 3) **Don't smoke during pregnancy or near your baby**

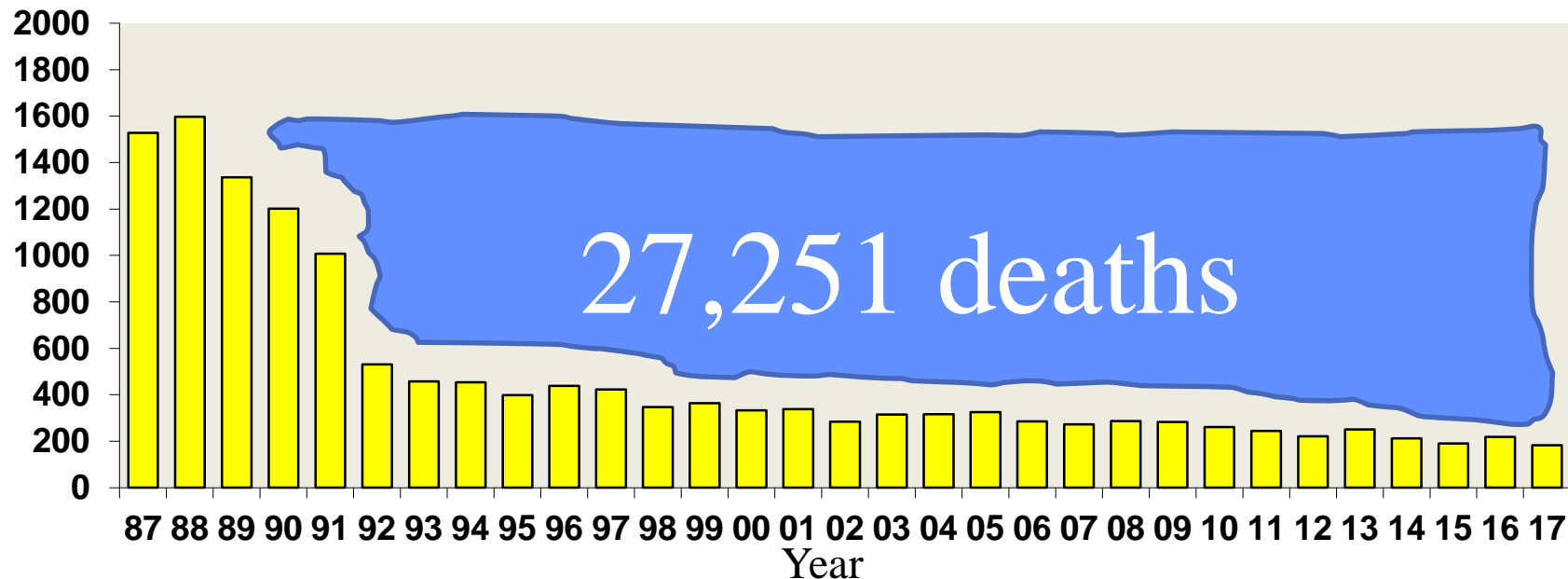
The fall in SIDS – Lives saved

Number of SIDS deaths in E&W



The fall in SIDS – Lives saved

Number of SIDS deaths in E&W



Risk reduction advice we all agree on

- 1) Put the baby on their back to sleep
- 2) Don't overdress the baby
- 3) Don't use too much bedding
- 4) Make sure the room is not too warm
- 5) Make sure your baby's head remains uncovered
- 6) Use a firm , flat, clean mattress

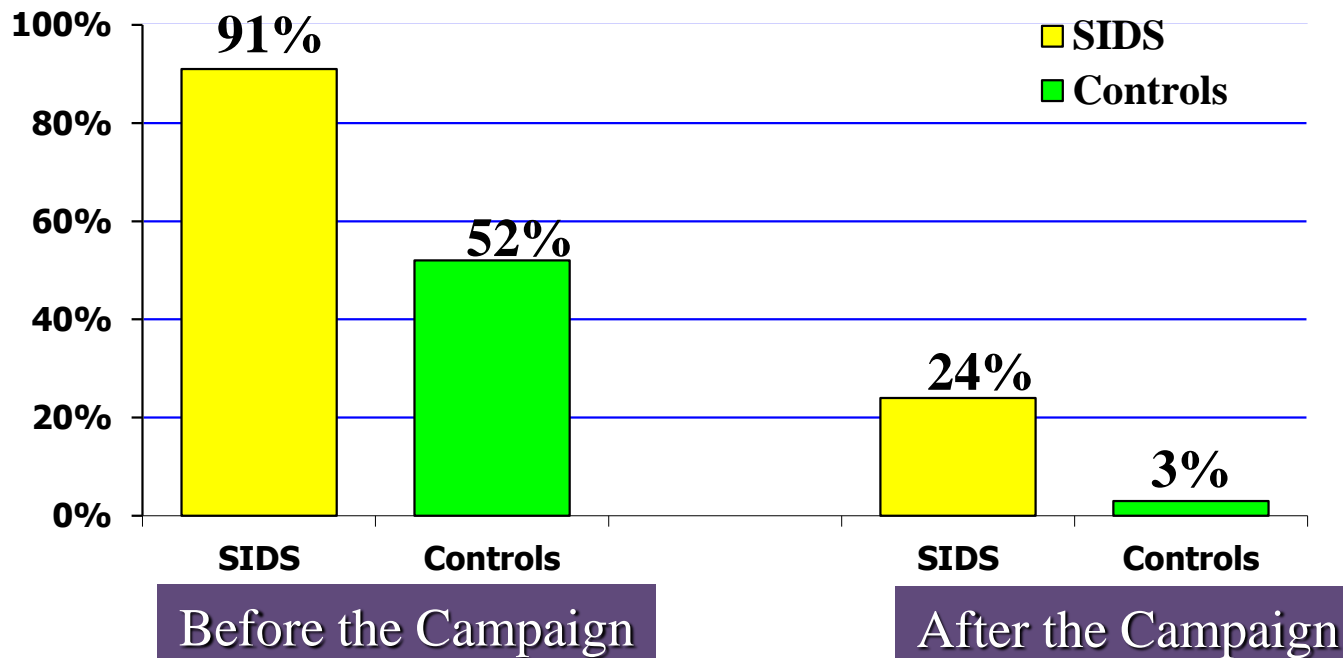
Risk reduction advice we all agree on

- 7) Don't use duvets, quilts or pillows
- 8) Don't use electric blankets or hot water bottles
- 9) Breastfeed your baby
- 10) Don't smoke during pregnancy
- 11) Don't let anyone smoke in your home
- 12) Contact your doctor if you are at all concerned

Questions that remain

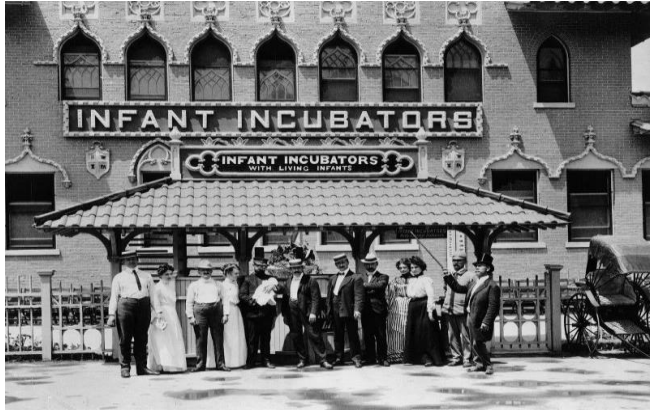
- 1) Is breastfeeding protective against SIDS?
- 2) Should we be encouraging all infants to use a dummy (pacifier)?
- 3) What advice shall we give about baby boxes?
- 4) What advice shall we give about bed-sharing?

Infants put down prone *Before and after campaign*





Incubators & prone positioning

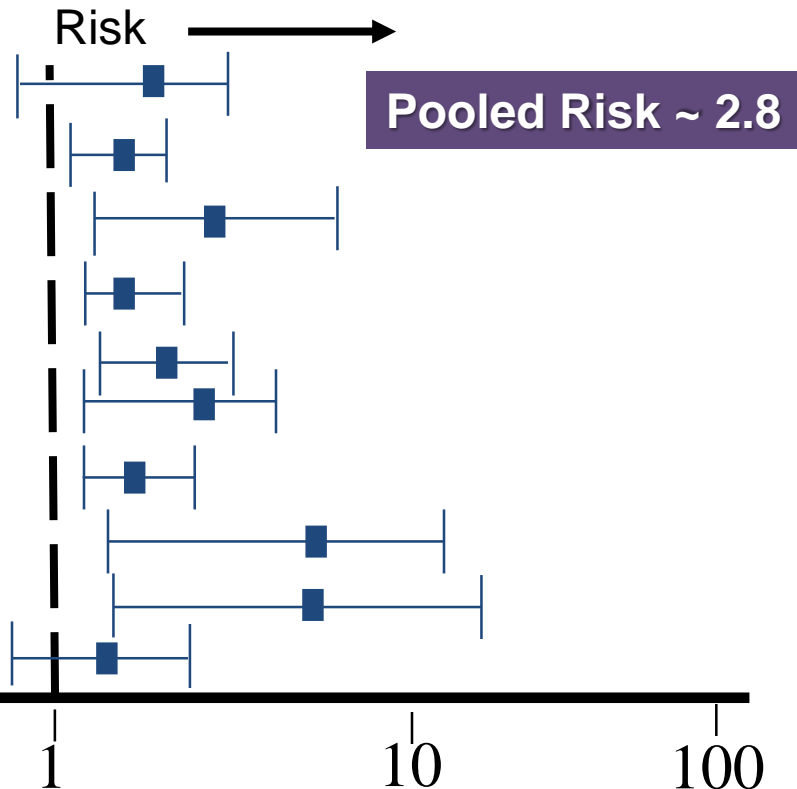


Is breastfeeding protective against SIDS?



Univariate risk of bottle-feeding

McGarvey, Ireland 2000
Wennergren, Nordic 1997
Brooke, Scotland 1997
Blair, UK 1996
Klonoff-Cohen, US 1995
Gilbert, England 1995
Mitchell, New Zealand 1992
Biering-Sorensen, Den 1978
Carpenter, England 1965
Froggatt, N Ireland 1961



McVea KI et al. J Human Lactation 2000



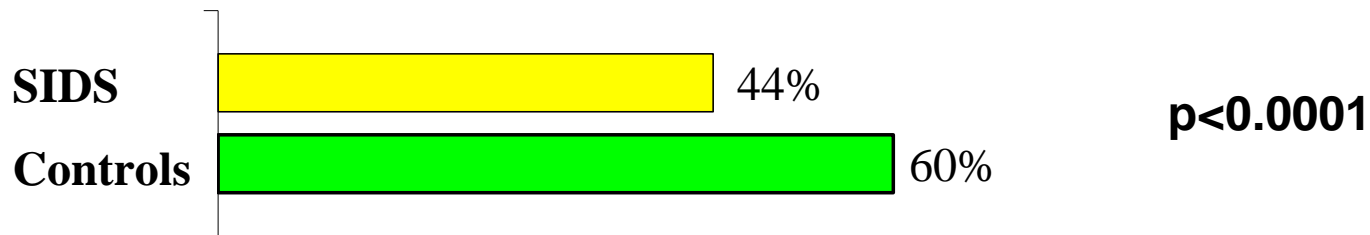
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Odds Ratio (Log Scale)

Infant breastfeeding attempted

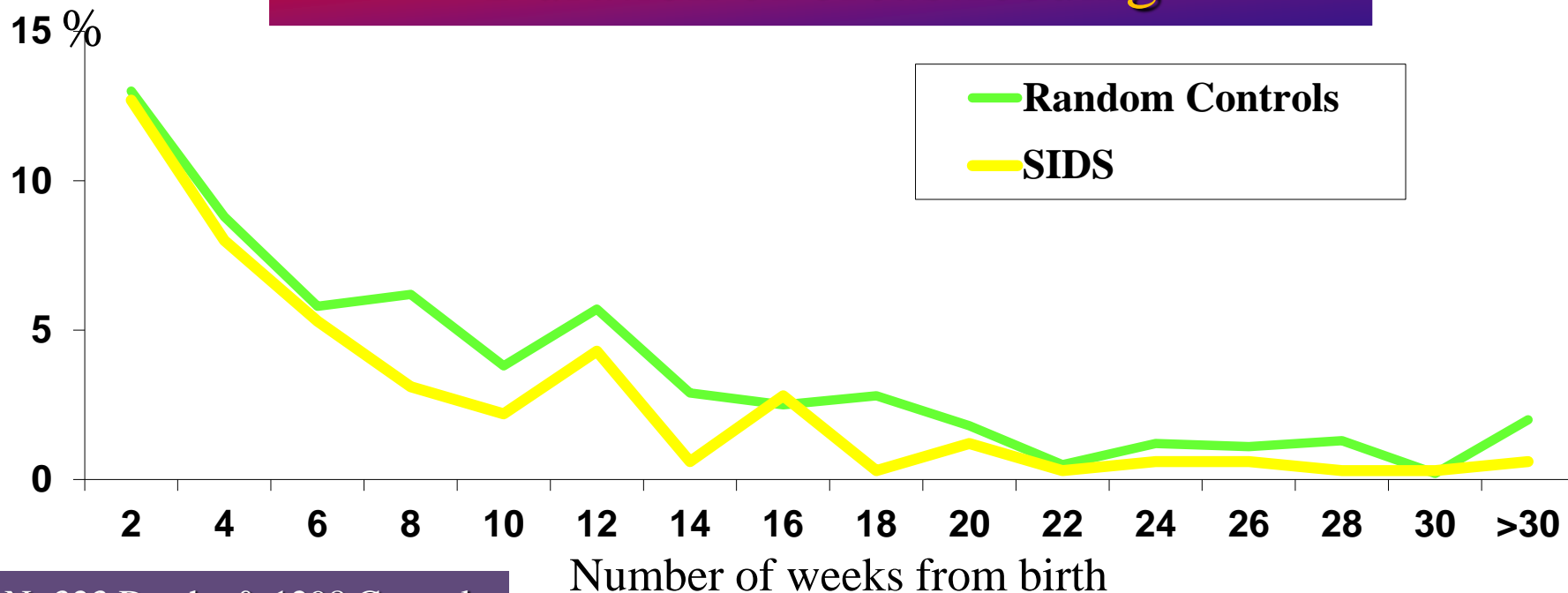
CESDI Study 1993-1996



SWISS Study 2003-2006



Duration of breastfeeding



N=323 Deaths & 1298 Controls
Source : CESDI SUDI study

Duration of Breastfeeding and Risk of SIDS: An Individual Participant Data Meta-analysis

John M.D. Thompson, PhD,^a Kawai Tanabe, MPH,^b Rachel Y. Moon, MD,^c Edwin A. Mitchell, FRSNZ, FRACP, FRCPC, DSc (Med),^a Cliona McGarvey, PhD,^d David Tappin, MBBS, MD, MSc,^e Peter S. Blair, PhD,^f Fern R. Hauck, MD, MS^b

- 8 studies 2267 SIDS, 6837 controls
- Any breastfeeding > 2 months halved the risk of SIDS
- Greater protection with increased duration
- Breastfeeding did not have to be exclusive to confer protection

Thompson JMD et al. *Pediatrics* 2017;140(5):e20171324

Protective mechanisms?

- Increased immunity from the breast milk?
- Brain Development?
- Arousal mechanism?
- Proxy marker for a different infant care practice?
- Proxy marker for something unmeasured

Should we be encouraging all infants to use a dummy (pacifier)?





Dummies 'slash cot death risk by 90pc'

by JENNY HOPE, Daily Mail



DUMMY AT BEDTIME CUTS COT DEATH RISK BY 90%

It helps tots breathe, say docs

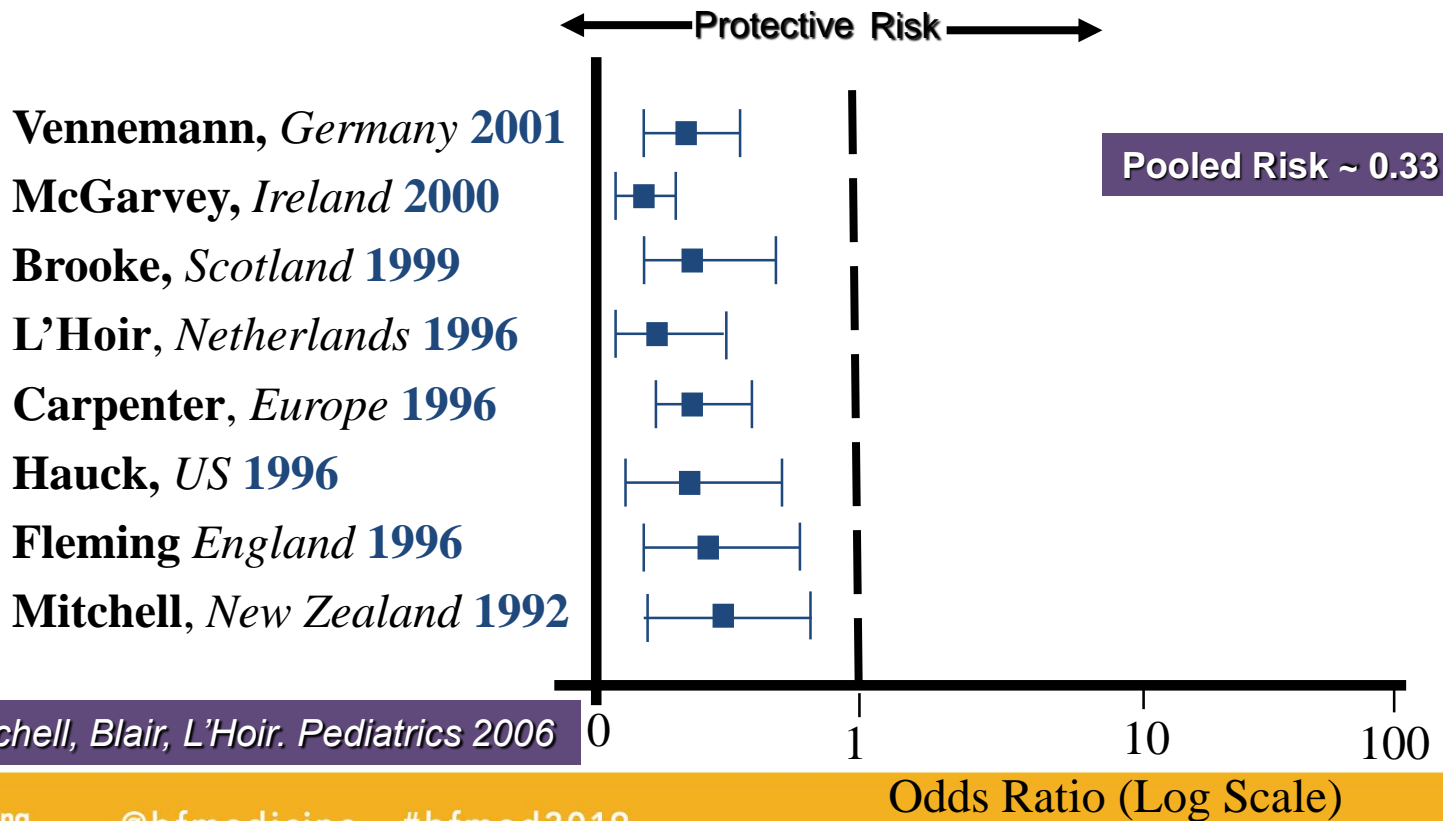
By Greig Box



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Multivariate risk of using a dummy for the last sleep



Source : Mitchell, Blair, L'Hoir. Pediatrics 2006

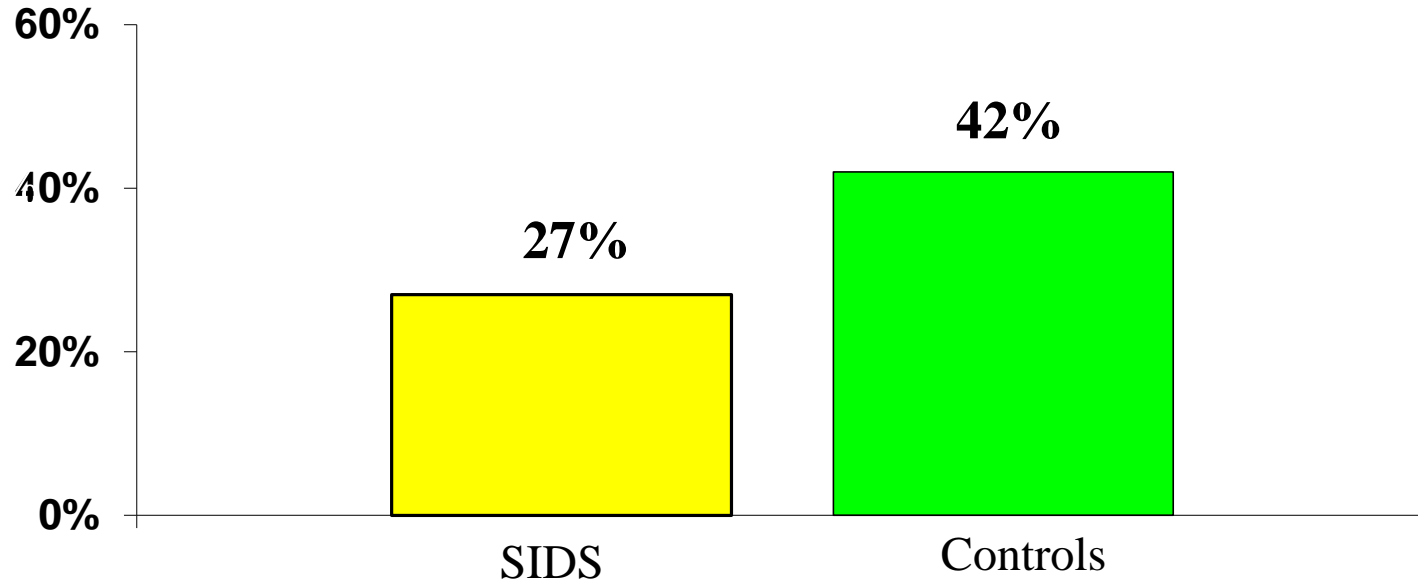


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Odds Ratio (Log Scale)

Dummy use for last sleep



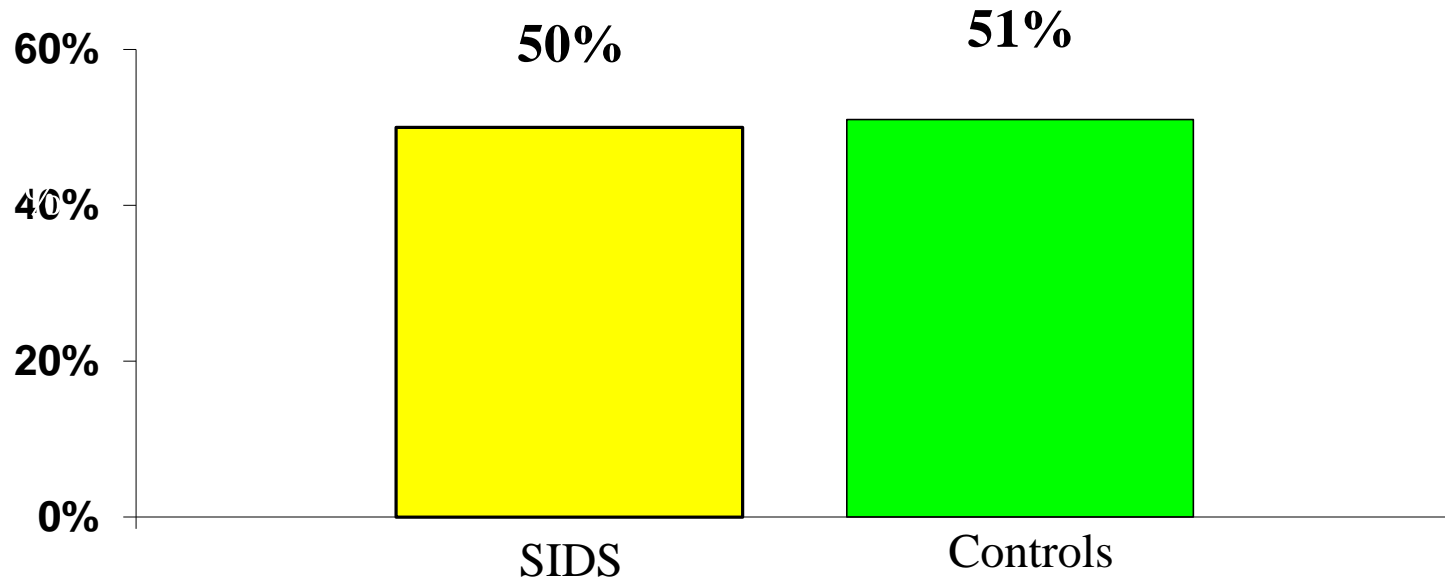
Based on 8 studies (*Mitchell, Blair, L'Hoir, Pediatrics 2006*)



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Habitual dummy use



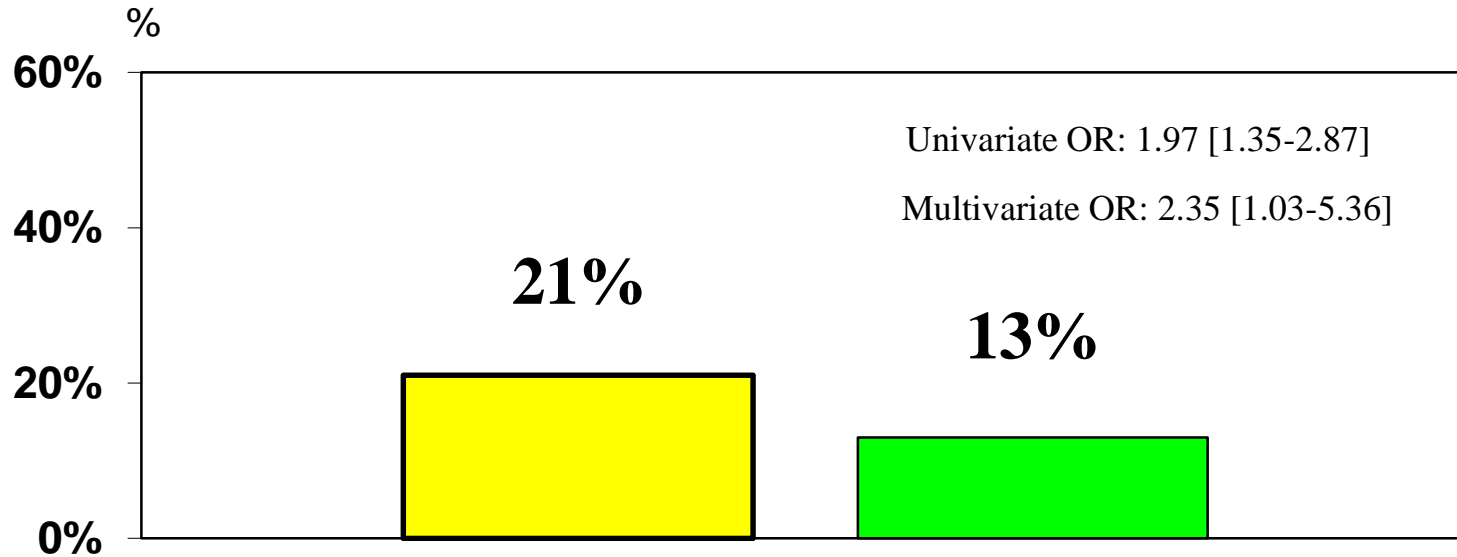
Based on 8 studies (*Mitchell, Blair, L'Hoir, Pediatrics 2006*)



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Change in routine for the last sleep



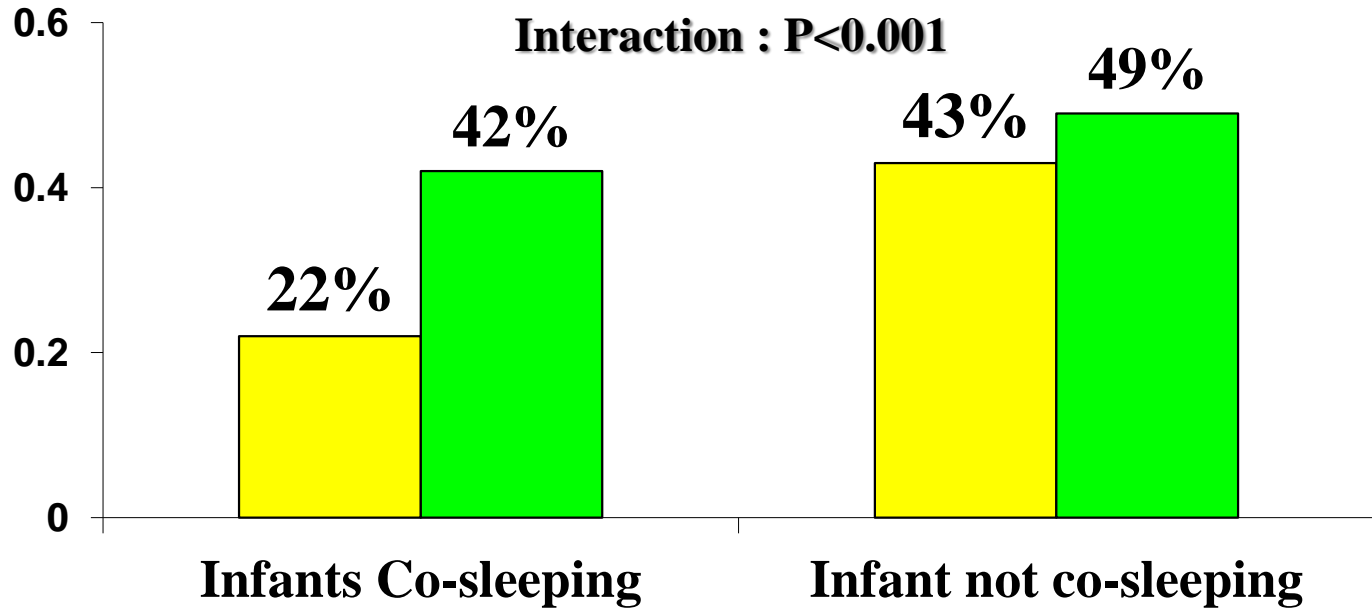
CESDI Study: 321 SIDS & 1299 controls

Change in routine: anecdotal evidence

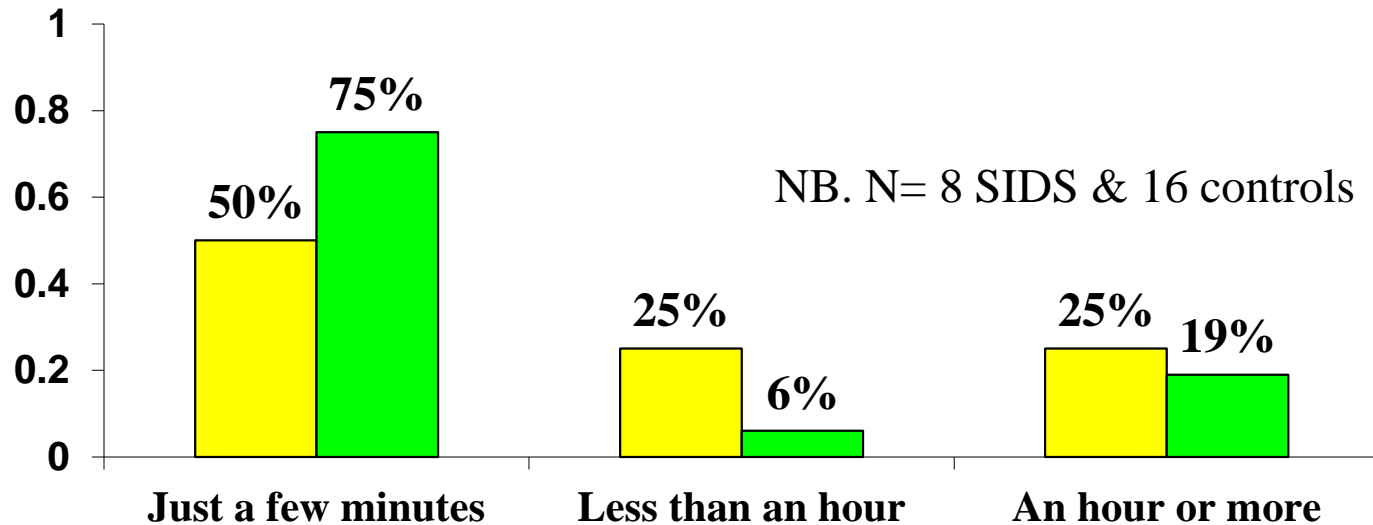
- An estimated 50% (64/ 127) of SIDS cases who were bed-sharing on the night they died were **unaccustomed** to this type of sleeping arrangement. (*McGarvey et al 2006*)
- “For 19 (73%) of the 26 co-sleeping deaths, co-sleeping was **not their usual sleeping arrangement and** the parent had chosen to co-sleep for a specific reason, usually that the infant was unsettled.” (*Child Death Review Programme and all Wales Perinatal Survey 2015*).

CESDI & SWISS combined

Interaction of dummy use and co-sleeping

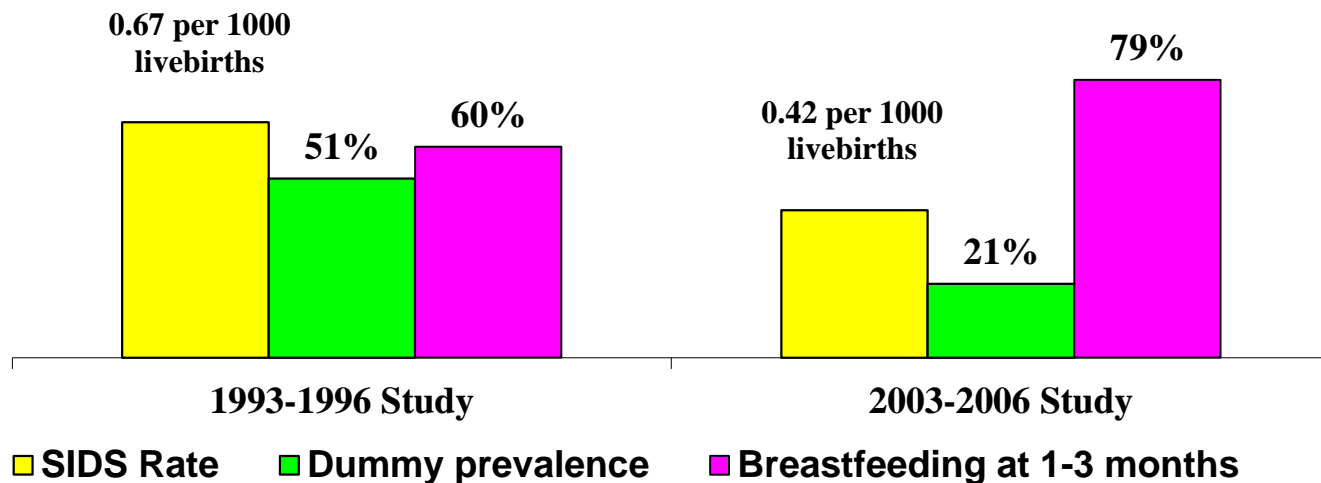


Duration of dummy use for last sleep



Source : SWISS SUDI study

Changes in SIDS rate, dummy use and breastfeeding prevalence at 1-3 months of age



Pacifiers and breastfeeding: a systematic review.

Nina R. O'Connor, MD; Kawai O. Tanabe, MPH; Mir S. Siadat, MD, MS; Fern R. Hauck, MD, MS

Abstract results

17/25 observational studies reported an association
between pacifier use and shortened duration of breastfeeding

4 RCT's recruiting mothers who were keen to breastfeed showed no difference

Abstract conclusion

The highest level of evidence does not support an adverse
relationship between pacifier use and breastfeeding duration

What advice should we give about baby boxes?





LETTERS

CARDBOARD BABY BOXES

Concerns about the promotion of a cardboard baby box as a place for infants to sleep

Peter S Blair *professor of epidemiology and statistics*¹, Anna Pease *senior research associate*¹, Francine Bates *chief executive*², Helen Ball *professor of anthropology*³, John M D Thompson *associate professor, epidemiologist, and statistician*⁴, Fern R Hauck *professor of public health sciences*⁵, Rachel Moon *professor of paediatrics*⁵, Betty McEntire *CEO and executive director*⁶, Anat Shatz *chief executive*⁷, Marta Cohen *consultant paediatric pathologist*⁸, Trina C Salm Ward *assistant professor of social work*⁹, Peter Fleming *professor of infant health and developmental physiology*¹

Our concerns

- No evidence that using these boxes reduces SIDS
- Potential to obscure the infant from parental observation
- No published evidence that the box can be used safely :
 - Questionable provision of a lid



Our concerns

- No evidence that using these boxes reduces SIDS
- Potential to obscure the infant from parental observation
- No published evidence that the box can be used safely :
 - Questionable provision of a lid
 - Low level draughts and use by young siblings or pets
 - Putting the box on raised surfaces
 - Fire-retardant?
- Undermining current safety messages

Programme iteration report January 2019

Baby Box Pilot

CHILD
.ORG



Wahakura?



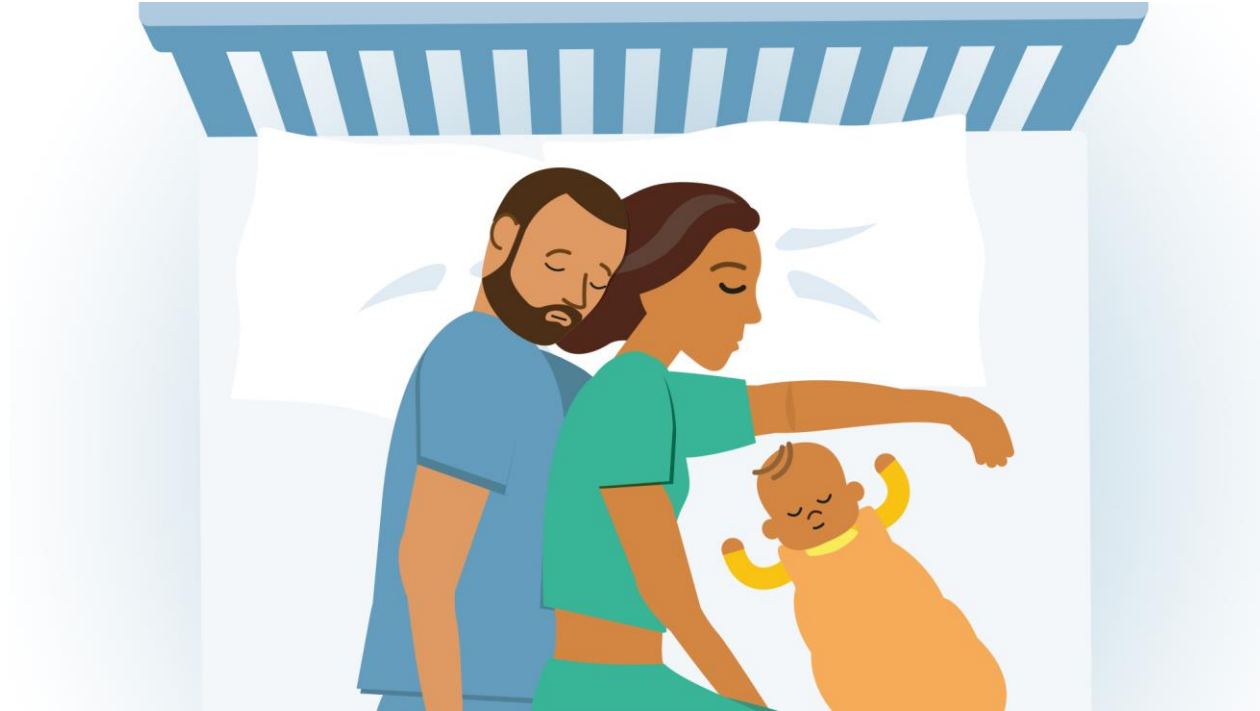
Pepi-Pod?



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What advice should we give about bed-sharing?



Univariate risk of bed-sharing - **prior to** fall in SIDS

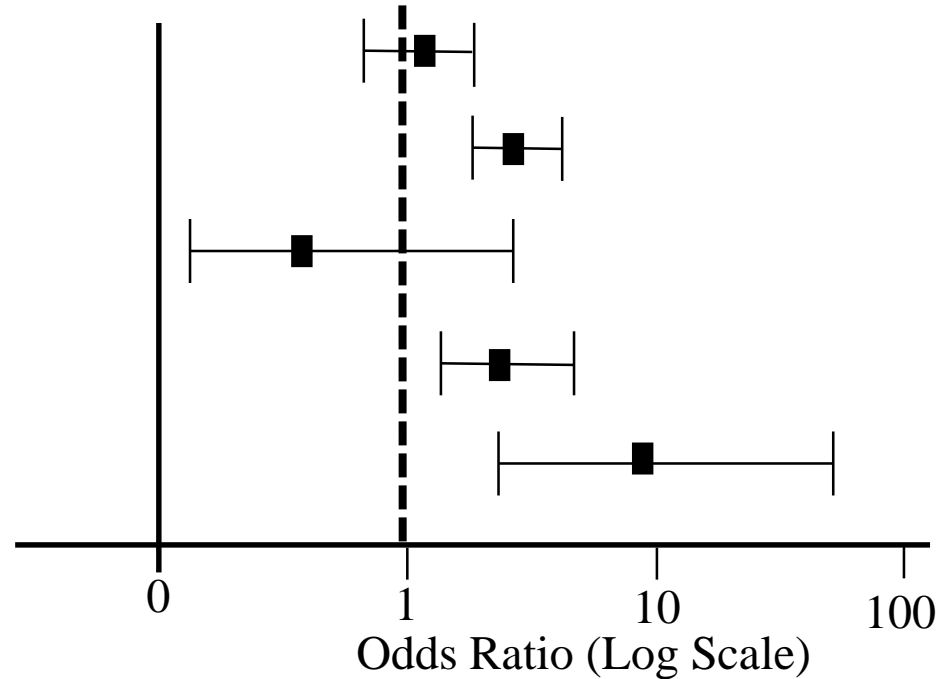
Klonoff-Cohen, US 1989-92

Mitchell, NZ 1987-90

Lee, Hong Kong 1986-87

Luke, US 1973-76

Carpenter, England 1958-61



Univariate risk of bed-sharing - after fall in SIDS

Blair, *England* 2003-06

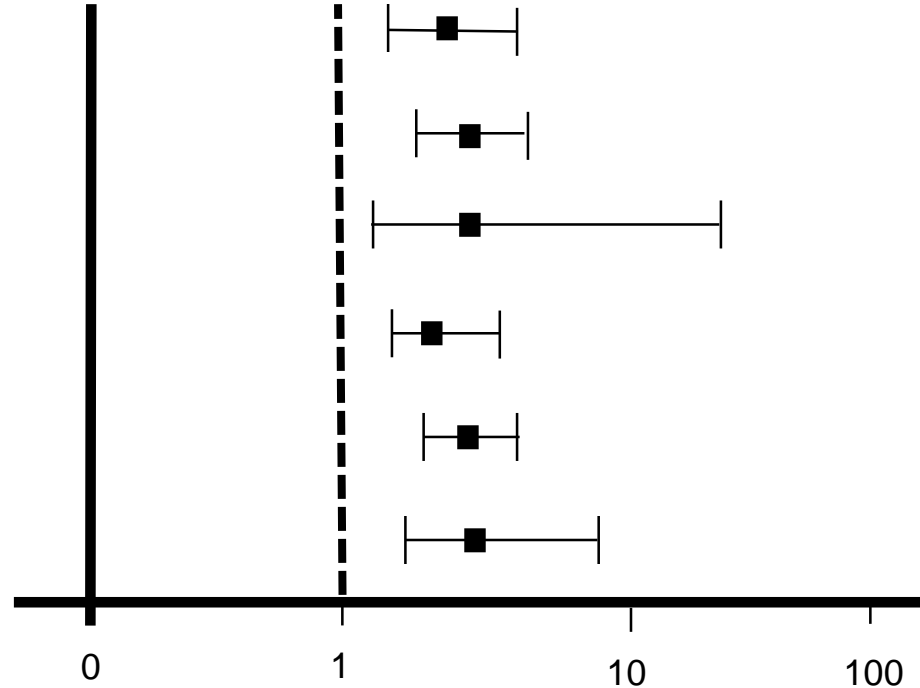
Tappin, *Scotland* 1996-2000

McGarvey, *Ireland* 1993-2000

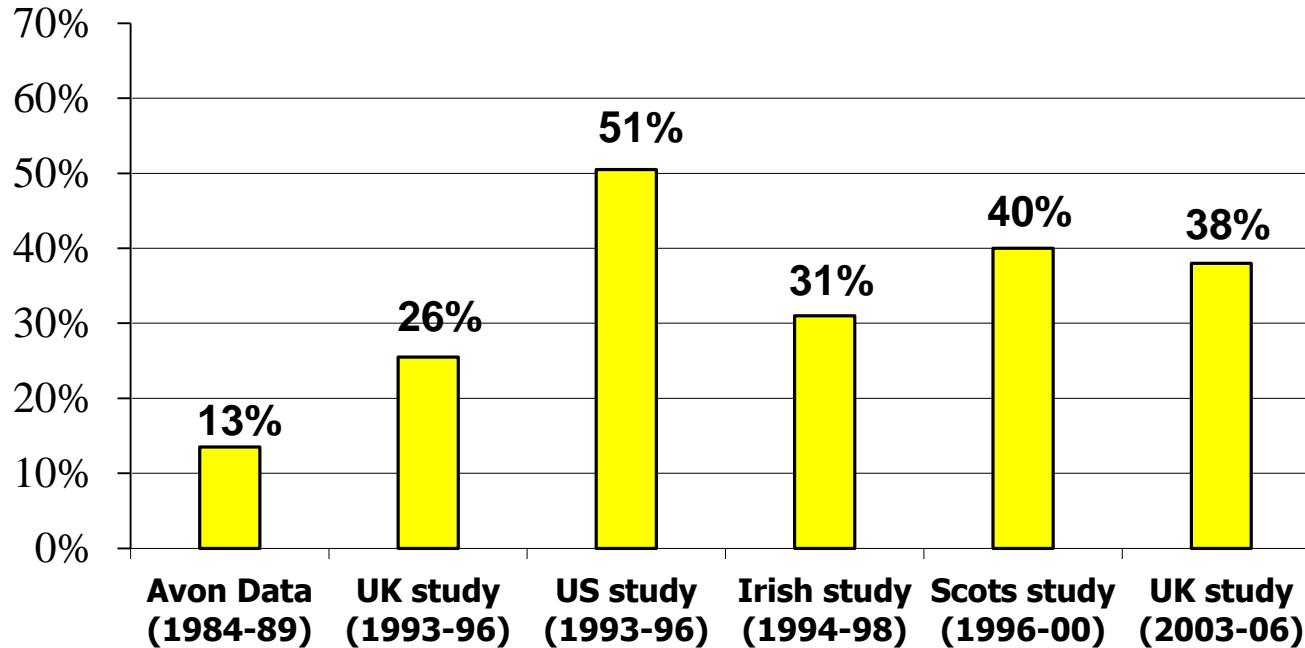
Hauck, *US* 1993-96

Fleming, *England* 1993-96

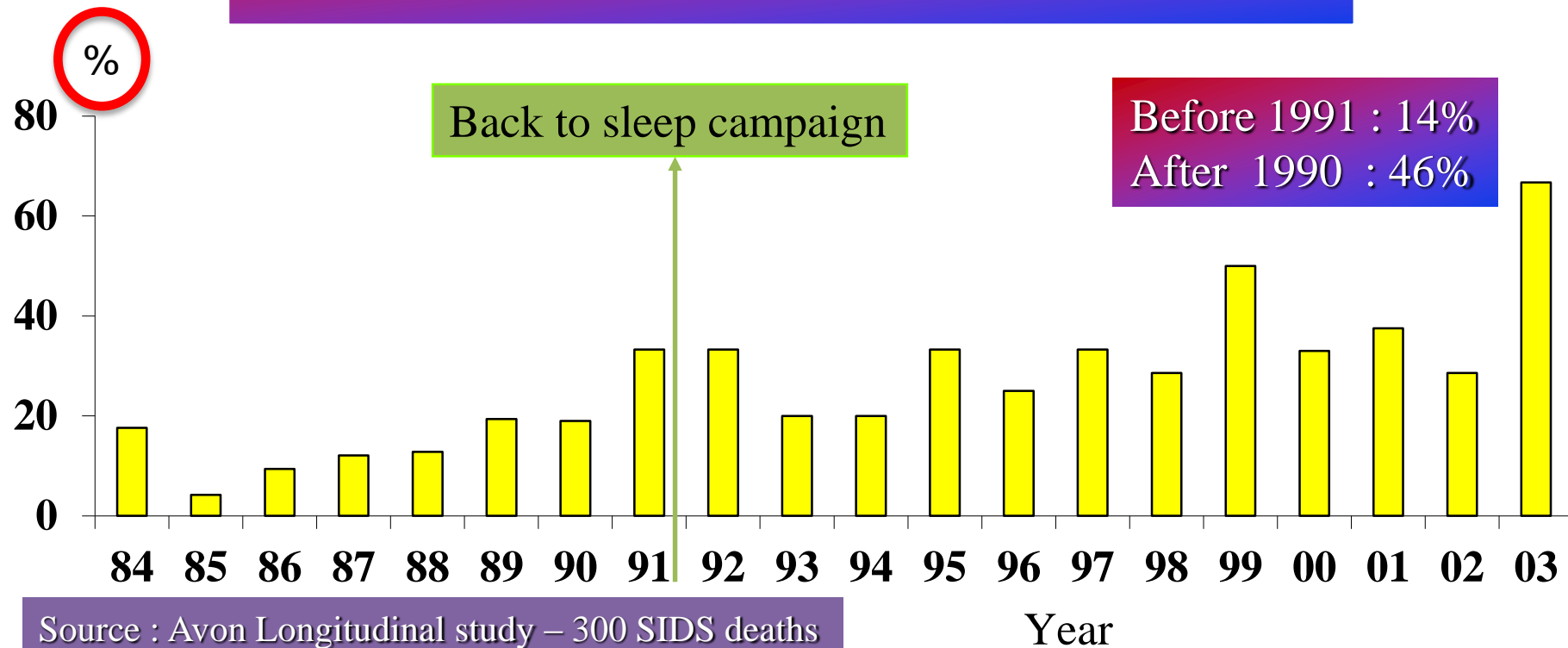
Schellscheidt, *Germany* 1993-94



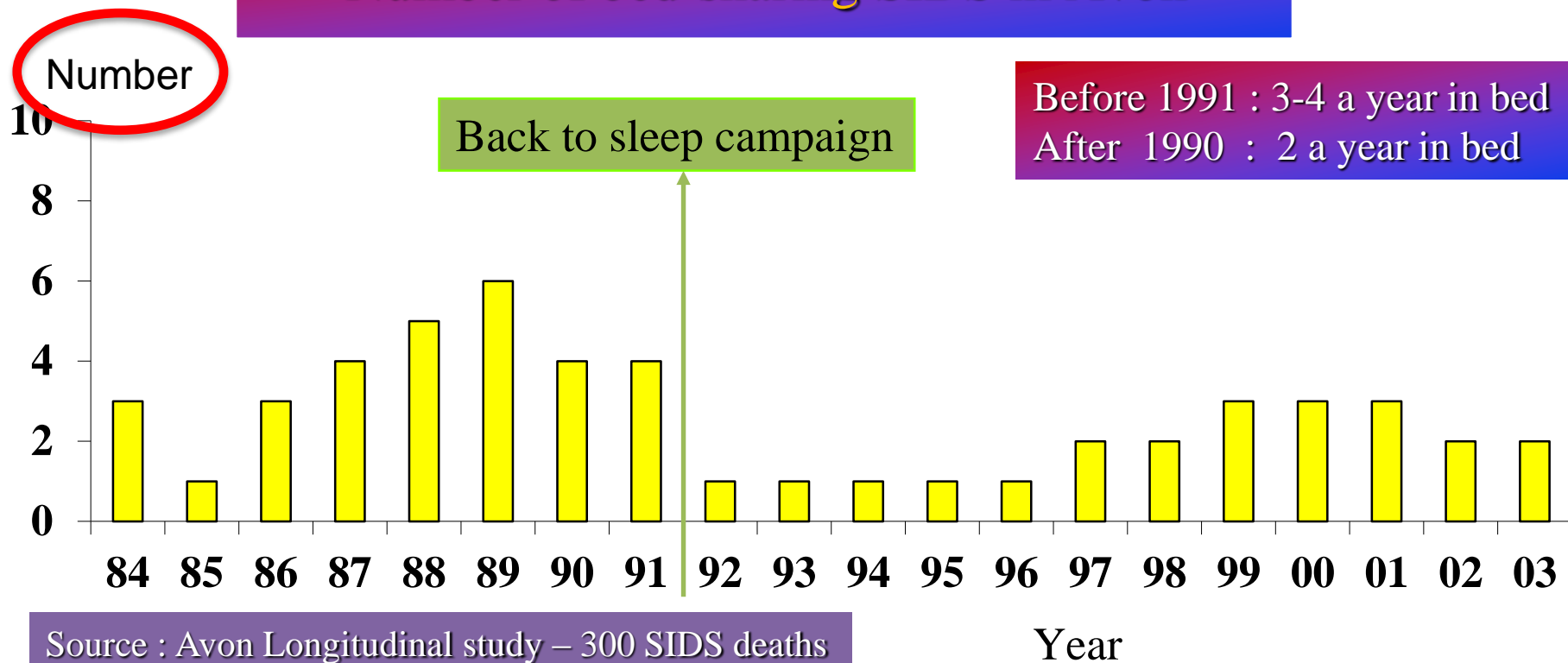
Proportion of bed-sharing deaths across studies



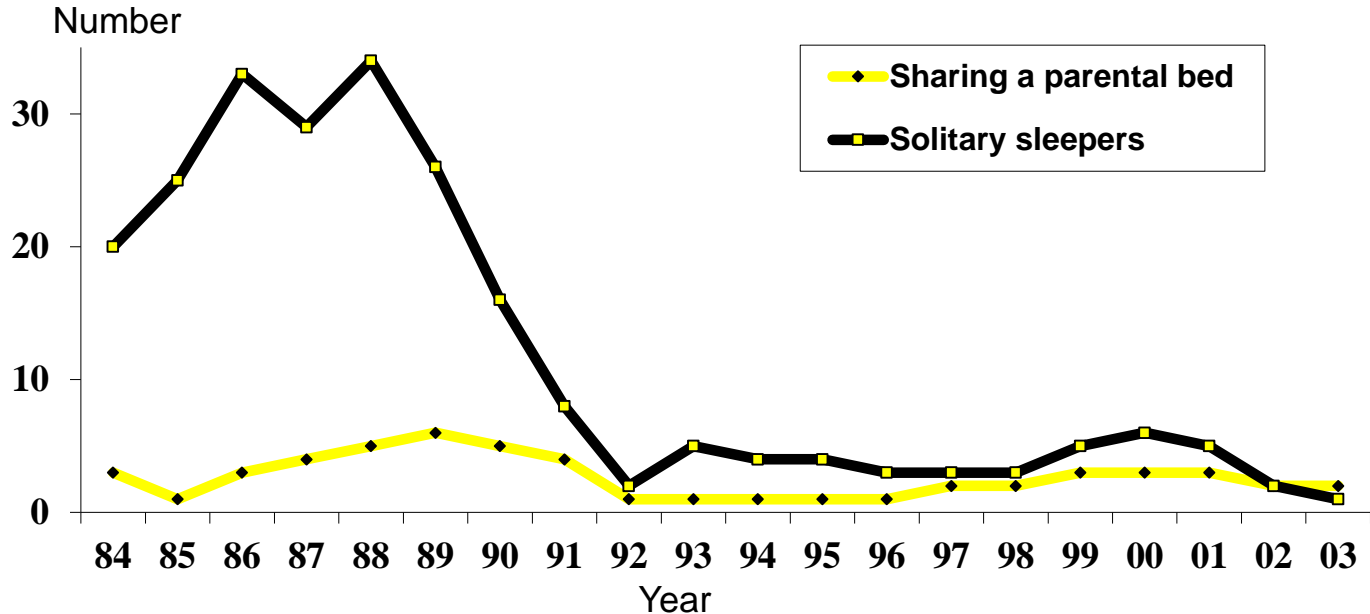
Proportion of bed-sharing SIDS deaths in Avon



Number of bed-sharing SIDS in Avon



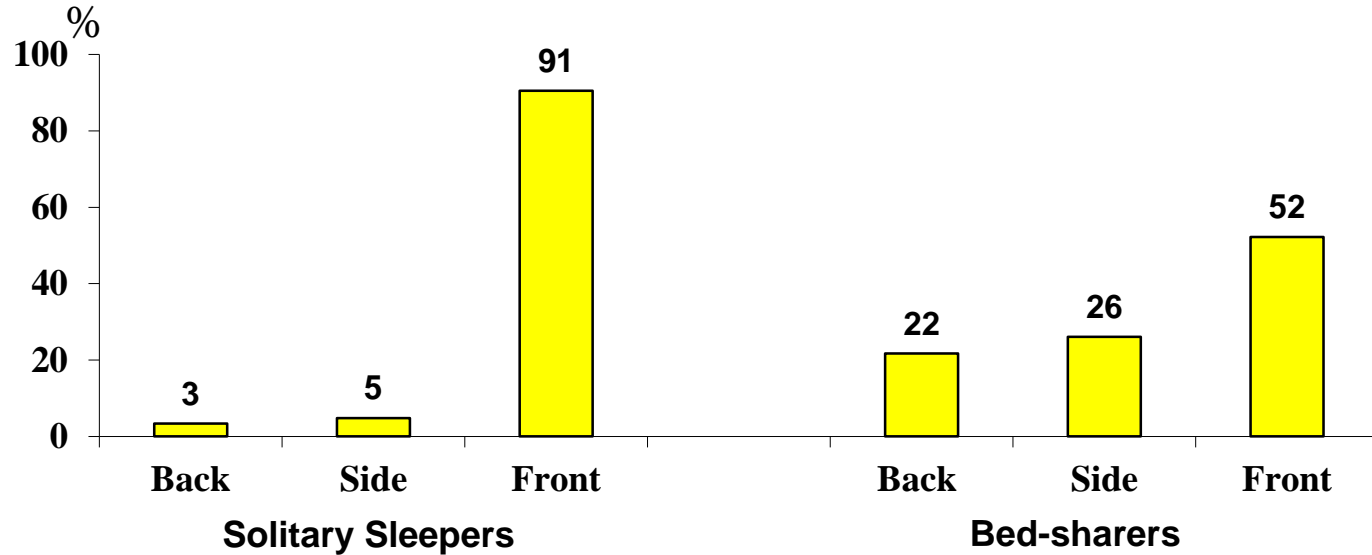
The fall in solitary sleeping SIDS in Avon



Source : Avon Longitudinal Study

Sleeping position in the 1980s in Avon

Solitary Sleepers vs Bed-sharers



Source : Avon Longitudinal study



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Bed sharing when parents do not smoke: is there a risk of SIDS? An individual level analysis of five major case-control studies

Robert Carpenter,¹ Cliona McGarvey,² Edwin A Mitchell,³ David M Tappin,⁴ Mechtild M Vennemann,⁵ Melanie Smuk,¹ James R Carpenter^{1,6}

		<u>Drugs</u>	<u>Alcohol</u>	<u>Sofas</u>	<u>Smoking</u>
New Zealand Study	1987-1990	N	N	N	Y
European Study	1992-1996	N	Y/N	N	Y
Irish Study	1994-2003	N	Y	Y	Y
Scottish Study	1996-2000	N	N	N	Y
German Study	1998-2001	N	N	Y	Y

1472 SIDS & 4679 controls

AOR for non-hazardous bed-sharing in younger infants:
5.1 [95% CI 2.3 -11.4]

Reference group: breastfed baby girls placed on their back by non-smoking parents having no other risk factors

Bed-Sharing in the Absence of Hazardous Circumstances: Is There a Risk of Sudden Infant Death Syndrome? An Analysis from Two Case-Control Studies Conducted in the UK



Peter S. Blair^{1*}, Peter Sidebotham², Anna Pease¹, Peter J. Fleming¹

¹ School of Social & Community Medicine, University of Bristol, Bristol, United Kingdom, ² Medical School, University of Warwick, Warwick, United Kingdom

		<u>Drugs</u>	<u>Alcohol</u>	<u>Sofas</u>	<u>Smoking</u>
CESDI SUDI Study	1993-1996	N	Y	Y	Y
SWISS study	2003-2006	Y	Y	Y	Y

400 SIDS & 1386 controls

CESDI & SWISS combined

Infants found co-sleeping for the last sleep

	<u>SIDS</u>	<u>Controls</u>	<u>Multivariate OR</u>	<u>P-value</u>
Did not co-sleep	255	1173	1.00 [Ref Group]	
Co-slept :				
on a sofa or chair	33	7	18.34 [7.10-47.35]	<0.0001
adult > 2 units of alcohol	29	12	18.29 [7.68-43.54]	<0.0001
Adult who smoked	59	63	4.04 [2.41-6.75]	<0.0001
In absence of above hazards	24	131	1.08 [0.58-2.01]	<0.82

CESDI & SWISS combined

Infants found co-sleeping for last sleep (<98 days old)

	<u>SIDS</u>	<u>Controls</u>	<u>Adjusted OR</u>	<u>P-value</u>
Did not co-sleep	110	566	1.00 [Ref Group]	
Co-slept :				
on a sofa or chair	22	5	21.44 [7.93-58.04]	<0.0001
adult > 2 units of alcohol	19	5	19.35 [7.05-53.11]	<0.0001
Adult who smoked	47	26	8.93 [5.27-15.14]	<0.0001
In absence of above hazards	23	70	1.62 [0.96-2.73]	<0.07

CESDI & SWISS combined

Infants found co-sleeping for last sleep (≥ 98 days old)

	<u>SIDS</u>	<u>Controls</u>	<u>Adjusted OR</u>	<u>P-value</u>
Did not co-sleep	145	607	1.00 [Ref Group]	
Co-slept :				
on a sofa or chair	11	2	23.86 [5.22-109.2]	<0.0001
adult > 2 units of alcohol	10	7	6.38 [2.38-17.12]	0.0002
Adult who smoked	12	37	1.42 [0.72-2.79]	0.32
In absence of above hazards	1	61	0.08 [0.01-0.52]	0.009

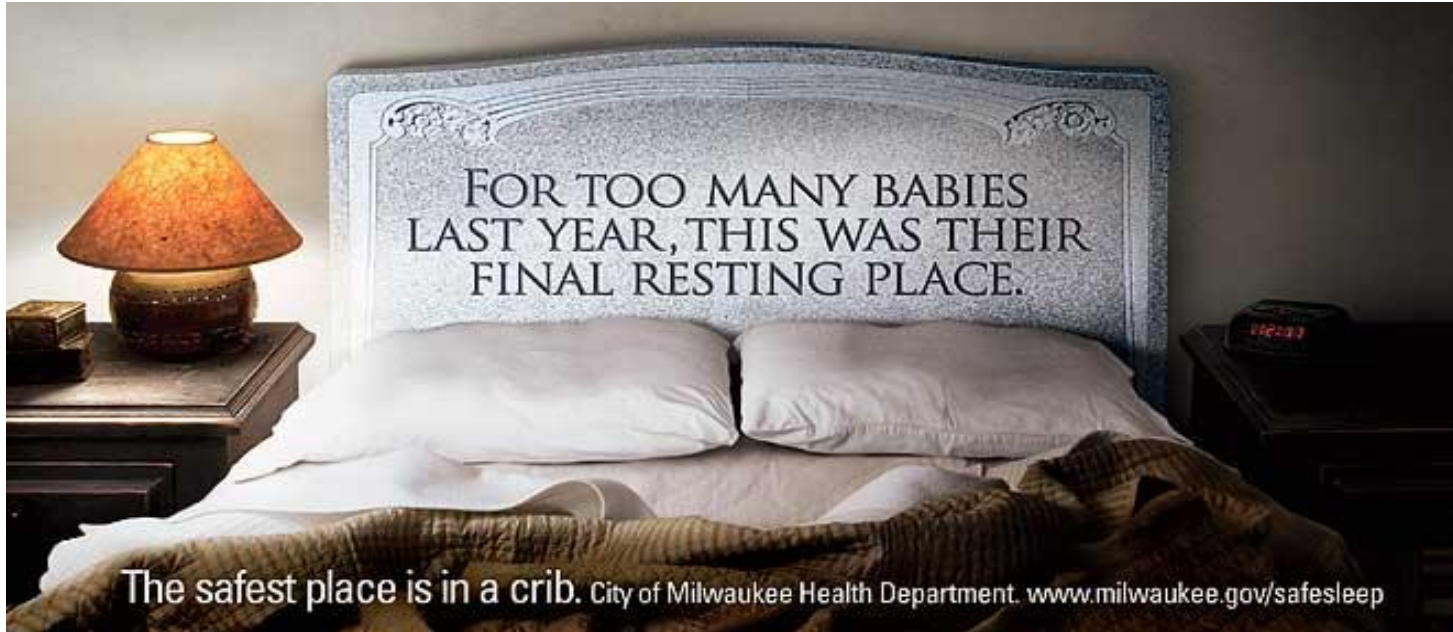




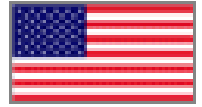
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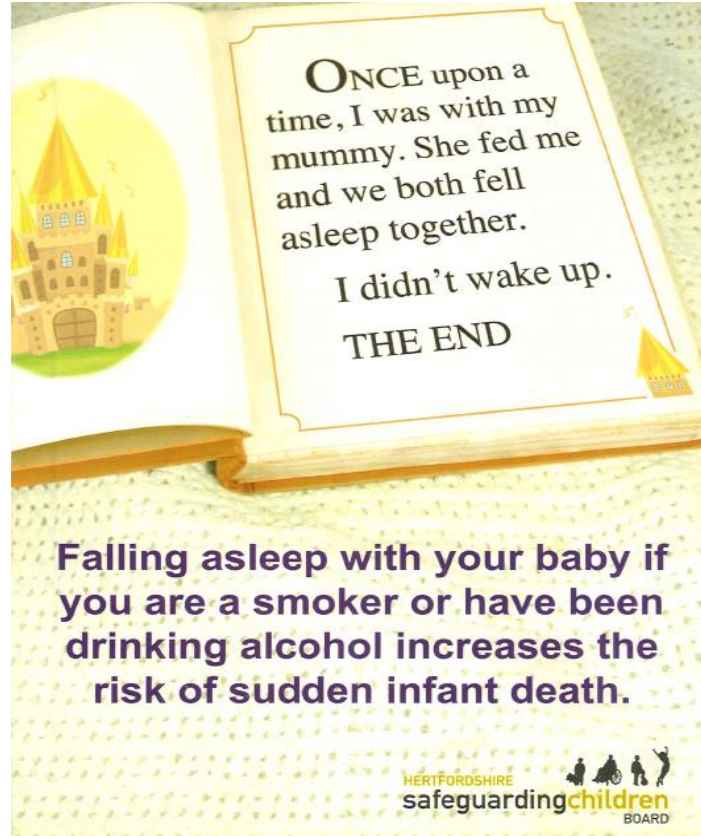
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City of Milwaukee: Anti- bedsharing Campaign.

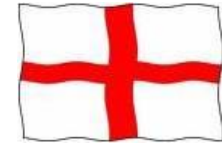


Wisconsin Anti- bedsharing Campaign.





Safeguarding Campaign in Hertfordshire



ISPID statement on fear-based prevention strategies

..... ISPID is deeply concerned with recent health promotion campaigns that vilify parents or go too far with symbolism (for example: bed headboards as tombstones, or mothers depicted as meat cleavers or ogres in fairy tales). These over-simplified health campaigns might also mislead the public on the facts surrounding SIDS and its prevention.

We believe that such strategies are unnecessary, can be misleading and are very hurtful to parents who are already in deep pain. We disavow such strategies and encourage those who create campaigns for perinatal or infant death prevention to seriously consider the impact on parents who have had babies die and the extreme fear these might cause those parents with newborn infants.





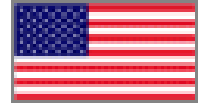
Moon RY et al.

Health Messaging and African-American Infant Sleep Location: A Randomized Controlled Trial.

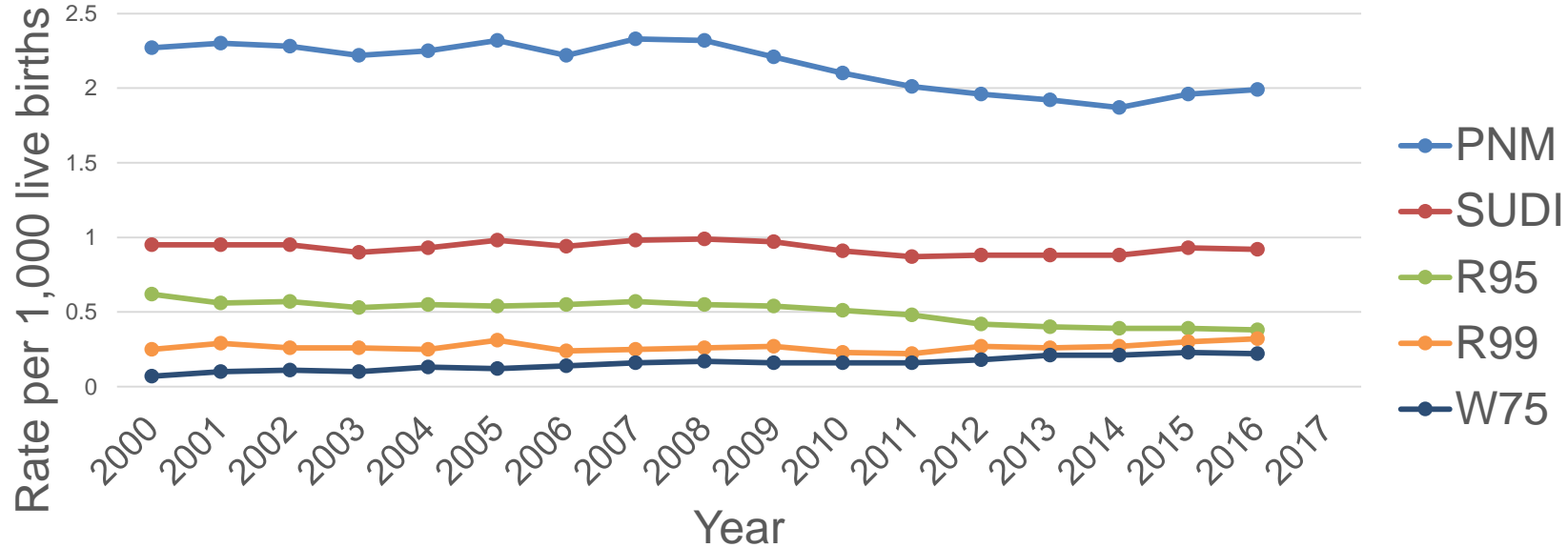
J Community Health. 2016 Jul 28.

“Despite AAP recommendations to avoid bedsharing, public health efforts have been unsuccessful in changing behaviors.”

“African–American mothers who received an enhanced message about SIDS risk reduction and suffocation prevention were no less likely to bedshare with their infants.”



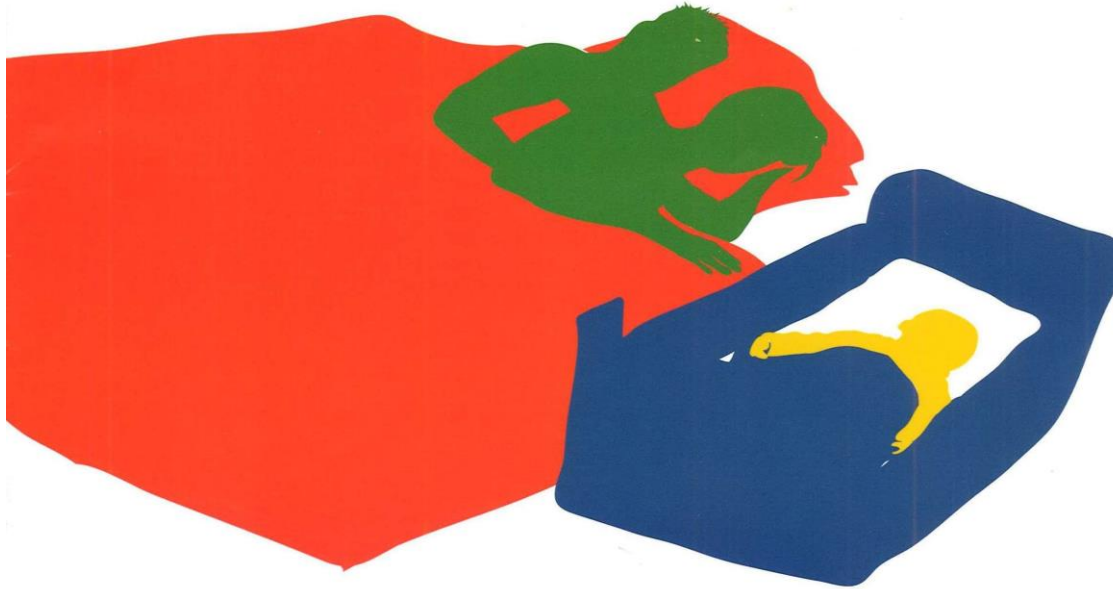
SUDI Deaths by ICD-10 Code, 2000 - 2016 USA





Caring for your baby at night

A guide for parents





BED-SHARING

Some parents choose to sleep with their baby in bed and some fall asleep with their baby during the night while feeding and comforting whether they intend to or not. Therefore it is very important to consider the following points....



If you decide to share a bed with your baby:

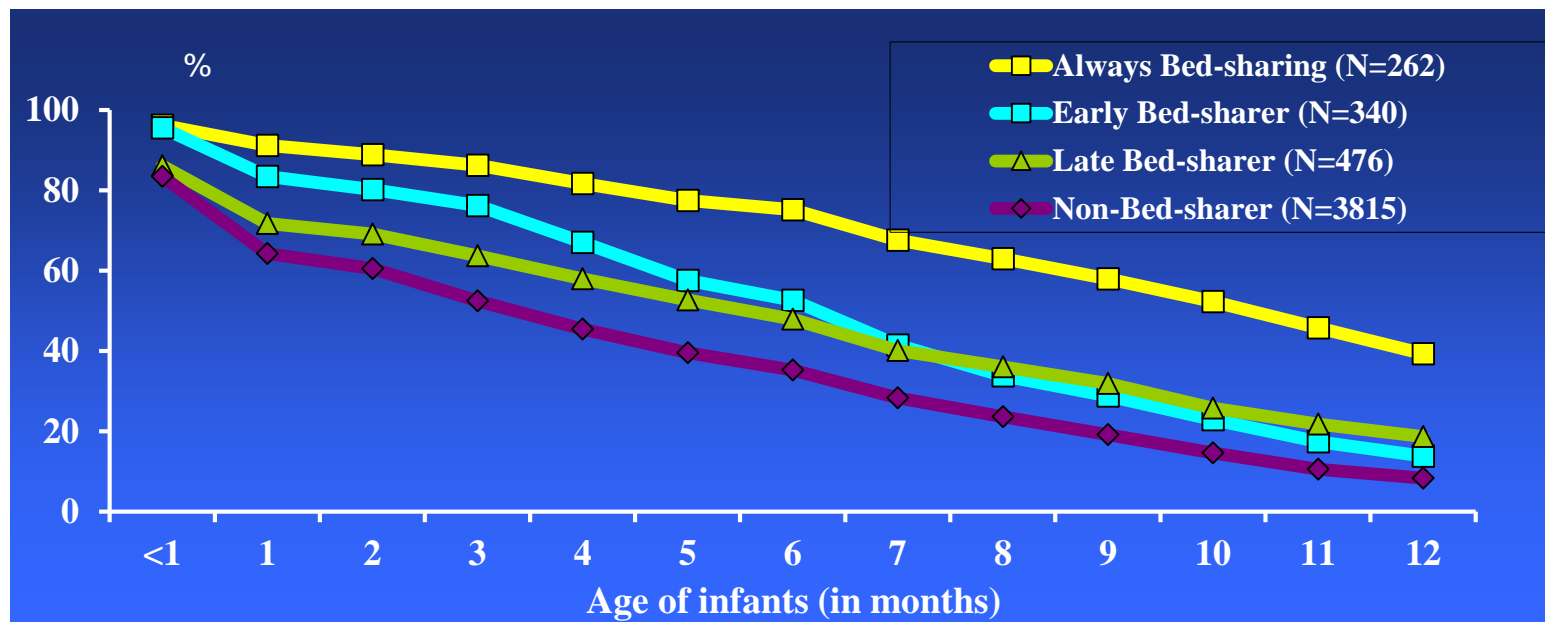
- Keep your baby away from the pillows
- Make sure your baby cannot fall out of bed or become trapped between the mattress and wall
- Make sure the bedclothes cannot cover your baby's face
- Don't leave your baby alone in the bed, as even very young babies can wriggle into a dangerous position
- It is not safe to bed-share in the early months if your baby was born very small or pre-term



WARNING

- Ensure your baby has a clear flat sleep space
- Do not sleep with your baby when you have been drinking any alcohol or taking drugs (legal or illegal)
- Do not sleep with your baby if you or anyone else in the bed is a smoker
- Do not put yourself in the position where you could doze off with your baby on a sofa or armchair

Prevalence of breastfeeding amongst different bed-sharing groups



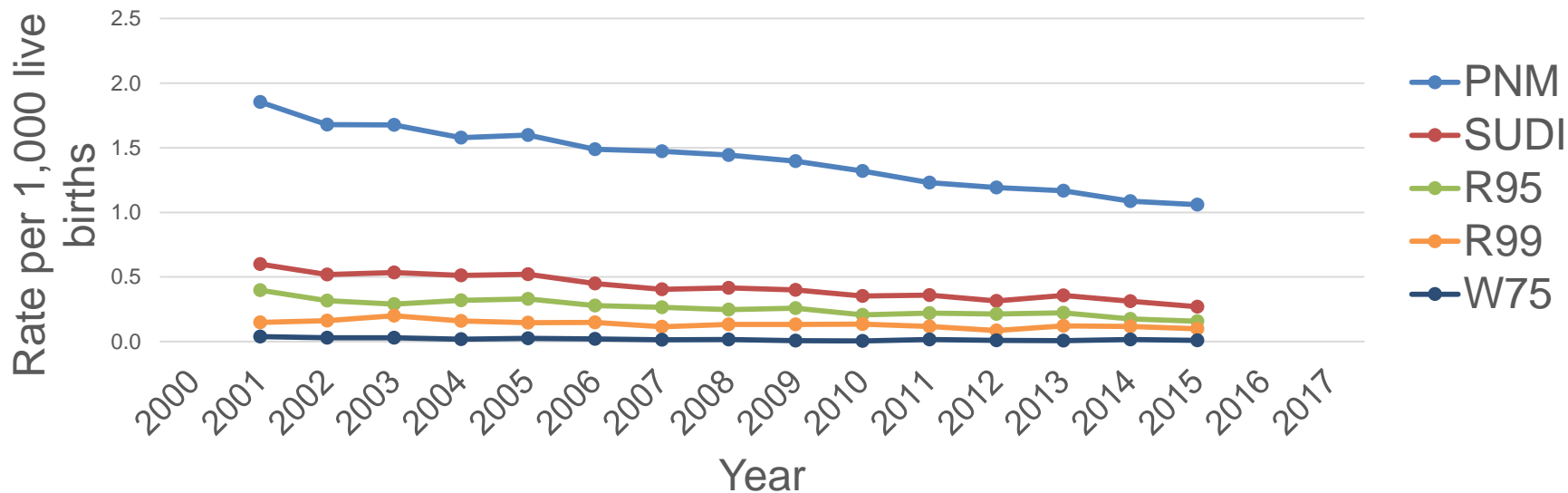
Blair PS, Heron J, Fleming PJ. Pediatrics 2010



England and Wales



SUDI Deaths by ICD-10 Code, 2001 - 2015 England & Wales



22 - 24 October, 2020

Brisbane Convention Centre, Queensland, AUSTRALIA

