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NSW CHILD DEVELOPMENT STUDY

Study overview and preliminary analysis of FaCS data

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Background

- The New South Wales Child Development Study (NSW-CDS) project was initially designed to identify childhood risk profiles for adolescent onset major mental disorders in order to target prevention and early intervention strategies. Now, there are many outcomes of interest.

- World Health Organisation estimates half of all lifetime cases of mental disorders occur before age 14; and 75% by age 24.

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Study strengths & significance

- Linking information in multiple dimensions in 87,026 children:
  - Social, emotional, behavioural, and physical development; health; perinatal factors; childhood adversity; educational achievement
- Inclusion of parental data linkage (mental disorders, physical health, criminal offending)
- Administrative data record-linkage + cross-sectional assessment + long-term follow-up.
- Looks at risk and protective factors.
- Multi-informant prospective: 3 main sources (teacher-report AEDI, child self-report MCS, and routinely collecte administrative datasets).

Study design

The first stage of the study comprises two key components:

1) **Multi-generational inter-agency record linkages**
    1) Record Linkage 1 RL1 – 2013-14
    2) Record Linkage 2 RL2 – 2015-16.

2) **Cross-sectional population survey of child functioning** (self-report) at age 11 years (2015).

Study aims - Phase 1 (Birth-Age 5yr)

1. Associations between perinatal factors (e.g. weight, gestational age; perinatal complications; admission to hospital or emergency department presentations) and indicators of social, emotional, behavioural, cognitive, and physical functioning at age 5 years.
2. Associations between impairments in specific domains of early childhood functioning and parental severe mental illness and/or criminality.

Funding

- ARC Linkage Grant (2011-2014)
  - Partner organisations: NSW Ministry of Health (2011 to 2015), NSW Department of Education and Communities (2011 to 2015), and NSW Department of Family and Community Services (2013 to 2015).
- Australian Rotary Health Research Grant for Phase 1.
- NHMRC Project Grant (2014-2016) for the cross-sectional Middle Childhood Survey (MCS) in 2015.

The cohort

- **Child cohort:** defined by the 2009 Australian Early Development Index (AEDI). Represents 99.9% (N=87,170) of NSW Kindergarten children in that year.
  - The 2009 AEDI is a national survey that teachers in government and private schools completed for children entering their first year (Kindergarten) of full-time formal schooling (~5 years of age) in 2009.

- **Parents:** defined through record linkage of AEDI data with birth registration records (NSW Registry of Births, Deaths and Marriages).
  - Birth registrations for 83.1% of the child cohort; 81.6% and 81.5% of mothers and fathers, respectively, identified through record linkage (>98% of children with NSW birth registration).

AEDI DOMAINS

- **Emotional maturity**

  -Pro-social & helping, anxious/fearful, aggressive, hyperactive and inattentive behaviours;

- **Social Competence**

  -Overall social competence, approaches to learning, readiness to explore new things, responsibility and respect;

- **Physical Health and wellbeing**

  -Physical readiness for school, physical independence, gross and fine motor skills;

- **Language and cognitive skills**

  -Basic and advanced literacy and numeracy, interest in literacy/numeracy, and memory;

- **Communication and general knowledge**

  -Proficiency in understanding and listening.

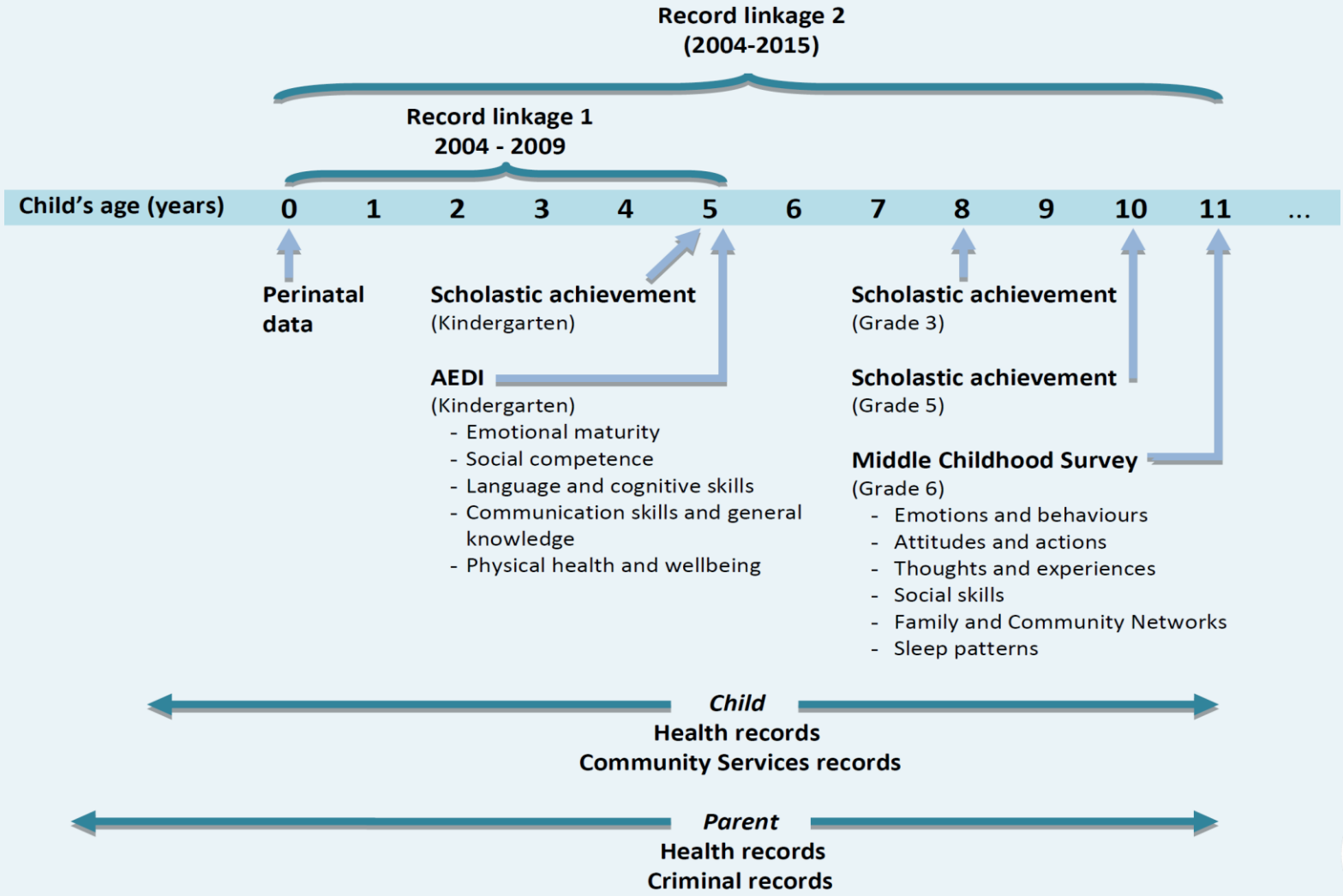
Record Linkage

- Record linkage is the process of bringing together an individual's administrative records (routinely collected information) from different agencies in a way that protects anonymity. Allows researchers to observe trends and patterns at a population level.

- Record linkage for the NSW-CDS is conducted by the Centre for Health Record Linkage (CHeReL).

- http://www.youtube.com/v/vLYGcbxrIPA&hl=en_US&feature=player_embedded&version=3

Datasets included in Phase 1 of the study



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Record linkage 1 datasets:

Education Records

- **Australian Early Development Index** *(Commonwealth Department of Education, Employment, & Workplace Relations)*
- **Best Start Kindergarten Assessment** *(NSW Department of Education and Communities)*
- **National Assessment Program Grades 3 and 5** *(NSW Department of Education and Communities)*

Health Records

- **Perinatal (Midwives) Data Collection** *(NSW Ministry of Health)*
- **Registry of Births, Deaths, and Marriages – Births and Deaths** *(Australian Bureau of Statistics)*
- **ABS Mortality Data Collection** *(Australian Bureau of Statistics)*
- **Emergency Department Data Collection** *(NSW Ministry of Health)*
- **Admitted Patient Data** *Collection (NSW Ministry of Health)*
- **Mental Health Ambulatory Data Collection** *(NSW Ministry of Health)*

Community Services Records

- **Child Protection, Out of Home Care, and Brighter Futures Data Collections** *(NSW Department of Family & Community Services)*

Crime Statistics

- **BOCSAR** *(Bureau of Crime Statistics and Research)*

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Record linkage 1 datasets:

Education Records

- **Australian Early Development Index** *(Commonwealth Department of Education, Employment, & Workplace Relations)*
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- **Mental Health Ambulatory Data Collection** *(NSW Ministry of Health)*

Child & Parents

Community Services Records

- **Child Protection, Out of Home Care, and Brighter Futures Data Collections** *(NSW Department of Family & Community Services)*

Crime Statistics

- **BOCSAR** *(Bureau of Crime Statistics and Research)*

Parents only

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Middle Childhood Survey (MCS)

Self-reports of child functioning at age 11 years will be obtained during the third school term of 2015, via online cross-sectional survey of NSW Grade 6 classes. Measures include:

- **Emotions and behaviours**
- **Social skills**
- **Attitudes and actions**
- **Thoughts and experiences**
- **Sleep patterns**
- **Family and community networks**

Record linkage 1 – Linkage rates

	Linked AEDI records , N (%)		
Dataset	**Child N=87.026**	**Mothers N=72,796**	**Fathers N=72,778**
Perinatal data collection	73,056 (84.0%)	72,213 (99.2%)	-
Admitted patient data collection	75,391 (86.6%)	72,376 (99.4%)	36,341 (49.4%)
Emergency department data collection	53,184 (61.1%)	32,068 (44.0%)	31,529 (43.3%)
Register of births, deaths, and marriages	2 (0.0023%)	108 (0.15%)	363 (0.5%)
Mental health ambulatory data collection	-	5,308 (7.29%)	3,246 (4.46%)
Best Start Kindergarten Assessment	40,031 (46.0%)	-	-
FACs Child Protection data collection	3,078 (3.5%)	-	-
FACs Out of Home Care data collection	1,143 (1.3%)	-	-
ROD Criminal Reoffending Data	-	7,351 (10.1%)	21,329 (29.3%)

Findings so far…

- Analyses must be regarded as preliminary;
- Cover the period from birth to age 5yr only;
- Do not include parent data;
  - Although parent-child linkages were successful, data have not yet been transferred from the relevant data custodians
- The best research questions need to be formulated by experts – that's you!
- Keep your minds open to possibilities for the future
  - How can the data be used to help in your work?
  - How can the data be used to influence programs and policies?
  - How can the data be used to measure the effectiveness of what you do?

Record linkage 1 – Dataset descriptives

Selected demographic descriptives from the AEDI dataset (n= 87 026)

Demographics		No.	(%)
Age			
	<4-5 ys	4 132	**4.7**
	5-6 ys	68 275	**78.4**
	≥6-7 ys	14 619	**16.7**
Gender	**Male**	44 729	**51.4**
	Female	42 297	**48.6**
Socioeconomic status	**Quintile 1 (most disadvantaged)**	20 951	**24.1**
	Quintile 2	19 336	**22.2**
	Quintile 3	12 489	**14.4**
	Quintile 4	12 201	**14.0**
	Quintile 5 (least disadvantaged)	22 034	**25.3**
Country of birth	**Australia**	81 876	**94.1**
	Other	5096	**5.9**

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Selected domain descriptives from the AEDI dataset (n= 87 026)

	Developmentally vulnerable	Developmentally at risk	On track	
Domain	<10th percentile (%)	10th-25th percentile (%)	25th-50th percentile (%)	>50th percentile (%)
Physical health and wellbeing	8.6	12.9	21.3	57.2
Social competence	8.8	14.0	23.0	54.2
Emotional maturity	7.4	14.3	24.7	53.6
Language and cognition	5.9	9.5	19.4	65.2
Communication skills and general knowledge	9.2	15.8	19.2	55.9

Percentiles based on National AEDI data, i.e. created on basis of all children who participated in the AEDI nationally.

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Selected domain descriptives from the AEDI dataset (n= 87 026)

Domain	Developmentally vulnerable <10th percentile (%)	Developmentally at risk 10th-25th percentile (%)	On track 25th-50th percentile (%)	On track >50th percentile (%)
Physical health and wellbeing	8.6	12.9	21.3	57.2
Social competence	8.8	14.0	23.0	54.2
Emotional maturity	7.4	14.3	24.7	53.6
Language and cognition	5.9	9.5	19.4	65.2
Communication skills and general knowledge	9.2	15.8	19.2	55.9

Percentiles based on National AEDI data, i.e. created on basis of all children who participated in the AEDI nationally.

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Examining the association between smoking during pregnancy and later **Social Vulnerability** (age 5, AEDI); unadjusted and adjusted for confounding factors

*Logistic Regression (*N=33 962)					
			95% CI for Odds Ratio		
	B (SE)	*p*	*Lower*	*Odds Ratio*	*Upper*
Social Vulnerability on the AEDI (<10%)					
STEP 1					
Unadjusted Smoking during pregnancy	**.667 (.043)**	**.000**	**1.791**	**1.948**	**2.119**
STEP 2					
Smoking during pregnancy	**.487 (.048)**	**.000**	**1.482**	**1.627**	**1.787**
Maternal age (younger)	**.022 (.004)**	**.000**	**1.015**	**1.022**	**1.030**
Preterm birth	**.265 (.070)**	**.000**	**1.136**	**1.304**	**1.496**
Not speaking a second language at home	**.302 (.053)**	**.000**	**1.219**	**1.352**	**1.499**
Male gender	**.806 (.041)**	**.000**	**2.065**	**2.239**	**2.427**
Disadvantage SES	**.054 (.014)**	**.000**	**1.026**	**1.055**	**1.085**
Ever reported to the Department of Family and Community Services	**.796 (.066)**	**.000**	**1.947**	**2.216**	**2.524**

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Examining the association between smoking during pregnancy and later **Emotional Vulnerability** (age 5, AEDI); unadjusted and adjusted for confounding factors

Logistic Regression (N=33 962)					
			95% CI for Odds Ratio		
	B (SE)	*p*	*Lower*	*Odds Ratio*	*Upper*
Emotional Vulnerability on the AEDI (<10%)					
STEP 1					
Unadjusted Smoking during pregnancy	**.642 (.047)**	**.000**	**1.733**	**1.900**	**2.083**
STEP 2					
Smoking during pregnancy	**.408 (.051)**	**.000**	**1.360**	**1.504**	**1.544**
Maternal age (younger)	**.019 (.004)**	**.000**	**1.012**	**1.020**	**1.027**
Preterm birth	**.285 (.076)**	**.000**	**1.145**	**1.330**	**1.544**
Male gender	**1.271(.049)**	**.000**	**3.234**	**3.564**	**3.927**
Disadvantage SES	**.085 (.016)**	**.000**	**1.057**	**1.089**	**1.123**
Ever reported to the Department of Family and Community Services	**.821 (.071)**	**.000**	**1.975**	**2.272**	**2.613**

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Examining the association between childhood hospitalisation for infection and **Social Vulnerability** at age 5

Association between AEDI developmental vulnerability (cases) and exposure to different types of infections	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	P Value
Social			
Any infection	1.5(1.4-1.7)	1.4(1.3-1.5)	<0.0001
Bacterial infection	1.4(1.2-1.7)	1.3(1.1-1.5)	0.0048
Viral infection	1.6(1.5-1.8)	1.5(1.3-1.6)	<0.0001
Other infection	1.4(1.3-1.5)	1.3(1.2-1.4)	<0.0001
CNS infection	1.9(0.61-5.7)	1.8(0.55-5.7)	0.3400
Non-CNS infection	1.5(1.4-1.7)	1.4(1.3-1.5)	<0.0001

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Examining the association between childhood hospitalisation for infection and **Emotional Vulnerability** at age 5

Association between AEDI developmental vulnerability (cases) and exposure to different types of infections	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	P Value
Emotional			
Any infection	1.4(1.3-1.6)	1.3(1.2-1.4)	<0.0001
Bacterial infection	1.4(1.1-1.6)	1.3(1.1-1.5)	<0.0001
Viral infection	1.5(1.3-1.6)	1.3(1.2-1.5)	<0.0001
Other infection	1.3(1.2-1.5)	1.2(1.1-1.3)	0.0004
CNS infection	2.1(0.68-6.8)	2.1(0.65-6.8)	0.2194
Non-CNS infection	1.4(1.3-1.6)	1.3(1.2-1.4)	<0.0001

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Selected descriptives from the Family and Community Services (FACs) datasets

FACs data collection	No.	(%)
Child Protection data collection	3078	3.5
Emotional/psychological abuse	1240	1.4
Neglect	925	1.1
Physical abuse	547	0.6
Sexual abuse	247	0.3
Out of Home Care data collection	1143	1.3
Brighter Futures data collection	987	1.1

A record in the **Child Protection dataset** indicates that a report has been made to the Child Protection Hotline.

Out of Home Care (OOHC) services provide placement and support to children and young people who are at risk of significant harm, or where their parents are unable to provide care.

Brighter Futures is an early intervention program that is offered to vulnerable families with children aged below 9 years, or who are expecting a child.

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Table 1 The association between any abuse (risk and actual) and the AEDI domains

AEDI Domains	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Physical vulnerability			
Any abuse	3.3(3.0-3.6)	2.9(2.7-3.3)	<0.0001
No	1.0	1.0	
Social vulnerability			
Any abuse	3.1(2.8-3.4)	3.0(2.7-3.3)	<0.0001
No	1.0	1.0	
Emotional vulnerability			
Any abuse	3.1(2.8-3.4)	2.9(2.6-3.2)	<0.0001
No	1.0	1.0	
Language vulnerability			
Any abuse	3.9(3.5-4.4)	3.5(3.1-3.9)	<0.0001
No	1.0	1.0	
Communication vulnerability			
Any abuse	2.3(2.1-2.6)	2.7(2.4-3.0)	<0.0001
No	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

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The association between different type of abuse (risk and actual) and Physical vulnerability on the AEDI

	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Physical vulnerability			
1 = Emotional abuse only	2.9(2.4-3.3)	2.5(2.1-2.9)	<.0001
2 = Neglect only	4.2(3.5-5.1)	3.8(3.1-4.6)	<.0001
3 = Physical abuse only	2.6(1.9-3.4)	2.3(1.7-3.1)	<.0001
4 = Sexual abuse only	1.6(1.0-2.5)	1.7(1.1-2.7)	0.0162
5 = Multiple abuses	4.1(3.4-5.0)	3.7(3.1-4.6)	<.0001
6 = No report	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

The association between different type of abuse (risk and actual) and Social vulnerability on the AEDI

AEDI domains	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Social vulnerability			
1 = Emotional abuse only	2.7(2.3-3.2)	2.5(2.1-3.0)	<.0001
2 = Neglect only	3.7(3.0-4.4)	3.5(2.9-4.2)	<.0001
3 = Physical abuse only	2.1(1.6-2.9)	2.0(1.5-2.7)	<.0001
4 = Sexual abuse only	1.6(1.1-2.5)	1.9(1.2-3.0)	0.0039
5 = Multiple abuses	4.5(3.7-5.5)	4.5(3.7-5.5)	<.0001
6 = No report	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

The association between different type of abuse (risk and actual) and Emotional vulnerability on the AEDI

	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Emotional vulnerability			
1 = Emotional abuse only	2.8(2.3-3.3)	2.5(2.1-3.0)	<.0001
2 = Neglect only	3.0(2.5-3.8)	2.8(2.2-3.5)	<.0001
3 = Physical abuse only	2.7(2.0-3.7)	2.5(1.8-3.4)	<.0001
4 = Sexual abuse only	2.0(1.3-3.0)	2.4(1.5-3.7)	0.0002
5 = Multiple abuses	4.5(3.6-5.4)	4.4(3.5-5.4)	<.0001
6 = No report	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

The association between different type of abuse (risk and actual) and Language vulnerability on the AEDI

	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Language vulnerability			
1 = Emotional abuse only	3.4(2.9-4.1)	2.9(2.4-3.5)	<.0001
2 = Neglect only	4.6(3.8-5.6)	4.1(3.3-5)	<.0001
3 = Physical abuse only	2.6(1.9-3.7)	2.4(1.7-3.3)	<.0001
4 = Sexual abuse only	2.1(1.3-3.4)	2.3(1.4-3.8)	0.0006
5 = Multiple abuses	5.8(4.8-7.1)	5.3(4.3-6.5)	<.0001
6 = No report	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

The association between different type of abuse (risk and actual) and Communication vulnerability on the AEDI

	UNJ OR(95% CI)	ADJ OR(95% CI)*	P-values
Communication vulnerability			
1 = Emotional abuse only	2.2(1.9-2.6)	2.4(2.0-2.9)	<.0001
2 = Neglect only	3.0(2.5-3.7)	3.6(2.9-4.4)	<.0001
3 = Physical abuse only	1.7(1.2-2.3)	1.8(1.3-2.6)	0.0006
4 = Sexual abuse only	1.2(0.7-1.9)	1.7(1.0-2.7)	0.0444
5 = Multiple abuses	2.6(2.1-3.3)	3.2(2.6-4.0)	<.0001
6 = No report	1.0	1.0	

* Covariates: Gender, Age, English as second language and Socio-Economic Indexes for Areas.

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REGRESSION: The effect of timing of abuse on AEDI *early vs late* age of first report

Specific abuse	Physical vulnerability		
	UN_OR (95% CI)	AD_OR (95% CI)	P values
Any abuse			
Early ≤3	3.2(2.8-3.6)	2.8(2.5-3.2)	<.0001
Later ≥3	3.4(3.0-3.9)	3.2(2.8-3.7)	<.0001
No report	1.0	-	-
Physical abuse only			
Early ≤3	2.4(1.6-3.7)	2.2(1.4-3.3)	0.0002
Later ≥3	2.7(1.8-4.1)	2.5(1.6-3.9)	<.0001
No report	1.0	-	-
Emotional abuse only			
Early ≤3	2.6(2.1-3.2)	2.2(1.8-2.8)	<.0001
Later ≥3	3.2(2.5-4.1)	2.9(2.2-3.7)	<.0001
No report	1.0	-	-
Neglect only			
Early ≤3	3.5(2.7-4.6)	3.1(2.3-4)	<.0001
Later ≥3	5.0(3.9-6.5)	4.7(3.6-6.1)	<.0001
No report	1.0	-	-
Sexual abuse only			
Early ≤3	1.4(0.3-6.1)	1.7(0.4-7.4)	0.4945
Later ≥3	1.6(1-2.6)	1.8(1.1-2.8)	0.02
No report	1.0	-	-
Multiple abuse			
Early ≤3	4.3(3.4-5.3)	3.8(3.1-4.8)	<.0001
Later ≥3	3.5(2.3-5.6)	3.5(2.2-5.5)	<.0001
No report	1.0	-	-

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REGRESSION: The effect of timing of abuse on AEDI *early vs late* age of first report

Specific abuse	Social vulnerability		
	UN_OR (95% CI)	AD_OR (95% CI)	P values
Any abuse			
Early ≤3	3.1(2.8-3.6)	3.0(2.6-3.4)	<.0001
Later ≥3	3.1(2.7-3.6)	3.1(2.7-3.5)	<.0001
No report	1.0	-	-
Physical abuse only			
Early ≤3	1.6(1.0-2.6)	1.5(0.9-2.4)	0.1028
Later ≥3	2.7(1.8-4.2)	2.7(1.7-4.1)	<.0001
No report	1.0	-	-
Emotional abuse only			
Early ≤3	2.6(2.1-3.2)	2.4(1.9-3)	<.0001
Later ≥3	2.9(2.3-3.8)	2.7(2.1-3.5)	<.0001
No report	1.0	-	-
Neglect only			
Early ≤3	3.4(2.6-4.4)	3.2(2.4-4.2)	<.0001
Later ≥3	4(3.1-5.2)	3.9(2.9-5.1)	<.0001
No report	1.0	-	-
Sexual abuse only			
Early ≤3	2.2(0.6-7.6)	2.8(0.8-9.9)	0.1051
Later ≥3	1.6(1-2.5)	1.9(1.1-3)	0.0113
No report	1.0	-	-
Multiple abuse			
Early ≤3	4.5(3.7-5.6)	4.5(3.6-5.6)	<.0001
Later ≥3	4.5(2.9-6.8)	4.6(3.0-7.1)	<.0001
No report	1.0	-	-

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REGRESSION: The effect of timing of abuse on AEDI *early vs late* age of first report

Specific abuse	Emotional vulnerability		
	UN_OR (95% CI)	AD_OR (95% CI)	P values
Any abuse			
Early ≤3	3.1(2.8-3.6)	3.0(2.6-3.4)	<.0001
Later ≥3	3.0(2.6-3.5)	2.9(2.5-3.3)	<.0001
No report	1.0	-	-
Physical abuse only			
Early ≤3	1.9(1.2-3.1)	1.8(1.1-2.9)	0.0182
Later ≥3	3.6(2.4-5.4)	3.4(2.2-5.2)	<.0001
No report	1.0	-	-
Emotional abuse only			
Early ≤3	2.8(2.2-3.5)	2.6(2.1-3.2)	<.0001
Later ≥3	2.7(2.0-3.5)	2.3(1.8-3.1)	<.0001
No report	1.0	-	-
Neglect only			
Early ≤3	2.8(2.1-3.8)	2.6(1.9-3.5)	<.0001
Later ≥3	3.3(2.5-4.4)	3(2.2-4.1)	<.0001
No report	1.0	-	-
Sexual abuse only			
Early ≤3	1.6(0.4-7.1)	2.3(0.5-10.3)	0.2734
Later ≥3	2(1.3-3.2)	2.4(1.5-3.8)	0.0003
No report	1.0	-	-
Multiple abuse			
Early ≤3	4.5(3.6-5.7)	4.4(3.5-5.6)	<.0001
Later ≥3	4.2(2.7-6.5)	4.2(2.6-6.7)	<.0001
No report	1.0	-	-

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REGRESSION: The effect of timing of abuse on AEDI *early vs late* age of first report

Specific abuse	Language vulnerability		
	UN_OR (95% CI)	AD_OR (95% CI)	P values
Any abuse			
Early ≤3	4.1(3.6-4.7)	3.6(3.1-4.1)	<.0001
Later ≥3	4.0(3.5-4.7)	3.6(3.1-4.2)	<.0001
No report	1.0	-	-
Physical abuse only			
Early ≤3	2.3(1.4-3.7)	2.0(1.2-3.2)	0.0087
Later ≥3	3.1(1.9-4.9)	2.8(1.8-4.6)	<.0001
No report	1.0	-	-
Emotional abuse only			
Early ≤3	3.5(2.8-4.3)	2.9(2.3-3.6)	<.0001
Later ≥3	3.3(2.5-4.4)	2.9(2.2-3.8)	<.0001
No report	1.0	-	-
Neglect only			
Early ≤3	4.4(3.3-5.8)	3.9(2.9-5.2)	<.0001
Later ≥3	4.8(3.6-6.5)	4.3(3.2-5.7)	<.0001
No report	1.0	-	-
Sexual abuse only			
Early ≤3	1(0.1-7.7)	1.3(0.2-9.7)	0.8115
Later ≥3	2.2(1.4-3.6)	2.5(1.5-4.1)	0.0004
No report	1.0	-	-
Multiple abuse			
Early ≤3	5.7(4.5-7.1)	5.1(4.1-6.5)	<.0001
Later ≥3	6.4(4.1-9.9)	5.9(3.7-9.2)	<.0001
No report	1.0	-	-

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REGRESSION: The effect of timing of abuse on AEDI *early vs late* age of first report

Specific abuse	Communication vulnerability		
	UN_OR (95% CI)	AD_OR (95% CI)	P values
Any abuse			
Early ≤3	2.3(2.0-2.6)	2.5(2.2-2.9)	<.0001
Later ≥3	2.5(2.2-2.9)	3.0(2.6-3.4)	<.0001
No report	1.0	-	-
Physical abuse only			
Early ≤3	1.5(0.9-2.4)	1.5(0.9-2.5)	0.0911
Later ≥3	1.8(1.1-2.9)	2.2(1.4-3.6)	0.001
No report	1.0	-	-
Emotional abuse only			
Early ≤3	2.1(1.6-2.6)	2.2(1.8-2.8)	<.0001
Later ≥3	2.4(1.9-3.1)	2.7(2.1-3.5)	<.0001
No report	1.0	-	-
Neglect only			
Early ≤3	2.5(1.9-3.3)	2.8(2.1-3.8)	<.0001
Later ≥3	3.6(2.8-4.7)	4.5(3.4-6.0)	<.0001
No report	1.0	-	-
Sexual abuse only			
Early ≤3	1.3(0.3-5.6)	1.9(0.4-8.6)	0.3802
Later ≥3	1.2(0.7-1.9)	1.6(1-2.8)	0.0635
No report	1.0	-	-
Multiple abuse			
Early ≤3	2.7(2.1-3.4)	3.3(2.6-4.2)	<.0001
Later ≥3	2.3(1.4-3.8)	3.0(1.8-5.0)	<.0001
No report	1.0	-	-

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Summary 1

Current Record Linkage Successful

Rates of linkage of databases acceptably high
Able to link across multiple agencies
Able to link children with parents
Able to combine administrative datasets with AEDI

Future Record Linkage Possibilities

School data (NAPLAN, suspensions, expulsions, special needs, etc)
Other FaCS data (Notifications, Disability, other?)
Forensic data (Police records, Juvenile Justice Records, etc)
Federal data (NDIS, DSP, Medicare, PBS)
Survey data (eg., MCS in 2015)
Other data sources?

Summary 2

FaCS Maternal smoking during pregnancy

Increased likelihood of AEDI vulnerability
Effect on AEDI vulnerability persists with other contributing factors included (young mothers, premature birth, no 2nd language, lower SES, FaCS substantiations)
But contribution to AEDI vulnerability is small (smoking, 1-3%; all variables combined, 10%)
Opportunities for prevention?

Childhood infections (hospital admissions)

Increased likelihood of AEDI vulnerability
Effect on AEDI vulnerability is regardless of type of infection, but has a small effect
Opportunities for prevention?

Summary 3

FaCS Abuse Substantiations

-Any abuse:

Increased AEDI vulnerability overall (medium effect)

-Individual forms of abuse:

All associated with increased AEDI vulnerability in all 5 domains

Neglect and Multiple abuses have the greatest impact (medium-large effects), especially in the Language Domain (literacy & numeracy)

-Timing of abuse reports on AEDI vulnerabilities:

Later reports may show somewhat greater effects than earlier reports, especially for Neglect

Biggest effect is for later reports of Multiple Abuses in the Language Domain (literacy & numeracy) – large effect

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For Discussion

- What FaCS questions can the NSW Child Development Study database answer?
- What approaches to data analysis are most relevant to the work of FaCS?
- What FaCS programs or procedures can be evaluated using this database? [outcome measurements]
- How can the database be used to inform FaCS practices?
- What FaCS policy implications can be drawn from the database?

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