

# Growing Up in New Zealand 4 Year External Data Release (DCW3, DCW4, DCW5)

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[www.growingup.co.nz](http://www.growingup.co.nz)



1. Study overview
2. Focus of current release – four year data
3. *Growing Up In New Zealand* external data
4. Applying for external data
5. Questions



# Overarching Aim of *Growing Up in New Zealand*

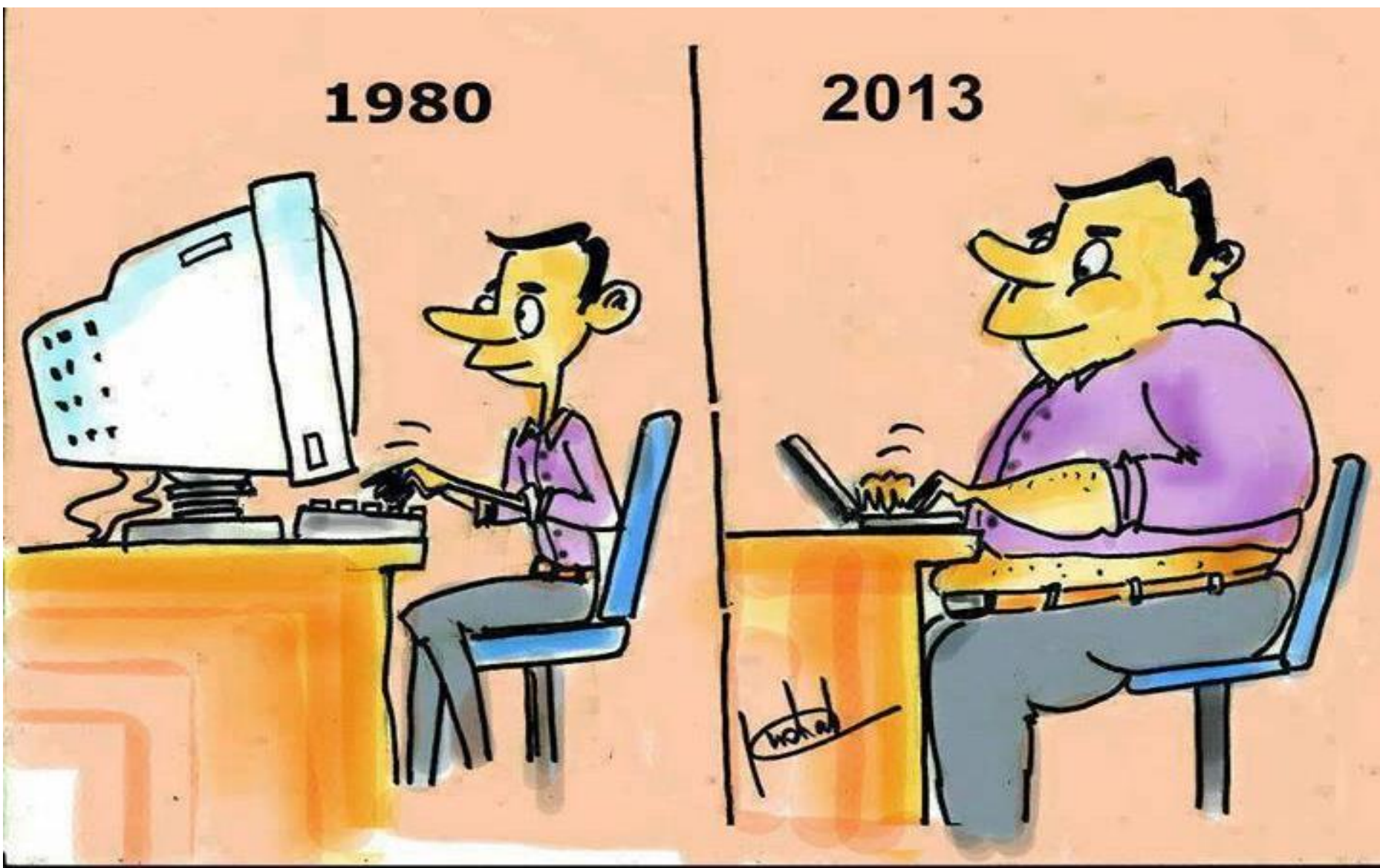
To provide contemporary **population relevant evidence** about the determinants of developmental trajectories for 21st century New Zealand children in the context of their families.



*“The Ministry of Social Development and the Health Research Council of New Zealand, in association with the Families Commission, the Ministries of Health and Education and the Treasury, wish to establish a new longitudinal study of New Zealand children and families, ....” to gain a better understanding of the causal pathways that lead to particular child outcomes (across the life course)*

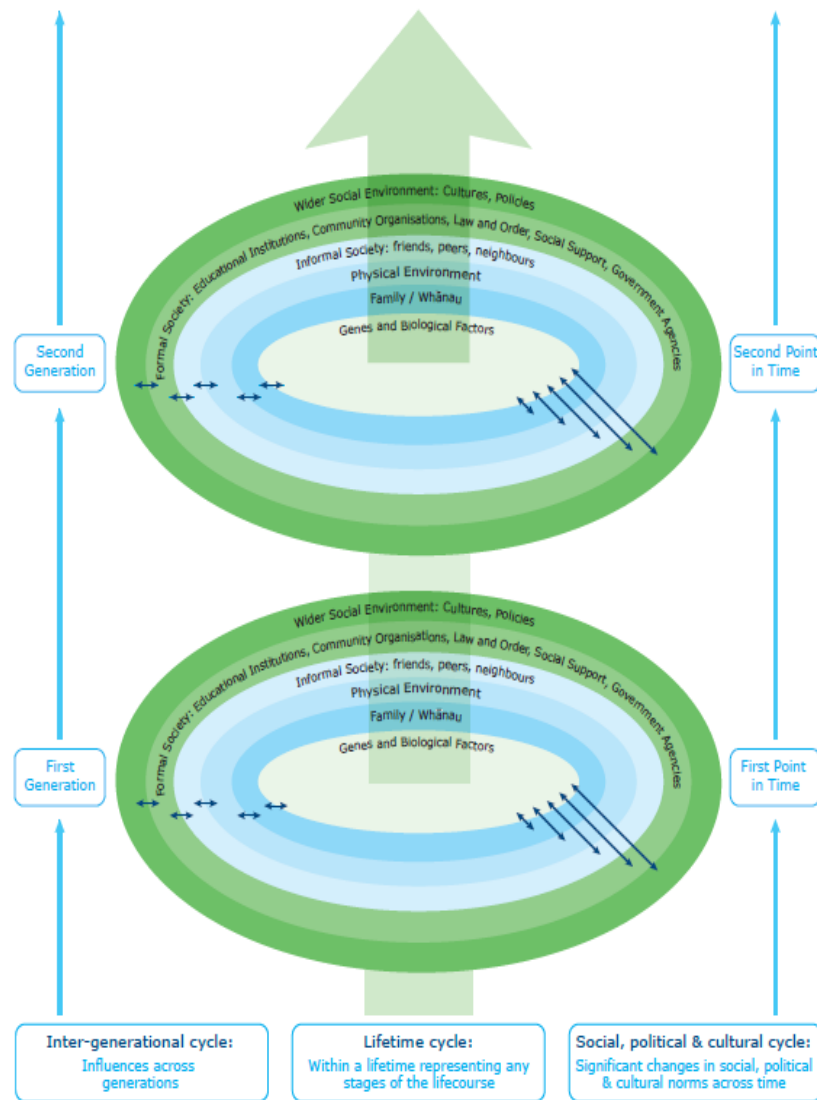
..... introduction to RFP in 2004.

# New Zealand's contemporary longitudinal study



# Conceptual framework for child development

## *Growing Up in New Zealand*



- Life course approach
- Child centred
- Multi-disciplinary
- Dynamic interactions
- Change over time
- Understanding trajectories
- Intergenerational
- Understanding environmental influences (proximal and distal)
- Biology and social contexts
- Putting the “environment into the epigenetic”























# The *Growing Up in New Zealand* cohort

- Recruited 6853 children before their birth - via pregnant mothers (6823)
- Partners recruited and interviewed independently in pregnancy (4401)
- Cohort has adequate explanatory power to consider trajectories for Maori (1 in 4), Pacific (1 in 5) and Asian (1 in 6) children, and to consider multiple ethnic identities (approx. 40%)
- Cohort broadly generalisable to current NZ births (diversity of ethnicity and family SES)
- Retention rates to 4 year DCW have been very high (over 90% of antenatal)



# Longitudinal Information during pre-school period

Child age	Ante-natal	Peri-natal	6 W	35 W	9 M	12 M	16 M	23 M	2 Y	31 M	45 M	54 M
Mother CAPI*												
Father CAPI*												
Mother CATI†												
Child‡												
Data linkage**												

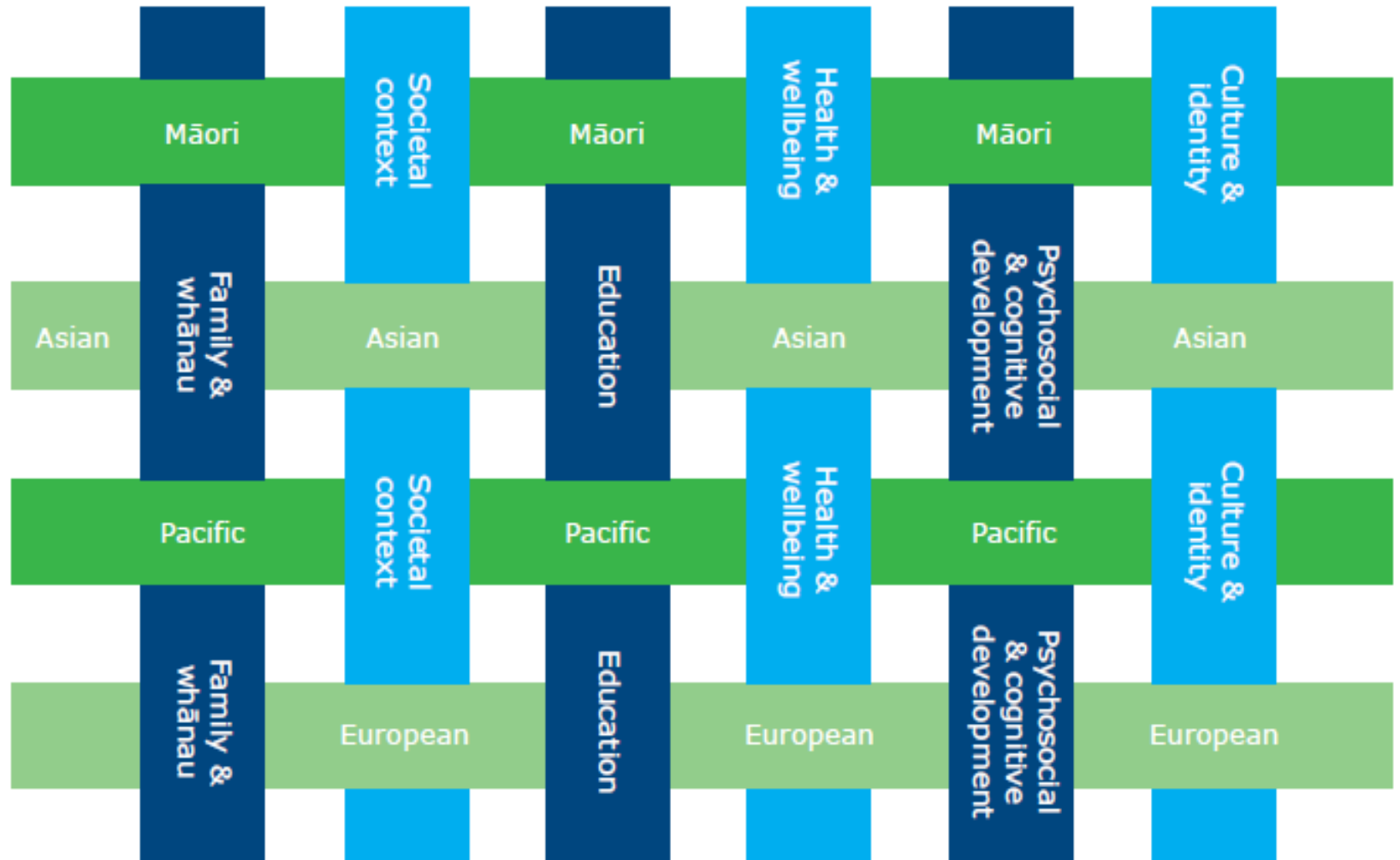
\* CAPI computer assisted personal interview

† CATI computer assisted telephone interview

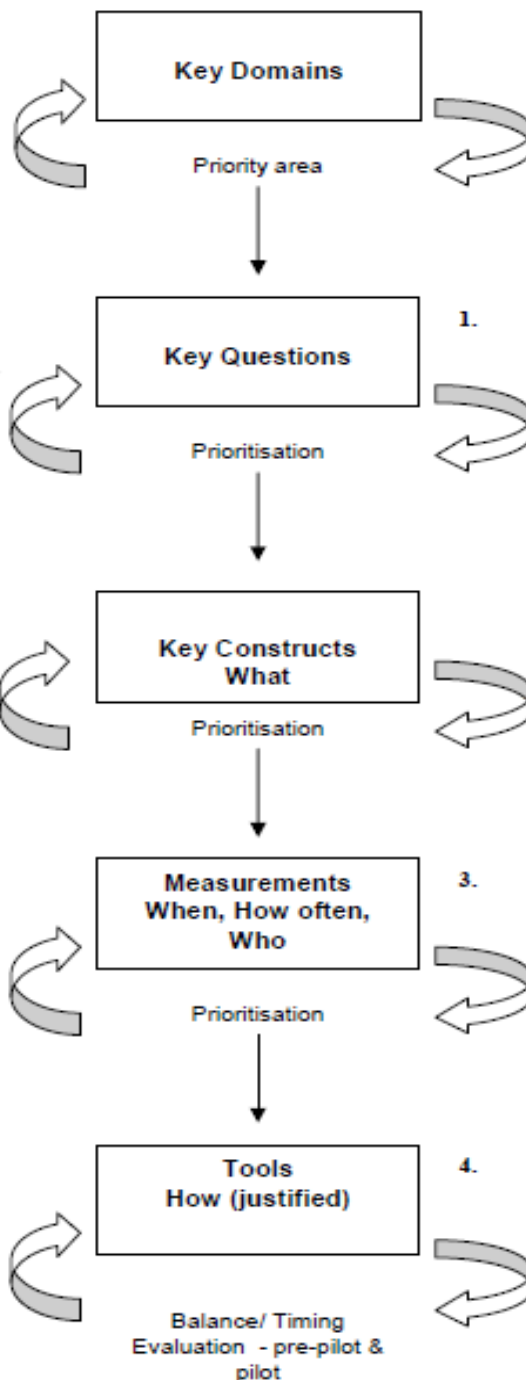
‡ Child measurements

\*\* Linkage to routine health records

## Each DCW represents a snapshot of development







#### Criteria Met

√ / X

1.

- Relevant?
- Measurable?
- Balanced?
- Innovative?

√ / X

2.

- Specific
- Measurable
- Acceptable/ attainable
- Realistic
- Timing

√ / X

3.

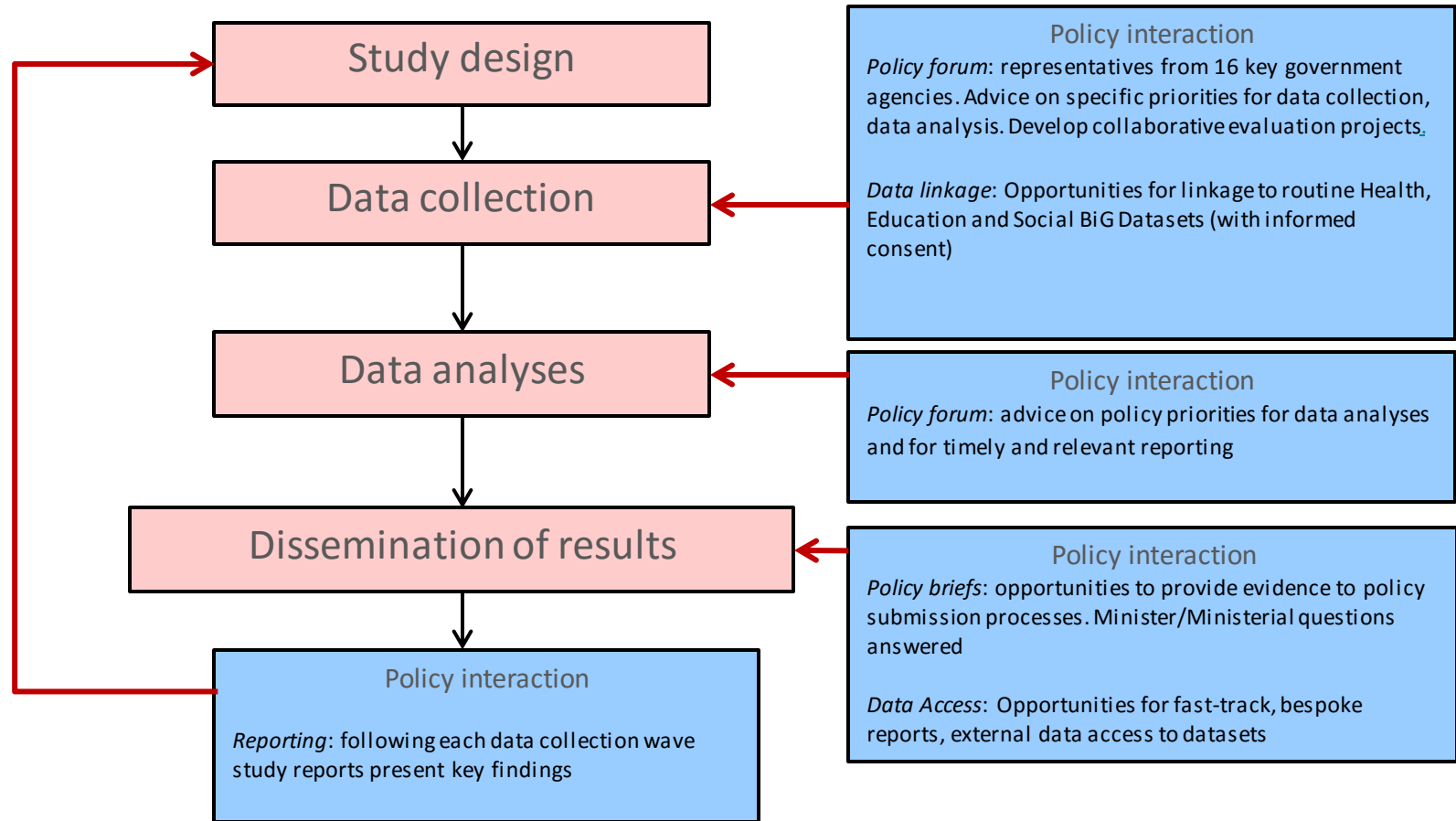
- Longitudinal nature
- Rapidity of change over time
- Prospective or retrospective measure
- Collection method (proxy)

√ / X

4.

- Validated, relevant and acceptable in NZ
- Useful for NZ & international comparisons
- New tool (fit for purpose)

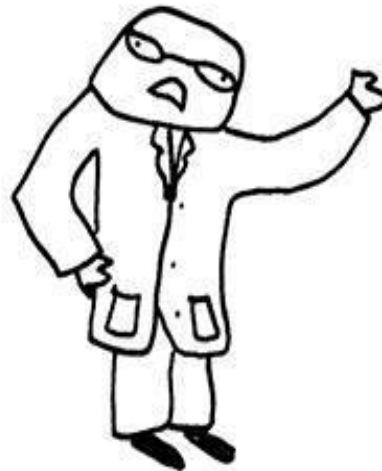
# Partnerships to facilitate translation



# Moving beyond “risk factorology”

SCIENCE vs. THE PEOPLE!

correlation is  
not causation!



i dunno what  
those are but  
i disagree  
and i vote!

Hearing from the children and the families directly to understand WHY we see associations, WHAT WORKS, WHEN, and for WHOM.

## External Data Release – Preschool data collections



# Retention to 4



Parental antenatal  
interview

6 weeks

9 month interview

2 year interview

45 month call

54 month interview

Pregnant mothers N = 6822 \*  
Partners N = 4401

Child counts (N = 6853)  
Completed = 6843  
Skipped = 10

Child counts (N = 6795)  
Completed = 6476 (94%)  
Skipped = 310  
Lost to follow up = 9

Child counts (N = 6706)  
Completed = 6327 (92%)  
Skipped = 366  
Lost to follow up = 13

Child counts (N = 6670)  
Completed = 6207 (91%)  
Skipped = 442  
Lost to follow up = 21

Child counts (N = 6639)  
Completed = 6156 (90%)  
Skipped = 462  
Lost to follow up = 21

Opt out = 54  
Deceased = 4

Opt out = 88  
Deceased = 1

Opt out = 36

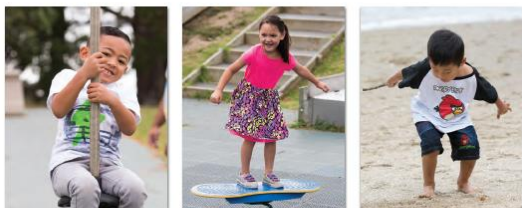
Opt out = 29  
Deceased = 2



# 4 year data collection - key measures

## Growing Up in New Zealand

Now We Are Four: Describing the preschool years  
2017

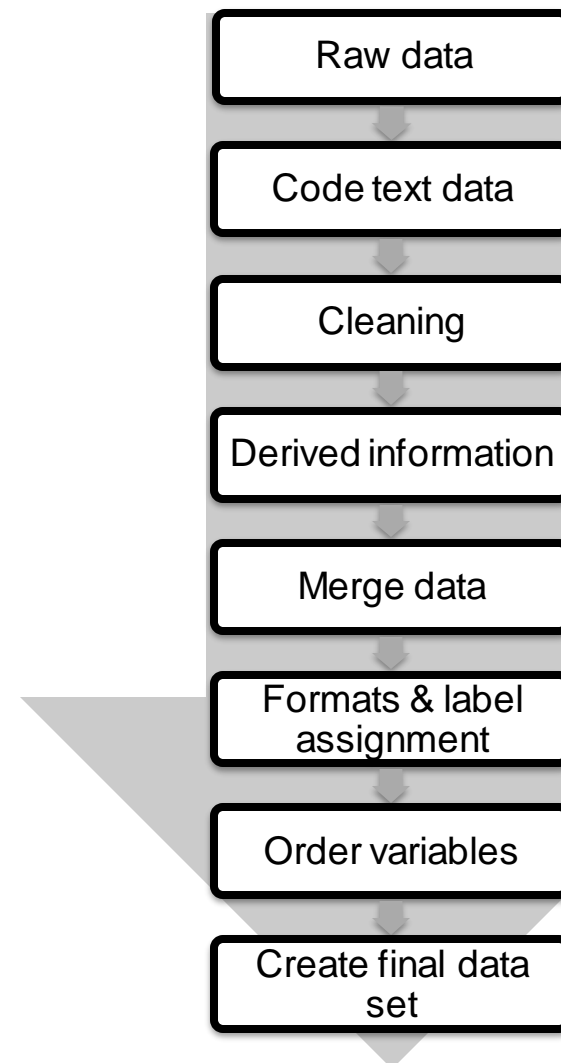
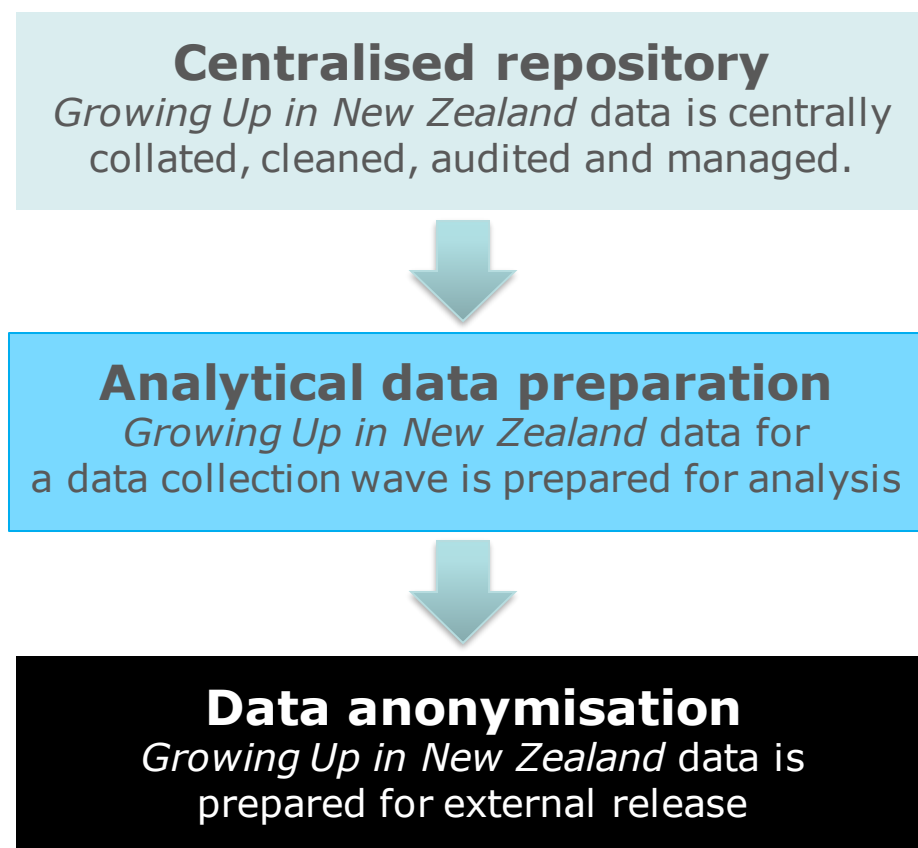


Household income  
Housing tenure  
Housing stability  
Material hardship  
Media use  
Mothers' health  
Child health  
Diet  
Residential mobility  
Antibiotics  
Area level deprivation  
ECE & care arrangements  
Social & emotional functioning  
GP visits  
Language & communication  
Parental work  
Recognising & understanding emotions  
Inter-parental relationship  
Sleep  
Home learning  
Parenting practices  
Physical activity  
Childhood illnesses  
Immunisation  
Self control  
Household structure  
B4 School Check  
Behaviour & conduct  
Ready for school  
Oral health  
Body weight & BMI  
Family & whānau  
Screen time





# Data Life Cycle



# Sources of data

- Mother (M): information **about the GUiNZ child's mother** and her household
- Partner (P): information **about partner** of GUiNZ child's mother & their household
- Child Proxy Mother (CM): information **about the GUiNZ child provided by** their mother
- Child Proxy Partner (CP): information **about the GUiNZ child provided by** mother's partner
- Child Observation (CO): information **about the GUiNZ child collected by** the interviewer

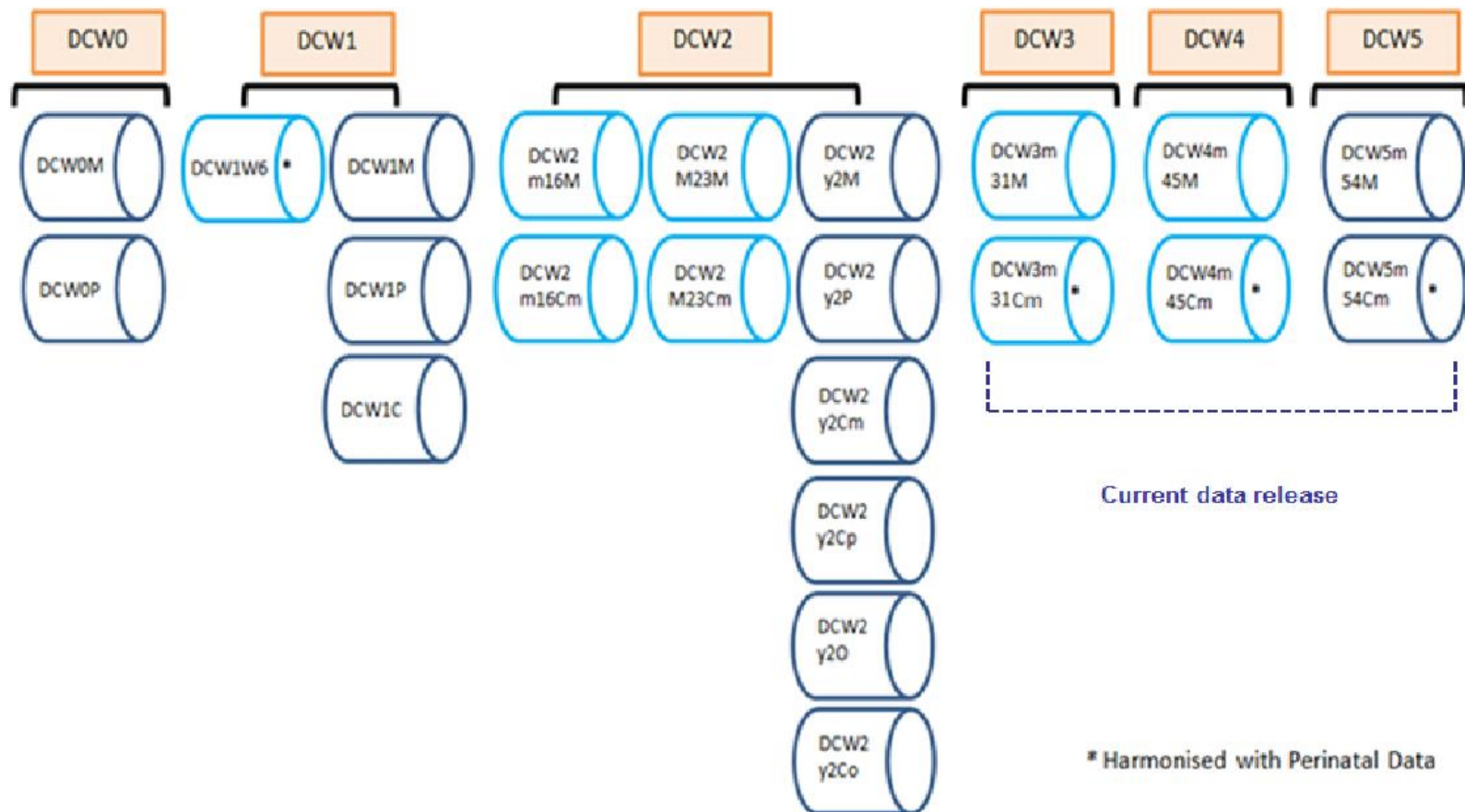


# Linkage, scales, tools and observations

- Linkage data
  - Immunisation register
  - Respiratory hospitalisation and admission
- Scales or tools
  - Strengths and difficulties questionnaire
- Child observations
  - Anthropometry
    - Weight, height, waist circumference



# Longitudinal datasets

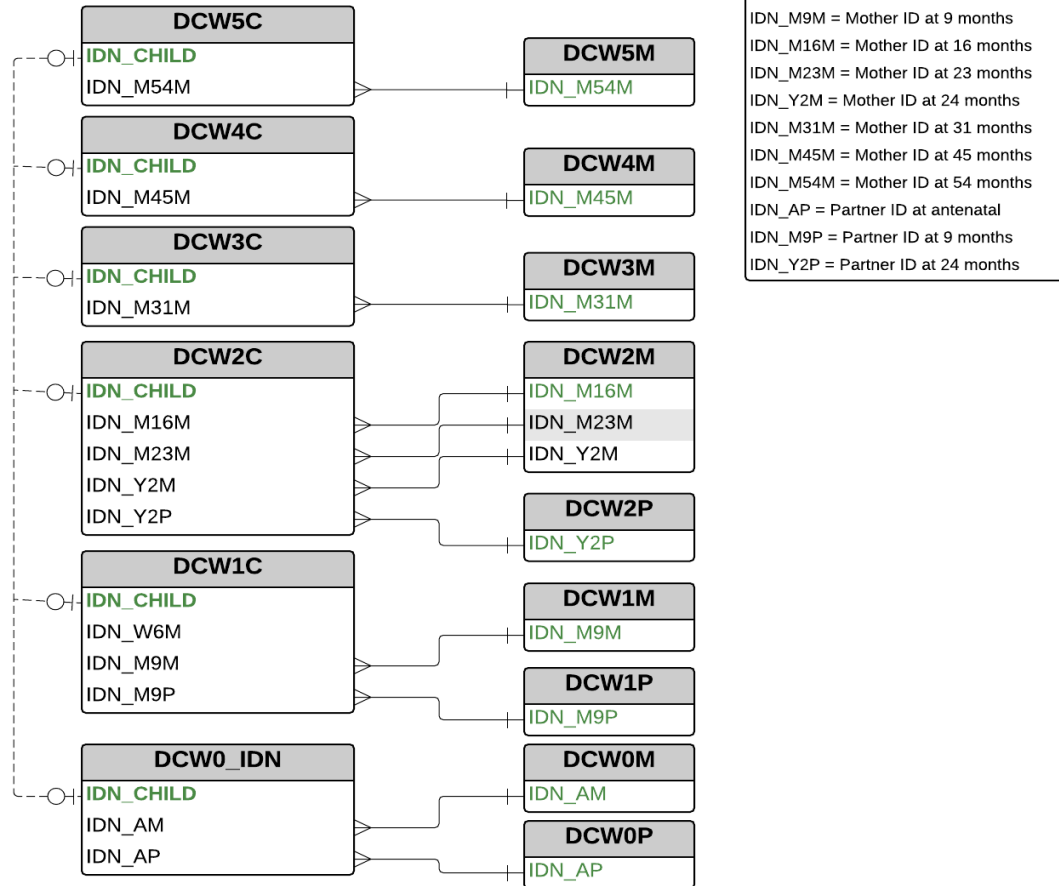


# Naming convention

Data collection wave	Full dataset name	Short name for the dataset	Variable suffix	Reference for variable suffix
DCW0	Antenatal Mother	DCW0M	_AM	Antenatal Mother
	Antenatal Partner	DCW0P	_AP	Antenatal Partner
DCW1	Nine month child dataset	DCW1C	_W6	Six week call
			_PDL	Perinatal
			_M9CM	Nine month child
	Nine month mother dataset	DCW1M	_M9M	Nine month mother
	Nine month partner dataset	DCW1P	_M9P	Nine month partner
DCW2	Two year child dataset	DCW2C	_M16CM	Sixteen month child
			_M23CM	Twenty three month child
			_Y2CM	Two year child
	Two year mother dataset	DCW2M	_M16M	Sixteen month mother
			_M23M	Twenty three month mother
			_Y2M	Two year mother
	Two year partner dataset	DCW2P	_Y2P	Two year partner
DCW3	31M child & mother dataset	DCW3C	_M31CM _M31M	31 month child 31 month mother
DCW4	45M child dataset	DCW4C	_M45CM	45 month child
	45M mother dataset	DCW4M	_M45M	45 month mother
DCW5	54M child dataset	DCW5C	_M54CM	54 mother child
	54M mother dataset	DCW5M	_M54M	54 month mother



# Focus of current release



---○+ One to zero/one relationship

>+ Many to one relationship

# Current data release – using the data

- **Longitudinal data**

- 13 datasets in total...which time point(s) is the focus?
- Combining longitudinal items (merging datasets. Do I have the correct denominator?



# Current data release – using the data

- **Longitudinal data**

- Missing data across time points
- Different denominators if merging datasets across time
- Be aware of answers such as '98' (refused to answer) and '99' (don't know), when calculating summaries.



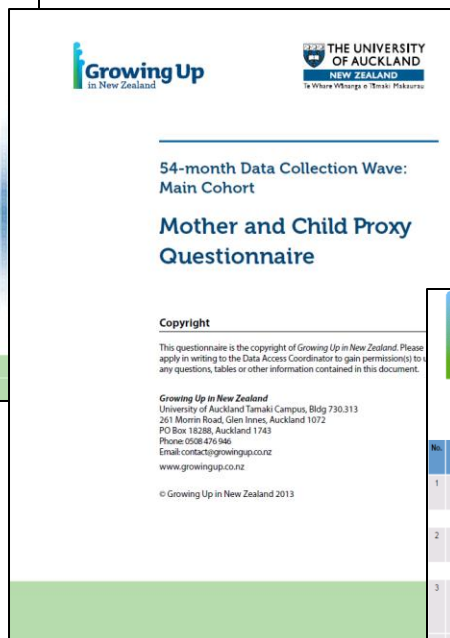
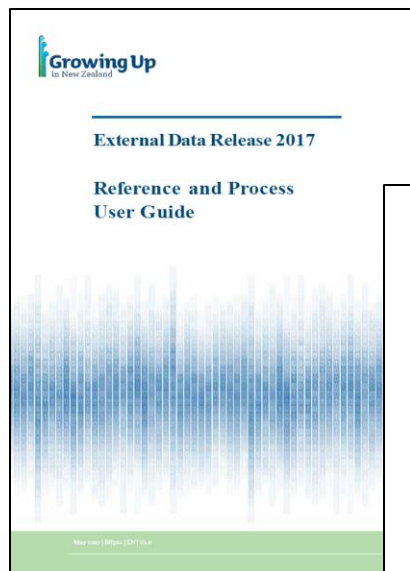
# Current data release – using the data

- Individual data not aggregated data
- Data storage security considerations
- Software considerations
  - Access to datasets
- Identification keys provide the relationships between the datasets
  - Child to Child relationships
  - Child to Mother/ Partner relationships
  - Mother to Partner relationships



# Data documentation


## Reference and Process User Guide Questionnaires Data Dictionaries



DCWSC Data Dictionary									
No.	Research domain	Subdomain	Questionnaire number	Question	Variable name	Formatted data values	Value labels	Variable type	Notes
1				Child ID at 54 month interview	IDIL_CHILD	.		Identification key	Randomly generated child ID at 54 month interview. Allows linking to other datasets
2				Mother ID at 54 month interview (Linkable to other datasets)	IDIL_MSM	.		Identification key	Randomly generated mother ID at 54 month interview. Allows linking to other datasets
3				Child's age at 54 month interview	CHILD_AGE_M54CM	20	<=20	Derived	Child's age in months at 54 month interview (Child proxy by mother). Categorical (the base cell counts at 20 or less and 50 or more)
						50	>=50		
4				Child's age at 54 month interview (Child's observation)	CHILD_AGE_M54CO	.		Derived	Child's age in months at 54 month interview (Observation data)
5		0.1	Relationship to child		PO103_M54CM	1	Biological mother	Categorised	Mothers other than Biological mother grouped as 'Other (Please specify)'
						97	Other (Please specify)		
6		0.2	Child's usual country of residence		COUNTRY_M54CM	1	New Zealand	Categorised	Countries other than New Zealand grouped as 'Other countries'
						2	Other countries		

❖ Growing Up in New Zealand Questionnaires and Data dictionaries are/ will be available online

# Data dictionary fields (DCW3, DCW4, DCW5)

- No.
  - Research Domain
  - Subdomain
  - Questionnaire number
  - Question
  - Variable name in external dataset
  - Formatted data values
  - Variable Type
  - Notes
- 
1. Identification key
  2. Raw Variables
  3. Categorical Variables
  4. Re-classified Variables
  5. Derived Variable



# Data dictionary fields (DCW3, DCW4, DCW5)

## DCW5M Data Dictionary

No.	Research domain	Subdomain	Questionnaire number	Question	Variable name	Formatted data values	Value labels	Variable type	Notes
1				Mother ID at 54 month interview (Linkable to other datasets)	IDN_M54M	.		Identification key	Randomly generated mother ID at 54 month interview. Allows linking to other datasets
2				Mother's age at 54 month data collection	AGE_M54M	20	<=20	Derived	Mother's age in years at 54 month interview. Categorised the low cell counts at 20 or less and 50 or more
						50	>=50		
3				Mother's country of residence	COUNTRY_M54M	1	New Zealand	Categorised	Countries other than New Zealand grouped as 'Other countries'
						2	Other countries		
4				Mother's gender	GENDER_M54M	1	Female	Raw	
						2	Male		
5	Family and Whanau	Parent-Child Interactions and Media Interaction	12.15	In your household are there rules for your (child/children) about the amount of computer, TV, or DVD time they are allowed?	TU23_M54M	0	No	Raw	
						1	Yes		
						98	Ref		
						99	DK		
6			12.16	How often does someone in your household make sure that your (child/children) follow these rules?	TU24_M54M	0	Never	Raw	
						1	Less Than Half The Time		
						2	About Half The Time		
						3	Most Of The Time		
						4	All Of The Time		
						98	Ref		
						99	DK		



# Using the *Growing Up in New Zealand* Data

*A researchers perspective*

- Research Question
  - Example: Is parental gambling in the first 9 months of life associated with health outcomes at 2 and 4 years
- Data sources
  - Mother and Partner (Antenatal and 9 month)
    - Gambling variables
    - Covariates: Ethnicity, education, age, deprivation, income
  - Child proxy (2 and 4 years)
    - Outcome: Parent report health
    - Outcome: Strengths and difficulties scale
  - Linkage
    - Outcome: Hospital admission data
    - Outcome: Immunisation register



# Variables – sources and coding

- Merge dataset
  - Family: Mother and Partner gambling
  - Child: Outcomes
- Single response or multiple response
  - Example: Gambling variable
- Coding
  - Binary coding: 0 or 1
  - Numeric coding: 1, 2, 3, 4



# Variables – sources and coding

- Derived variable
  - Create a derived variable from multiple response options
  - Ethnicity
    - Externally prioritised or self prioritised
- Scales
  - Strengths and difficulties questionnaire
- Linkage
  - Respiratory illness admitted to hospital





# Further information

[www.growingup.co.nz](http://www.growingup.co.nz)



Access to GUINZ  
external data

## Further information

[www.growingup.co.nz](http://www.growingup.co.nz)



User  
guides



Data  
dictionaries



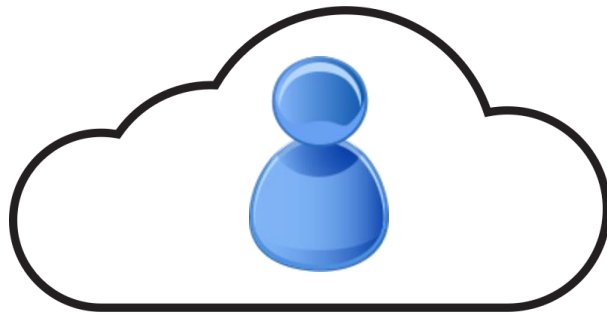
Data  
access  
forms



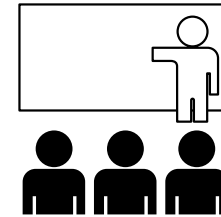
[dataaccess@growingup.co.nz](mailto:dataaccess@growingup.co.nz)



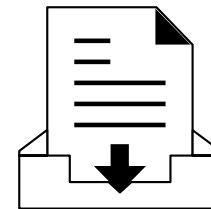
# Accessing the data



External  
researcher



Attend a  
workshop



Complete  
an  
application



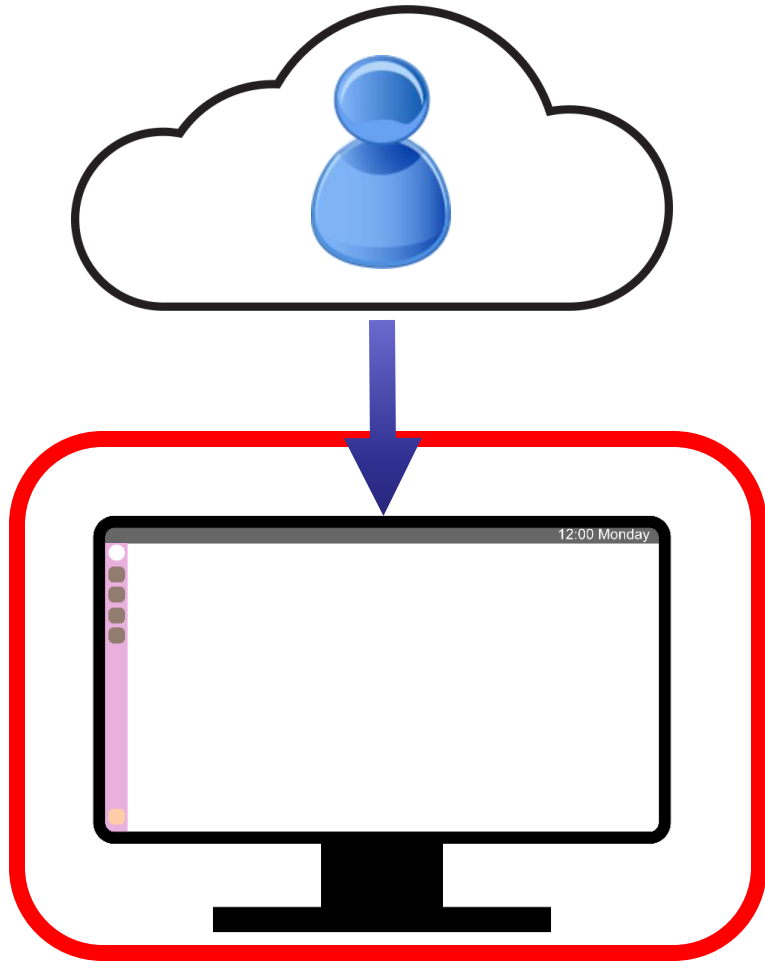
DAC process



Access  
granted



# Remote Data Access Platform



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## Data Access Protocol



- Principles governing the data access process
- Application process
- **Safeguarding the privacy of participants**
- Ensuring the sustainability of the project
- Role and function of the Data Access Committee
- Authorship and publications



# Other ways to access the data



Accredited  
researcher



Growing Up  
in  
New Zealand  
team



Bespoke report



# Acknowledgements

- **Children and their families**
- *UoA Growing Up* team
- Superu (lead agency)
- Ministry of Social Development
- Multiple government agencies
- Policy Forum
- Advisory and Stakeholder groups
- All funders (government)



# Questions

