

***SNZ as a Data Provider and Sector Leader:  
A Case Study of Family and Whanau Wellbeing and  
Other Projects Using Existing Data***

Professor Peter Davis, University of Auckland  
SNZ Internal Seminar Series  
12–1, 10 August 2006  
Statistics House, The Boulevard, Wellington



# ***What I want to cover today***

**Introduction – the role of SNZ: case study**

**Project Background**

**Origins**

**Purpose**

**Links to Census and SNZ**

**Use of Census**

Data Access

Data Use

**Data Platform**

Technology, Theory

**Concluding Comments**



# ***Role of SNZ – Case Study***

## **My own links to SNZ**

1970s – SNZ as adviser and supplier on sampling

1980s – supplier of data for health expectancy

1990s – access to data to develop NZSEI

2000s – evolution towards data service (case study)

## **Case Study Background**

**Family and Whanau Wellbeing Project**

**Other Funded Projects using Existing Data**

## **E-Research and other opportunities**

Advanced Network (compute, data share, collaborate)

NZ Census Mortality Study

Hospital Restructuring



# Project Origins

## Social Epidemiology

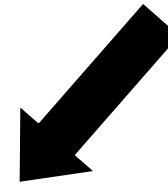
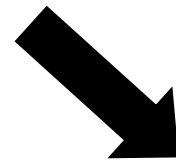
NZ Census  
Mortality Study

## Social Indicators

NZSEI, NZDep

## Social Service Evaluations

Family Start



### Methods

Applied Statistics  
Epidemiology  
Data Fusion

### Measures

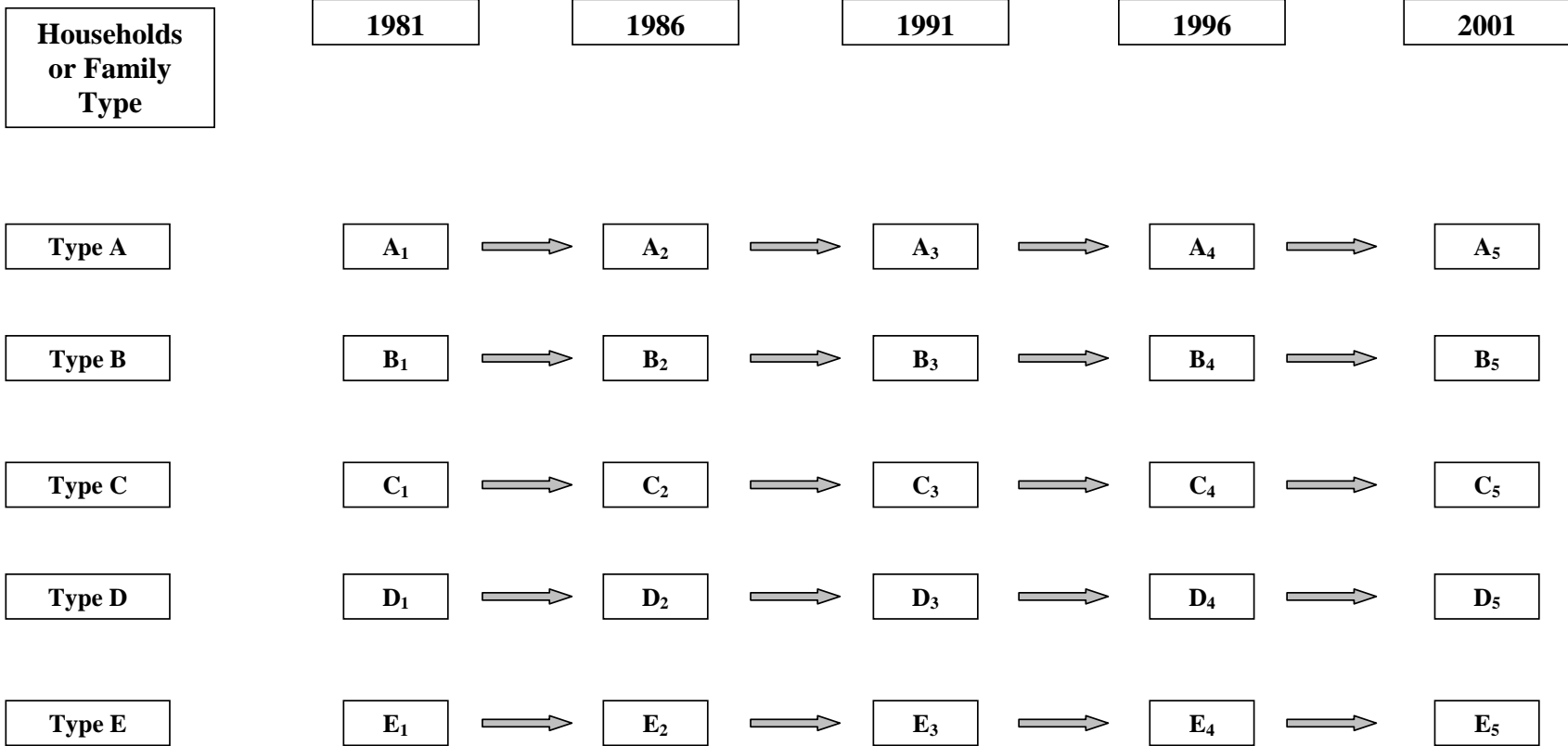
Elley Irving, NZDep, NZSEI, Living Standard, NZiDep

### Need

Family level measures  
Household level measures  
Use Census data  
Social theory



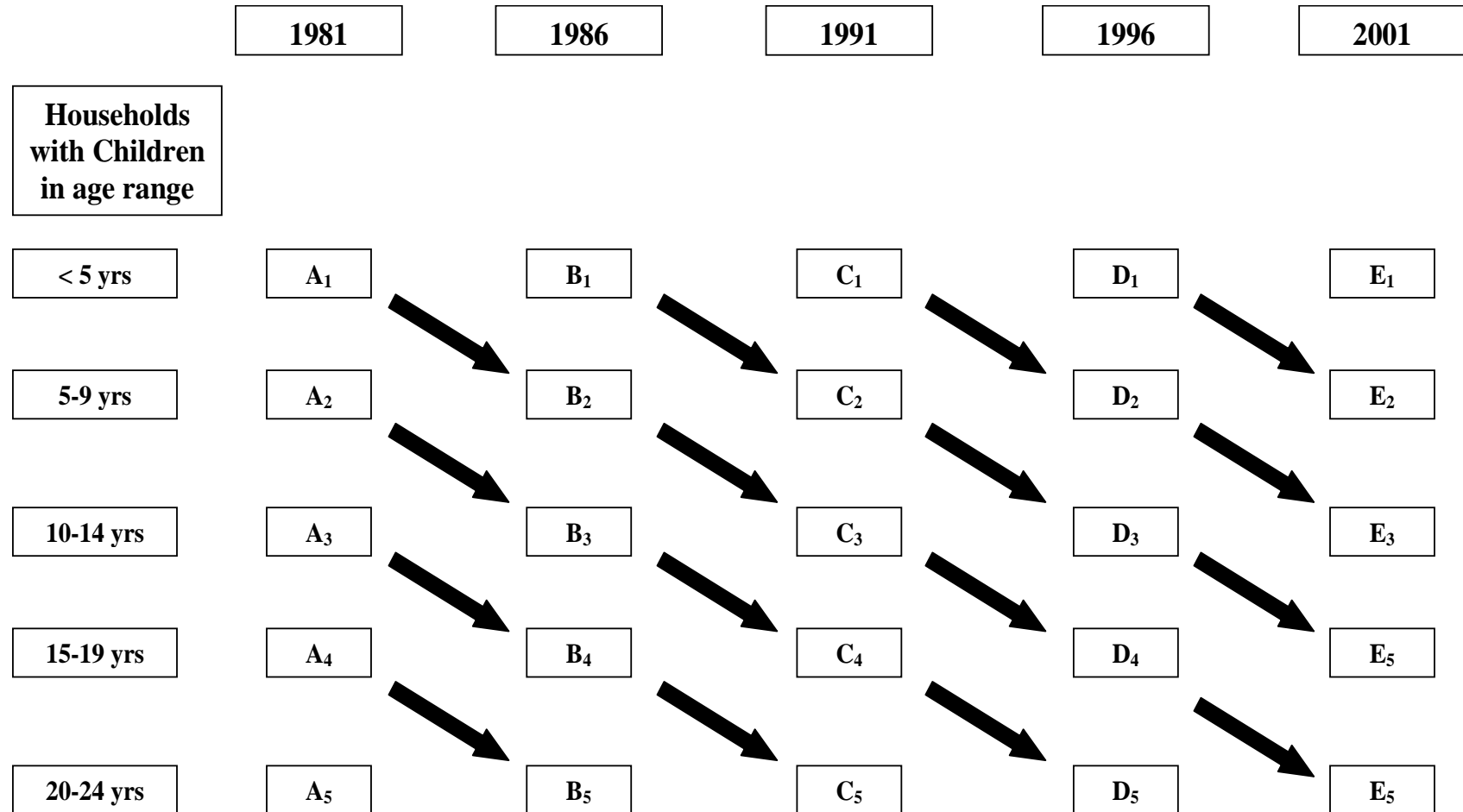
# Time Series



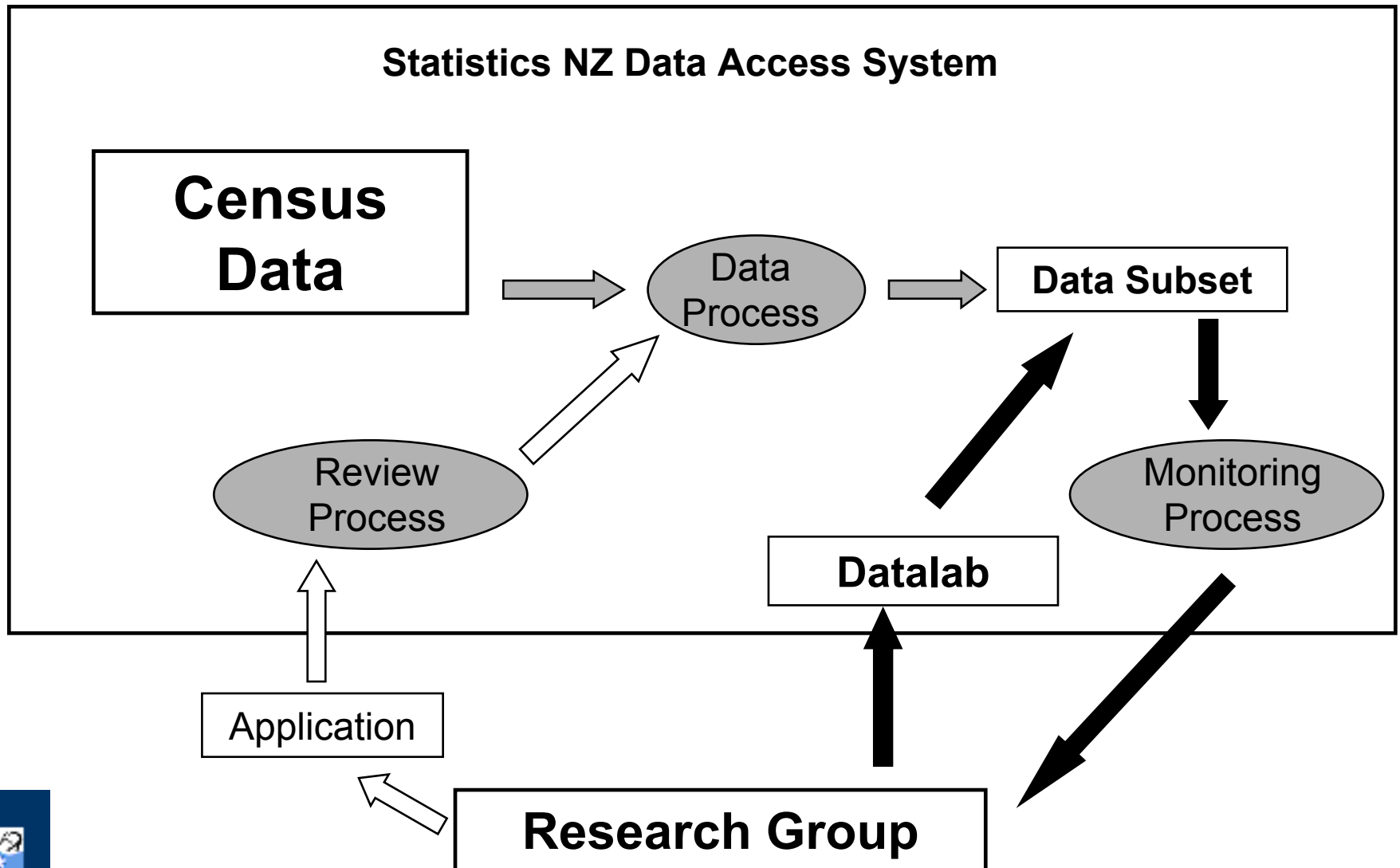
Changing distributions of outcomes for household or family type



# Cohort Study



# Accessing Census Data 1



# Accessing Census Data 2

## SNZ Data Access System

Ensures Protection of Confidentiality

- But ...
  - Costs
  - Takes time
  - Requires knowledge of system
- So ... **create permanent resources**
  - Datasets
  - User guides
  - Data management / analysis tools





# ***Family and Whanau Wellbeing Project***

- **Multidisciplinary**
  - Sociology
  - Statistics
- **Funded by FoRST for five years**
- **Creating a social monitor**
  - Focus on households and families
  - Constructing social indicators of wellbeing
  - Using existing time-series data (mainly Census)
- **Adding analytical value to official data sources**
  - Can they form the basis for a data platform?

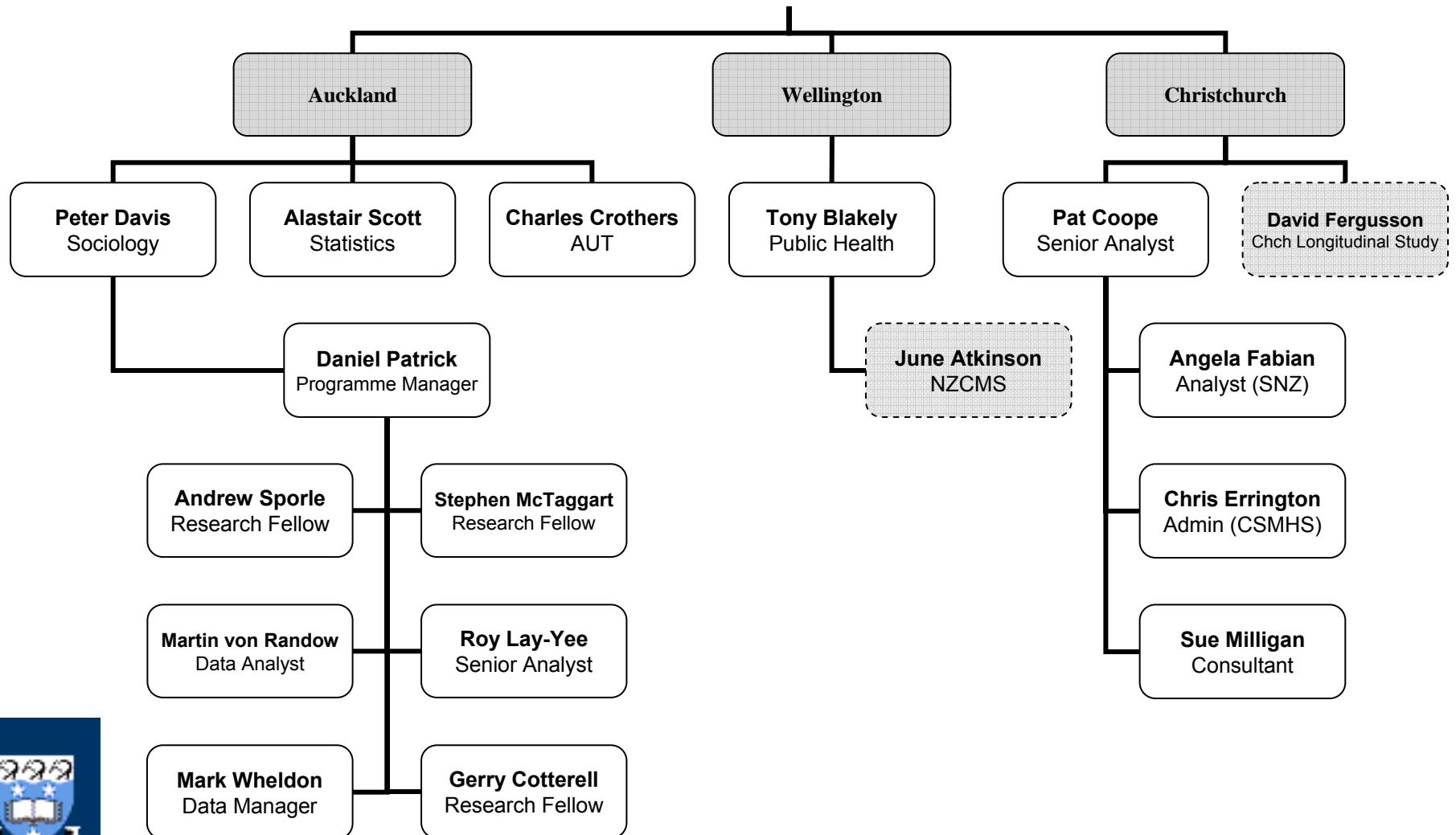
→ **NEW RESEARCH OPPORTUNITIES**



# ***FWWP Project team***

**Director: Peter Davis**

**Project Manager: Daniel Patrick**



# ***What we want to do in the project***

## Objectives

1. Develop standard measures
  - Household / family composition
  - Socio-economic status
  - Family wellbeing
2. Analyse family wellbeing in context
  - Wellbeing by family type and social location
3. Set time-series analysis of social indicators
  - Interrelationships over time
4. Explore feasibility of routine monitoring
  - Data platform, data linkage and “fusion”, constructed cohort



# *Reports and Objectives*

Technical Report	Project Objectives			
	Develop Measures	Analyse in Context	Time Series Analysis	Data Platform
<b>Family Wellbeing</b>	Social indicators	Family outcomes	Inter-censal variation	Metadata
<b>Policy Impact</b>	Policy events	Exogenous impactors	Policy “periods”	Supplemental
<b>Social Context</b>	Standard definitions	Endogenous factors	Inter-censal variation	Metadata



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# ***Family Wellbeing – Indicators***

**Sue Milligan, Research Officer,**

**AIM – To produce**

- Comprehensive overview of measures of family wellbeing
- Summary of intercensal variation in key variables
- Method for dealing with intercensal variation



# Change in Personal Census Q'naire

Topic	'81	'86	'91	'96	'01
Age	•	•	•	•	•
Children born	•			△	
Cigarette smoking	•			△	
Country of birth	•	•	•	•	•
Education	•	△	△	△	•
Employment status	•	△	△	△	•
Ethnicity	•	△	△	△	△
Hours worked	•	△	△	△	•
Income	•	△	•	△	•
Industry	•	•	•	△	•
Living Arrangements		•	△	△	△

• Data available

△ Coding changes

Based on Morrison P (1991)



# Change in Personal Census Q'aire

Topic	'81	'86	'91	'96	'01
Looking for work	•	△	△	•	•
Marital status	•	△	△	△	•
Means of travel to work	•	△	△	•	•
Non-labour force status	•	△	△	△	•
Occupation	•	△	•	△	•
Relationship to Occupier	•	△	•	△	•
Sex	•	•	•	•	•
Social Welfare Payments	•	•	•	△	•
Voluntary work		•	△	△	△
Years lived in NZ	•	•		△	△
Years at usual address		•	•	•	•

• Data available

△ Coding changes

Based on Morrison P (1991)





# Family Definition Changes

Definition	'81	'86	'91	'96	'01
First Family	•	•			
Second Family	•	•			
Third Family	•	•			
Person alone	•	•			
1 parent			•	△	△
2 parent			•	△	△
Couple only			•	△	△
Non Family unit			•	△	△
'One person economic family'				•	
Couple economic family				•	

• Data available

△ Coding changes



# *Variable Comparability Scale*

<b>Terminology</b>	<b>Interpretation</b>
Totally comparable	No intercensal variation
Highly comparable	Very little intercensal variation. Any variations are likely to have only a minor impact upon data.
Broadly comparable	Some intercensal variation exists, although basic definitions of the variable are the same. Sometimes there may be differences in some of the classifications, or in the way a particular variable is derived.
Limited comparability	Enough intercensal variation exists (usually in definition, the concept being measured, or in variable derivations) that comparability of data is severely curtailed.



# Variable Comparability Assessments

Variable	Assessment
Total Personal Income	Broadly Comparable across 1981-2001 Census
Income Source	Broadly Comparable across 1981-2001 for Benefit source data. Information about private sources only available in 1996 and 2001
Work and Labour Force Status	1996 and 2001 data are highly comparable with each other, and broadly comparable with 1991. In 1986 use the employment status variable, which is of limited comparability to 1991-2001 data, but broadly comparable with 1981. In 1981 use the labour force status variable from the rebased dataset. This is broadly comparable with 1981, but of limited comparability with 1996-2001 data
Hours Worked	1981, 1996 and 2001 data are highly comparable. 1986 and 1991 data are highly comparable but of limited comparability with other census years
School Qualification	Broadly comparable for presence/absence of a qualification. Limited comparability of 1991 and 2001 data on level of attainment
Post School Qualification	Broadly comparable for presence/absence of a qualification, level of attainment. Limited comparability for field of study and data on overall numbers of qualifications of the population.



# Variable Comparability Assessments

Variable	Assessment
Dwelling Type	1986, 1991 and 2001 data are broadly comparable. 1996 data is of limited comparability with other census years. 1981 data on temporary private dwellings is of limited comparability with other census years.
Tenure	1986, 1991 and 2001 data are broadly comparable. 1996 data is of limited comparability with other census years. 1981 data on temporary private dwellings is of limited comparability with other census years.
Nature of Occupancy	1986, 1991 and 1996 variables are highly comparable. In 1981 and 2001 use the tenure of household and sector of landlord variables to derive broadly comparable information
Sector of Landlord	1981 and 2001 data are highly comparable. In 1986, 1991 and 1996 use the nature of occupancy variable to obtain broadly comparable information.
Weekly Rent	Highly comparable across 1981-2001.
Number of Bedrooms	Highly comparable across 1981-2001.
Heating	Highly comparable across 1981-2001.



# Variable Comparability Assessments

Variable	Assessment
Telephone access	1981 and 1996 variables are broadly comparable. In 2001 use the access to telecommunications variable which is highly comparable with 1996 and broadly comparable with 1981
Access to telecommunications	Only available for one year
Number of Motor vehicles	1996 and 2001 variables are highly comparable, and these are both broadly comparable with 1991 and 1986 variables. 1981 is of limited comparability.
Smoking status	1981 and 1996 variables are broadly comparable.



# Wellbeing Indicator Variables

Wellbeing variable	Indicators	Definition	Census Variables
Income	Equivalised family income (CPI adjusted)	The median value of all equivalised family income.	Total personal income (1981-2001)
	Equivalised Household income (CPI adjusted)	The median value of all equivalised household income.	Total personal income (1981-2001)
	Income source	The proportion of all families with one or more family member receiving any type of government transfer	All income source variables (1981-2001)
	Proportion of families with low incomes	The proportion of all families whose equivalised gross family income is more than 60 % below the median equivalised gross family income	Total personal income (1981-2001)
	Income inequality	The X proportion of all families who earn Y percentage of the total income of all families	Total personal income (1981-2001)



# *Wellbeing Indicator Variables*

<b>Wellbeing variable</b>	<b>Indicators</b>	<b>Definition</b>	<b>Census Variables</b>
Education	Secondary Educational Attainment	The proportion of all families who have one or more family member(s) aged over 15 with any secondary qualifications.	School Qualifications (1981-2001)
	Post Secondary educational attainment	The proportion of all families who have one or more family member(s) aged over 15 with any post-secondary qualifications.	Post School Qualifications (1981-2001)



# Wellbeing Indicator Variables

Wellbeing variable	Indicators	Definition	Census Variables
Work	Unemployment	The proportion of all families containing at least one family member who is unemployed.	Work and labour force status from the rebased dataset (1981) Employment Status (1986) Work and labour force status (1991-2001)
	Hours Worked	The proportion of all families containing at least one family member who works more than 48 hours a week.	Hours worked (1981-2001)





# Wellbeing Indicator Variables

Wellbeing variable	Indicators	Definition	Census Variables
Housing	Telephone Access	The proportion of households that live in owner occupied dwellings	Tenure (1981, 2001) Nature of occupancy (1986, 1991, 1996) Sector of landlord (1981, 2001)
	Rental Affordability	The proportion of all households in rented dwellings whose weekly rent is greater than twenty five percent of their gross equivalised household income	Total personal income (1981-2001) Weekly rent (1981-2001)
	Habitability 1) Dwelling type 2) Fuels used to heat the dwelling	The proportion of all households living in temporary private dwellings The proportion of all households that have not used any form of fuel to heat their dwellings	Dwelling type (1981-2001) Heating (1981-2001)
	Crowding	The proportion of all households that require at least one additional bedroom to meet the sleeping needs of the household	Number of usual residents (1981-2001) Number of bedrooms (1981-2001) Household composition (1981-2001) Age (1981-2001)



# Wellbeing Indicator Variables

Wellbeing variable	Indicators	Definition	Census Variables
Assets to Facilitate Social Connectedness	Tenure	The proportion of all households that have access to a telephone.	Telephone access (1981 and 1996) Access to telecommunication systems (2001)
	Motor Vehicle Access	The proportion of all households that have the private use of one or more motor vehicles.	Number of motor vehicles (1981-2001)
	Internet Access	The proportion of all households that have access to the Internet	Access to telecommunication systems (2001)

Health	Current Cigarette smoking status	The proportion of all families that contain one or more member(s) aged 15 and over who smoke cigarettes regularly (ie one or more per day)	Smoking status (1981 and 1996)
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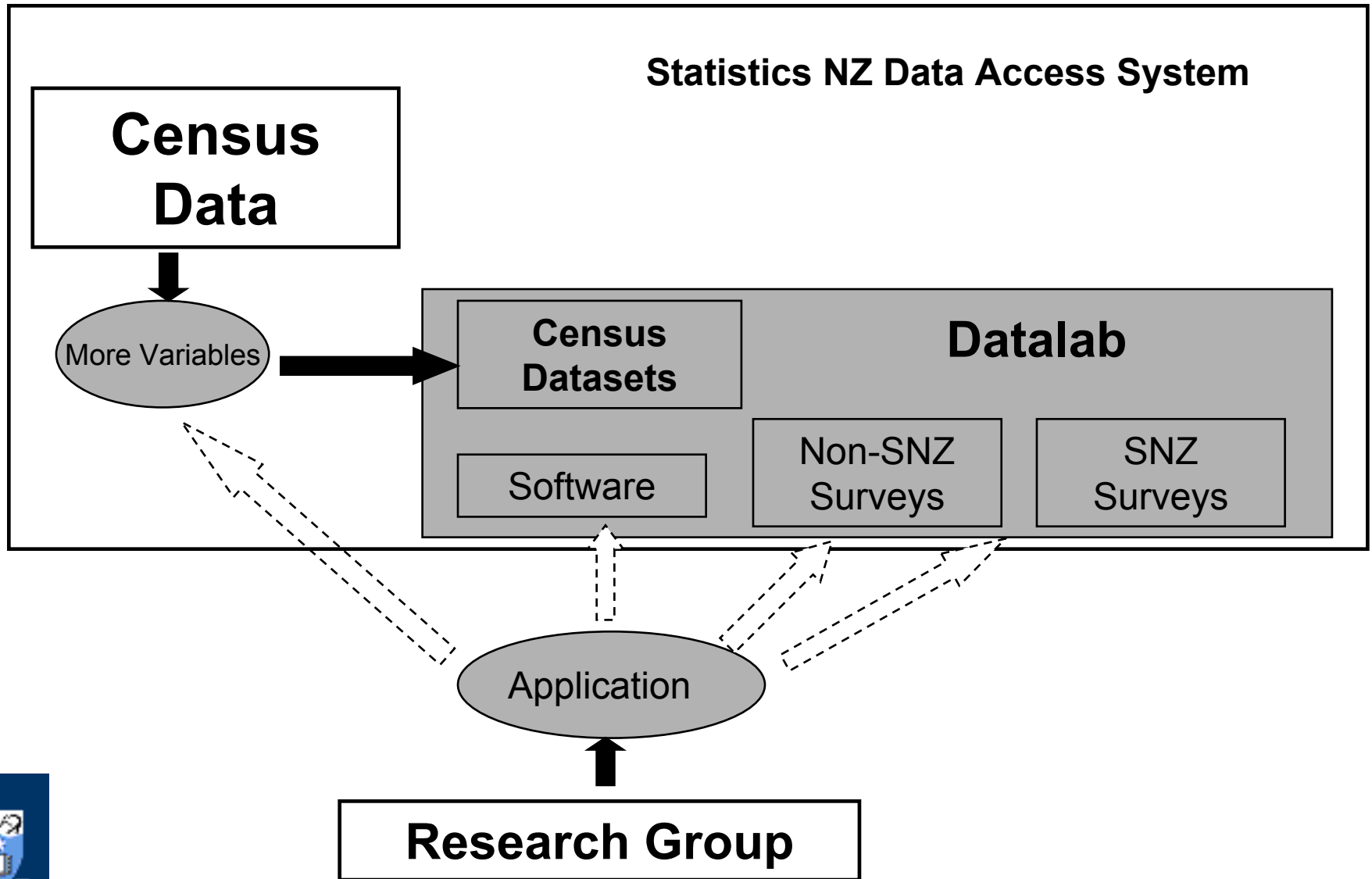
**Data Platform**

Technology, Theory

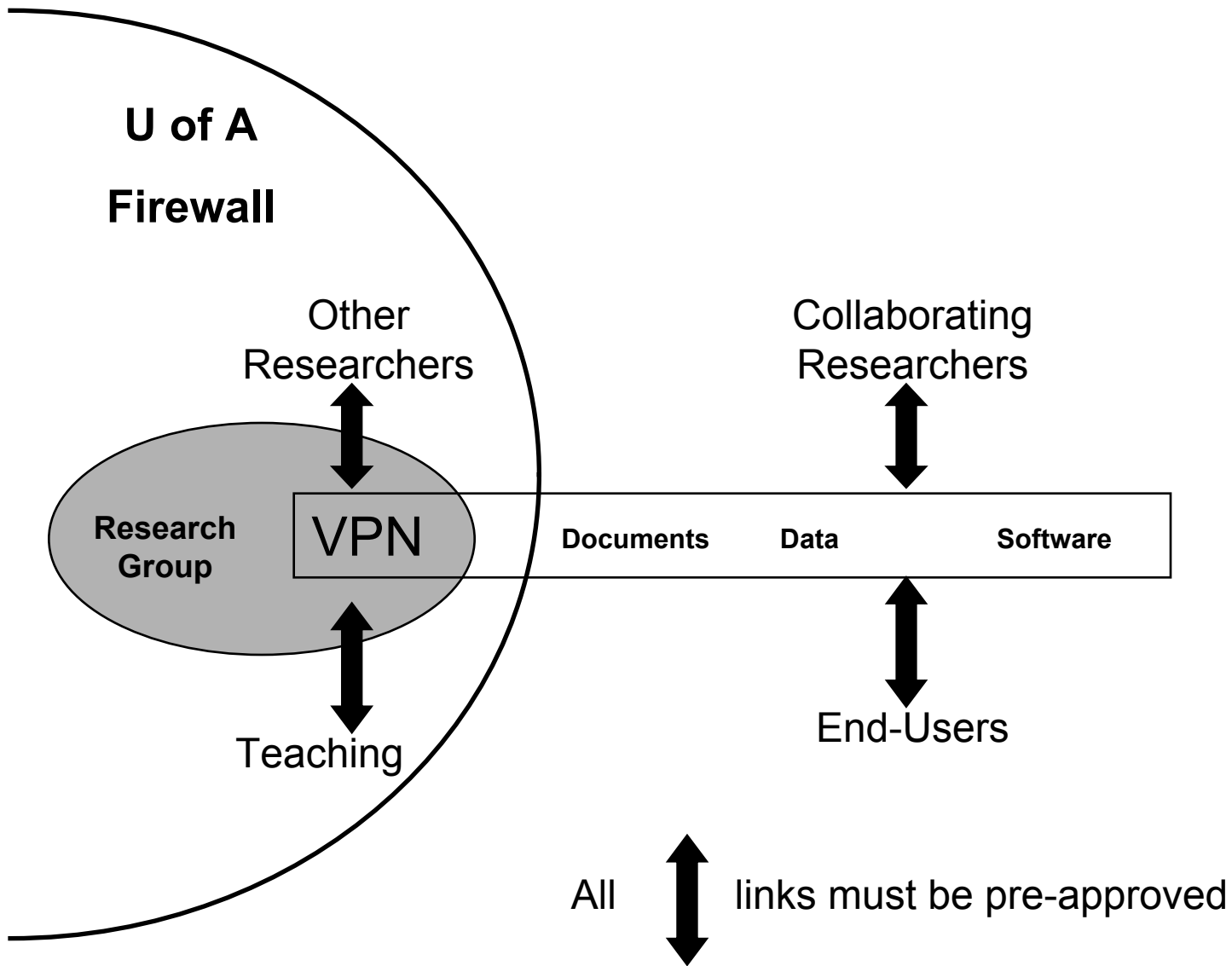
**Concluding Comments**



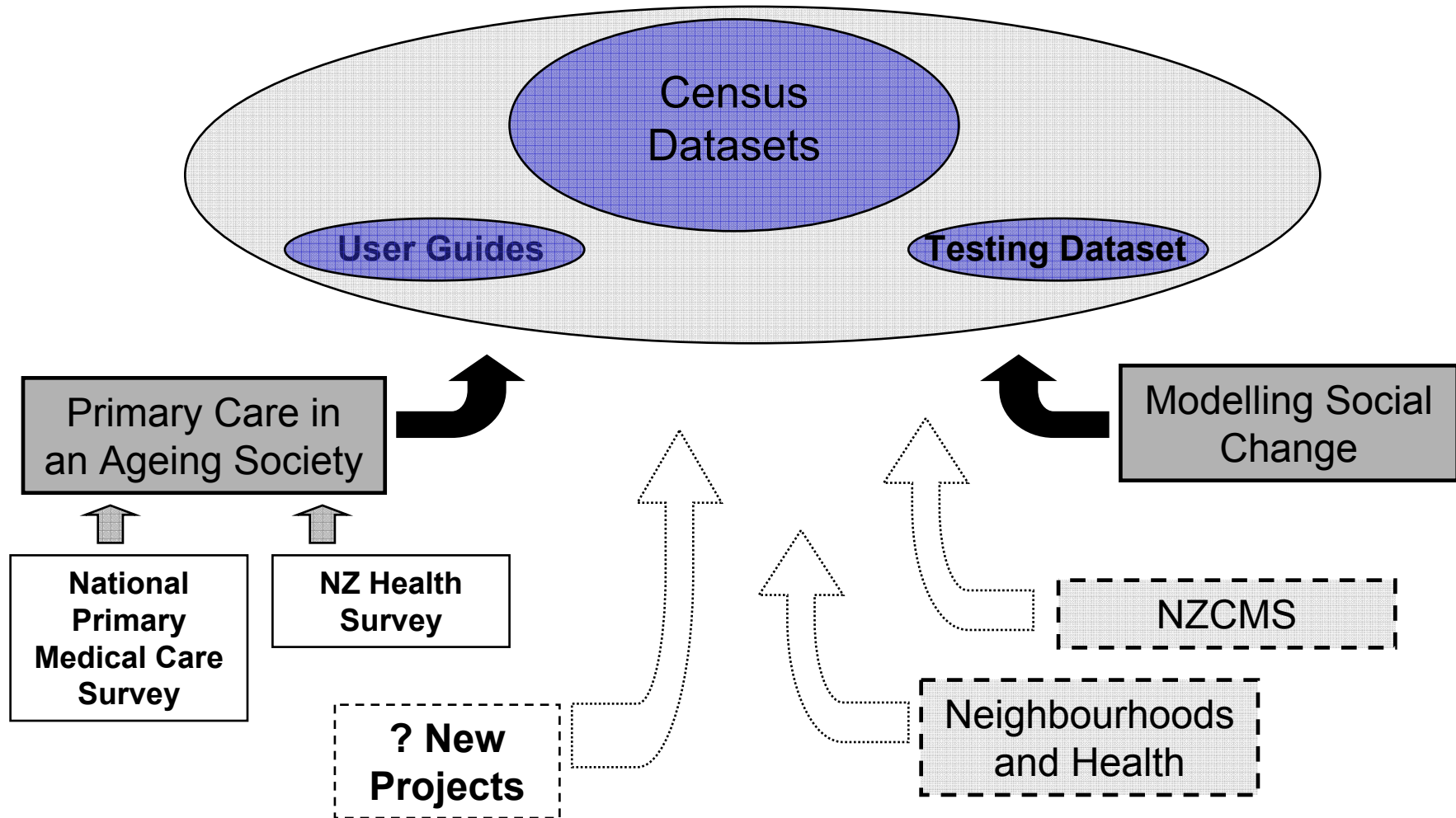
# Data Platform 1



# Data Platform 2



# Research Developments



# ***Concluding Comments***

- **Experience as a Data User**
  - Enormous compliance demands
  - Massive requirements on data preparation
  - Need for new partnership arrangement
- **Role of SNZ**
  - Track record of important national collections
  - But ... historically relatively passive, inward looking
  - But ... serial data collector, limited analysis
  - OSRDAC may signal new self-concept
  - E-research transforms data management issues
  - ONS now a sophisticated data services provider
  - Opportunities to engage in new partnerships

