

# The CCV Prostate Cancer Resource

Liesel FitzGerald

David Hill Research Fellow

Cancer Epidemiology Centre

Cancer Council Victoria

- Melbourne Collaborative Cohort Study: 1990-1994
  - Cohort study - Melbourne
  - 17,045 men recruited
- RFPCS: 1994 - 1998
  - Case-control study - Melbourne, Perth & Sydney
  - Final case criteria: Aged  $\leq 70$  years + Gleason score  $>4$
- EOPCFS: 1998 (1996) - 2008
  - Family-based study - Victoria
  - Aged  $\leq 70$  years, recruited affected relatives where possible
- APC: 2010 - ongoing
  - Case-control study - Melbourne
  - Final case criteria: Aged  $< 75$  years + GS  $>7$ /TNM T3+/PSA  $>19$
  - Final control criteria: Aged  $<77$  years + biopsy-screened negative

		MCCS	RFPCS	EOPCFS	APC
Peripheral Blood	Cases	1,757	1,360	2,269	1,129
	Controls	Matched	1,507		938
Tumour Tissue	Diagnostic	405	247	156	0
	RP	162	133	168	0
	Other	42	42	12	0

- Genomic determinants of risk and outcomes
  - Peripheral blood
    - Fine-mapping
    - Candidate genes
    - OncoArray
    - Methylation
    - Whole-exome sequencing
  - Tissue
    - IHC Biomarkers – PCSM cases + referents
    - Gene expression – PCSM cases + referents
    - Methylation – PCSM cases + referents

- PRACTICAL
  - iSELECT: 47,120 SNPs in 1,818 ca + 1,540 co (M/R/E)
  - OPA: 178 SNPs in 1,618 ca + 1,533 co (M/R/E)
  - iCOGS: 1,813 ca + 1,231 co (M/R/E)
  - OncoArray: 772 ca + 331 co (M)
- ICPCG
  - Linkage: ?
  - Whole-exome sequencing: 15 cases from 11 families
  - Omni5Exome: 169 familial ca + 168 RFPCFS co
- Movember (Fred Hutchinson)
  - 30 PCSM-associated SNPs: MCCS and EOPCFS
  - EOPCFS: ~1,670 cases - 100 PCSM cases
  - MCCS: ~1,500 cases - 199 PCSM cases

## Opportunities for future use

- Expand whole-exome/genome sequencing
  - More families
  - Tumour tissue
- Expand OncoArray genotyping
  - More than MCCS
- Expand methylation/gene expression efforts
  - More than MCCS (peripheral samples)
  - More than PCSM cases/referents (tumour tissue)
- Tumour tissue collection
  - Further opportunities for collaborative efforts?
  - TMAs?
  - TMPRSS2-ERG?
- Other opportunities?