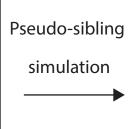
Phased genotype data

M SNPs

family	id	rs ₁	•••	rs _M	disease
fam ₁	id ₁	T G	•••	A A	1
fam ₁	id ₂	T G		A A	0
fam ₁	id ₃	G G		C A	0
:	:	:		:	i
:	:	:		÷	:
fam _N	id _n	G G		C A	0



family	id	rs ₁		rs _M	disease
fam ₁	id ₁	T G	•••	A A	1
fam ₁	id _{p1}	G G	•••	C A	0
fam ₁	id _{p2}	T G	•••	A C	0
fam ₁	id_{p3}	G G	•••	A A	0
:	:	i		:	:
fam _N	id _{p3}	G G		C A	0



Impute gene expression

family	id	imputed gene expression	disease
fam ₁	id ₁	1.5	1
fam ₁	id _{p1}	-0.2	0
fam ₁	id _{p2}	-0.7	0
fam ₁	id _{p3}	-0.3	0
	:	:	:
fam _N	id _{p3}	-2.3	0