

# Exploration of subsets

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Counts.

```
dim(d.pred.168)
```

```
## [1] 624 187
```

```
length(unique(d.pred.168$pmid))
```

```
## [1] 624
```

```
dim(d.pred.168.mm)
```

```
## [1] 520 187
```

```
dim(d.pred.168.cp)
```

```
## [1] 576 187
```

```
dim(d.pred2.168)
```

```
## [1] 449 187
```

Non-pH data.

```
length(unique(c(pmid.cal2, pmid.cal2cs, pmid.cal4)))
```

```
## [1] 519
```

```
table(d.pred.168$meas.tech2)
```

```
##
```

```
## chamber      cps micro met      wt
##      2      102      520      0
```

```
table(d.pred.168.mm$meas.tech2)
```

```
##
```

```
## chamber      cps micro met      wt
##      0        0      520      0
```

```
table(d.pred.168.cp$meas.tech2)
```

```
##
```

```
## chamber      cps micro met      wt
##      2       54      520      0
```

```
table(d.pred2.168$country, d.pred2.168$meas.tech2)
```

```
##
```

```
##      chamber cps micro met  wt
```

```
## CA      0  0      0  0
## CH      0  0     45  0
## DE      0  0      0  0
## DK      0  0     79  0
## FR      0  0      7  0
## IE      0  0     49  0
## IT      0  0      0  0
## NL      0  0    160  0
## NO      0  0      0  0
## SE      0  0      0  0
## UK      0  0    109  0
## US      0  0      0  0
```

```
table(d.pred3.168$country, d.pred3.168$meas.tech2)
```

```
##
##      chamber cps micro met wt
## CA      0  0      0  0
## CH      0  0      0  0
## DE      0  0      0  0
## DK      0 98      28  0
## FR      0  0      0  0
## IE      0  0      0  0
## IT      0  0      0  0
## NL      0  0      8  0
## NO      0  0      0  0
## SE      0  0      0  0
## UK      0  0      0  0
## US      0  0      0  0
```

```
table(d.pred.168$country, d.pred.168$meas.tech2)
```

```
##
##      chamber cps micro met wt
## CA      0  0      0  0
## CH      0  0     45  0
## DE      0  0      0  0
## DK      2 102     91  0
## FR      0  0     13  0
## IE      0  0     49  0
## IT      0  0      0  0
## NL      0  0    213  0
## NO      0  0      0  0
## SE      0  0      0  0
## UK      0  0    109  0
## US      0  0      0  0
```

```
table(d.pred.168.mm$country, d.pred.168.mm$meas.tech2)
```

```
##
##      chamber cps micro met wt
## CA      0  0      0  0
## CH      0  0     45  0
## DE      0  0      0  0
## DK      0  0     91  0
## FR      0  0     13  0
```

```
##      IE      0  0      49  0
##      IT      0  0      0  0
##      NL      0  0     213  0
##      NO      0  0      0  0
##      SE      0  0      0  0
##      UK      0  0     109  0
##      US      0  0      0  0
```

```
table(d.pred.168.cp$country, d.pred.168.cp$meas.tech2)
```

```
##
##      chamber cps micro met  wt
##      CA      0  0      0  0
##      CH      0  0     45  0
##      DE      0  0      0  0
##      DK      2 54     91  0
##      FR      0  0     13  0
##      IE      0  0     49  0
##      IT      0  0      0  0
##      NL      0  0     213  0
##      NO      0  0      0  0
##      SE      0  0      0  0
##      UK      0  0     109  0
##      US      0  0      0  0
```

```
table(d.pred2.168$inst)
```

```
##
## 104 106 202 204 205 207 208 210 212 214
## 28 82 109 17 34 45 7 3 49 75
```

```
table(d.pred3.168$inst)
```

```
##
## 205 210 211
## 28 8 98
```

```
table(d.pred3.168$institute)
```

```
##
##      AAFC      ADAS  ADAS-RR      ARDC      AT      AU      AUN      CAU-LU
##      0      0      0      0      0      28      0      0
##      CRPA      DIAS      IGER      IMAG  INH-HAFL      INRA  IUL/FAT      JTI
##      0      0      0      0      0      0      0      0
##      MU  NMI-WUR      SDU  TEAGASC      USDA      WUR
##      0      8      98      0      0      0
```

```
table(d.pred.168$inst)
```

```
##
## 104 106 202 204 205 207 208 210 211 212 214
## 28 86 109 17 46 45 13 8 104 49 119
```

```
table(d.pred.168.mm$inst)
```

```
##
## 104 106 202 204 205 207 208 210 212 214
## 28 86 109 17 46 45 13 8 49 119
```

```
table(d.pred.168.cp$inst)
```

```
##
## 104 106 202 204 205 207 208 210 211 212 214
## 28 86 109 17 46 45 13 8 56 49 119
```

```
table(d.pred2.168$country)
```

```
##
## CA CH DE DK FR IE IT NL NO SE UK US
## 0 45 0 79 7 49 0 160 0 0 109 0
```

```
table(d.pred3.168$country)
```

```
##
## CA CH DE DK FR IE IT NL NO SE UK US
## 0 0 0 126 0 0 0 8 0 0 0 0
```

```
table(d.pred.168$country)
```

```
##
## CA CH DE DK FR IE IT NL NO SE UK US
## 0 45 0 195 13 49 0 213 0 0 109 0
```

```
table(d.pred.168.mm$country)
```

```
##
## CA CH DE DK FR IE IT NL NO SE UK US
## 0 45 0 91 13 49 0 213 0 0 109 0
```

```
table(d.pred.168.cp$country)
```

```
##
## CA CH DE DK FR IE IT NL NO SE UK US
## 0 45 0 147 13 49 0 213 0 0 109 0
```

```
table(droplevels(d.pred2.168$exper))
```

```
##
##          1          10          11
##         18          1          1
##         12         13         14
##          1          1          1
##         15         16         17
##          1          1          1
##         18      1989-15    1989-27
##          1          1          1
##      1989-28    1990-12    1990-17
##          2          3          2
##      1990-18    1990-20    1990-22
##          2          4          2
##      1990-23    1990-24    1990-26
##          4          2          2
##      1990-27    1990-30    1990-31
##          2          1          1
##      1990-35    1990-36    1991-15
##          1          2          2
##      1991-16    1991-24    1991-30
```

##	2	3	1
##	1991-36	1992-11	1992-12
##	1	1	1
##	1992-16	1992-17	1992-21
##	3	2	1
##	1992-25	1992-26	1992-27
##	1	3	4
##	1992-28	1992-35	1992-38
##	1	1	2
##	1993-10	1993-11	1993-12
##	2	6	2
##	1993-18	1993-21	1993-22
##	4	3	4
##	2	3	4
##	6	11	6
##	5	6	7
##	21	3	1
##	8	9	A1
##	1	1	3
##	A2	A3	A4
##	3	3	4
##	A5	A6	Cracking Clays 40 Acres
##	3	3	36
##	Cracking Clays Faringdon	Cracking Clays Rowden	DERVAL(44)_2011
##	27	46	2
##	ECLAIRE-2012	F1	F2
##	1	3	2
##	F3	G1997-24	G1997-25
##	2	3	2
##	G1997-26	G1997-28	G1997-29
##	3	2	3
##	G1997-30	G1997-31	G1997-33
##	2	3	2
##	G1998-28	G1998-30	G1998-32
##	3	4	4
##	G1999-19	G1999-20	G1999-22
##	5	3	2
##	G1999-26	G1999-27	G1999-30
##	2	5	5
##	G1999-35	G2	G2000-11
##	2	3	2
##	G2000-12	G2000-19	G2000-9
##	5	2	2
##	G2002-23	G2003-10	G2003-11
##	2	3	4
##	G3	IHF_13	IHF_6
##	3	1	1
##	IHF_7	Juni 2000	Juni_99
##	1	5	4
##	Kent_01	Kent_2_02	LACHAP(44)_2011
##	5	3	2
##	LI_1994	R1	SyreN
##	2	3	22
##	TS1	TS2	Unter (a)

##		3		1		6
##		Unter (b)		Z1		Z2
##		6		3		3

```
table(droplevels(d.pred3.168$exper))
```

##								
##	B1	B2	IHF_13	IHF_6	IHF_7	SyreN	W1	W2
##	10	8	4	2	2	28	40	40

```
table(droplevels(d.pred.168$exper))
```

##				
##		1	10	11
##		18	1	1
##		12	13	14
##		1	1	1
##		15	16	17
##		1	1	1
##		18	1989-15	1989-27
##		1	1	2
##		1989-28	1990-12	1990-17
##		3	3	2
##		1990-18	1990-20	1990-22
##		2	4	2
##		1990-23	1990-24	1990-26
##		4	3	3
##		1990-27	1990-30	1990-31
##		2	1	1
##		1990-35	1990-36	1991-15
##		1	2	2
##		1991-16	1991-24	1991-30
##		2	3	1
##		1991-36	1992-11	1992-12
##		1	1	1
##		1992-16	1992-17	1992-21
##		3	2	1
##		1992-25	1992-26	1992-27
##		1	3	4
##		1992-28	1992-35	1992-38
##		1	1	2
##		1993-10	1993-11	1993-12
##		2	6	2
##		1993-18	1993-21	1993-22
##		4	3	4
##		2	3	4
##		6	11	6
##		5	6	7
##		21	3	1
##		8	9	A1
##		1	1	3
##		A2	A3	A4
##		3	3	4
##		A5	A6	B1
##		3	3	16

##	B1990-15	B1990-35	B1990-37
##	2	2	3
##	B1990-38	B1991-13	B1991-37
##	8	2	4
##	B1992-10	B1992-14	B1992-37
##	2	4	3
##	B1992-38	B1992-39	B1993-15
##	3	3	4
##	B1998-39	B1998-40	B2
##	2	2	8
##	Cracking Clays 40 Acres	Cracking Clays Faringdon	Cracking Clays Rowden
##	36	27	46
##	DERVAL(44)_2011	ECLAIRE-2012	F1
##	4	1	3
##	F2	F3	G1997-24
##	2	2	3
##	G1997-25	G1997-26	G1997-28
##	2	3	2
##	G1997-29	G1997-30	G1997-31
##	3	2	3
##	G1997-33	G1998-28	G1998-30
##	2	3	4
##	G1998-32	G1999-19	G1999-20
##	4	5	3
##	G1999-22	G1999-26	G1999-27
##	2	2	5
##	G1999-30	G1999-35	G2
##	5	2	3
##	G2000-11	G2000-12	G2000-19
##	2	5	2
##	G2000-9	G2002-23	G2003-10
##	2	2	3
##	G2003-11	G3	IHF_13
##	4	3	4
##	IHF_6	IHF_7	Juni 2000
##	2	2	5
##	Juni_99	Kent_01	Kent_2_02
##	4	5	3
##	LACHAP(44)_2011	LI_1994	R1
##	4	4	3
##	SyreN	TS1	TS2
##	34	3	1
##	Unter (a)	Unter (b)	W1
##	6	6	40
##	W2	Z1	Z2
##	40	3	3

```
table(droplevels(d.pred.168.mm$exper))
```

##			
##	1	10	11
##	18	1	1
##	12	13	14
##	1	1	1
##	15	16	17

##	1	1	1
##	18	1989-15	1989-27
##	1	1	2
##	1989-28	1990-12	1990-17
##	3	3	2
##	1990-18	1990-20	1990-22
##	2	4	2
##	1990-23	1990-24	1990-26
##	4	3	3
##	1990-27	1990-30	1990-31
##	2	1	1
##	1990-35	1990-36	1991-15
##	1	2	2
##	1991-16	1991-24	1991-30
##	2	3	1
##	1991-36	1992-11	1992-12
##	1	1	1
##	1992-16	1992-17	1992-21
##	3	2	1
##	1992-25	1992-26	1992-27
##	1	3	4
##	1992-28	1992-35	1992-38
##	1	1	2
##	1993-10	1993-11	1993-12
##	2	6	2
##	1993-18	1993-21	1993-22
##	4	3	4
##	2	3	4
##	6	11	6
##	5	6	7
##	21	3	1
##	8	9	A1
##	1	1	3
##	A2	A3	A4
##	3	3	4
##	A5	A6	B1990-15
##	3	3	2
##	B1990-35	B1990-37	B1990-38
##	2	3	8
##	B1991-13	B1991-37	B1992-10
##	2	4	2
##	B1992-14	B1992-37	B1992-38
##	4	3	3
##	B1992-39	B1993-15	B1998-39
##	3	4	2
##	B1998-40	Cracking Clays 40 Acres	Cracking Clays Faringdon
##	2	36	27
##	Cracking Clays Rowden	DERVAL(44)_2011	ECLAIRE-2012
##	46	4	1
##	F1	F2	F3
##	3	2	2
##	G1997-24	G1997-25	G1997-26
##	3	2	3
##	G1997-28	G1997-29	G1997-30



##	2	3	2
##	G1997-31	G1997-33	G1998-28
##	3	2	3
##	G1998-30	G1998-32	G1999-19
##	4	4	5
##	G1999-20	G1999-22	G1999-26
##	3	2	2
##	G1999-27	G1999-30	G1999-35
##	5	5	2
##	G2	G2000-11	G2000-12
##	3	2	5
##	G2000-19	G2000-9	G2002-23
##	2	2	2
##	G2003-10	G2003-11	G3
##	3	4	3
##	IHF_13	IHF_6	IHF_7
##	4	2	2
##	Juni 2000	Juni_99	Kent_01
##	5	4	5
##	Kent_2_02	LACHAP(44)_2011	LI_1994
##	3	4	4
##	R1	SyreN	TS1
##	3	34	3
##	TS2	Unter (a)	Unter (b)
##	1	6	6
##	Z1	Z2	
##	3	3	

```
table(droplevels(d.pred.168.cp$exper))
```

##			
##	1	10	11
##	18	1	1
##	12	13	14
##	1	1	1
##	15	16	17
##	1	1	1
##	18	1989-15	1989-27
##	1	1	2
##	1989-28	1990-12	1990-17
##	3	3	2
##	1990-18	1990-20	1990-22
##	2	4	2
##	1990-23	1990-24	1990-26
##	4	3	3
##	1990-27	1990-30	1990-31
##	2	1	1
##	1990-35	1990-36	1991-15
##	1	2	2
##	1991-16	1991-24	1991-30
##	2	3	1
##	1991-36	1992-11	1992-12
##	1	1	1
##	1992-16	1992-17	1992-21
##	3	2	1

##	1992-25	1992-26	1992-27
##	1	3	4
##	1992-28	1992-35	1992-38
##	1	1	2
##	1993-10	1993-11	1993-12
##	2	6	2
##	1993-18	1993-21	1993-22
##	4	3	4
##	2	3	4
##	6	11	6
##	5	6	7
##	21	3	1
##	8	9	A1
##	1	1	3
##	A2	A3	A4
##	3	3	4
##	A5	A6	B1
##	3	3	16
##	B1990-15	B1990-35	B1990-37
##	2	2	3
##	B1990-38	B1991-13	B1991-37
##	8	2	4
##	B1992-10	B1992-14	B1992-37
##	2	4	3
##	B1992-38	B1992-39	B1993-15
##	3	3	4
##	B1998-39	B1998-40	B2
##	2	2	8
##	Cracking Clays 40 Acres	Cracking Clays Faringdon	Cracking Clays Rowden
##	36	27	46
##	DERVAL(44)_2011	ECLAIRE-2012	F1
##	4	1	3
##	F2	F3	G1997-24
##	2	2	3
##	G1997-25	G1997-26	G1997-28
##	2	3	2
##	G1997-29	G1997-30	G1997-31
##	3	2	3
##	G1997-33	G1998-28	G1998-30
##	2	3	4
##	G1998-32	G1999-19	G1999-20
##	4	5	3
##	G1999-22	G1999-26	G1999-27
##	2	2	5
##	G1999-30	G1999-35	G2
##	5	2	3
##	G2000-11	G2000-12	G2000-19
##	2	5	2
##	G2000-9	G2002-23	G2003-10
##	2	2	3
##	G2003-11	G3	IHF_13
##	4	3	4
##	IHF_6	IHF_7	Juni 2000
##	2	2	5

##	Juni_99	Kent_01	Kent_2_02
##	4	5	3
##	LACHAP(44)_2011	LI_1994	R1
##	4	4	3
##	SyreN	TS1	TS2
##	34	3	1
##	Unter (a)	Unter (b)	W1
##	6	6	16
##	W2	Z1	Z2
##	16	3	3