**Data checking**

1. Some of the step\_start date are out of our study period (Jan 2006 – Dec 2013). We might need to censor the out of scope date.

pat\_id index\_asthma\_date elig\_start elig\_stop step\_start step\_stop trt\_step start\_date stop\_date gap

k306AAAAAABPVERN 03 Apr 06 01 Jan 01 **31 Mar 14 30 Mar 14 31 Mar 14** 0 2918 2919 2

k307AAAAAACRHLXL 28 Jan 06 01 Jan 03 31 Mar 14 30 Mar 14 31 Mar 14 0 2983 2984 2

f433AAAAAACWGNPM 23 Oct 06 01 Apr 05 31 Mar 14 30 Mar 14 31 Mar 14 0 2715 2716 2

k306AAAAAACGMGML 26 Jan 07 01 Mar 02 31 Mar 14 30 Mar 14 31 Mar 14 0 2620 2621 2

9639AAAAAFKJOXXE 24 Aug 11 01 Jun 07 31 Mar 14 30 Mar 14 31 Mar 14 0 949 950 2

f433AAAAAACUDHJG 19 Sep 07 01 Jan 06 31 Mar 14 30 Mar 14 31 Mar 14 0 2384 2385 2

9618AAAAABHWBHQD 21 Mar 10 01 Sep 05 31 Mar 14 30 Mar 14 31 Mar 14 0 1470 1471 2

0309AAAAAACRRSCH 01 Jun 06 01 Jan 01 31 May 14 31 Mar 14 31 May 14 0 2860 2921 62

9612AAAAAABGNZEH 19 Feb 07 01 Nov 03 31 Mar 14 31 Mar 14 31 Mar 14 0 2597 2597 1

0382AAAAAATCIVXF 18 Jan 11 01 Dec 09 31 May 14 31 Mar 14 31 May 14 0 1168 1229 62

9612AAAAAADUXAOA 08 Feb 11 01 Mar 10 31 Mar 14 05 Apr 14 02 Sep 20 2 1152 3494

1. Some of date are miss-coding. We need to get rid of patients who had that problem (Not just the observations)

pat\_id index\_asthma\_date elig\_start elig\_stop step\_start step\_stop trt\_step start\_date stop\_date

9612AAAAAABKQXMF 07 Jun 08 01 Jan 04 31 Mar 14 -**2.03e+09 -2.47e+08 2 5.950e+11 3.486e+13**

9612AAAAAAAKUAWW 02 May 06 01 Apr 03 30 Sep 11 -1.92e+09 -7.61e+08 1 2.375e+09 2.134e+12

i205AAAAAAFBMBUW 03 Aug 07 01 Jan 07 30 Jun 12 -1.84e+09 1.13e+09 2 2.459e+09 3.716e+13

s103AAAAAACQJGAS 24 Oct 09 01 Oct 06 31 Dec 13 -1.49e+09 -6.74e+08 4 2.805e+09 4.676e+14

1914AAAAAAABDFOH 06 Apr 06 01 Jan 03 30 Sep 08 -8.81e+08 1.45e+09 2 5.495e+10 6.955e+13

s103AAAAAACSJICL 12 Oct 07 01 Jan 07 31 Dec 13 -6.67e+08 1.06e+08 3 3.627e+09 1.103e+13

k306AAAAAAAFQKRO 21 May 06 01 Jan 01 31 Mar 14 -1.55e+08 30 Dec 99 1 1.638e+14 5.447e+27

p834AAAAABBHVUXJ 20 Jan 06 01 Jan 03 31 Dec 09 21 Mar 52 1.65e+09 1 89910 3.601e+10

h612AAAAABSSZIKJ 08 Mar 07 01 Aug 06 31 Jan 10 29 Sep 08 1.66e+09 2 571 1.658e+09

s103AAAAAABOJYUK 23 Aug 07 01 Oct 06 30 Sep 12 29 Jan 12 1.66e+09 1 1620 5.954e+09

ma31AAAAAAALDQZC 08 Oct 07 01 Jan 07 30 Apr 14 13 Jan 14 1.66e+09 1 2289 5.938e+15

4310AAAAAABZTGGR 12 Jan 06 01 Nov 04 31 Dec 08 08 Jun 09 1.66e+09 2 1243 9.581e+13

e869AAAAAADVIXUD 02 Nov 09 01 May 09 31 Jul 12 **20 Dec 73 1.67e+09 1 23424 1.672e+09**

h612AAAAABBWTZXG 20 Nov 07 01 Jan 07 31 Dec 12 19 Jan 08 1.68e+09 2 60 1.148e+13

s117AAAAAFZSZQOL 21 Jul 08 01 Jul 07 30 Sep 12 10 Oct 12 1.68e+09 1 1542 8.509e+15

0268AAAAAADSDJZS 11 Oct 07 01 Apr 07 31 Dec 10 27 Oct 07 1.68e+09 4 16 3.175e+10

9612AAAAAAGRTASA 27 Mar 06 01 Apr 03 31 Mar 14 12 Jun 11 1.68e+09 1 1903 5.911e+15

p834AAAAAAPZPIEK 17 Jan 06 01 Jan 03 31 Dec 09 30 Dec 09 1.69e+09 1 1443 3.506e+12

4610AAAAAAAJJDND 27 Feb 06 01 Jan 03 31 Dec 11 18 Nov 09 1.70e+09 4 1360 5.994e+09

8801AAAAAAAPJLAX 04 May 06 01 Jan 01 30 Nov 11 25 Oct 07 1.71e+09 3 539 1.030e+10

3333AAAAAAAHRHCC 12 Feb 06 01 Jan 02 31 Dec 11 19 Oct 06 1.71e+09 4 249 4.287e+13

p834AAAAAAOPQYAP 04 May 06 01 Jul 03 31 Dec 09 26 Jan 08 1.72e+09 1 632 2.601e+13

s103AAAAAAHBZEFX 24 Jun 08 01 Oct 06 31 Dec 13 31 Jul 13 1.73e+09 2 1863 1.729e+09

1. Some of trt\_step 0 have **less than 14 days gap** as we defined. It should be coded as the previous treatment step. We need to re-manipulate the data.

pat\_id index\_asthma\_date elig\_start elig\_stop step\_start step\_stop trt\_step start\_date stop\_date gap

b705AAAAAAAQETHB 10 Jan 06 01 Jan 03 31 May 14 **10 Jan 06 10** Jan 06 0 0 0 **1**

p834AAAAAAJWLZWU 15 Mar 06 01 Feb 03 31 Dec 09 15 Mar 06 15 Mar 06 0 0 0 **1**

8801AAAAAAAOTPCG 16 Mar 06 01 Jan 01 31 Jan 10 16 Mar 06 16 Mar 06 0 0 0 1

0309AAAAAAADDFDD 24 Jul 06 01 Jan 01 31 Dec 12 25 Sep 10 25 Sep 10 0 1524 1524 1

9618AAAAABFIGJXB 17 Mar 06 01 Sep 05 31 Mar 14 17 Mar 06 17 Mar 06 0 0 0 1

5645AAAAAAFCGFZW 05 Oct 07 01 Jan 07 30 Sep 12 30 Apr 09 30 Apr 09 0 573 573 1

f433AAAAAADDKJFO 20 Mar 06 01 Apr 05 31 Aug 12 20 Mar 06 20 Mar 06 0 0 0 1

Among trt\_step 0 (observations), about 11.5% have less than 14 days gap

tab false\_gap

false\_gap | Freq. Percent Cum.

------------+-----------------------------------

0 | 180,011 88.53 88.53

**1 | 23,317 11.47 100.00**

------------+-----------------------------------

Total | 203,328 100.00

1. There are many treatment step 0, **Is it possible?**

tab trt\_step

trt\_step | Freq. Percent Cum.

------------+-----------------------------------

0 | 203,328 42.72 42.72

1 | 87,351 18.35 61.07

2 | 69,760 14.66 75.72

3 | 56,124 11.79 87.52

4 | 53,599 11.26 98.78

5 | 5,828 1.22 100.00

------------+-----------------------------------

Total | 475,990 100.00

About 22.6% of total observation is step 0 (with 60 days gap) **Is it possible?**

gap60 | Freq. Percent Cum.

------------+-----------------------------------

0 | 95,726 47.08 47.08

1 | 107,602 52.92 100.00

------------+-----------------------------------

Total | 203,328 100.00

1. Eligible time makes sense

sum time\_eli if n==1

Variable | Obs Mean Std. Dev. Min Max

-------------+--------------------------------------------------------

time\_eli | 43956 2432.385 852.0001 942 4928

1. Asthma index date makes sense

type: numeric daily date (long)

range: [16802,19173] units: 1

or equivalently: **[01jan2006,29jun2012]** units: days

unique values: 2293 missing .: 0/475990

mean: 17446.2 = 07oct2007 (+ 6 hours)

std. dev: 584.791

percentiles: 10% 25% 50% 75% 90%

16838 16923 17294 17841 18317

06feb2006 02may2006 08may2007 05nov2008 24feb2010

1. What should we handle with patients who started with step 0 but gap was less than the number of days we defined as step 0? ***(Ning: Think should get rid of it, as they did not start any treatment yet)***