Exploration

```
library(plyr)
```

Income data is from http://www.psc.isr.umich.edu/dis/census/Features/tract2zip/

```
nyopth <- read.csv("~/cunyMsda2015/nyopth.csv")
load(file = "incomes.data")
incomes$Median <- as.numeric(incomes$Median)
incomes$Mean <- as.numeric(incomes$Mean)
incomes$Pop <- as.numeric(incomes$Pop)
```

We first look at the top hcpcs codes to see which procedure is done most often (and thus which should have the most deviation and which should yield the biggest insights)

```
sort(table(nyopth$hcpcs_code),decreasing = TRUE)
```

```
##
## 92014 92012 92083 92004 92133 92250 92225 92134 92226 92020 66984 76514
##  1467  1435  1203  1186   992   921   828   825   794   793   729   555
## 99213 66821 76519 99204 92136 99214 66982 92235 99212 76512 67028 67820
##   541   532   451   444   418   358   333   319   301   272   259   240
## 92002 J3590 92285 92286 68761 65855 99203 66761 92025 67228 67210 J2778
##   232   206   175   175   162   159   153   151   132   131   125   114
## Q2046 92060 99215 99205 92082 92132 67840 68840 92081 99308 99309 68810
##    94    91    85    77    66    63    52    48    46    43    40    39
## 99305 65210 92240 68801 76513 67042 99211 92140 15823 92100 66170 66711
##    39    35    35    34    34    31    30    28    27    25    24    24
## 92071 67917 J3490 65222 67145 83861 65756 66250 67041 67904 99306 J3300
##    24    23    22    21    21    21    20    20    20    20    20    20
## 66180 99304 J9035 65205 65805 68815 99307 67036 67810 67961 67255 67108
##    19    19    18    17    17    16    16    15    15    15    14    13
## 99202 99222 64612 66172 J3301 14060 66762 67113 67800 67924 67966 J0585
##    13    13    12    12    12    11    11    11    11    11    11    11
## 15260 67040 68720 95060 67105 67221 67515 99223 J3396 31231 65757 67220
##    10    10    10    10     9     9     9     9     9     7     7     7
## 67700 67900 68440 99221 99232 0192T 15732 65430 65772 67950 68200 76510
##     7     7     7     7     7     6     6     6     6     6     6     6
## 76516 92260 92283 95930 J7312 J9190 11440 14061 31200 36415 65875 66710
##     6     6     6     6     6     6     5     5     5     5     5     5
## 67031 67875 69210 76511 15004 31575 65755 65860 66225 67801 67882 68530
##     5     5     5     5     4     4     4     4     4     4     4     4
## 88305 92275 99201 99283 30130 65400 67825 67908 67938 67973 68326 92287
##     4     4     4     4     3     3     3     3     3     3     3     3
## 99284 G0436 11441 11900 15845 31237 65420 65435 65800 65815 65870 66825
##     3     3     2     2     2     2     2     2     2     2     2     2
## 66986 67043 67218 67500 67715 67805 67903 67911 68325 68700 68760 85025
##     2     2     2     2     2     2     2     2     2     2     2     2
## 88300 88304 92557 93880 99326 99406 J1100 10040 11901 14040 15576 15770
##     2     2     2     2     2     2     2     1     1     1     1     1
## 21015 30300 30930 31239 65450 65710 65778 65780 65850 65865 66020 66030
```

```
##     1     1     1     1     1     1     1     1     1     1     1     1
## 66500 66625 66680 66682 66700 66820 66850 66985 66990 67039 67141 67208
##     1     1     1     1     1     1     1     1     1     1     1     1
## 67225 67311 67331 67332 67400 67412 67915 67916 67923 67971 67974 68040
##     1     1     1     1     1     1     1     1     1     1     1     1
## 68110 68320 68362 68525 80048 80053 81001 81003 85651 87809 88108 88313
##     1     1     1     1     1     1     1     1     1     1     1     1
## 92018 92230 92265 92284 92313 92499 92540 92543 92546 92548 92567 92570
##     1     1     1     1     1     1     1     1     1     1     1     1
## 92587 93000 99231 99233 99234 99310 99325 99327 99335 G0268 J0588 J1040
##     1     1     1     1     1     1     1     1     1     1     1     1
## J2503
##     1
```

We take only the data for the top hcpcs code and try and determine if certain neighborhoods have a lower medicare payment amount

```
nyopth.92014 <- nyopth[nyopth$hcpcs_code==92014,]

nyopth.92014.city <- ddply(nyopth.92014,~nppes_provider_city,summarise,mean=mean(average_medicare_payme
sorted.city <- nyopth.92014.city[order(-nyopth.92014.city$mean),]
sorted.city
```

```
##        nppes_provider_city      mean
## 131           OLD WESTBURY 109.52900
## 114             MT. VERNON 108.08800
## 147 PORT JEFFERSON STATION 107.34500
## 39             EASTCHESTER 106.90300
## 140            PEARL RIVER 105.57850
## 101             LONG BEACH 104.78055
## 129        OAKLAND GARDENS 104.61700
## 95               LAWRENCE 104.49700
## 67              GREAT NECK 103.03014
## 91             KEW GARDENS 102.99800
## 55         FRANKLIN SQUARE 102.97800
## 96               LEVITTOWN 102.86480
## 192                WANTAGH 102.36827
## 183              TARRYTOWN 102.34267
## 144          PLEASANTVILLE 102.30900
## 188               VALHALLA 102.04000
## 205         WILLISTON PARK 101.96800
## 108                MERRICK 101.90600
## 180              SUNNYSIDE 101.52600
## 52             FLORAL PARK 101.30327
## 82   HUNTINGTON STATION LI 101.17100
## 203             WHITESTONE 101.16020
## 49             FARMINGDALE 100.76700
## 208               WOODMERE 100.66900
## 128                     NY 100.41110
## 160          ROCKAWAY PARK 100.40900
## 174            SOUTHAMPTON 100.35210
## 110                MINEOLA 100.33540
## 29                 COMMACK 100.22183
```

```
## 75                HOLBROOK 100.15905
## 112           MOUNT VERNON 100.08689
## 102              LYNBROOK  99.99205
## 54             FOREST HILLS  99.88097
## 41           EAST PATCHOGUE  99.87757
## 149         PORT WASHINGTON  99.60785
## 145                 POMONA  99.58952
## 135             ORANGEBURG  99.55790
## 169                SHIRLEY  99.50370
## 106             MASSAPEQUA  99.46805
## 105              MANHASSET  99.46383
## 62                GLENDALE  99.46040
## 63                GLEN OAKS  99.37010
## 16                BRENTWOOD  99.33218
## 3                AMITYVILLE  99.31470
## 175               SOUTHOLD  99.26470
## 74              HICKSVILLE  99.21540
## 199         WEST HEMPSTEAD  99.06290
## 146         PORT JEFFERSON  99.00133
## 12                BETHPAGE  98.97771
## 117               NEW CITY  98.93753
## 137               OSSINING  98.92990
## 73                 HEWLETT  98.76460
## 154         QUEENS VILLAGE  98.65480
## 207               WOODBURY  98.48703
## 181                SYOSSET  98.41230
## 59             GARNERVILLE  98.38668
## 163                    RYE  98.26377
## 211       YORKTOWN HEIGHTS  98.11073
## 120           NEW ROCHELLE  98.03819
## 119          NEW HYDE PARK  98.00197
## 42           EAST SETAUKET  97.99532
## 10               BAY SHORE  97.89893
## 202           WHITE PLAINS  97.89175
## 7                 BABYLON  97.78003
## 15                BOHEMIA  97.64450
## 58              GARDEN CITY  97.61352
## 80              HUNTINGTON  97.58596
## 176    SOUTH RICHMOND HILL  97.58213
## 194               WARWICK  97.52440
## 177          STATEN ISLAND  97.47196
## 157              RIDGEWOOD  97.44850
## 72               HEMPSTEAD  97.28178
## 161       ROCKVILLE CENTRE  97.21103
## 19              BRONXVILLE  97.17673
## 158              RIVERHEAD  97.15970
## 5                  ASTORIA  96.85270
## 71               HAWTHORNE  96.79543
## 210                YONKERS  96.78579
## 179                SUFFERN  96.75480
## 200             WEST ISLIP  96.68813
## 35        CROTON ON HUDSON  96.56530
## 111            MOUNT KISCO  96.43089
## 166              SCARSDALE  96.39986
```

```
## 8                BARDONIA  96.34180
## 173                SOMERS  96.23430
## 184             THORNWOOD  96.18890
## 40             EAST MEADOW  96.15790
## 20                BROOKLYN  95.95713
## 190          VALLEY STREAM  95.90804
## 61               GLEN COVE  95.67205
## 198               WESTBURY  95.66635
## 113               MT KISCO  95.19360
## 86                 JAMAICA  95.15192
## 53                FLUSHING  95.11463
## 81      HUNTINGTON STATION  95.05230
## 85         JACKSON HEIGHTS  94.99257
## 70               HARTSDALE  94.86370
## 171              SMITHTOWN  94.46075
## 122               NEW YORK  94.41583
## 139             PATCHOGUE  94.09460
## 189         VALLEY COTTAGE  94.05050
## 152               PURCHASE  94.01740
## 78             HOWARD BEACH  93.97055
## 97                LIBERTY  93.45150
## 178            STONY BROOK  93.37795
## 98             LITTLE NECK  93.15847
## 14                   BKLYN  92.99875
## 116              NEWBURGH  92.51147
## 142             PLAINVIEW  92.32028
## 69               HARRISON  92.19690
## 18                  BRONX  92.15273
## 79                 HUDSON  91.96920
## 50            FAR ROCKAWAY  91.86633
## 209              WOODSIDE  91.41545
## 44               ELMHURST  91.14750
## 155             REGO PARK  90.36835
## 109            MIDDLETOWN  90.00192
## 25                 CARMEL  89.79670
## 123          NEW YORK CITY  89.68960
## 87               JAMESTOWN  89.61350
## 156          RICHMOND HILL  89.50050
## 93            LAKE KATRINE  88.99440
## 11                 BAYSIDE  88.67904
## 66                 GOSHEN  88.53097
## 26              CEDARHURST  88.34320
## 32                 CORNWALL  88.16390
## 51                 FISHKILL  87.59866
## 22         CAMBRIA HEIGHTS  87.40237
## 56                FREEPORT  86.97343
## 57            FRESH MEADOWS  86.58253
## 92                 KINGSTON  85.59612
## 148             PORT JERVIS  84.75900
## 206                WILTON  84.60040
## 103               MAHOPAC  84.32920
## 151           POUGHKEEPSIE  83.79224
## 191                VESTAL  82.91475
## 170           SLINGERLANDS  82.88843
```

```
## 141             PITTSFORD  82.65767
## 133                ONEIDA  82.51940
## 121           NEW WINDSOR  82.24550
## 118          NEW HARTFORD  81.42813
## 21                BUFFALO  81.03017
## 27             CHEEKTOWAGA  80.70147
## 168              SHERRILL  80.66000
## 94                 LATHAM  80.55882
## 164         SARANAC LAKE  80.54510
## 83                 IRVING  80.48840
## 24             CANANDAIGUA  80.41963
## 48              FAIRPORT  80.40240
## 197             WELLSVILLE  80.22800
## 4               AMSTERDAM  80.15270
## 76                HORNELL  79.91460
## 99              LIVERPOOL  79.81850
## 60                 GENEVA  79.45665
## 1                  ALBANY  79.39589
## 193                WARSAW  79.36254
## 204         WILLIAMSVILLE  79.11666
## 33               CORTLAND  78.81220
## 138                OSWEGO  78.76690
## 187                UTICA  78.29830
## 165      SARATOGA SPRINGS  78.17182
## 132                OLEAN  78.06160
## 77             HORSEHEADS  78.03280
## 36             DOBBS FERRY  77.91845
## 196              WEBSTER  77.91820
## 185             TONAWANDA  77.87067
## 186                  TROY  77.84478
## 2                AMHERST  77.79870
## 45                 ELMIRA  77.68440
## 38            EAST AMHERST  77.62320
## 17              BROCKPORT  77.56455
## 23               CAMILLUS  77.52880
## 68                HAMBURG  77.38630
## 13              BINGHAMTON  77.35477
## 126              NORWICH  77.12120
## 37                DUNKIRK  77.03240
## 172                SNYDER  76.89510
## 31                CORNING  76.82363
## 167           SCHENECTADY  76.81967
## 115                NEWARK  76.43870
## 153            QUEENSBURY  76.31825
## 125        NORTH SYRACUSE  76.29690
## 65           GLOVERSVILLE  76.23405
## 28           CLIFTON PARK  76.15490
## 130            OGDENSBURG  76.03750
## 182              SYRACUSE  75.95006
## 136          ORCHARD PARK  75.94365
## 88           JOHNSON CITY  75.77365
## 201           WEST SENECA  75.66190
## 104                MALONE  75.63870
## 162                  ROME  75.26990
```

```
## 46                ENDICOTT  74.92950
## 195              WATERTOWN  74.70593
## 47                 ENDWELL  74.60400
## 100               LOCKPORT  74.32037
## 89               JOHNSTOWN  74.14300
## 107                 MEDINA  73.97180
## 84                  ITHACA  73.88875
## 64             GLENS FALLS  73.56465
## 6                   AUBURN  73.21035
## 9                  BATAVIA  73.06230
## 134                ONEONTA  72.72670
## 127            N TONAWANDA  72.64010
## 143            PLATTSBURGH  71.42225
## 159              ROCHESTER  71.35616
## 43           EAST SYRACUSE  71.17438
## 150                POTSDAM  67.71837
## 90                 KENMORE  67.27373
## 30              COOPERSTOWN  62.82547
## 34         CORTLANDT MANOR  51.94900
## 124          NIAGARA FALLS  50.64850
```

We can do the same thing with zipcode rather than city

```
nyoprh.corezip <- nyopth.92014
func <- function(x){
  substr(x,1,5)
}
nyoprh.corezip$nppes_provider_zip <- lapply(nyoprh.corezip$nppes_provider_zip,FUN = func)
nyoprh.corezip$nppes_provider_zip <- as.numeric(nyoprh.corezip$nppes_provider_zip)
nyopth.92014.zip <- ddply(nyoprh.corezip,~nppes_provider_zip,summarise,mean=mean(average_medicare_payme
sorted.zip <- nyopth.92014.zip[order(-nyopth.92014.zip$mean),]
```

We have (not very good) data about mean and median income by zipcode

```
summary(incomes)
```

```
##       Zip            Median           Mean            Pop
##  Min.   : 1001   Min.   :    1   Min.   :    1   Min.   :    1
##  1st Qu.:27301   1st Qu.: 6179   1st Qu.: 6652   1st Qu.: 3494
##  Median :49875   Median :10874   Median :11576   Median : 7532
##  Mean   :49875   Mean   :11214   Mean   :11748   Mean   : 7572
##  3rd Qu.:72134   3rd Qu.:16240   3rd Qu.:16900   3rd Qu.:11683
##  Max.   :99929   Max.   :23073   Max.   :23567   Max.   :15172
```

```
sorted.zip.income <- merge(sorted.zip,incomes,by.x = "nppes_provider_zip",by.y = "Zip")
sorted.zip.income <- sorted.zip.income[order(-sorted.zip.income$mean),]
sorted.zip.income
```

```
##     nppes_provider_zip      mean Median  Mean   Pop
## 94               11024 110.49000    676  2287 14036
## 166              11568 109.52900   1240  3291  9893
## 2                10007 107.80000    953  2549  8853
```

```
## 189             11776 107.34500  21810 23359  5020
## 20              10034 107.11700   6401  7264  9450
## 73              10709 106.90300  22884  1693 14550
## 152             11434 106.68700  14158 14090 11780
## 93              11023 106.01800  22706  1794 14391
## 85              10965 105.57850    150  1407  2109
## 30              10305 105.34500  17133 20057  9274
## 38              10462 105.08300  11193  9743 13459
## 66              10603 104.79500  21968   623  2463
## 163             11561 104.78055  22077   400  9839
## 135             11364 104.61700  19063 20491  8145
## 162             11559 104.49700    454  1978 14102
## 117             11220 104.16600   5929  9146 14753
## 147             11418 104.12800  16488 17445  9172
## 106             11205 103.95300   9323 13271  8945
## 119             11224 103.72300   4875  6525 11406
## 146             11415 102.99800  16033 18614  4003
## 91              11010 102.97800  21809 23214  5571
## 186             11756 102.86480  22609   300 10592
## 52              10550 102.62023   9265 11994  9481
## 194             11793 102.36827    232  1266  8195
## 61              10591 102.34267  22202  1008  4758
## 56              10570 102.30900    821  2233  1226
## 70              10704 102.29700  18382 19803  7654
## 92              11021 102.28372      9  1960  3298
## 122             11229 102.22264  13275 16272 14063
## 18              10031 102.07000   3428  9803 12515
## 63              10595 102.04000  22377   557 13760
## 4               10010 102.03260  22738  1712  6701
## 170             11596 101.96800    359  1641   256
## 165             11566 101.90600    650  1702  8939
## 105             11204 101.80697   9235 14045 13667
## 101             11104 101.52600  13804 15125  7318
## 126             11238 101.41412  17926 20837 11349
## 89              11001 101.30327  22894   811  6489
## 36              10459 101.25200   1517  3102  9673
## 130             11357 101.16020  20684 22475  9842
## 125             11235 100.90667  10425 14825 13993
## 102             11106 100.84400  10006 12745 10100
## 182             11735 100.76700  22399   298  8161
## 171             11598 100.66900    804  2231  1513
## 173             11694 100.40900  20843 22464  3955
## 71              10705 100.40010   5437  8099  6664
## 202             11968 100.35210  20746  2013   876
## 153             11501 100.33540  21339 22672  4019
## 28              10301 100.30782  16360 19949  9630
## 116             11219 100.29801   4882  9412 14387
## 180             11725 100.22183    319  1391  7370
## 183             11741 100.15905  22825   242  7008
## 110             11212 100.14028   2320  3794 14361
## 109             11210 100.08200  15653 18321 13180
## 164             11563  99.99205  22331 23509  5365
## 195             11794  99.94540  17523  9896  8073
## 141             11375  99.88097  19866 22483 13390
```

```
## 32              10312  99.83715  22022 23476 12179
## 17              10030  99.65260   2473  9700  6289
## 113             11215  99.63083  21686   710 12502
## 98              11050  99.60785    521  2106  7118
## 86              10970  99.58952  22454   578 14815
## 84              10962  99.55790    601  1667 11857
## 201             11967  99.50370  21815 22031  5821
## 187             11758  99.46805    297  1191 12213
## 95              11030  99.46383   1099  2499  3105
## 90              11004  99.37010  20868 21737  1605
## 118             11223  99.36509   7238 11345 13702
## 179             11717  99.33218  20012 20802 11696
## 174             11701  99.31470  19098 21174  6159
## 24              10040  99.28607   5977  7987 10990
## 203             11971  99.26470  20155 23099 12159
## 198             11801  99.21540  22188   279  9793
## 128             11354  99.14068  13329 15970 11986
## 159             11552  99.06290  22700   757  5412
## 150             11429  99.01900  20453 21384  6846
## 190             11777  99.00133     75  1580 14640
## 177             11714  98.97771  22338   591  5258
## 83              10956  98.93753    520  1736  8081
## 54              10562  98.92990  22025   538  7769
## 123             11230  98.92034  11986 16521 14529
## 33              10314  98.76570  21335 22594 14353
## 161             11557  98.76460    486  2005 14073
## 68              10605  98.72633    495  1858  3227
## 112             11214  98.61943   5368  8385 13969
## 22              10037  98.54000   7631 10738  3087
## 197             11797  98.48703    893  2285 14677
## 193             11791  98.41230    859  2232  5851
## 96              11040  98.39845  23013  1066  9862
## 78              10923  98.38668  21558 23122 14198
## 149             11428  98.29060  20186 21920  4554
## 58              10580  98.26377   1055  2626  2904
## 69              10701  98.22792  10232 12682 12656
## 76              10804  98.14550   1037  2432  2002
## 143             11385  98.11913  11974 13461 14910
## 185             11746  98.11165    214  1503 12858
## 64              10598  98.11073    333  1569  7305
## 75              10801  98.02030  17063 21045  9109
## 181             11733  97.99532    728  1989  3472
## 176             11706  97.89893  20804 22353 12566
## 97              11042  97.88869    939  2428 11638
## 175             11702  97.78003  22836  1040  2341
## 131             11358  97.77450  19193 21014  9278
## 178             11716  97.64450  22859   536   227
## 156             11530  97.61352    756  2265  6502
## 184             11743  97.58596    631  2088 10262
## 188             11772  97.56438  19306 20127 10280
## 88              10990  97.52440  22623   551  3951
## 27              10128  97.48466    220  2228 12513
## 124             11234  97.46271  19557 20433 14104
## 158             11550  97.28178  16606 18367 12463
```

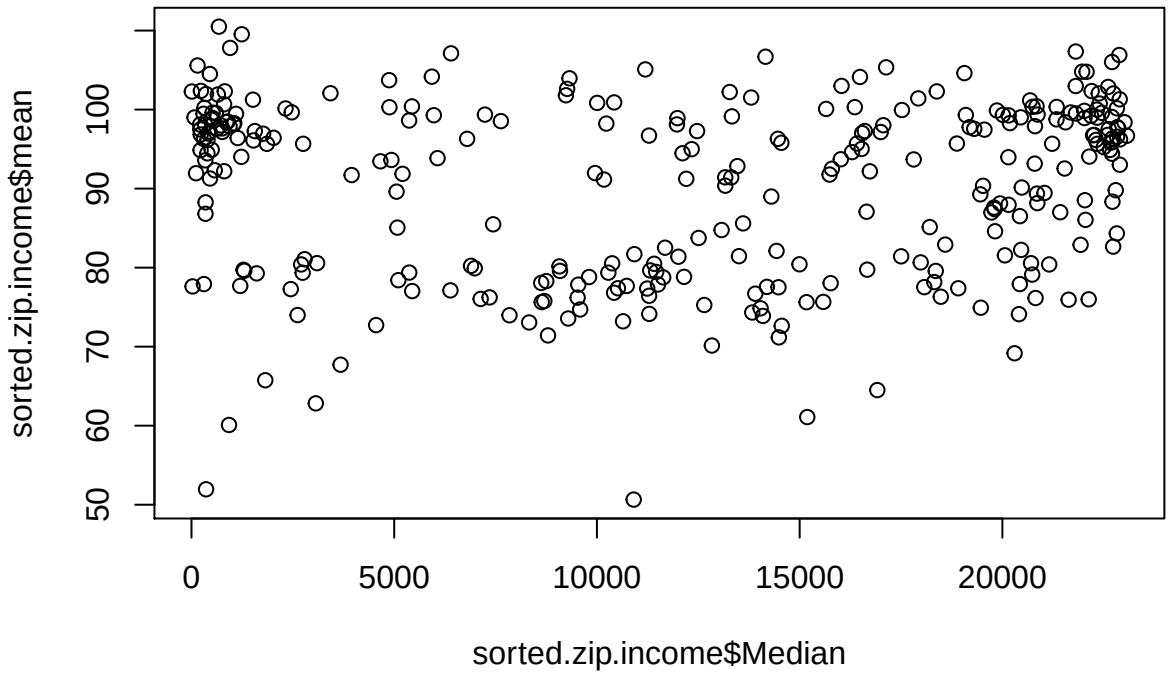
```
## 99              11102  97.28017  12470 15156  9018
## 21              10035  97.27820   1562  3660  7815
## 167             11570  97.21103    444  1847  6695
## 72              10708  97.17673    760  2338  4727
## 200             11901  97.15970  17000 19631  5095
## 65              10601  97.01971  16542 20825 14791
## 13              10024  96.96977    418  2292 12698
## 127             11239  96.94470   1767  3141  2139
## 15              10028  96.84706    228  2300 10086
## 49              10532  96.79543  22598   894 12462
## 67              10604  96.79083  22263  1587   381
## 77              10901  96.75480  22237   931  4985
## 29              10304  96.70977  11284 17053  9191
## 196             11795  96.68813  23073  1164  6620
## 45              10520  96.56530  22828  1334  1168
## 107             11206  96.42500   2025  3980 13332
## 59              10583  96.39986   1140  2569  9564
## 82              10954  96.34180  22711   537  4941
## 39              10463  96.29866  14463 16803 12785
## 129             11355  96.29516   6798  9219 13686
## 51              10549  96.27622    306  2048  2556
## 60              10589  96.23430  22902  1331 13660
## 62              10594  96.18890    395  1749 11527
## 160             11554  96.15790  22308 23457  9377
## 34              10451  96.09665   1529  2794  9405
## 168             11581  95.90804  22713   358  4286
## 5               10011  95.80201  22668  2080 10879
## 100             11103  95.79796  14549 17338 10705
## 108             11209  95.70549  16414 20708 13347
## 14              10025  95.70117  18877   847 14967
## 157             11542  95.67205  21228   196  6661
## 19              10032  95.67190   2754  4668 12046
## 169             11590  95.66635  22344   107 10358
## 35              10457  95.66360   1860  3246 13269
## 1               10003  95.24643  22501  1755 11899
## 42              10469  95.01566  16528 17531 12856
## 138             11372  94.99257  12337 13869 13444
## 10              10021  94.91878    499  2327 10619
## 103             11201  94.89551  22657  1786 11204
## 48              10530  94.86370    225  1637  1546
## 3               10009  94.61827  16293 20643 12285
## 37              10461  94.47499  12112 13579 11200
## 191             11787  94.46075    393  1574  8638
## 11              10022  94.41072  22704  2056  6418
## 87              10989  94.05050  22144   284 14806
## 57              10577  94.01740   1229  3462  8621
## 145             11414  93.97055  20148 21709  6934
## 114             11216  93.85380   6069 10178 12076
## 23              10038  93.71360  16015 22496  2470
## 136             11365  93.69050  17813 19507  9391
## 111             11213  93.62630   4931  7148 13061
## 25              10065  93.57888    341  2296  7929
## 229             12754  93.45150   4660 11731 13163
## 134             11362  93.15847  20797 22528  3296
```

```
## 7              10016  93.01982  22897  1852 11464
## 151            11432  92.84490  13464 16676 12062
## 74             10710  92.54217  21536 22949  6121
## 225            12550  92.51147  15795 18091 11737
## 199            11803  92.32028    574  1710  6818
## 47             10528  92.19690    807  2273  1109
## 80             10940  92.18360  16732 18280 10396
## 224            12534  91.96920   9954 15367  3781
## 8              10017  91.94580    113  1939  2782
## 172            11691  91.86633   5205  9680 11951
## 121            11228  91.77400  15738 19629  9933
## 16             10029  91.71381   3950 13018 13808
## 148            11419  91.42398  13164 14386 10601
## 142            11377  91.41545  13313 14694 14451
## 26             10075  91.27981    456  2271  6013
## 43             10475  91.23967  12203 13300  9533
## 139            11373  91.14750  10174 12908 15168
## 140            11374  90.36835  13166 16839  9759
## 53             10552  90.35460  19523 22687  4185
## 132            11360  90.13443  20478 22818  3619
## 44             10512  89.79670  22796   676  5582
## 306            14701  89.61350   5058  5768  9560
## 137            11366  89.44831  21040 22972  1767
## 31             10306  89.36590  20852 22717 12052
## 81             10941  89.27470  19456 21003  1317
## 221            12449  88.99440  14301 17761  8496
## 79             10924  88.53097  22035 23287  1116
## 154            11516  88.34320  22715  1279 13375
## 12             10023  88.26366    348  2309 12470
## 222            12518  88.16390  20862 23004 12454
## 6              10013  88.12338  19942  1722  5849
## 133            11361  87.95135  20153 21795  7099
## 223            12524  87.59866  19795 20637   915
## 144            11411  87.40237  19808 20858  3449
## 250            13224  87.07300  16651 19642 14608
## 228            12603  87.01037  21427 22591  9914
## 155            11520  86.97343  19730 22004 10648
## 192            11790  86.81050    345  1273  3339
## 115            11217  86.51440  20432   248  8944
## 9              10019  86.04467  22050  1630  9721
## 220            12401  85.59612  13605 16026  8861
## 120            11225  85.48155   7441 10459 12731
## 303            14624  85.13420  18208 18852  9489
## 41             10467  85.06552   5079  6445 14863
## 230            12771  84.75900  13075 16981  1793
## 233            12831  84.60040  19819 20802  2044
## 50             10541  84.32920  22822   936  6381
## 40             10466  83.75440  12508 13239 13283
## 264            13850  82.91475  18591 21300  4849
## 209            12159  82.88843  21929    72 13580
## 294            14534  82.65767  22732  1400  7455
## 253            13421  82.51940  11681 13464  1655
## 226            12553  82.24550  20463 21446  4951
## 211            12203  82.11479  14430 16912  8526
```

```
## 285             14225  81.70357  10923 10759  8809
## 304             14625  81.55350  20063 21149   584
## 242             13088  81.44947  13503 14413  4903
## 252             13413  81.42813  17503 21118  2687
## 227             12601  81.37865  12010 14729 10306
## 282             14222  81.06267   2790  7989   580
## 255             13461  80.66000  17986 17070  7934
## 298             14613  80.56960   3098  4015  2133
## 208             12110  80.55882  20706 22611  4408
## 237             12983  80.54510  10376 13482 13358
## 270             14081  80.48840  11411 15620  7667
## 290             14424  80.41963  14996 18044  5865
## 291             14450  80.40240  21155 22968 10071
## 214             12206  80.40098   2705  4134  2775
## 312             14895  80.22800   6895  8520    72
## 204             12010  80.15270   9076 11127  6255
## 309             14843  79.91460   6986  8457  1595
## 286             14226  79.74177  16666 19393  7310
## 277             14203  79.72200   1283  4103   881
## 279             14217  79.64290  11315 13455  5863
## 276             14201  79.60480   1302  2913  1670
## 216             12304  79.58635   9089 11336  4421
## 213             12205  79.58322  18357 20720  6974
## 292             14456  79.45665  11463 14513  4362
## 278             14209  79.37533   5371 13315 14166
## 295             14569  79.36254  10282 10803 13017
## 246             13203  79.35395   2742  4719  2390
## 247             13210  79.27398   1609  3707  6795
## 281             14221  79.11666  20735 22996 11663
## 104             11203  78.83515  12149 14574 13968
## 240             13045  78.81220   9806 12152  7185
## 244             13126  78.76690  11635 13740  9187
## 297             14607  78.40958   5102 11764  2777
## 256             13502  78.29830   8750  8150  8348
## 234             12866  78.17182  18319 20956  8718
## 307             14760  78.06160   8626  9689  4342
## 310             14845  78.03280  15764 18081  4264
## 46              10522  77.91845    307  1623   323
## 296             14580  77.91820  20431 21936 10514
## 275             14150  77.87067  11506 12466 10710
## 210             12180  77.84478   9541 12802 11751
## 218             12308  77.68690  10735 12230  1713
## 313             14901  77.68440   1202  2522   848
## 268             14051  77.62320     27  1446  3535
## 289             14420  77.56455  14192 15654  4066
## 239             13031  77.52880  18074 19865  2331
## 212             12204  77.51511  14478 19835 13260
## 280             14220  77.39160  10517 10952  6405
## 269             14075  77.38630  18913 19581 10236
## 265             13903  77.35477  11241 15977  3923
## 301             14620  77.28091   2449  3667  3759
## 262             13815  77.12120   6387 10687  1895
## 267             14048  77.03240   5444  6662  2677
## 308             14830  76.82363  10423 14525  4036
```

```
## 215              12208  76.70437  13906 16983  4632
## 293              14513  76.43870  11287 10754  2109
## 232              12804  76.31825  18481 19972  5610
## 206              12078  76.23405   7353  8839  5497
## 287              14228  76.20623   9524 12213  2851
## 205              12065  76.15490  20818 22564  9651
## 258              13669  76.03750   7132  8229  3331
## 219              12309  75.98927  22129   301  6986
## 274              14127  75.94365  21634 23159  7012
## 261              13790  75.77365   8702  9494  3997
## 284              14224  75.66190  15583 16694 10041
## 236              12953  75.63870   8638 11797  2787
## 248              13212  75.62490  15170 16019  4661
## 254              13440  75.26990  12647 12856 10622
## 243              13090  74.92560  19468 20444  7732
## 260              13760  74.84812  14037 15701 10609
## 257              13601  74.70593   9587 10986  9297
## 271              14094  74.32037  13831 14779 11560
## 207              12095  74.14300  11291 13709  1325
## 300              14618  74.11095  20409   178  4917
## 217              12305  73.99775   2617  3422 12691
## 272              14103  73.97180   7843 10153   725
## 311              14850  73.88875  14094 17093 12816
## 231              12801  73.56465   9291 10800  2028
## 238              13021  73.21035  10645 12827  9904
## 266              14020  73.06230   8328 12006  5353
## 263              13820  72.72670   4554  7177  3435
## 273              14120  72.64010  14558 15416 10452
## 235              12901  71.42225   8794  9693  6643
## 241              13057  71.17438  14487 16023  2280
## 299              14616  70.14335  12835 12068  7018
## 249              13215  69.16293  20301 22444  1937
## 259              13676  67.71837   3677  6628  2918
## 302              14621  65.74954   1820  3051  9066
## 305              14626  64.50155  16915 18405  7211
## 251              13326  62.82547   3066  5272  8499
## 283              14223  61.08915  15188 15799  5557
## 245              13202  60.08933    926  2460 11896
## 55               10567  51.94900    360  1506  3753
## 288              14304  50.64850  10906 11354  7744
```

```
plot(sorted.zip.income$mean~sorted.zip.income$Median)
```




```
cor(sorted.zip.income$mean,sorted.zip.income$Median)
```

```
## [1] 0.0457017
```

I thought there would be a correlation between the mean average medicare payment amount and the median income, but seems like there isn't. However, a further look at this income data makes it look like it isnt reliable