Data manipulation in R:
`dplyr` **and** `tidyr`

a **statsTeachR** resource

What are characteristics of tidy data

Is UKDriverDeaths tidy?

```
UKDriverDeaths

##         Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec
## 1969  1687 1508 1507 1385 1632 1511 1559 1630 1579 1653 2152 2148
## 1970  1752 1765 1717 1558 1575 1520 1805 1800 1719 2008 2242 2478
## 1971  2030 1655 1693 1623 1805 1746 1795 1926 1619 1992 2233 2192
## 1972  2080 1768 1835 1569 1976 1853 1965 1689 1778 1976 2397 2654
## 1973  2097 1963 1677 1941 2003 1813 2012 1912 2084 2080 2118 2150
## 1974  1608 1503 1548 1382 1731 1798 1779 1887 2004 2077 2092 2051
## 1975  1577 1356 1652 1382 1519 1421 1442 1543 1656 1561 1905 2199
## 1976  1473 1655 1407 1395 1530 1309 1526 1327 1627 1748 1958 2274
## 1977  1648 1401 1411 1403 1394 1520 1528 1643 1515 1685 2000 2215
## 1978  1956 1462 1563 1459 1446 1622 1657 1638 1643 1683 2050 2262
## 1979  1813 1445 1762 1461 1556 1431 1427 1554 1645 1653 2016 2207
## 1980  1665 1361 1506 1360 1453 1522 1460 1552 1548 1827 1737 1941
## 1981  1474 1458 1542 1404 1522 1385 1641 1510 1681 1938 1868 1726
## 1982  1456 1445 1456 1365 1487 1558 1488 1684 1594 1850 1998 2079
## 1983  1494 1057 1218 1168 1236 1076 1174 1139 1427 1487 1483 1513
## 1984  1357 1165 1282 1110 1297 1185 1222 1284 1444 1575 1737 1763
```

Is HairEyeColor tidy?

```
HairEyeColor

## , , Sex = Male
##
##        Eye
## Hair    Brown Blue Hazel Green
##    Black   32   11    10     3
##    Brown   53   50    25    15
##    Red     10   10     7     7
##    Blond    3   30     5     8
##
## , , Sex = Female
##
##        Eye
## Hair    Brown Blue Hazel Green
##    Black   36    9     5     2
##    Brown   66   34    29    14
##    Red     16    7     7     7
##    Blond    4   64     5     8
```

Is sleep tidy?

```
head(sleep, 15)

##    extra group ID
## 1    0.7     1  1
## 2   -1.6     1  2
## 3   -0.2     1  3
## 4   -1.2     1  4
## 5   -0.1     1  5
## 6    3.4     1  6
## 7    3.7     1  7
## 8    0.8     1  8
## 9    0.0     1  9
## 10   2.0     1 10
## 11   1.9     2  1
## 12   0.8     2  2
## 13   1.1     2  3
## 14   0.1     2  4
## 15  -0.1     2  5
```