**ASSIGNMENT 1: Medical Malpractice Case MedicalMalpractice.jmp**

1. **Report what has happened: summarize the data and understand:** 
   1. **How much did we pay (the Amount paid)**
   2. **To whom (demographics)**
   3. **What for, and (all) other variables**

**We start first with understanding how much was paid and to whom (univariate):**

1. For **Amount** and **Age (pg. 3- pg. 6)**
   * Build the histogram and summary statistics. Chose the right the right numbers/statistics to report (location, spread, unusual values – some of these will depend on the shape, so we chose what to report based on that)
   * Understand/interpret the distributions (by specifically numbers) – don’t just read them, but what does it mean in the context of insurance company
2. Explore other demographic variables, and report. What do you see/understand?
3. How about specialty/type of doctors? Severity? What do you see/understand?
4. **Explore: what were the factors that affected the amount of money paid so that we know what we can do (or not do) in the future (to lower the amount, or to charge more money – shortly, to be profitable, and serve customers better too).**

**Exploring Factors: start with Age, and then what your data shows that could be a factor (based on interactive feature/analysis of JMP)**

1. Is there any relationship between **age** of the patient and size of the **payment**?
   1. Look at the relationship between these two continuous variable (by using the appropriate JMP tool/method)? Were they related? Did age matter on how much we paid (explain, interpret – based on graph and statistics)
2. Is there any relationship between the size of the **payment** and your **chosen** variables (from interactive Distributions, e.g. severity, private attorney)?
   1. Do **bi**-**variate** analysis: each chosen variable & Amount (thus, you will have two bi-variate analysis).
   2. Does any of the above bi-variate relationships (based on your statistics – graphs and summary statistics) – f. e.g., between payment and severity) seems to be influenced (depends on) by another factor (factor that makes more sense to you) - e.g., relationship of payment and severity may be affected by having a private attorney or not?
      1. If you think it does, first check if the two (factor) variables (severity & attorney in this example), are related with each other.
         1. *If yes*, then, add this variable in the relationship amount-severity (you will have three variables in your graph). Does it change payment and severity relationship (does it look different for each category of attorney vs. to what it looked in the direct relationship amount-severity). If yes, then attorney is a lurking variable that affects both, the amount and severity (you did check both of these by-variate relationships in the previous step). Therefore, we have to think better (deeper) of the relationship of amount-severity (relationships may not be what they appear at first; it is the lurking variable that makes to other variables seem connected, or at least the connection is partially because of another variable. Therefore, we have to be careful and thoughtful when we provide recommendations to the manager).
3. Are there other variables that your group thinks may help management understand better the amount paid in medical malpractice lawsuits?
4. While you were doing previous analyses, did you want to check something else/more, and therefore needed more information (data) and you did not have it? If yes, suggest what other data/info you need? Is there any variable missing from the data set, variable(s) that you think may help management better understand the awards in medical malpractice?
5. **Conclusions:** based on all factors and analysis you did, whatwould you advice the insurance firm management do (to either lower payment or increase profit/improve services)? **Make suggestions/recommendations.**

Use [Learning Library](http://www.jmp.com/academic/learning_library.shtml) for the type of graphs and statistic that you can use for this assignment (under the Graphical Display and Summary headings).