**Adverse Events Data Model**

**Introduction:**

This data set is a compilation of all adverse event reports received by FDA from various sources.

An adverse event report contains the following information:

1. Header: General information about the adverse event such as date, version, seriousness indicator, adverse reaction outcome (disabling, life threatening, death etc), source of the report etc.
2. Patient: Age, Sex, weight & death information (if the adverse reaction lead to death)
3. Drugs listed in the report (more than one drugs could be listed for a patient)
   1. Medicinal drug name
   2. Cumulative dosage & unit till first reaction
   3. Dosage Form (tablet, capsule, liquid etc)
   4. Drug dosage quantity, frequency etc.
   5. How the drug was administered
   6. Drug product lot number
   7. Reported role of the drug ( since a patient may take multiple drugs, a drug may be a suspect or otherwise)
   8. Drug start and end date
   9. Duration of drug
   10. Drug reaction & its outcome

**Solution Use Case:**

Given this data set please provide the following visual exploration with user controls using given apis:

1. Show top ten adverse reactions (bar chart)
2. For each adverse reaction (controlled through click on the bar chart)
   1. Show top 10 suspect drugs by count (bar chart)
   2. For each suspect drug provide drill down display graphical distribution based on patient sex:
      1. User selects Patient Sex – radio button controls to select male, female, all.
      2. Based on the patient sex selection:

* Show a graphical distribution using bubble chart of drug reaction on patient age on one axis and weight on the other axis (backlog item).