**Seizure:**

**Data sets issue:**

* `PId` in demographics seems to be not compatible with `zsubjectID` in other datasets.
* No code for the variables in demographics.
* The master result flattened have no age and gender related nformation
* The join all important tables do include age information but only have less than 200 subjects

√ reported to Maria (10.6 updated)

√ feedback received, get age without gender(10.7 updated)

**appUS:**

**Discussion:**

* How to interpret fisher test

Under the situation that these 2 variables are independent, the probability to observe more extreme tables are quite small. Namely, the US result is dependent on Surgical status. (Not enough)

* How to apply McNemar test (Only for 2x2)

Combine the I and II as the early stage and III and IV as the late stage?

I, II vs III, IV or I, II, III vs IV

**Summary table:**

* **Gender**

|  | Overall | |
| --- | --- | --- |
| N | % |
| gender | 31 | 32 |
| Female |
| Male | 65 | 68 |
| All | 96 | 100 |

* **Age, weight, height**

|  | Overall | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| N | Mean | SD | Min | MAX | Range |
| age | 96 | 10.98 | 4.06 | 1.00 | 18.00 | 6.00 |
| weight | 95 | 48.33 | 24.99 | 12.00 | 152.00 | 28.00 |
| height | 78 | 58.00 | 28.03 | 0.00 | 175.00 | 14.00 |

**? adjusted to normal format by R**

**US2 to surgical**

* **The freq procedure ( 4 x 4 table)**

| Table of us2\_stage by surg\_stage | | | | | |
| --- | --- | --- | --- | --- | --- |
| us2\_stage | surg\_stage | | | | |
| Frequency | 1 | 2 | 3 | 4 | Total |
| 1 | 11 | 0 | 0 | 0 | 11 |
| 2 | 21 | 7 | 0 | 0 | 28 |
| 3 | 12 | 6 | 4 | 9 | 31 |
| 4 | 2 | 1 | 0 | 2 | 5 |
| Total | 46 | 14 | 4 | 11 | 75 |

Interpretation: US always exaggerate the patients’ situation

* **4 x 4 chisquare & fisher**

| Statistic | DF | Value | Prob |
| --- | --- | --- | --- |
| Chi-Square | 9 | 27.1070 | 0.0013 |
| Likelihood Ratio Chi-Square | 9 | 34.4826 | <.0001 |
| Mantel-Haenszel Chi-Square | 1 | 18.1773 | <.0001 |
| Phi Coefficient |  | 0.6012 |  |
| Contingency Coefficient |  | 0.5152 |  |
| Cramer's V |  | 0.3471 |  |
| WARNING: 69% of the cells have expected counts less than 5. Chi-Square may not be a valid test. | | | |

| Fisher's Exact Test | |
| --- | --- |
| Table Probability (P) | <.0001 |
| Pr <= P | 0.0003 |

* **2 x 2 McNemar**
  + I, II vs III, IV

| Table of new\_us2 by new\_surg | | | |
| --- | --- | --- | --- |
| new\_us2 | new\_surg | | |
| Frequency Percent Row Pct Col Pct | early | late | Total |
| early | 39 52.00 | 0 0.00 | 39 52.00 |
| late | 21 28.00 | 15 20.00 | 36 48.00 |
| Total | 60 80.00 | 15 20.00 | 75 100.00 |

| McNemar's Test | | |
| --- | --- | --- |
| Chi-Square | DF | Pr > ChiSq |
| 21.0000 | 1 | <.0001 |

| Simple Kappa Coefficient | | | |
| --- | --- | --- | --- |
| Estimate | Standard Error | 95% Confidence Limits | |
| 0.4262 | 0.0870 | 0.2557 | 0.5968 |

Interpretation:?

Kappa: fair classifier

* + I, II, III vs IV

| Table of new\_us2 by new\_surg | | | |
| --- | --- | --- | --- |
| new\_us2 | new\_surg | | |
| Frequency Percent Row Pct Col Pct | early | late | Total |
| early | 61 81.33 | 9 12.00 | 70 93.33 |
| late | 3 4.00 | 2 2.67 | 5 6.67 |
| Total | 64 85.33 | 11 14.67 | 75 100.00 |

| McNemar's Test | | |
| --- | --- | --- |
| Chi-Square | DF | Pr > ChiSq |
| 3.0000 | 1 | 0.0833 |

| Simple Kappa Coefficient | | | |
| --- | --- | --- | --- |
| Estimate | Standard Error | 95% Confidence Limits | |
| 0.1743 | 0.1476 | -0.1151 | 0.4637 |

Interpretation: fail to reject mcnemar,

Kappa: poor

**US1 to US2**

* Summary table for people having US1, US2, and both.???
* 4x4 table for US1 and US2

| Table of us2\_stage by us1\_stage | | | | | |
| --- | --- | --- | --- | --- | --- |
| us2\_stage | us1\_stage | | | | |
| Frequency | 1 | 2 | 3 | 4 | Total |
| 1 | 9 | 0 | 1 | 0 | 10 |
| 2 | 7 | 24 | 1 | 0 | 32 |
| 3 | 0 | 10 | 21 | 0 | 31 |
| 4 | 0 | 0 | 2 | 2 | 4 |
| Total | 16 | 34 | 25 | 2 | 77 |
| Frequency Missing = 19 | | | | | |

| Statistic | DF | Value | Prob |
| --- | --- | --- | --- |
| Chi-Square | 9 | 103.2203 | <.0001 |
| Likelihood Ratio Chi-Square | 9 | 83.6641 | <.0001 |
| Mantel-Haenszel Chi-Square | 1 | 45.9341 | <.0001 |
| Phi Coefficient |  | 1.1578 |  |
| Contingency Coefficient |  | 0.7568 |  |
| Cramer's V |  | 0.6685 |  |
| WARNING: 63% of the cells have expected counts less than 5. Chi-Square may not be a valid test. | | | |

| Fisher's Exact Test | |
| --- | --- |
| Table Probability (P) | <.0001 |
| Pr <= P | <.0001 |

* Wilcoxon signed ranks test

| Wilcoxon Scores (Rank Sums) for Variable stage Classified by Variable time | | | | | |
| --- | --- | --- | --- | --- | --- |
| time | N | Sum of Scores | Expected Under H0 | Std Dev Under H0 | Mean Score |
| 1 | 84 | 6445.50 | 7056.0 | 292.020711 | 76.732143 |
| 2 | 83 | 7582.50 | 6972.0 | 292.020711 | 91.355422 |
| Average scores were used for ties. | | | | | |

| Wilcoxon Two-Sample Test | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Statistic (S) | Z | Pr > Z | Pr > |Z| | t Approximation | | Exact | |
| Pr > Z | Pr > |Z| | Pr >= S | Pr >= |S-Mean| |
| 7582.500 | 2.0889 | 0.0184 | 0.0367 | 0.0191 | 0.0382 | 0.0186 | 0.0367 |
| Z includes a continuity correction of 0.5. | | | | | | | |

| Kruskal-Wallis Test | | |
| --- | --- | --- |
| Chi-Square | DF | Pr > ChiSq |
| 4.3706 | 1 | 0.0366 |

