### Supplemental Content

**eTable 1.** The values of $R^2$ on the $S^2 - \bar{V}$ plot analyses for the six emergency departments in 2011 to 2013

| ED-related Hospital                  | $R^2$         |
|--------------------------------------|---------------|
|                                      | 2011 | 2012 | 2013 |
| Changhua Christian Medical Center    | 0.8758 | 0.8645 | 0.8666 |
| Erlin Christian Hospital             | 0.7835 | 0.8468 | 0.6541 |
| Lukang Christian Hospital            | 0.9536 | 0.7875 | 0.8153 |
| Nantou Christian Hospital            | 0.8715 | 0.8170 | 0.6406 |
| Yumin Hospital                       | 0.9593 | 0.9441 | 0.9024 |
| Yunlin Christian Hospital            | 0.8352 | 0.8500 | 0.6217 |

All $R^2$ are obtained from the linear regression lines of the mentioned plots using a truncated time period of 6-22.

ED, emergency department; $R^2$, the coefficient of determination
**Table 2.** The values of PW for the six emergency departments in 2011 to 2013

| ED-related Hospital                  | 2011    | 2012    | 2013    |
|--------------------------------------|---------|---------|---------|
| Changhua Christian Medical Center    | 0.0078  | 0.0081  | 0.0081  |
| Erlin Christian Hospital             | 0.0150  | 0.0251  | 0.0192  |
| Lukang Christian Hospital            | 0.0288  | 0.0221  | 0.0267  |
| Nantou Christian Hospital            | 0.0605  | 0.0519  | 0.0407  |
| Yumin Hospital                       | 0.0266  | 0.0292  | 0.0340  |
| Yunlin Christian Hospital            | 0.0356  | 0.0310  | 0.0236  |

ED, emergency department; PW, the Pan-Wen constant
eFigure 1. The $S^2-V$ plot analyses for the six EDs (Panel A-F) in 2010 with a full time period of 0-23. The linear regression lines and $R^2$ are depicted in the plots.