Supplementary Table 2: results of validation exercise of first total hip replacement (THR) and total knee replacement (TKR)*

| (A) THR | | HES | | | |
|-------------|----------|--|----------|--------|--|
| | | Positive | Negative | Total | |
| <u>CPRD</u> | Positive | 382 | 168 | 550 | |
| | Negative | 95 | 10,307 | 10,402 | |
| | Total | 477 | 10,475 | 10,952 | |
| | | Sensitivity = 80.1; Specificity = 98.4 | | | |

| (A) TKR | | HES | | | |
|-------------|----------|--|----------|--------|--|
| | | Positive | Negative | Total | |
| <u>CPRD</u> | Positive | 525 | 194 | 719 | |
| | Negative | 104 | 10,129 | 10,233 | |
| | Total | 629 | 10,323 | 10,952 | |
| | | Sensitivity = 83.5; Specificity = 98.1 | | | |

* agreement was defined as being present in both datasets within a period of 60 days. Sensitivity and Specificity were unchanged when 30 or 90 day periods were used.