**SUPPORTING TABLE 1: MATCHED ANALYSES OF SIX SUPPORTIVE CARE QUALITY MEASURES**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Hospital1** | **1** | **2** | **1+2 combined** | **Remaining 19** | **P (1)** | **P(2)** | **P(1+2)** |
| N | 73 | 74 | 147 | 146 | **—** | **—** | **—** |
| Age (years) | 69.3 ± 14.4 | 66.4 ± 15.3 | 67.8 ± 14.8 | 67.4 ± 14.7 | 0.37 | 0.62 | 0.82 |
| Male (%) | 39 (53.4%) | 43 (58.1%) | 82 (55.8%) | 82 (56.2%) | 0.70 | 0.78 | 0.95 |
| Deterioration risk2 (%) | 20.0 ± 14.3 | 17.4 ± 11.6 | 18.7 ± 13.0 | 18.8 ± 13.6 | 0.54 | 0.44 | 0.94 |
| LAPS23 | 113 ± 38 | 102 ± 39 | 107 ± 39 | 107 ± 38 | 0.28 | 0.38 | 0.9 |
| COPS24 | 69 ± 52 | 66 ± 52 | 67 ± 52 | 66 ± 51 | 0.75 | 1.00 | 0.85 |
| Died5 (%) | 17 (23.3%) | 15 (20.3%) | 32 (21.8%) | 24 (16.4%) | 0.22 | 0.48 | 0.25 |
| Agent identified prior6 | ***28 (38.4%)*** | 18 (24.3%) | ***46 (31.3%)*** | 21 (14.4%) | ***< 0.001*** | 0.07 | ***0.001*** |
| Agent identified after7 | ***46 (63.0%)*** | ***39 (52.7%)*** | ***85 (57.8%)*** | ***28 (19.4%)*** | ***< 0.001*** | ***< 0.001*** | ***< 0.001*** |
| Updating within 24 hours8 | 32 (43.8%) | ***45 (60.8%)*** | ***77 (52.4%)*** | ***59 (40.4%)*** | 0.63 | 0.00 | 0.04 |

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| **TABLE: MATCHED ANALYSES OF SIX SUPPORTIVE CARE QUALITY MEASURES (cont.)** |
| **Hospital** | **1** | **2** | **1+2 combined** | **Remaining 19** | **P (1)** | **P(2)** | **P(1+2)** |
| Goals of care discussion9 | 20 (27.4%) | ***37 (50.0%)*** | ***57 (38.8%)*** | ***32 (21.9%)*** | 0.37 | ***< 0.001*** | ***0.002*** |
| Palliative care consult10 | 19 (26.0%) | 49 (66.2%) | ***68 (46.3%)*** | ***35 (24.0%)*** | 0.74 | ***< 0.001*** | ***< 0.001*** |
| Spiritual support offered11 | 27 (37.0%) | 30 (40.5%) | 57 (38.8%) | 43 (29.4%) | 0.26 | 0.10 | 0.09 |

**Footnotes**

1 See text for additional details. The patients at the remaining 19 hospitals were identified based on their retrospective (“virtual”) deterioration probabilities and then matched to the patients at the pilot sites. The matching algorithm specified exact matches for these variables: alert threshold reached or not; sex; Kaiser Permanente membership status; had the patient been in the ICU prior to the first alert; and care directive prior to the alert (“full code” vs. “not full code”). Once potential matches were found using the above, the algorithm found the closest match for the following variables: deterioration probability, age, comorbidity burden, and admission illness severity. Statistical comparisons are as follows: P(1) - p value for comparison of pilot hospital 1 vs. remaining 19 Kaiser Permanente Northern California hospitals; P(2), as per P(1), but for pilot hospital 2; P(1+2), both pilot hospitals’ data combined. For continuous variables, numbers shown are mean ± standard deviation. Numbers in ***bold italics***are those that were significantly different.

2 Deterioration risk is generated by the early warning system. It is the probability that a patient will require transfer to the intensive care unit within the next 12 hours. Interventions are initiated when this risk is ≥ 8%.

3 LAPS2 = admission Laboratory-based Acute Physiology Score, version 2; measure of acute instability where the higher the score, the greater the degree of physiologic derangement. Patients with LAPS2 ≥ 110 are very unstable. See citation \_\_ for additional details.

4 COPS2 = COmorbidity Point Score, version 2; measure of chronic disease burden over preceding 12 months that is assigned to all Kaiser Permanente Northern California members on a monthly basis. The higher the score, the greater the chronic illness burden. Patients with COPS2 ≥ 65 have a significant comorbid illness burden. See citation \_\_ for additional details.

5 Refers to 30 day mortality.

6 Indicates whether documentation *preceding* an alert clearly specified who the patient’s agent (decision-maker or surrogate) was.

7 Indicates whether documentation *immediately following* an alert clearly specified who the patient’s agent (decision-maker or surrogate) was.

8 Refers to whether chart documentation indicated that the patient’s family or agent were updated about the patient’s condition within 24 hours after an alert.

9 Refers to whether chart documentation indicated that a discussion occurred regarding the patient’s goals of care occurred within 24 hours after an alert.

10 Indicates whether a palliative care consultation occurred within 24 hours after an alert.