Supplementary appendix 1: full adjusted analysis for the effect of acute malnutrition on length of stay

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| **Parameter** | **DF** | **Estimate** | **Standard** | **95% CI** | **P-value** |
| **Error** | **Lower** | **Upper** |  |
| Moderate wasting | 1 | 0.4593 | 0.1 | 0.2634 | 0.6552 | <.0001 |
| Severe wasting | 1 | 0.2383 | 0.1569 | -0.0693 | 0.5459 | 0.13 |
| Months age (inverse square) | 1 | 0.6039 | 0.2019 | 0.2082 | 0.9995 | 0.0028 |
| Sex | 1 | 0.0221 | 0.037 | -0.0505 | 0.0946 | 0.5515 |
| Ubudehe 1 | 1 | -0.0762 | 0.1385 | -0.3476 | 0.1952 | 0.5821 |
| Ubudehe 2 | 1 | 0.2564 | 0.0854 | 0.0889 | 0.4238 | 0.0027 |
| Ubudehe 3/4 | 1 | 0.0274 | 0.07 | -0.1097 | 0.1646 | 0.6951 |
| ASA 1 | 1 | -0.4777 | 0.0661 | -0.6072 | -0.3481 | <.0001 |
| ASA 2 | 1 | 0.1274 | 0.0732 | -0.0161 | 0.2708 | 0.0819 |
| Elective | 1 | -0.0965 | 0.0949 | -0.2824 | 0.0894 | 0.3091 |
| GI surgery | 1 | 0.8976 | 0.6004 | -0.2792 | 2.0743 | 0.1349 |
| Major surgery | 1 | 0.6598 | 0.1212 | 0.4222 | 0.8975 | <.0001 |
| Elective\*GI surgery | 1 | 0.0308 | 0.1117 | -0.188 | 0.2497 | 0.7824 |
| Elective\*Major surgery | 1 | 0.235 | 0.1202 | -0.0005 | 0.4706 | 0.0505 |
| GI surgery\*Major surgery | 1 | -0.8185 | 0.6006 | -1.9957 | 0.3587 | 0.173 |
| Elective\*GI surgery\*Major surgery | 0 | 0 | 0 | 0 | 0 | . |

For sex, male is the reference category; unclassified Ubudehe refers to patients that were not classified as they were refugees or foreign nationals, the Ubudehe reference category was 4; ASA reference category is ASA 3/4/5;

Supplementary appendix 2: full adjusted analysis for the effect of stunting (chronic malnutrition) on length of stay

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| **Parameter** | **DF** | **Point Estimate** | **Standard** | **95% CI** | **P-value** |
| **Error** | **Lower** | **Upper** |  |
| Moderate stunting | 1 | 0.0618 | 0.1054 | -0.1448 | 0.2683 | 0.56 |
| Severe stunting | 1 | 0.3209 | 0.1078 | 0.1096 | 0.5322 | 0.003 |
| Months age (inverse square) | 1 | 0.7338 | 0.1832 | 0.3747 | 1.093 | <.0001 |
| Sex | 1 | 0.0344 | 0.0376 | -0.0393 | 0.1081 | 0.3605 |
| Ubudehe 1 | 1 | -0.1098 | 0.1392 | -0.3826 | 0.163 | 0.4301 |
| Ubudehe 2 | 1 | 0.2679 | 0.0867 | 0.098 | 0.4377 | 0.002 |
| Ubudehe 3/4 | 1 | 0.0529 | 0.0702 | -0.0847 | 0.1905 | 0.4509 |
| ASA 1 | 1 | -0.4658 | 0.0658 | -0.5947 | -0.3368 | <.0001 |
| ASA 2 | 1 | 0.1255 | 0.073 | -0.0177 | 0.2687 | 0.0858 |
| Elective | 1 | -0.0883 | 0.0959 | -0.2763 | 0.0998 | 0.3575 |
| GI surgery | 1 | 0.9358 | 0.6062 | -0.2523 | 2.1239 | 0.1227 |
| Major surgery | 1 | 0.6941 | 0.1222 | 0.4546 | 0.9336 | <.0001 |
| Elective\*GI surgery | 1 | 0.0772 | 0.1128 | -0.1439 | 0.2983 | 0.4937 |
| Elective\*Major surgery | 1 | 0.2376 | 0.1214 | -0.0004 | 0.4755 | 0.0504 |
| GI surgery\*Major surgery | 1 | -0.9001 | 0.6064 | -2.0887 | 0.2885 | 0.1377 |
| Elective\*GI surgery\*Major surgery | 0 | 0 | 0 | 0 | 0 | . |

For sex, male is the reference category; unclassified Ubudehe refers to patients that were not classified as they were refugees or foreign nationals, the Ubudehe reference category was 4; ASA reference category is ASA 3/4/5;

Supplementary appendix 3 – Results of adjusted multiply imputed analyses

Association of stunting (chronic malnutrition) on length of stay

Acute malnutrition

Moderate wasting vs. none: ratio of means 1.6, 95%CI 1.3 to 2.0

Severe wasting vs. none: ratio of means 1.3, 95%CI 0.9 to 1.7

Chronic malnutrition

Moderate stunting vs. none: ratio of means 1.1, 95%CI 0.9 to 1.3

Severe stunting vs. none: ratio of means 1.4, 95%CI 1.1 to 1.7