

Simulator Choice experiment for ICU admission decision-making: calculating probability of admission

This simulator has been developed based on the results from the Choice Experiment (CE) conducted as part of the NIHR funded project, “Exploring and Improving the decision making process around referral and admission to intensive care” (HS&DR 13/10/14). The CE requires participants to make a series of choices based on hypothetical patient profiles. Each patient profile includes eight patient related factors with a varying number of levels per factor. The eight factors were:

- Age of patient
- Type of co-morbidity
- Severity of co-morbidity
- Functional reserve (assessed in terms of independent mobility)
- Severity of acute illness National Early Warning Score (NEWS)
- How ill the patient looked
- Level of staffing on the ward
- Family’s views regarding admission

In each choice task, two hypothetical patient profiles were presented to the participants and they were asked three related questions: (i) would you admit patient A? (Yes/No); (ii) would you admit patient B? (Yes/No); (iii) which patient should be given priority for admission? (Patient A/B).

303 ICU consultants from NHS Trusts in England participated in the CE. From the analysis of the data we identified the relative importance of each of the eight factors in the decision-making process.

This simulator exercise enable you to calculate the probability of a patient with a specified profile based on the eight factors in the CE being admitted to ICU. Using the table of specified factors and levels (below the simulator) select an option for each factor to build a patient profile. The simulator will then calculate the probability of that patient being admitted to ICU (based on the CE decisions made by the ICU consultant participants).

Click on the link to access the simulator on the study website:

https://warwick.ac.uk/fac/med/research/hscience/sssh/research/intensive/icu_-_simulator_1_icu2018_v3.xlsx

HOW TO USE THIS SIMULATOR?

For each patient-related feature, you need to specify a value (see blue cells) using the drop-down list

Based on the information you will provide about the patient and results from the ICU project (see REF), the simulator will automatically compute the probability of the patient to be admitted to ICU

If you have any questions/comments about the simulator and the results, you can contact: nicolas.krucien@abdn.ac.uk

<u>Question</u>	<u>Patient profile</u>
How old is the patient?	66 years
What is the main co-morbidity?	COPD
How severe is the main co-morbidity?	Severe
What is the functional status of the patient?	Intermediate
How severe is the acute condition as indicated by the NEWS score?	11
What are family's views regarding patient admission?	Unsure
What is registrar assessment of the patient?	Bad
What about patient's safety in current (non-ICU) ward?	Bad

Probability to be admitted: 72.6%

Table. List of possible values for the eight patient-related factors

(Detailed description of the factors' values can be found in Table XXX)

	Value_1	Value_2	Value_3	Value_4
Age	39 years	66 years	79 years	89 years
Type of main co-morbidity	COPD	Heart failure	Dementia	Prostate cancer
Severity of main co-morbidity	Mild	Moderate	Severe	-
Functional status (Mobility)	Good	Bad	Intermediate	-
Severity of acute condition (NEWS)	5	8	11	-
Family's views	Yes	No	Unsure	-
Subjective assessment by the registrar	Good	Bad	Intermediate	-
Safety in ordinary ward	Good	Bad	-	-