

GiViTI

Gruppo Italiano per la Valutazione degli Interventi In Terapia Intensiva

**Report
PROSAFE project**

Year 2021

National report (5 ICUs)

SLOVENIA

PROSAFE project - National report (5 ICUs)

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The project

The PROSAFE project was conceived as an observational project for the continuous electronic collection of data on patients admitted to intensive care units (ICUs). The objectives of the project are to:

- standardize the procedures for collecting data on admitted patients;
- analyse the activity carried out in terms of both clinical results achieved and resources used;
- gather information on the collected case series for research and/or routine clinical management purposes;
- promote comparison among ICUs, on the basis of detailed epidemiological research work, with a view to improving the quality of the care provided.

In addition to these general objectives, the PROSAFE project provides a tool that serves as the operating base for all research projects undertaken by the individual ICUs, both under the umbrella of the GiViTI group and at local level. The PROSAFE program, by virtue of its modular structure, is designed to smoothly integrate the collection of basic data (the PROSAFE 'core') with the collection of specific data for research projects focused on various different topics (the PROSAFE 'petals').

The Petals functioning in 2021 in Italy were:

- the Infections Surveillance Petal, designed to describe the epidemiology of infections in ICUs in Italy, focusing specifically on the identification and study of the main risk and prognostic factors for infections, with a view to comparing the various ICUs in terms of incidence of infections and their severity, prevalent bacterial flora and multiresistant germs;
- the Infections Light Petal, which aim is the description of the epidemiology of infections in ICUs, in order to allow a comparison between the different departments (in terms of incidence/severity/resistance of infections);
- the Full Infections Petal, aiming at the study of the severity of the infections and the use of antibiotics;
- the Colonisation Petal, designed to collect detailed information on active surveillance cultures in individual ICUs and the isolated germs;
- the MUSE Petal, that collects clinical and epidemiological data on patients colonised and/or infected by CRE (carbapenem-resistant Enterobacterales);
- the Cardiosurgical Petal, whose aim is to describe in detail the characteristics of patients admitted to the ICU and subject to cardiosurgical procedures;
- the StART Petal, whose objective is to assess the appropriateness of ICU bed utilization by comparing the level of care required by admitted patients with the level of care that can be provided using available resources;
- the CReACTIVE (Collaborative REsearch on ACute Traumatic brain Injury in intensiVe care medicine in Europe) and CAF (Creactive Ambulatory Follow-up) Petals, that aim to collect relevant information to better characterize patients admitted to the ICU for a traumatic brain injury (european collaborative project FP7-HEALTH-2013-INNOVATION-1);
- the BIO-AX-TBI Petal, whose aim is to identify biological and imaging biomarkers that best characterize axonal injury in traumatic brain injury;
- the Liver Transplantation Petal, a specialist petal containing variables on the perioperative period, early outcomes and one-year survival in patients who have undergone liver transplantation.

The information currently collected in the program 'core' refers to personal patient data, information on origin, reason for admission and whatever else GiViTI has, over the years, determined to be needed to best describe patients admitted to intensive care.

Data collection

The PROSAFE software is distributed free of charge to all ICUs taking part in the project. To date 230 ICUs collected data during 2021, 219 Italian and 11 foreign ICUs, for a total of 73680 patients registered in PROSAFE. Only the ICUs that collected valid data (0) for a period of over 4 months were included in the aggregate analyses. On the whole, therefore, the assessment was based on a total of 0 patients admitted to intensive care during 2021.

The reports

The Coordinating Centre (GiViTI) produces the following reports (only for subgroups composed of at least 5 ICUs):

1. The (Italian) national report on the general (medical/surgical) ICUs. This first report includes the logistic regression model to assess performance in the various ICUs taking part in the project. The statistics for the most representative regions can be downloaded from the GiViTI website (www.giviti.marionegri.it).
2. The (Italian) national report on the surgical ICUs.
3. The personalized report for each individual centre, in Italian or English, which has different sections according to type of ICU and a similar structure to the national report, is designed to foster precise but user-friendly interpretation of the various values for predicting hospital mortality.

All reports (except for the personalized reports, sent to the project Contact person and the Director of the ICU) can be downloaded from the PROSAFE Project section of the GiViTI website (www.giviti.marionegri.it). The participating ICUs can access an online tool, the Analyzer (<http://givitiweb.marionegri.it/Analyzer/>), to perform analyses both on their own data and on the whole national dataset.

Description of the statistics

Project participation

The table on page 17 summarizes the participation in the project of the 0 ICUs which collected valid data in 2021 for a period of at least 4 months.

Description of the hospitals and ICUs

This section presents the organizational-structural features of the ICUs included in the report. The information (except for the information shown on page ??, which is the result of joint analysis of structural data and those collected during the year via the software) is taken from the 'Structural Data' form (available on the GiViTI portal at <https://givitiweb.marionegri.it/>). Absolute numbers, percentages and the number of missing data are reported for the categorical variables; the mean, standard deviation, median and Q1 (first quartile: the value below which lie 25% of the population) and Q3 (third quartile: the value below which lie 75% of the population) serve as indicators for the continuous variables.

Below are a few tips on how to correctly interpret the statistics.

Number of accredited beds Number of beds officially accredited.

Number of available beds Number of beds actually available in ICU. This number is the sum of the beds declared in each single room ('Structural Data' form, section 'Icu rooms'). This number is used for computing utilization indicators.

ICU Structure We define as 'OPEN-SPACE' a ward where each room can be 'monitored' from any other. A room can be 'monitored' from another room when all the beds located in the other room can be visually and instrumentally controlled.

Available beds per physician (average) e Available beds per nurse (average) The mean is computed taking into account the differences between daily shifts of personnel.

Indicators of utilization Data on the number of available beds, total admissions in 2021 and ICU stay days were used to calculate indicators of utilization, i.e. indicators able to measure utilization levels and healthcare facility activity levels.

- The bed **occupation rate** expresses bed occupancy as a percentage value, by dividing total ICU stay days recorded at a given time by the total number of days in the period in question multiplied by the number of staffed beds. The product corresponds to the ICU's total availability for admissions (daily number of available beds); the closer total ICU stay days are to total availability, the more the occupation rate tends towards 100%. Occupation rate can even exceed 100% when a new patient is admitted to a bed that became vacant on the same day.

$$\text{Occupation rate} = \frac{\text{ICU stay days}}{\text{Days} \times \text{Number of beds}} \quad (1)$$

- The **rotation index** expresses the mean number of patients 'staying' in a bed in one year. It is calculated by dividing the number of admissions by the number of beds. Data collected for less than one year have to be extrapolated.

$$\text{Rotation index} = \frac{\text{Number of patients}}{\text{Number of beds}} \quad (2)$$

- The **turnover interval** expresses the period of time in which a bed remains vacant between two consecutive patients. It is calculated by dividing the number of days with vacant beds by the number of patients admitted during the period in question, giving mean unoccupied time per bed. It is calculated by dividing the number of days with unoccupied beds by the number of patients admitted in the period in question. This gives the mean unoccupied time per bed. This indicator is expressed in hours.

$$\text{Turnover} = 24 \times \frac{(\text{Number of beds} \times \text{Days}) - \text{ICU stay days}}{\text{Number of patients}} \quad (3)$$

Occupied beds per physician (average) e Occupied beds per nurse (average) The mean is computed taking into account the differences between daily shifts of personnel. Daily occupied beds are considered in the calculations. This number is obtained by multiplying the average number of beds available per operator for the occupation rate (preliminarily divided by 100).

Study flow-chart

The flow chart, or tree diagram, on page 19 presents the various subgroups of analysed patients. PROSAFE has a very accurate indicator of the completeness and validity of the data entered on each patient, i.e. status.

The program envisages 5 status levels:

- status 1 - the patient record presents errors or unsolved warnings;
- status 2 - the record is incomplete, there are still missing data;
- status 3 - the patient has been discharged from the ICU, the clinical data are all entered and have undergone congruency checks; only hospital outcome is missing;
- status 4 - record complete and free of errors;
- status 5 - record free of errors but incomplete; the missing data are irretrievable.

Patients with status 1, 2 and 5 data are clearly incomplete.

It would be wrong to omit only patients with incomplete data (in status 1, 2 and 5) from the analyses since this could skew the estimates because of a so-called 'selection bias'. Patients with incomplete data may instead represent a special population subgroup. If only these patients were omitted from the analysed group, the statistics would no longer represent the whole group. It is plausible to assume, for example, that the majority of the patients for whom hospital outcome is missing were discharged alive from hospital, since it is much easier and quicker to retrieve information on hospital outcome when a patient has died. Calculating statistics on hospital mortality in the whole group of patients would result in mortality being incorrectly overestimated.

To address this problem it was decided to omit from each individual ICU's data any patients recruited during months when the validity percentages were below a high threshold (approximately 90%). Another check performed to reduce the risk of selection bias is to analyse the number of patients admitted per month. If the number of patients admitted in one or more months differs significantly from the mean number of monthly admissions (with a threshold arbitrarily set at a mean of ± 2 trimmed SD), or if the variability in the number of admissions is too high (variation coefficient above 40%), a warning message will appear asking for the entered data to be checked. To correctly participate in the PROSAFE project, all patients consecutively admitted to the ICU must be registered in the software on a continuous basis throughout the year; any marked swings in the number of admissions should suggest that there may be patient registration 'gaps'. It is, however, impossible to distinguish between registration 'gaps' and periods in which there is a real reduction/increase in admissions. Hence our objective is to draw attention to potential problems by asking each individual centre for feedback.

To more clearly illustrate the selection methods used in the choice of valid data, we present an extract from the data validity report of a randomly selected, anonymized ICU.

From January to December, Centre XX000 recruits a total of 619 patients. The first table and the bar graph show the number of monthly admissions to intensive care. In this case, a warning will appear at the bottom of the bar graph asking for confirmation of the entered data.

Centre XX000 - Year 2014

Data validity

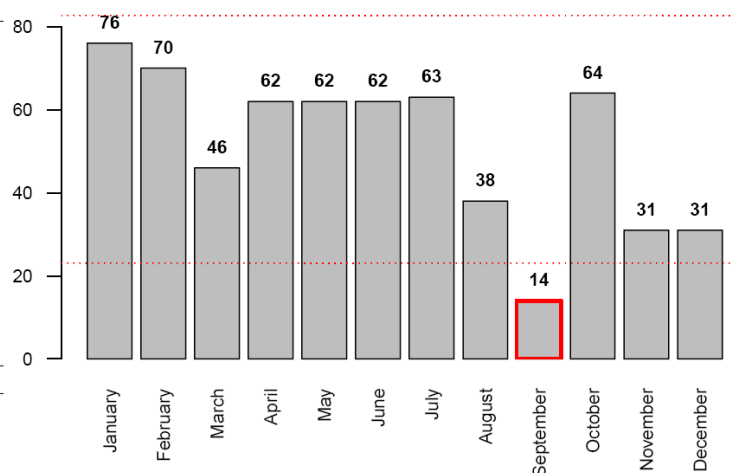
Patients admitted: 619

Admissions

Month	N	%
January	76	12.3
February	70	11.3
March	46	7.4
April	62	10.0
May	62	10.0
June	62	10.0
July	63	10.2
August	38	6.1
September	14	2.3
October	64	10.3
November	31	5.0
December	31	5.0

Admissions

Mean	51.6
Median	62.0
SD	19.1
VC	37.1



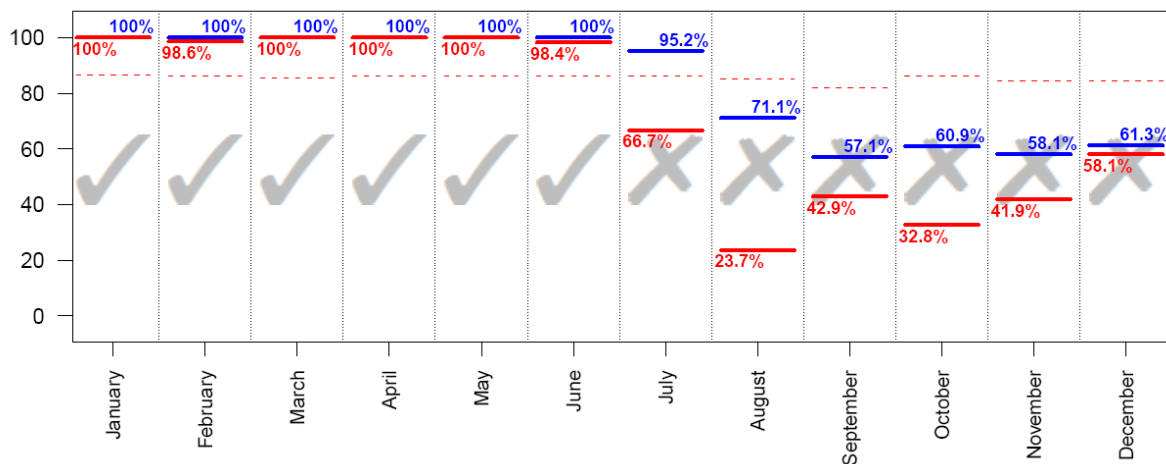
WARNING! The highlighted months have a number of patients quite different from the average. Please verify the correctness of the data and, particularly, that all consecutive patients have been registered in the Prosafe software.

The second table divides the recruited patients by admission month and form completion status. Overall, the ICU in question presents complete data for 485 patients. 134 patients still present incomplete data.

Month	Status (N)					Total	% Pts. in status 3/4	% Pts. in status 4
	1	2	3	4	5			
January	0	0	0	76	0	76	100.0	100.0
February	0	0	1	69	0	70	100.0	98.6
March	0	0	0	46	0	46	100.0	100.0
April	0	0	0	62	0	62	100.0	100.0
May	0	0	0	62	0	62	100.0	100.0
June	0	0	1	61	0	62	100.0	98.4
July	0	3	18	42	0	63	95.2	66.7
August	0	11	18	9	0	38	71.1	23.7
September	0	6	2	6	0	14	57.1	42.9
October	4	21	18	21	0	64	60.9	32.8
November	0	13	5	13	0	31	58.1	41.9
December	0	12	1	18	0	31	61.3	58.1
Total	4	66	64	485	0	619	88.7	78.4

The final graph shows level of data completeness in the various months. Percentages of patients with records in status 3 or 4 and in status 4 are shown in blue and red respectively.

According to our elimination criterion, the overall analysis will exclude those patients admitted in the months of August, September, October, November and December since they present a validity percentage below the defined threshold (dashed line). Accordingly, 441 patients have valid data for the analysis. Regarding analysis of hospital mortality, patients admitted in July will also be excluded (in that month the % of patients with record not in status 4 is still too high). Hence, the analysis on hospital outcome will involve 378 patients on 619 admitted.



Patients admitted in months with % of patients in status 3 or 4 over the threshold (drawn in the graph with a dashed line): **441**; patients in status 4: **378**.

Description of patients

These sections of the report present the results of the analyses conducted on the group of patients with valid data. This part presents patient characteristics at ICU admission and during ICU stay, severity scores, process indicators, and outcomes for the various patient subgroups.

Absolute number, percentage and number of missing data are reported for the categorical data, while mean, standard deviation, median, interquartile range (Q1-Q3) and minimum and maximum range are reported for continuous variables. The acronym 95% CI indicates the 95% confidence interval of the estimate.

Below are a few tips on how to correctly interpret the analyses.

BMI The calculation of Body Mass Index is based on weight and height values, with the following formula:

$$BMI = \frac{\text{weight (kg)}}{\text{height (m)}^2} \quad (4)$$

The categories of underweight, overweight and obese are determined according to the following criteria: underweight if BMI<20 (males) or BMI<19 (females); normal weight if 20<=BMI<=25 (males) or 19<=BMI<=24 (females); overweight if 25<BMI<=30 (males) or 24<BMI<=29 (females); obese if BMI>30 (males) or BMI>29 (females).

CCI The Charlson Comorbidities Index is calculated according to the Quan formula.

Stay before ICU Days spent between admission to hospital and admission to ICU.

Reason for transfer from other ICU The reported items refer to the following reasons:

- Specialist expertise -> specialist expertise within the hospital;
- Step-up care -> management of high complexity critical patient;
- Logistical/organizational reasons -> continuation of treatment in stabilized patient (transfer for logistic/ organizational reasons);
- Step-down care-> continuation of treatment in a non-specialist environment.

Surgical interventions on admission (top 10) This lists the top 10 surgical interventions, divided by elective surgery and emergency surgery patients, operated between 7 days prior to and one day after admission to the ICU. Each single intervention (even more than one per patient) is counted.

Timing of surgical interventions on admission The timing of surgical interventions on admissions is specified. Each single intervention (even more than one per patient) is counted. It may happen that the percentages exceed the threshold of 100 % if patients underwent more than one intervention in the specified time periods.

Multiple trauma The category multiple trauma is defined by the presence of trauma in two or more regions.

SAPSII The score cannot be calculated if GCS (first 24 hours) is unassessable.

The SAPSII score for individual patients can become the probability of dying in hospital. This is performed by the following formula:

$$\text{Predicted hospital mortality} = \frac{e^{\text{Logit}}}{1 + e^{\text{Logit}}} \quad (5)$$

where

$$\text{Logit} = -7.763 + 0.074 \times \text{SAPSII} + 0.997 \times \ln(\text{SAPSII} + 1) \quad (6)$$

PELOD The PELOD score for individual pediatric patients can become the probability of dying in ICU. This is performed by the following formula:

$$\text{Predicted ICU mortality} = \frac{1}{1 + e^{7.64 - 0.30 \times \text{PELOD}}} \quad (7)$$

PIM 2/PIM 3 The PIM score for individual pediatric patients can become the probability of dying in ICU. This is performed by the following formula:

$$\text{Predicted ICU mortality} = \frac{e^{\text{PIM}}}{1 + e^{\text{PIM}}} \quad (8)$$

Severity evolution (of infections) The severity of infection on admission is shown in the rows. Maximum severity reached during ICU stay is indicated in the columns. The table reports the absolute numbers and row percentages by which to assess the evolution of infection severity. For example, in the case below, the severity of the infection did not worsen during ICU stay in 15 out of the 17 patients admitted with SEPSIS (15/17=88.2%). Conversely, the condition of SEPSIS developed into SEPTIC SHOCK in 2 patients (2/17=11.8%).

Severity evolution		During the stay				
		N (R %)	None	Infection without SEPSIS	SEPSIS	SEPTIC SHOCK
Admission	None	173 (93.0%)	9 (4.8%)	1 (0.5%)	3 (1.6%)	186
	Infection without SEPSIS	-	19 (95.0%)	0 (0.0%)	1 (5.0%)	20
	SEPSIS	-	-	15 (88.2%)	2 (11.8%)	17
	SEPTIC SHOCK	-	-	-	36 (100.0%)	36
	TOT	173	28	16	42	259

VAP Forms of pneumonia associated with invasive ventilation are defined as VAP (pneumonia onset after the 2nd day of ventilation and developing within 2 days of the end of ventilation).

Incidence of VAP Two different incidence rates are presented:

$$\text{Incidence of VAP} = \frac{\text{Number of patients with VAP during stay}}{\text{Mechanical ventilation days pre VAP}} \times 1000 \quad (9)$$

where the variable *mechanical ventilation days pre-VAP* corresponds to the total number of mechanical ventilation days pre-VAP of all patients admitted to the ICU. It is equal to the total duration of mechanical ventilation for patients who do not develop VAP and to the difference between the date of onset of VAP and the start date of mechanical ventilation for infected patients. The mechanical ventilation days in patients who were discharged or died within 2 days of the start of ventilation are excluded from the denominator.

$$\text{Incidence of VAP} = \frac{\text{Number of patients with VAP during stay}}{(\text{Mechanical ventilation days pre VAP})/8} \times 100 \quad (10)$$

The second rate is only a reworking of the previous one, to simplify interpretation of the data. It answers the question: 'Out of 100 patients ventilated for 8 days in the ICU, how many develop VAP?'. The 8-day cut off has been set by convention. The rates are accompanied by 95% confidence intervals.

Incidence of CR-BSI Just like VAP, two incidence rates are presented for catheter-related blood stream infections:

$$\text{Incidence of CRBSI} = \frac{\text{Number of patients with CRBSI during stay}}{\text{CVC days pre CRBSI}} \times 1000 \quad (11)$$

$$\text{Incidence of CRBSI} = \frac{\text{Number of patients with CRBSI during stay}}{(\text{CVC days pre CRBSI})/12} \times 100 \quad (12)$$

The second one responds to the question 'Out of 100 theoretical patients catheterized for 12 days in the ICU, how many will develop catheter-related blood stream infections?'.

Invasive ventilation (approach) The reported items refer to the following scenarios:

- Due to pulmonary failure -> invasive ventilation in a patient with hypoxic and/or hypercapnic respiratory failure;
- For airway maintenance -> invasive ventilation in a patient without respiratory failure, to support airways (e.g. coma patient);
- In weaning -> final part of invasive ventilation in a patient admitted for weaning from ventilation.

Non invasive ventilation (approach) The reported items refer to the following scenarios:

- Non invasive ventilation only -> non-invasive ventilation as the only ventilatory approach to the patient;
- Non invasive ventilation failed -> non-invasive ventilation immediately followed by patient intubation;
- For weaning -> non-invasive ventilation started within one day of the end of invasive ventilation.

Surgical interventions during stay (top 10) The surgical interventions performed from the second day of stay.

Reason of transfer to other ICU See the item 'Reason of transfer from other ICU'.

Hospital mortality Statistics on hospital outcome (indicated with an asterisk, where necessary) involve the subgroup of patients with valid data for this variable or patients admitted during the months when over a defined % of patients were in status 4, after excluding readmissions from another hospital ward.

Last hospital mortality For patients transferred to other ICU or to rehabilitation/high dependency care unit in other hospital, is the outcome at the last hospital discharge.

Readmissions Only readmissions from other hospital wards are considered.





ICU stay (days) Length of pre-ICU, post-ICU and hospital stay are simply calculated as the difference between dates. Calculation of ICU stay can be optimized by using time of patient admission and discharge. The difference between the discharge date and the admission date is calculated. 1 is added if the patient is admitted before 12:00 and discharged after this time. Conversely, 1 is subtracted if the patient is admitted after midday and discharged before midday. If the length of stay in the ICU is equal to 0, length of stay is entered as 1.

Analysis of mortality: This section presents indicators or graphs useful for a detailed analysis of mortality. The diagram lists the reference models used for the calculation of expected mortality according to the type of patients evaluated. All the predictive models involve the subgroup of patients admitted during the months when over a defined % of patients were in status 4. Analyses involving adult patients exclude cardiac surgery patients, patients admitted for diagnosis of death/organ donation and readmissions.

Patients	Model	Mortality
Adults non CS - Non Covid	GiViTI 2021	Last hospital mortality
Adults non CS - Covid	GiViTI 2020 COvid	Last hospital mortality
Pediatric	PIM 2	ICU mortality
	PIM 3	ICU mortality
	PELOD	ICU mortality

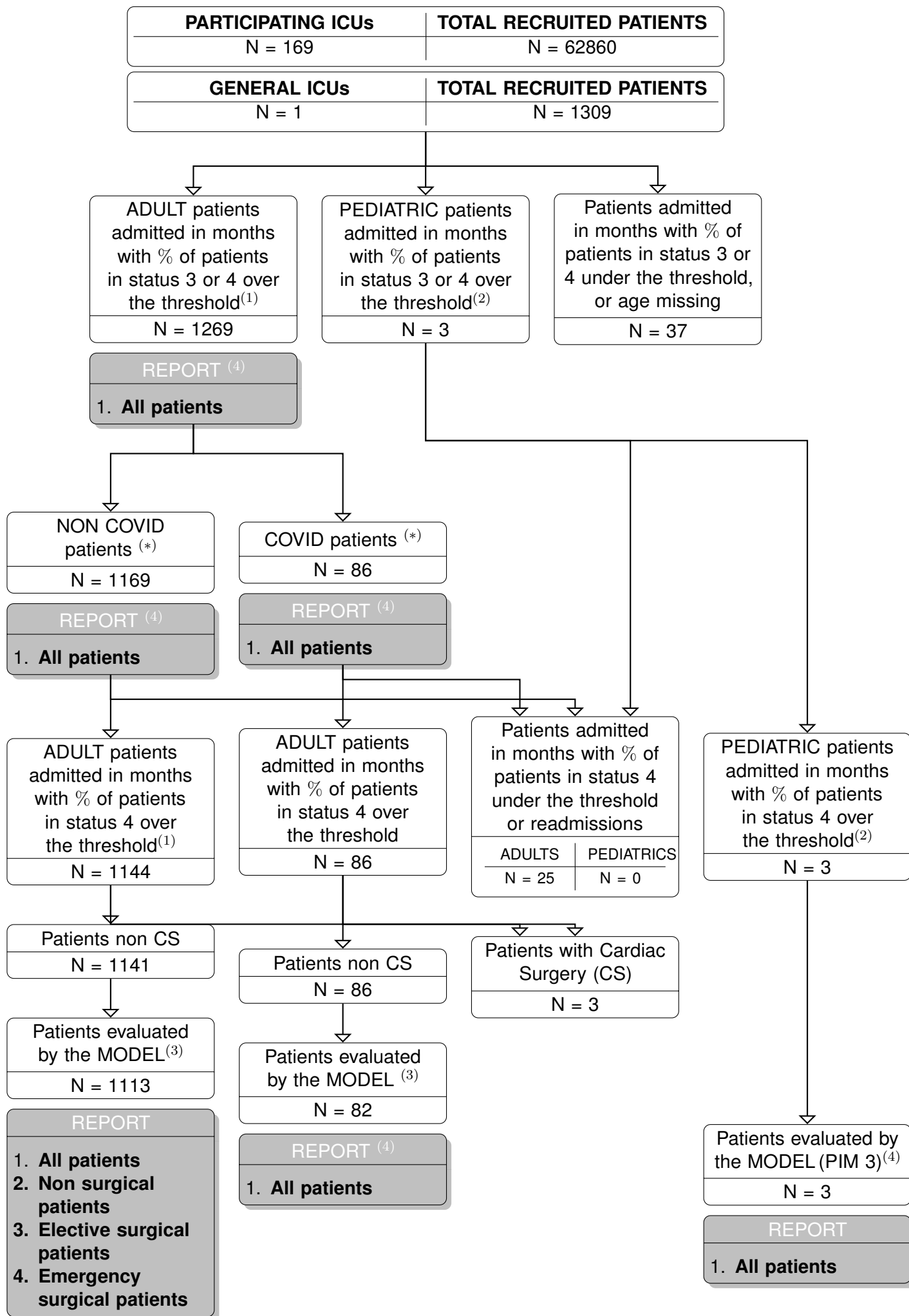
Statistics

**National report - Year 2021
Project participation***

Nation	TYPE							Total
	General	Cardiosurgical	Surgical	Neurosurgical	Pediatrics	HDC	Other	
 Greece	1 ICU 520 patients							1 ICU 520 patients
 Israel					1 ICU 726 patients			1 ICU 726 patients
 Italy	128 ICU 42821 patients	13 ICU 7705 patients	5 ICU 2009 patients	6 ICU 2907 patients	3 ICU 1224 patients	2 ICU 815 patients	12 ICU 5379 patients	169 ICU 62860 patients
 Slovenia	1 ICU 360 patients		4 ICU 949 patients					5 ICU 1309 patients
Total	130 ICU 43701 patients	13 ICU 7705 patients	9 ICU 2958 patients	6 ICU 2907 patients	4 ICU 1950 patients	2 ICU 815 patients	12 ICU 5379 patients	176 ICU 65415 patients

*Are considered as adhering the ICUs with at least 4 months of valid compilation.

National report (5 ICUs) - Year 2021
Study flow-chart



- (1) *Patients older than 17 years are considered ADULT patients.*
 - (2) *Patients under 17 years of age are considered PEDIATRIC patients.*
 - (3) *Patients evaluated by the GiViTI model of hospital mortality are those with all the variables of the model completed, including the hospital outcome. Patients admitted for diagnosis of death/organ donation and readmissions are excluded.*
 - (4) *Statistics produced for groups with more than 20 patients (bold).*
 - (5) *Patients transferred to other ICU are excluded.*
- (*) *Sono esclusi dall'analisi tutti i pazienti per cui le informazioni relative al COVID sono assenti.*

National report - Year 2021

Characteristics on admission - Adult patients

Patients (N): 1269

Sex	N	%
Male	831	65.5
Female	438	34.5
Missing	0	

Age (years)	N	%
17-45	169	13.3
46-65	387	30.5
66-75	416	32.8
>75	297	23.4
Missing	0	
Mean	64.2	
SD	15.7	
Median	67	
Q1–Q3	57–75	
Min–Max	17–95	

Body mass Index (BMI)	N	%
Underweight	49	3.9
Normal	475	38.0
Overweight	491	39.2
Obese	236	18.9
Missing	18	

Pregnancy status	N	%
Females (N=438)		
Not fertile	194	44.5
Not pregnant/Unknown	236	54.1
Currently pregnant	1	0.2
Post partum	5	1.1
Missing	2	

Comorbidities	N	%
No	165	13.1
Yes	1093	86.9
Missing	11	

Comorbidities (top 10)	N	%
Hypertension	645	51.3
Any tumour without metastasis	303	24.1
Arrhythmia	218	17.3
Diabetes Type II without insulin tr.	179	14.2
NYHA class II-III	167	13.3
Metastatic cancer	160	12.7
Moderate or severe renal disease	134	10.7
Endocrine-metabolic diseases	130	10.3
Peripheral vascular disease	118	9.4
Moderate COPD	107	8.5
Missing	11	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	6.2	15.3	1	0–5	12

Source of admission	N	%
Same hospital	1167	92.6
Other hospital	92	7.3
Long-term chronic care hospital	1	0.1
Directly from the community	0	0.0
Missing	9	

Ward of admission	N	%
Hospital (N=1259)		
Medical ward	166	13.2
Surgical ward	709	56.3
Emergency room	264	21.0
Other ICU	66	5.2
High dependency care unit	54	4.3
Missing	0	

Reason for transfer from	N	%
Other ICU (N=66)		
Specialist expertise	24	36.9
Step-up care	9	13.8
Logistical/organizational reasons	30	46.2
Step-down care	2	3.1
Missing	1	

Ward of admission	N	%
Same hospital (N=1167)		
Medical ward	157	13.5
Surgical ward	701	60.1
Emergency room	229	19.6
Other ICU	35	3.0
High dependency care unit	45	3.9
Missing	0	

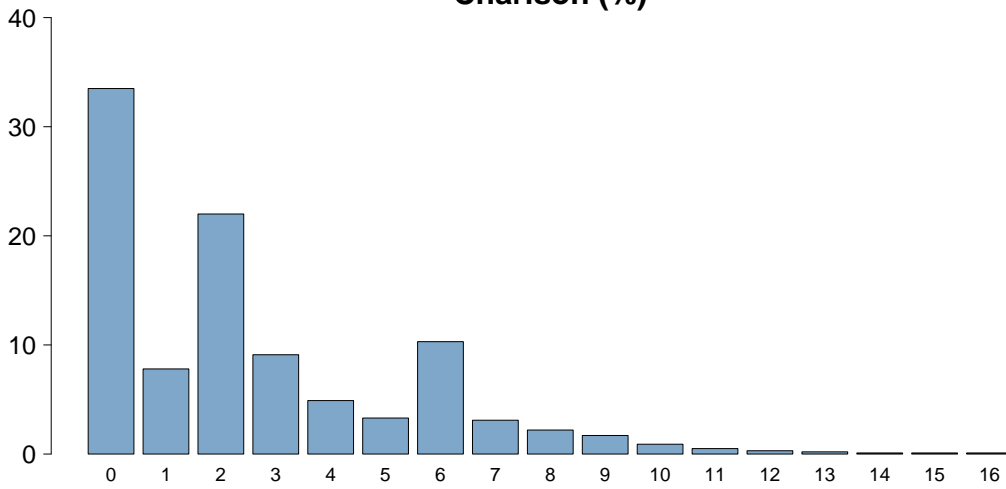
Ward of admission	N	%
Other hospital (N=92)		
Medical ward	9	9.8
Surgical ward	8	8.7
Emergency room	35	38.0
Other ICU	31	33.7
High dependency care unit	9	9.8
Missing	0	

Scheduled admission	N	%
No	879	69.9
Yes	379	30.1
Missing	11	

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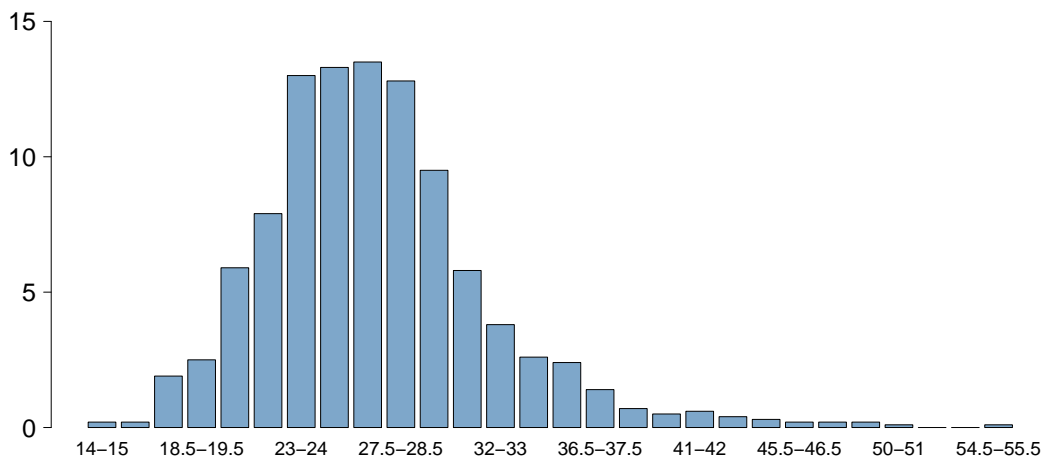
Characteristics on admission - Adult patients

Charlson (%)



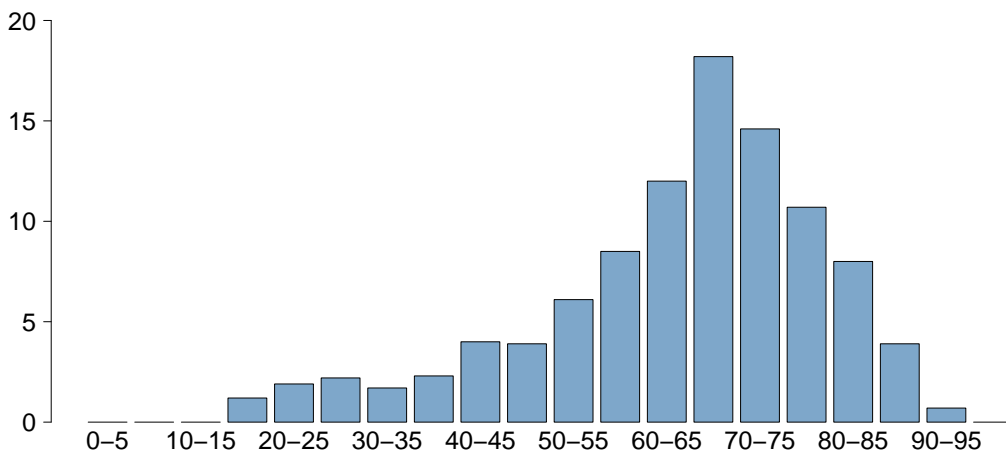
Charlson score	
Mean	2.6
SD	2.8
Median	2
Q1–Q3	0–4
Missing	11

BMI (%)



BMI	
Mean	27.2
SD	5.4
Median	26.4
Q1–Q3	23.9–29.4
Missing	18

Age (%)



Age	
Mean	64.2
SD	15.7
Median	67
Q1–Q3	57–75
Missing	0

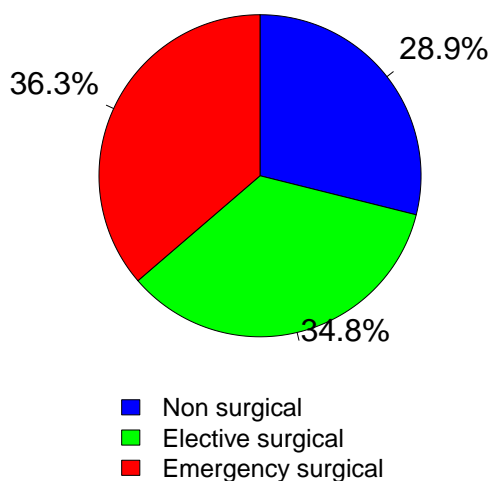
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Characteristics on admission - Adult patients

Trauma	N	%
No	1016	80.8
Yes	242	19.2
Multiple trauma	85	6.8
Missing	11	

Surgical status	N	%
Non surgical	363	28.9
Elective surgical	438	34.8
Emergency surgical	457	36.3
Missing	11	

Surgical status



Source of admission	N	%
Surgical pt. (N=895)		
Operating theatre of surgical ward	586	65.5
Operating theatre of emergency room	117	13.1
Surgical ward	63	7.0
Other	128	14.3
Missing	1	

Surgical interventions (top 10)	N	%
Elective surgical (N=438)		
Gastrointestinal surgery	283	64.6
Other surgery	27	6.2
Nephro/Urological surgery	26	5.9
Gynaecological surgery	24	5.5
Abdominal vascular surgery	23	5.3
Hepatic surgery	21	4.8
Neurosurgery	16	3.7
Peripheral vascular surgery	14	3.2
Thoracic surgery	12	2.7
Organ/s transplantation	12	2.7
Missing	0	

Timing	N	%
Elective surgical (N=438)		
From -7 to -3 days	16	3.7
From -2 to -1 days	14	3.2
On ICU admission day	458	104.6
The day after ICU admission	11	2.5
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=457)		
Gastrointestinal surgery	188	41.1
Neurosurgery	102	22.3
Other surgery	35	7.7
Thoracic surgery	27	5.9
Orthopaedic surgery	24	5.3
Organ/s transplantation	18	3.9
Nephro/Urological surgery	14	3.1
Biliary tract surgery	12	2.6
Hepatic surgery	11	2.4
Abdominal vascular surgery	10	2.2
Missing	16	

Timing	N	%
Emergency surgical (N=457)		
From -7 to -3 days	28	6.1
From -2 to -1 days	61	13.3
On ICU admission day	391	85.6
The day after ICU admission	27	5.9
Missing	4	

Non surgical interventions	N	%
None	1191	94.7
Elective	12	1.0
Emergency	55	4.4
Missing	11	

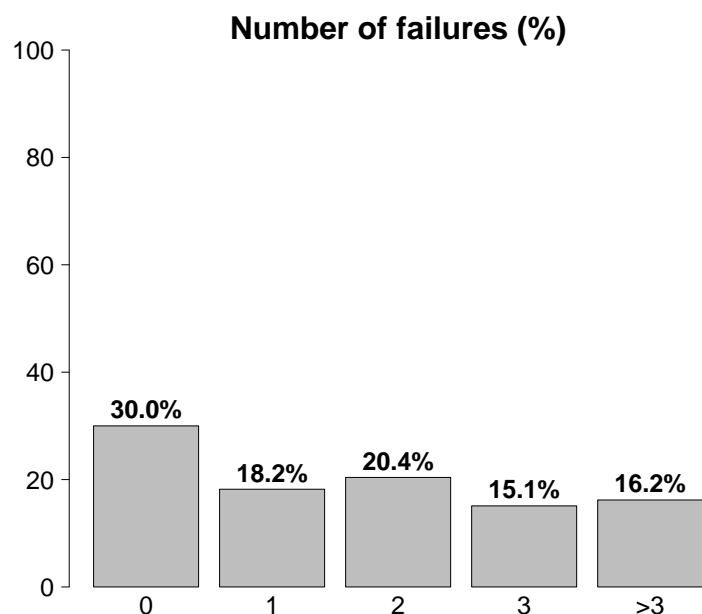
Non surgical interventions	N	%
Elective (N=12)		
Interventional endoscopy	4	33.3
Interventional radiology	2	16.7
Interventional cardiology	1	8.3
Interventional neuroradiology	0	0.0
Missing	5	

Non surgical interventions	N	%
Emergency (N=55)		
Interventional radiology	31	56.4
Interventional endoscopy	13	23.6
Interventional cardiology	4	7.3
Interventional neuroradiology	0	0.0
Missing	7	

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Characteristics on admission - Adult patients

Reason for admission	N	%
Monitoring/Weaning	522	41.5
Post surgical weaning	17	1.4
Surgical monitoring	424	33.8
Post interventional weaning	0	0.0
Interventional monitoring	7	0.6
Non surgical monitoring	72	5.7
Missing	2	
Intensive Treatment	733	58.3
Only ventilatory support	181	14.4
Only cardiovascular support	113	9.0
Ventilatory and cardiovascular support	439	34.9
Missing	0	
Palliative Sedation	3	0.2
Diagnosis of death/Organ donation	0	0.0
Missing	11	



Failures on admission	N	%
No	381	30.0
Yes	888	70.0
A: Respiratory failure	620	48.9
B: Cardiovascular failure	552	43.5
C: Neurological failure	91	7.2
D: Hepatic failure	32	2.5
E: Renal failure	498	39.2
F: Acute skin failure	2	0.2
G: Metabolic failure	363	28.6
H: Coagulation failure	51	4.0
Missing	0	

Failures on admission (top 10)	N	%
AB	122	9.6
ABEG	122	9.6
A	91	7.2
E	83	6.5
ABE	58	4.6
BEG	42	3.3
ABG	35	2.8
AE	35	2.8
EG	34	2.7
G	29	2.3
Missing	0	

Respiratory failure	N	%
None	649	51.1
Only hypoxic failure	255	20.1
Only hypercapnic failure	28	2.2
Hypoxic-hypercapnic failure	50	3.9
Intubation for airway maint.	287	22.6
Missing	0	

Cardiovascular failure	N	%
None	717	56.5
Without shock	220	17.3
Cardiogenic shock	19	1.5
Septic shock	179	14.1
Haemorrhagic/hypovolemic shock	64	5.0
Hypovolemic shock	11	0.9
Anaphylactic shock	4	0.3
Neurogenic shock	5	0.4
Other shock	23	1.8
Mixed shock	27	2.1
Missing	0	

Neurologic failure	N	%
None	945	91.2
Cerebral coma	52	5.0
Metabolic coma	20	1.9
Postanoxic coma	17	1.6
Toxic coma	2	0.2
Missing or not evaluable	233	

Renal failure (AKIN)	N	%
None	755	60.3
Mild	254	20.3
Moderate	148	11.8
Severe	96	7.7
Missing	16	

Metabolic failure	N	%
None	890	71.0
pH <= 7.3, PaCO ₂ < 45 mmHg	128	10.2
Base deficit >= 5 mmol/L, lactate >1.5x	235	18.8
Missing	16	

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Characteristics on admission - Adult patients

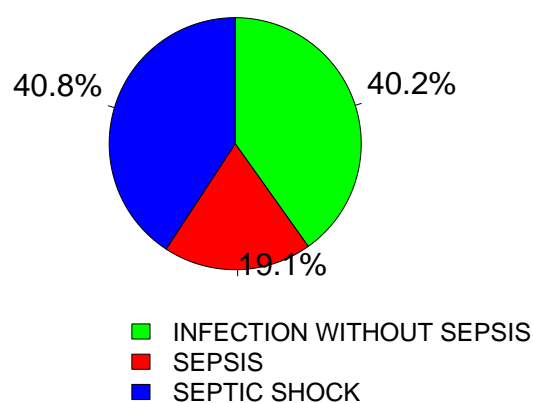
Clinical conditions on admission	N	%
Respiratory	218	17.4
Aspiration pneumonia	68	5.4
Pleural effusion	61	4.9
Pulmonary embolism	30	2.4
Atelectasis	24	1.9
Lung cancer	20	1.6
Cardiovascular	211	16.8
Cardiac arrest	45	3.6
Acute severe arrhythmia: tachycardias	35	2.8
Peripheral vascular disease	34	2.7
Left heart failure without pulm. edema	28	2.2
Non-ruptured aneurysm	28	2.2
Neurological	97	7.7
Seizures	20	1.6
Neuropathy/myopathy	20	1.6
Brain tumour	18	1.4
Metabolic/postanoxic encephalopathy	16	1.3
Non traumatic cerebral oedema	10	0.8
Gastrointestinal and hepatic	507	40.4
Digestive tract malignancy	287	22.9
Gastrointestinal perforation	52	4.1
Intestinal occlusion	47	3.7
Paralytic Ileus	39	3.1
Hepatic malignancy	36	2.9
Trauma (anatomical districts)	242	19.3
Head	162	12.9
Chest	74	5.9
Spine	54	4.3
Pelvis/bone/joint & muscle	45	3.6
Abdomen	37	2.9
Major vessels injury	10	0.8
Miscellaneous	1	0.1
Other	380	30.3
Other disease	199	15.9
Nephrourologic disease	84	6.7
Metabolic disorder	60	4.8
Coagulation disorder	51	4.1
Gynaecological disease	24	1.9
Post transplantation	44	3.5
Liver transplantation	20	1.6
Lung transplantation	16	1.3
Infections	498	39.7
Pneumonia	179	14.3
COVID-19	86	6.9
Post-surgical peritonitis	59	4.7
NON-surgical secondary peritonitis	55	4.4
NON-catheter-related UTI	50	4.0
NON-surgical skin/soft tissue infection	22	1.8
Catheter-related UTI	21	1.7
Clinical sepsis	19	1.5
Cholecystitis/cholangitis	18	1.4
Post-surgical skin/soft tissue infection	14	1.1
Missing	14	

Trauma (anatomical districts)	N	%
Head	162	12.9
Traumatic subarachnoid haemorrhage	99	7.9
Traumatic Subdural haematoma	98	7.8
Skull fracture	79	6.3
Cerebral contusion/laceration	75	6.0
Maxillofacial fracture	74	5.9
Spine	54	4.3
Vertebral fracture, without deficit	33	2.6
Cervical injury, incomplete deficit	6	0.5
Tetraplegia	5	0.4
Chest	74	5.9
Traum. haemothorax/pneumothorax	42	3.3
Other injuries of the chest	42	3.3
Severe lung contusion/laceration	20	1.6
Abdomen	37	2.9
Minor injuries of the abdomen	12	1.0
Spleen: Moderate-Severe laceration	11	0.9
Liver: Moderate-Severe laceration	9	0.7
Pelvis/bone/joint & muscle	45	3.6
Long bone fracture	31	2.5
Multiple fracture of the pelvis	17	1.4
Very severe or open fracture of the pelvis	4	0.3
Major vessels injury	10	0.8
Proximal limbs vessels: transection	4	0.3
Neck vessels: dissection/transection	3	0.2
Major abdominal vessels: transection	2	0.2
Miscellaneous	1	0.1
Inhalation injury	1	0.1
Burns (>30% BSA)	1	0.1
Missing	14	

Infection severity on admission	N	%
None	757	60.3
INFECTION WITHOUT SEPSIS	200	15.9
SEPSIS	95	7.6
SEPTIC SHOCK	203	16.2
Missing	14	

Infection severity on admission

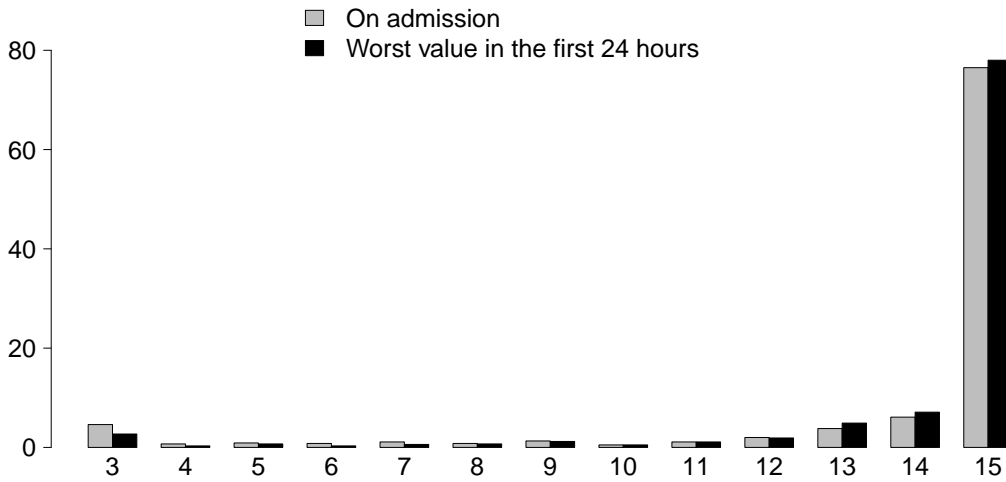
Patients infected (N=498)



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Severity scores - Adult patients

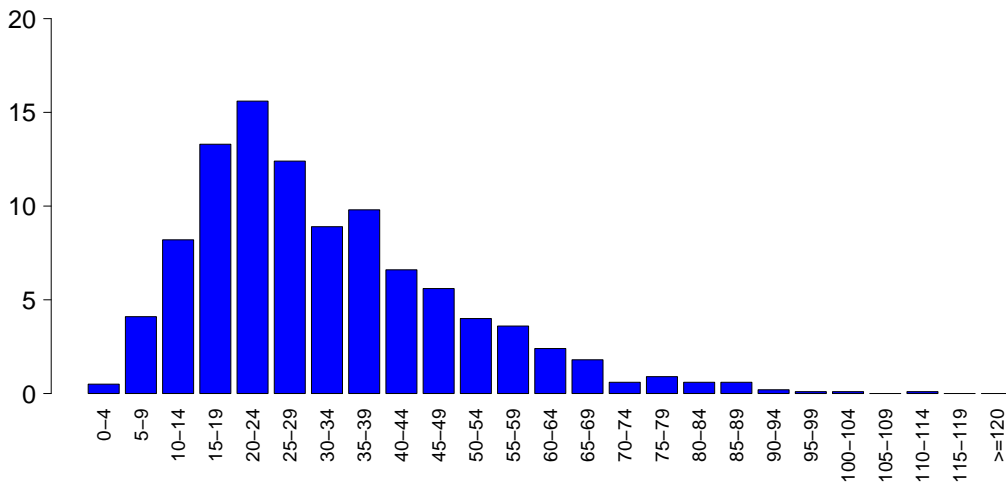
Glasgow Coma Scale (%)



GCS (admission)	
Median	15
Q1–Q3	15–15
Not evaluable	217
Missing	16

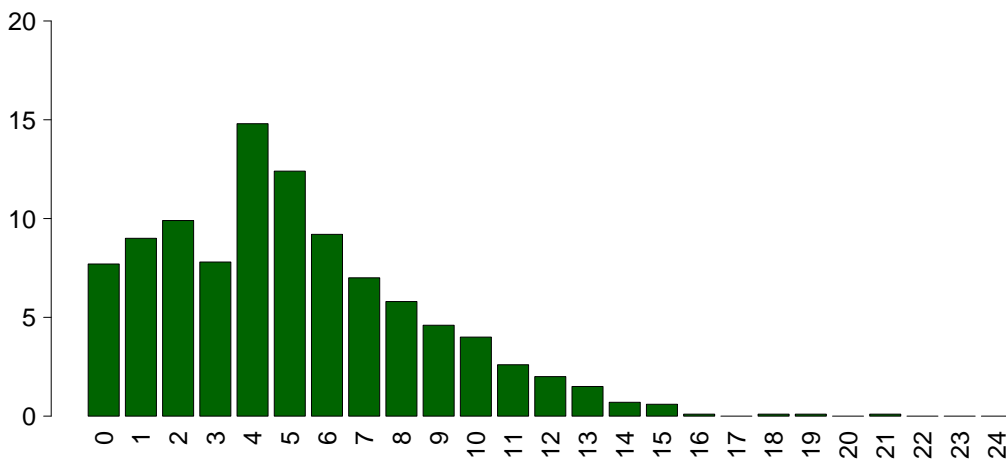
GCS (worst in first 24 hours)	
Median	15
Q1–Q3	15–15
Not evaluable	368
Missing	16

SAPS II (%)



SAPSII	
Mean	31.7
SD	17.3
Median	28
Q1–Q3	19–41
Not evaluable	368
Missing	16

SOFA (%)



SOFA	
Mean	5.0
SD	3.5
Median	5
Q1–Q3	2–7
Not evaluable	368
Missing	16

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Characteristics during the stay - Adult patients

Complications during the stay	N	%
No	490	39.0
Yes	766	61.0
Missing	13	

Failures during the stay	N	%
No	930	73.3
Yes	339	26.7
A: Respiratory failure	130	10.2
B: Cardiovascular failure	109	8.6
C: Neurological failure	34	2.7
D: Hepatic failure	55	4.3
E: Renal failure (AKIN)	170	13.4
F: Acute skin failure	6	0.5
G: Metabolic failure	89	7.0
H: Coagulation failure	41	3.2
Missing	0	

Failures during the stay (top 10)	N	%
E	47	3.7
G	46	3.6
A	43	3.4
B	22	1.7
ABE	20	1.6
AE	12	0.9
AB	11	0.9
BE	11	0.9
D	10	0.8
DE	7	0.6
Missing	0	

Respiratory failure occurred	N	%
None	1126	89.6
Intubation for airway maint.	21	1.7
Hypoxic failure	96	7.6
Hypercapnic failure	22	1.8
Missing	13	

Cardiovascular failure occurred	N	%
None	1147	91.3
Cardiogenic shock	16	1.3
Hypovolemic shock	6	0.5
Haemorrhagic/hypovolemic shock	14	1.1
Septic shock	72	5.7
Anaphylactic shock	1	0.1
Neurogenic shock	0	0.0
Other shock	13	1.0
Missing	13	

Neurological failure occurred	N	%
None	1222	97.3
Cerebral coma	15	1.2
Metabolic coma	15	1.2
Postanoxic coma	4	0.3
Missing	13	

Renal failure occurred (AKIN)	N	%
None	1086	86.5
Mild	25	2.0
Moderate	31	2.5
Severe	114	9.1
Missing	13	

Complications during the stay	N	%
Respiratory	211	16.8
Pleural effusion	102	8.1
Atelectasis	55	4.4
Aspiration pneumonia	44	3.5
Severe ARDS	25	2.0
Pulmonary embolism	23	1.8
Cardiovascular	179	14.3
Acute severe arrhythmia: tachycardias	117	9.3
Acute severe arrhythmia: bradycardias	26	2.1
Pulmonary edema	22	1.8
Deep venous thrombosis	17	1.4
Cardiac arrest	12	1.0
Neurological	235	18.7
Drowsiness/agitation/delirium	169	13.5
CrIMyNe	48	3.8
Brain edema	47	3.7
Intracranial hypertension	23	1.8
Seizures	22	1.8
Gastrointestinal and hepatic	246	19.6
Paralytic Ileus	130	10.4
Liver Dysfunction Syndrome	44	3.5
Anastomotic dehiscence	25	2.0
Intrabdominal bleeding	25	2.0
Ascites	20	1.6
Other	265	21.1
Other disease	150	11.9
Metabolic disorder	89	7.1
Nephrourologic disease	40	3.2
Category/Stage II: Partial Thickness Skin Loss	14	1.1
Other skin and/or soft tissue pathology	11	0.9
Category/Stage I: Nonblanchable Erythema	7	0.6
Category/Stage III: Full Thickness Skin Loss	4	0.3
Infections	389	31.0
Pneumonia	197	15.7
Post-surgical peritonitis	84	6.7
NON-catheter-related UTI	44	3.5
L.R.T.I. other than pneumonia	28	2.2
Post-surgical skin/soft tissue infection	24	1.9
Catheter-related UTI	20	1.6
Other fungal infections	19	1.5
Clinical sepsis	16	1.3
NON-surgical secondary peritonitis	16	1.3
Primary bacteraemia of unknown origin	11	0.9
Missing	13	

National report - Year 2021

Characteristics during the stay - Adult patients

Infections	N	%
None	525	41.8
Only on admission	342	27.3
On admission and during ICU stay	156	12.4
Only during ICU stay	232	18.5
Missing	14	

Maximum severity of infection	N	%
None	525	41.8
INFECTION WITHOUT SEPSIS	327	26.0
SEPSIS	154	12.3
SEPTIC SHOCK	250	19.9
Missing	13	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	525 (69.4%)	155 (20.5%)	49 (6.5%)	28 (3.7%)	757
	INFECTION WITHOUT SEPSIS	-	171 (85.5%)	17 (8.5%)	12 (6.0%)	200
	SEPSIS	-	-	88 (92.6%)	7 (7.4%)	95
	SEPTIC SHOCK	-	-	-	203 (100.0%)	203
	TOT	525	326	154	250	1255

Ventil. Associat. Pneumonia (VAP)	N	%
No	1105	87.2
Yes	162	12.8
Missing	2	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	36.6
CI (95%)	31.2–42.7

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	29.3%
CI (95%)	24.9–34.1

Catheter Bacteraemia (CR-BSI)	N	%
No	1250	99.5
Yes	6	0.5
Missing	13	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.6
CI (95%)	0.2–1.4

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.8%
CI (95%)	0.3–1.6

Catheter-related urinary tract infection (UTI)	N	%
No	1236	98.4
Yes	20	1.6
Missing	13	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	2.1
CI (95%)	1.3–3.2

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	2.5%
CI (95%)	1.5–3.8

National report - Year 2021

Process indicators - Adult patients Procedures and/or treatments (Missing=11) Procedures (antibiotics excluded)	Use		On admission		On discharge		Length (days)		Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Median	Q1-Q3	Missing
	1252	99.5									
Invasive ventilation	650	51.7	509	40.5	201	16	5	1-15	1	0-2	2
Non invasive ventilation	189	15.0	43	3.4	72	5.7	2	1-4	2	0-5	1
Tracheostomy	129	10.3	13	1	101	8	7	2-14	20	12-25	1
iNO (inhaled nitric oxide)	65	5.2	20	1.6	3	0.2	3	2-5	0	0-2	0
Central Venous Catheter	1108	88.1	900	71.5	958	76.2	4	2-11	0	0-0	1
PICC	87	6.9	31	2.5	73	5.8	3	2-7	18	8-26	0
Arterial Catheter	1140	90.6	918	73	493	39.2	4	2-10	0	0-0	1
Vasoactive drugs	905	71.9	695	55.2	101	8	2	1-6	0	0-1	1
Antiarrhythmics	188	14.9	25	2	60	4.8	2	1-5	3	1-6	0
IABP	2	0.2	2	0.2	2	0.2	4	4-5	0		
Invasive monitoring of C.O.	48	3.8	15	1.2	10	0.8	5	1-10	1	0-2	0
Continuous monitoring of ScVO2	8	0.6	4	0.3	0	0	2	1-5	6	4-8	0
Temporary pacing	7	0.6	1	0.1	2	0.2	5	0-10	2	1-4	0
Ventricular assistance	0	0.0									
DC-shock	31	2.5							3	1-6	0
CPR	27	2.1							1	0-4	0
Massive blood transfusion	20	1.6							0	0-1	0
ICP monitoring without CSF drainage	76	6.0	69	5.5	5	0.4	11	6-17	1	0-1	0
ICP monitoring with CSF drainage	19	1.5	8	0.6	5	0.4	12	4-18	2	1-16	0
EVD without ICP monitoring	18	1.4	4	0.3	8	0.6	14	3-22	6	2-8	0
Haemofiltration	8	0.6	2	0.2	3	0.2	4	1-7	10	8-28	0
Haemodialysis	92	7.3	17	1.4	31	2.5	5	1-13	4	1-8	0
ECMO	1	0.1	1	0.1	0	0	50	50-50			
Hepatic clearance techniques	2	0.2									
Clearance techniques during sepsis	7	0.6	1	0.1	1	0.1	1	1-2	0	0-3	0
IAP (intra-abdominal pressure)	148	11.8									
Hypothermia	23	1.8	7	0.6	1	0.1	1	1-2	0	0-1	0
Enteral nutrition	669	53.2	140	11.1	447	35.5	5	2-14	1	1-2	2
Parenteral nutrition	761	60.5	114	9.1	519	41.3	4	2-8	1	1-2	2
SDD (Topical, Topical and systemic)	8	0.6									
Patient restraint	14	1.1									
Peridural catheter	217	17.2	214	17	187	14.9	3	2-4	3	2-5	0
Electrical cardioversion	8	0.6							2	0-14	0
Vacuum therapy	28	2.2									
Urinary catheter	1223	97.2	1116	88.7	1131	89.9	4	2-10	0	0-0	1
Pronation	34	2.7	1	0.1	2	0.2	1	1-2	2	0-4	0
Antivirals	35	2.8	15	1.2	25	2	4	2-12	1	0-3	0

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Process indicators - Adult patients

Procedures and/or treatments (Missing=11)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	1163	92.4										
Antibiotic prophylaxis	513	40.8	435	34.6	148	11.8	1	0-2	1	0	0-0	1
Empirical antibiotic therapy (infection diagnosis confirmed)	470	37.4	273	21.7	98	7.8	3	1-5	0	1	0-3	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	247	19.6	119	9.5	185	14.7	3	1-5	0	1	0-2	0
Targeted antibiotic therapy	471	37.4	83	6.6	304	24.2	6	3-11	3	3	2-6	3
Antifungal in empirical therapy	144	11.4	47	3.7	46	3.7	3	2-7	2	1	0-8	2
Antifungal in targeted therapy	131	10.4	19	1.5	77	6.1	9	4-15	1	5	2-11	1
Pre-emptive antifungal	12	1.0	4	0.3	7	0.6	4	3-7	0	0	0-2	0

Antibiotic therapy

Pt. infected in ICU only (N=232)	N	%
No therapy	8	3.4
Only empirical	77	33.2
Only targeted	16	6.9
Targeted after empirical	99	42.7
Other	32	13.8
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=232)	N	%
No therapy	188	81.0
Only empirical	22	9.5
Only targeted	15	6.5
Targeted after empirical	4	1.7
Other	3	1.3
Missing	0	

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Process indicators - Adult patients

Invasive ventilation (N=650)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	316	47.2	11.0	11.6	7	2–16	0
For airway maintenance	282	42.2	9.0	11.3	4	1–14	1
In weaning	21	3.1	0.7	0.5	1	0–1	0
Not evaluable	50	7.5	10.0	16.1	2	1–11.8	20
Reintubation within 48 hours	21	3.1	7.3	6.7	4	3–11	0

Non invasive ventilation (N=189)	N	%
Non invasive ventilation only	46	24.3
Non invasive ventilation failed	13	6.9
For weaning	87	46.0
Other	43	22.8
Missing	0	

Tracheostomy not present on admission (N=116)	N	%
Surgical	20	17.2
Percutwist	64	55.2
Ciaglia	2	1.7
Monodil. Ciaglia	2	1.7
Fantoni	0	0.0
Griggs	5	4.3
Other Kind	10	8.6
Unknown	12	10.3
Missing	1	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=116)

Mean	18.6
SD	9.3
Median	19
Q1–Q3	11.5–24.5
Missing	1

Invasive monitoring of C.O. (N=48)	N	%
Swan Ganz	6	12.5
PICCO	34	70.8
LIDCO	5	10.4
Vigileo-PRAM	0	0.0
Other	3	6.2
Missing	0	

SDD (N=8)	N	%
Topical	5	62.5
Topical and systemic	3	37.5
Missing	0	

Surgical interventions	N	%
No	1113	88.7
Yes	142	11.3
Missing	14	

Number of surgical interventions	N	%
0	1113	88.7
1	89	7.1
2	24	1.9
3	13	1.0
>3	16	1.3
Missing	14	

Surgical interventions

Days from admission

Mean	8.8
SD	8.3
Median	6
Q1–Q3	3–11
Missing	0

Surgical interventions (top 10)

	N	%
Gastrointestinal surgery	107	8.5
Other surgery	40	3.2
Neurosurgery	35	2.8
Thoracic surgery	16	1.3
Orthopaedic surgery	12	1.0
ENT surgery	11	0.9
Plastic surgery	5	0.4
Hepatic surgery	4	0.3
Thoracic vascular surgery	4	0.3
Pancreatic surgery	3	0.2
Missing	14	

Non surgical interventions

	N	%
No	1197	95.5
Yes	56	4.5
Missing	16	

Non surgical interventions

Days from admission

Mean	12.2
SD	12.0
Median	9
Q1–Q3	5–13
Missing	1

Non surgical interventions

	N	%
Interventional radiology	35	2.8
Interventional endoscopy	32	2.6
Interventional cardiology	4	0.3
Interventional neuroradiology	1	0.1
Missing	16	

National report - Year 2021**Outcome indicators - Adult patients**

ICU outcome	N	%
Dead	179	14.3
Transferred to same hospital	1003	79.9
Transferred to other hospital	65	5.2
Discharged home	8	0.6
Disch. terminally ill	0	0.0
Missing	14	

Transferred to (N=1068)	N	%
Ward	723	67.7
Other ICU	73	6.8
High dependency care unit	272	25.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=73)	N	%
Specialist expertise	16	22.2
Step-up care	2	2.8
Logistical/organizational reasons	31	43.1
Step-down care	23	31.9
Missing	1	

Transferred to Same hospital (N=1003)	N	%
Ward	707	70.5
Other ICU	40	4.0
High dependency care unit	256	25.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=65)	N	%
Ward	16	24.6
Other ICU	33	50.8
High dependency care unit	16	24.6
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	1076	85.7
Dead	179	14.3
Missing	14	

Timing of ICU mortality (N=179)	N	%
Daytime (08:00AM - 07:59PM)	129	72.1
Nighttime (08:00PM - 07:59AM)	50	27.9
Weekdays (Monday - Friday)	140	78.2
Weekend (Saturday - Sunday)	39	21.8
Missing	0	

Hospital mortality *	N	%
Alive	951	78.0
Dead	268	22.0
Missing	25	

Timing of hosp. mortality * (N=268)	N	%
In ICU	175	65.3
Within 24 hours after ICU	3	1.1
24-47 hours after ICU	10	3.7
48-71 hours after ICU	7	2.6
72-95 hours after ICU	5	1.9
After 95 hours after ICU	68	25.4
Missing	0	

Timing of hosp. mortality (days from ICU disch.) * Discharged alive from ICU (N=93)	
Mean	17.5
SD	21.8
Median	9
Q1–Q3	3–24
Missing	0

* Statistics computed on patients admitted in months with % of patients in status 4 over the threshold (readmissions excluded) (N=1244).

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Outcome indicators - Adult patients

Last hospital mortality *	N	%
Alive	934	77.1
Dead	278	22.9
Missing	32	

Readmission from ward	N	%
No	1244	98.0
Yes	25	2.0
Missing	0	

Number of readmissions (N=25)	N	%
1	23	92.0
2	2	8.0
>2	0	0.0
Missing	0	

Timing of readmission (N=25)	N	%
Within 48 hours	3	12.0
48-71 hours	0	0.0
72-95 hours	1	4.0
After 95 hours	21	84.0
Missing	0	

Timing readmission (days)	N	25
Mean	15.2	
SD	26.1	
Median	8.9	
Q1–Q3	4.9–13.5	

ICU stay (days)	Mean	8.5
	SD	11.7
	Median	4
	Q1–Q3	2–10
	Missing	12

ICU stay (days) Alive (N=1076)	Mean	7.7
	SD	11.2
	Median	3
	Q1–Q3	2–9
	Missing	0

ICU stay (days) Dead (N=179)	Mean	12.9
	SD	13.8
	Median	8
	Q1–Q3	2–19
	Missing	0

Stay after ICU (days) * Alive (N=1055)	Mean	14.8
	SD	18.7
	Median	9
	Q1–Q3	4–18
	Missing	14

Hospital stay (days) *	Mean	26.0
	SD	28.8
	Median	16
	Q1–Q3	9–33
	Missing	26

Hospital stay (days) * Alive (N=951)	Mean	26.6
	SD	30.0
	Median	16
	Q1–Q3	9–34
	Missing	1

Hospital stay (days) * Dead (N=268)	Mean	24.2
	SD	23.8
	Median	17
	Q1–Q3	8–31.2
	Missing	0

* Statistics computed on patients admitted in months with % of patients in status 4 over the threshold (readmissions excluded) (N=1244).

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Characteristics on admission - NON COVID patients

Patients (N): 1169

Sex	N	%
Male	758	64.8
Female	411	35.2
Missing	0	

Age (years)	N	%
17-45	159	13.6
46-65	346	29.6
66-75	379	32.4
>75	285	24.4
Missing	0	
Mean	64.3	
SD	16.0	
Median	68	
Q1–Q3	56–75	
Min–Max	17–95	

Body mass Index (BMI)	N	%
Underweight	48	4.1
Normal	452	38.9
Overweight	454	39.0
Obese	209	18.0
Missing	6	

Pregnancy status	N	%
Females (N=411)		
Not fertile	184	44.8
Not pregnant/Unknown	223	54.3
Currently pregnant	1	0.2
Post partum	3	0.7
Missing	0	

Comorbidities	N	%
No	145	12.4
Yes	1024	87.6
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	600	51.3
Any tumour without metastasis	296	25.3
Arrhythmia	208	17.8
NYHA class II-III	159	13.6
Metastatic cancer	159	13.6
Diabetes Type II without insulin tr.	158	13.5
Endocrine-metabolic diseases	130	11.1
Moderate or severe renal disease	126	10.8
Peripheral vascular disease	113	9.7
Moderate COPD	103	8.8
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	6.0	15.1	1	0–5	1

Source of admission	N	%
Same hospital	1093	93.5
Other hospital	75	6.4
Long-term chronic care hospital	1	0.1
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=1168)		
Medical ward	114	9.8
Surgical ward	705	60.4
Emergency room	246	21.1
Other ICU	51	4.4
High dependency care unit	52	4.5
Missing	0	

Reason for transfer from	N	%
Other ICU (N=51)		
Specialist expertise	22	43.1
Step-up care	9	17.6
Logistical/organizational reasons	18	35.3
Step-down care	2	3.9
Missing	0	

Ward of admission	N	%
Same hospital (N=1093)		
Medical ward	109	10.0
Surgical ward	697	63.8
Emergency room	215	19.7
Other ICU	28	2.6
High dependency care unit	44	4.0
Missing	0	

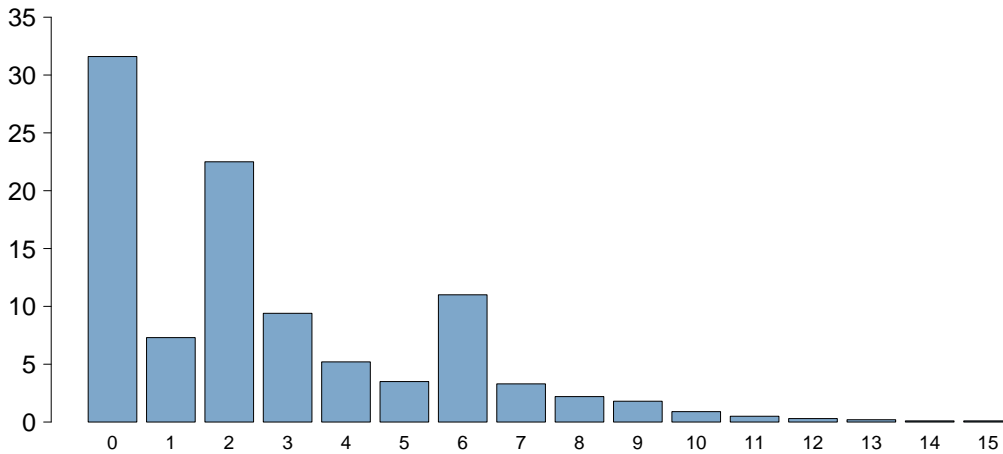
Ward of admission	N	%
Other hospital (N=75)		
Medical ward	5	6.7
Surgical ward	8	10.7
Emergency room	31	41.3
Other ICU	23	30.7
High dependency care unit	8	10.7
Missing	0	

Scheduled admission	N	%
No	791	67.7
Yes	378	32.3
Missing	0	

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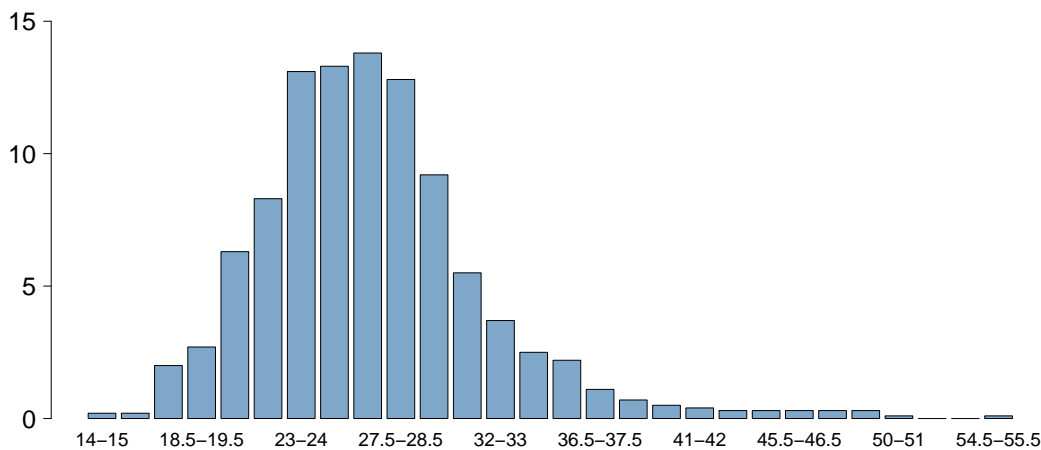
Characteristics on admission - NON COVID patients

Charlson (%)



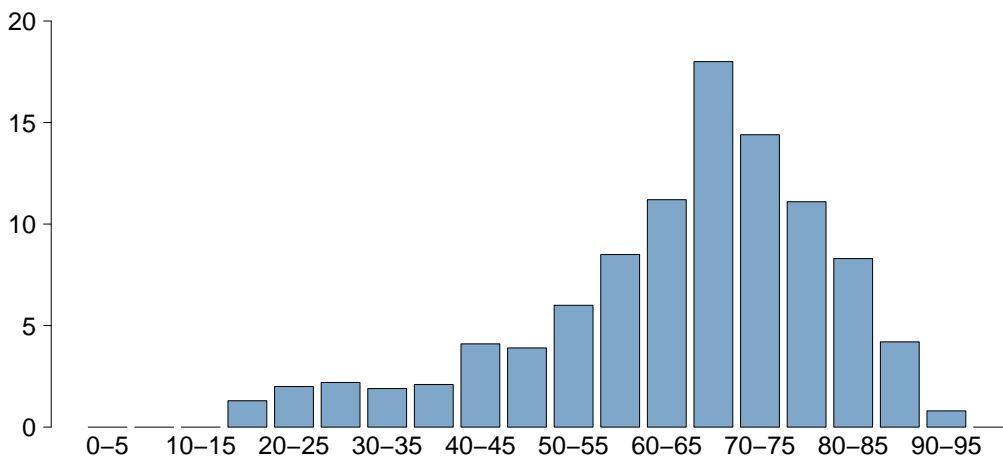
Charlson score	
Mean	2.7
SD	2.8
Median	2
Q1–Q3	0–4
Missing	0

BMI (%)



BMI	
Mean	27.0
SD	5.4
Median	26.3
Q1–Q3	23.7–29.3
Missing	6

Age (%)



Age	
Mean	64.3
SD	16.0
Median	68
Q1–Q3	56–75
Missing	0

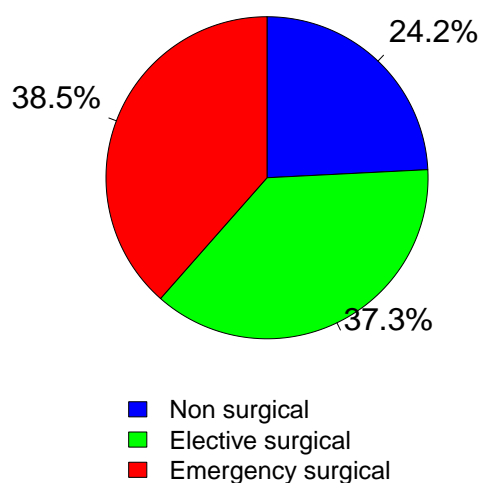
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Characteristics on admission - NON COVID patients

Trauma	N	%
No	928	79.4
Yes	241	20.6
Multiple trauma	85	7.3
Missing	0	

Surgical status	N	%
Non surgical	283	24.2
Elective surgical	436	37.3
Emergency surgical	450	38.5
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=886)		
Operating theatre of surgical ward	582	65.8
Operating theatre of emergency room	116	13.1
Surgical ward	63	7.1
Other	124	14.0
Missing	1	

Surgical interventions (top 10)	N	%
Elective surgical (N=436)		
Gastrointestinal surgery	281	64.4
Other surgery	27	6.2
Nephro/Urological surgery	26	6.0
Gynaecological surgery	24	5.5
Abdominal vascular surgery	23	5.3
Hepatic surgery	21	4.8
Neurosurgery	16	3.7
Peripheral vascular surgery	14	3.2
Thoracic surgery	12	2.8
Organ/s transplantation	12	2.8
Missing	0	

Timing	N	%
Elective surgical (N=436)		
From -7 to -3 days	16	3.7
From -2 to -1 days	14	3.2
On ICU admission day	456	104.6
The day after ICU admission	11	2.5
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=450)		
Gastrointestinal surgery	187	41.6
Neurosurgery	101	22.4
Other surgery	35	7.8
Thoracic surgery	26	5.8
Orthopaedic surgery	24	5.3
Organ/s transplantation	17	3.8
Nephro/Urological surgery	14	3.1
Biliary tract surgery	12	2.7
Hepatic surgery	11	2.4
Abdominal vascular surgery	10	2.2
Missing	13	

Timing	N	%
Emergency surgical (N=450)		
From -7 to -3 days	28	6.2
From -2 to -1 days	59	13.1
On ICU admission day	386	85.8
The day after ICU admission	26	5.8
Missing	3	

Non surgical interventions	N	%
None	1104	94.4
Elective	12	1.0
Emergency	53	4.5
Missing	0	

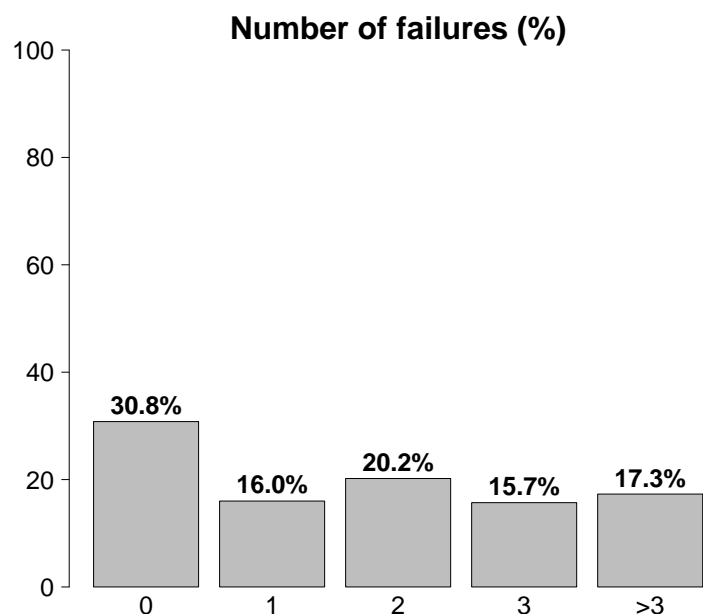
Non surgical interventions	N	%
Elective (N=12)		
Interventional endoscopy	4	33.3
Interventional radiology	2	16.7
Interventional cardiology	1	8.3
Interventional neuroradiology	0	0.0
Missing	5	

Non surgical interventions	N	%
Emergency (N=53)		
Interventional radiology	31	58.5
Interventional endoscopy	12	22.6
Interventional cardiology	3	5.7
Interventional neuroradiology	0	0.0
Missing	7	

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Characteristics on admission - NON COVID patients

Reason for admission	N	%
Monitoring/Weaning	511	43.7
Post surgical weaning	17	1.5
Surgical monitoring	422	36.1
Post interventional weaning	0	0.0
Interventional monitoring	6	0.5
Non surgical monitoring	65	5.6
Missing	1	
Intensive Treatment	655	56.0
Only ventilatory support	121	10.4
Only cardiovascular support	111	9.5
Ventilatory and cardiovascular support	423	36.2
Missing	0	
Palliative Sedation	3	0.3
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	360	30.8
Yes	809	69.2
A: Respiratory failure	544	46.5
B: Cardiovascular failure	534	45.7
C: Neurological failure	89	7.6
D: Hepatic failure	32	2.7
E: Renal failure	475	40.6
F: Acute skin failure	2	0.2
G: Metabolic failure	352	30.1
H: Coagulation failure	51	4.4
Missing	0	

Failures on admission (top 10)	N	%
ABEG	118	10.1
AB	115	9.8
E	83	7.1
ABE	55	4.7
A	47	4.0
BEG	41	3.5
ABG	33	2.8
EG	33	2.8
G	29	2.5
ABC	24	2.1
Missing	0	

Respiratory failure	N	%
None	625	53.5
Only hypoxic failure	187	16.0
Only hypercapnic failure	27	2.3
Hypoxic-hypercapnic failure	48	4.1
Intubation for airway maint.	282	24.1
Missing	0	

Cardiovascular failure	N	%
None	635	54.3
Without shock	213	18.2
Cardiogenic shock	19	1.6
Septic shock	172	14.7
Haemorrhagic/hypovolemic shock	64	5.5
Hypovolemic shock	11	0.9
Anaphylactic shock	4	0.3
Neurogenic shock	5	0.4
Other shock	21	1.8
Mixed shock	25	2.1
Missing	0	

Neurologic failure	N	%
None	869	90.7
Cerebral coma	52	5.4
Metabolic coma	19	2.0
Postanoxic coma	16	1.7
Toxic coma	2	0.2
Missing or not evaluable	211	

Renal failure (AKIN)	N	%
None	692	59.3
Mild	241	20.7
Moderate	141	12.1
Severe	93	8.0
Missing	2	

Metabolic failure	N	%
None	815	69.8
pH \leq 7.3, PaCO ₂ < 45 mmHg	123	10.5
Base deficit \geq 5 mmol/L, lactate > 1.5x	229	19.6
Missing	2	

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Characteristics on admission - NON COVID patients

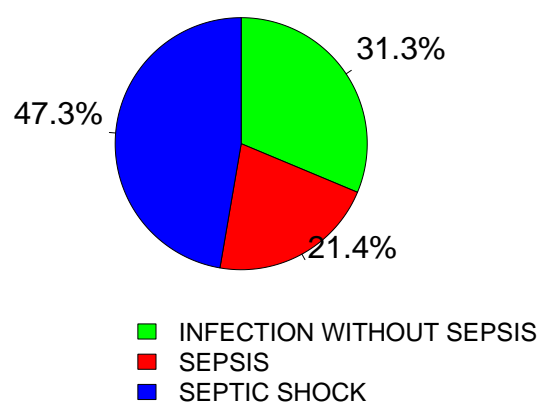
Clinical conditions on admission	N	%
Respiratory	206	17.6
Aspiration pneumonia	66	5.6
Pleural effusion	59	5.0
Atelectasis	24	2.1
Pulmonary embolism	22	1.9
Lung cancer	20	1.7
Cardiovascular	204	17.5
Cardiac arrest	44	3.8
Acute severe arrhythmia: tachycardias	34	2.9
Peripheral vascular disease	33	2.8
Non-ruptured aneurysm	28	2.4
Left heart failure without pulm. edema	27	2.3
Neurological	94	8.0
Seizures	20	1.7
Brain tumour	18	1.5
Neuropathy/myopathy	18	1.5
Metabolic/postanoxic encephalopathy	16	1.4
Non traumatic cerebral oedema	10	0.9
Gastrointestinal and hepatic	505	43.2
Digestive tract malignancy	287	24.6
Gastrointestinal perforation	52	4.4
Intestinal occlusion	47	4.0
Paralytic Ileus	38	3.3
Hepatic malignancy	36	3.1
Trauma (anatomical districts)	241	20.6
Head	161	13.8
Chest	74	6.3
Spine	54	4.6
Pelvis/bone/joint & muscle	45	3.8
Abdomen	37	3.2
Major vessels injury	10	0.9
Miscellaneous	1	0.1
Other	375	32.1
Other disease	196	16.8
Nephrourologic disease	83	7.1
Metabolic disorder	57	4.9
Coagulation disorder	51	4.4
Gynaecological disease	24	2.1
Post transplantation	43	3.7
Liver transplantation	20	1.7
Lung transplantation	15	1.3
Infections	412	35.2
Pneumonia	151	12.9
Post-surgical peritonitis	58	5.0
NON-surgical secondary peritonitis	55	4.7
NON-catheter-related UTI	48	4.1
NON-surgical skin/soft tissue infection	22	1.9
Clinical sepsis	19	1.6
Cholecystitis/cholangitis	17	1.5
Catheter-related UTI	16	1.4
Post-surgical skin/soft tissue infection	14	1.2
Tertiary peritonitis	13	1.1
Missing	0	

Trauma (anatomical districts)	N	%
Head	161	13.8
Traumatic subarachnoid haemorrhage	99	8.5
Traumatic Subdural haematoma	98	8.4
Skull fracture	78	6.7
Cerebral contusion/laceration	74	6.3
Maxillofacial fracture	74	6.3
Spine	54	4.6
Vertebral fracture, without deficit	33	2.8
Cervical injury, incomplete deficit	6	0.5
Tetraplegia	5	0.4
Chest	74	6.3
Traum. haemothorax/pneumothorax	42	3.6
Other injuries of the chest	42	3.6
Severe lung contusion/laceration	20	1.7
Abdomen	37	3.2
Minor injuries of the abdomen	12	1.0
Spleen: Moderate-Severe laceration	11	0.9
Liver: Moderate-Severe laceration	9	0.8
Pelvis/bone/joint & muscle	45	3.8
Long bone fracture	31	2.7
Multiple fracture of the pelvis	17	1.5
Very severe or open fracture of the pelvis	4	0.3
Major vessels injury	10	0.9
Proximal limbs vessels: transection	4	0.3
Neck vessels: dissection/transection	3	0.3
Major abdominal vessels: transection	2	0.2
Miscellaneous	1	0.1
Inhalation injury	1	0.1
Burns (>30% BSA)	1	0.1
Missing	0	

Infection severity on admission	N	%
None	757	64.8
INFECTION WITHOUT SEPSIS	129	11.0
SEPSIS	88	7.5
SEPTIC SHOCK	195	16.7
Missing	0	

Infection severity on admission

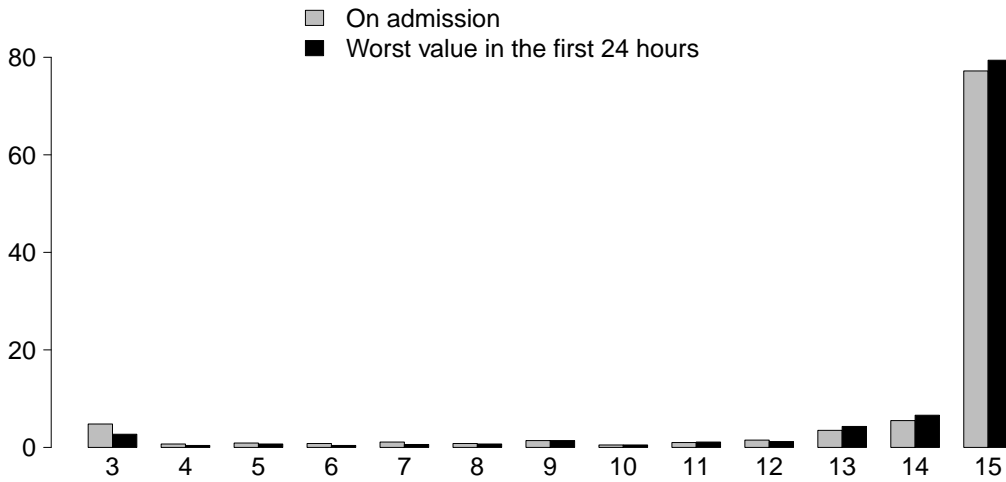
Patients infected (N=412)



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Severity scores - NON COVID patients

Glasgow Coma Scale (%)



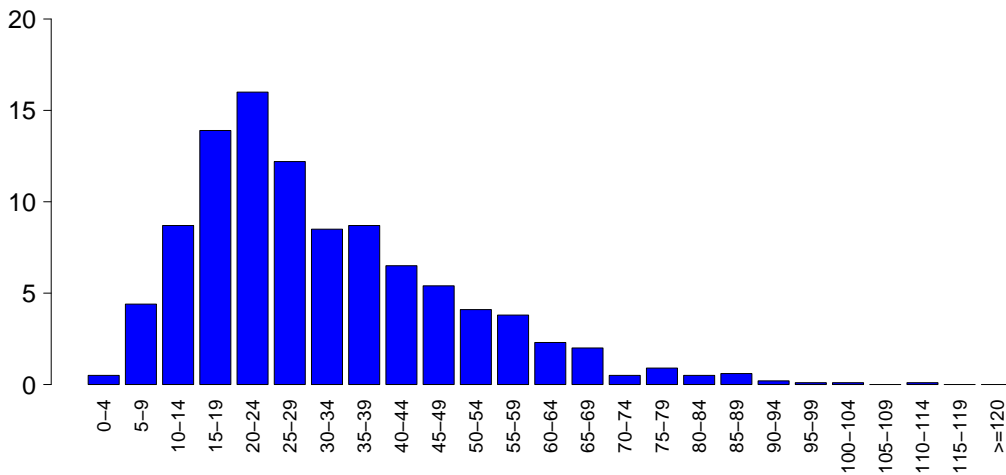
GCS (admission)

Median	15
Q1–Q3	15–15
Not evaluable	209
Missing	2

GCS (worst in first 24 hours)

Median	15
Q1–Q3	15–15
Not evaluable	353
Missing	2

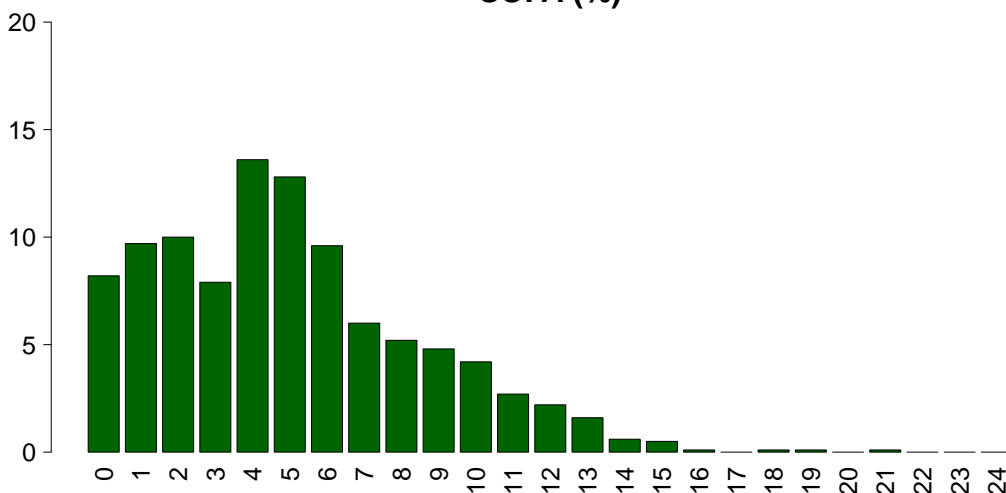
SAPS II (%)



SAPSII

Mean	31.3
SD	17.5
Median	27
Q1–Q3	18.2–41
Not evaluable	353
Missing	2

SOFA (%)



SOFA

Mean	5.0
SD	3.5
Median	5
Q1–Q3	2–7
Not evaluable	353
Missing	2

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Characteristics during the stay - NON COVID patients

Complications during the stay	N	%
No	470	40.2
Yes	699	59.8
Missing	0	

Failures during the stay	N	%
No	872	74.6
Yes	297	25.4
A: Respiratory failure	102	8.7
B: Cardiovascular failure	95	8.1
C: Neurological failure	33	2.8
D: Hepatic failure	52	4.4
E: Renal failure (AKIN)	153	13.1
F: Acute skin failure	4	0.3
G: Metabolic failure	81	6.9
H: Coagulation failure	32	2.7
Missing	0	

Failures during the stay (top 10)	N	%
E	46	3.9
G	41	3.5
A	30	2.6
B	20	1.7
ABE	15	1.3
AE	12	1.0
BE	11	0.9
D	10	0.9
AB	8	0.7
DG	7	0.6
Missing	0	

Respiratory failure occurred	N	%
None	1067	91.3
Intubation for airway maint.	20	1.7
Hypoxic failure	70	6.0
Hypercapnic failure	20	1.7
Missing	0	

Cardiovascular failure occurred	N	%
None	1074	91.9
Cardiogenic shock	13	1.1
Hypovolemic shock	6	0.5
Haemorrhagic/hypovolemic shock	14	1.2
Septic shock	64	5.5
Anaphylactic shock	1	0.1
Neurogenic shock	0	0.0
Other shock	9	0.8
Missing	0	

Neurological failure occurred	N	%
None	1136	97.2
Cerebral coma	15	1.3
Metabolic coma	14	1.2
Postanoxic coma	4	0.3
Missing	0	

Renal failure occurred (AKIN)	N	%
None	1016	86.9
Mild	24	2.1
Moderate	26	2.2
Severe	103	8.8
Missing	0	

Complications during the stay	N	%
Respiratory	192	16.4
Pleural effusion	92	7.9
Atelectasis	46	3.9
Aspiration pneumonia	44	3.8
Severe ARDS	22	1.9
Pulmonary embolism	21	1.8
Cardiovascular	165	14.1
Acute severe arrhythmia: tachycardias	107	9.2
Acute severe arrhythmia: bradycardias	26	2.2
Pulmonary edema	21	1.8
Deep venous thrombosis	13	1.1
Cardiac arrest	10	0.9
Neurological	205	17.5
Drowsiness/agitation/delirium	141	12.1
Brain edema	47	4.0
CriMyNe	28	2.4
Intracranial hypertension	23	2.0
Seizures	20	1.7
Gastrointestinal and hepatic	235	20.1
Paralytic Ileus	123	10.5
Liver Dysfunction Syndrome	41	3.5
Anastomotic dehiscence	25	2.1
Intrabdominal bleeding	25	2.1
Ascites	20	1.7
Other	254	21.7
Other disease	146	12.5
Metabolic disorder	81	6.9
Nephrourologic disease	40	3.4
Category/Stage II: Partial Thickness Skin Loss	14	1.2
Other skin and/or soft tissue pathology	11	0.9
Category/Stage I: Nonblanchable Erythema	6	0.5
Category/Stage III: Full Thickness Skin Loss	4	0.3
Infections	343	29.3
Pneumonia	167	14.3
Post-surgical peritonitis	83	7.1
NON-catheter-related UTI	42	3.6
Post-surgical skin/soft tissue infection	24	2.1
L.R.T.I. other than pneumonia	23	2.0
Other fungal infections	19	1.6
NON-surgical secondary peritonitis	16	1.4
Clinical sepsis	12	1.0
Primary bacteraemia of unknown origin	9	0.8
NON-surgical skin/soft tissue infection	9	0.8
Missing	0	

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Characteristics during the stay - NON COVID patients

Infections	N	%
None	525	44.9
Only on admission	301	25.7
On admission and during ICU stay	111	9.5
Only during ICU stay	232	19.8
Missing	0	

Maximum severity of infection	N	%
None	525	44.9
INFECTION WITHOUT SEPSIS	267	22.8
SEPSIS	142	12.1
SEPTIC SHOCK	235	20.1
Missing	0	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	525 (69.4%)	155 (20.5%)	49 (6.5%)	28 (3.7%)	757
	INFECTION WITHOUT SEPSIS	-	112 (86.8%)	11 (8.5%)	6 (4.7%)	129
	SEPSIS	-	-	82 (93.2%)	6 (6.8%)	88
	SEPTIC SHOCK	-	-	-	195 (100.0%)	195
	TOT	525	267	142	235	1169

Ventil. Associat. Pneumonia (VAP)	N	%
No	1030	88.1
Yes	139	11.9
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	36.6
CI (95%)	30.7–43.2

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	29.2%
CI (95%)	24.6–34.5

Catheter Bacteraemia (CR-BSI)	N	%
No	1165	99.7
Yes	4	0.3
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.5
CI (95%)	0.1–1.2

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.6%
CI (95%)	0.1–1.4

Catheter-related urinary tract infection (UTI)	N	%
No	1160	99.2
Yes	9	0.8
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	1.0
CI (95%)	0.5–2.0

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.3%
CI (95%)	0.6–2.4

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Process indicators - NON COVID patients Procedures and/or treatments (Missing=1) Procedures (antibiotics excluded)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
	1162	99.5										
Invasive ventilation	587	50.3	484	41.4	172	14.7	5	1-14	1	0	0-2	1
Non invasive ventilation	141	12.1	26	2.2	62	5.3	1	1-3	1	3	1-6	1
Tracheostomy	115	9.8	10	0.9	90	7.7	6	2-16	0	19	12-25	0
iNO (inhaled nitric oxide)	64	5.5	20	1.7	3	0.3	3	2-5	0	0	0-2	0
Central Venous Catheter	1034	88.5	868	74.3	898	76.9	4	2-10	1	0	0-0	1
PICC	83	7.1	29	2.5	71	6.1	3	2-8	0	18	9-26	0
Arterial Catheter	1051	90.0	879	75.3	442	37.8	4	2-10	1	0	0-0	1
Vasoactive drugs	850	72.8	678	58	88	7.5	2	1-6	1	0	0-0	1
Antiarrhythmics	175	15.0	25	2.1	60	5.1	2	1-5	0	3	1-6	0
IABP	2	0.2	2	0.2	2	0.2	4	4-5	0			
Invasive monitoring of C.O.	47	4.0	14	1.2	10	0.9	5	1-10	0	1	0-2	0
Continuous monitoring of ScVO2	8	0.7	4	0.3	0	0	2	1-5	0	6	4-8	0
Temporary pacing	7	0.6	1	0.1	2	0.2	5	0-10	0	2	1-4	0
Ventricular assistance	0	0.0										
DC-shock	27	2.3								3	1-6	0
CPR	26	2.2								1	0-4	0
Massive blood transfusion	20	1.7								0	0-1	0
ICP monitoring without CSF drainage	75	6.4	68	5.8	5	0.4	11	6-18	0	1	0-1	0
ICP monitoring with CSF drainage	19	1.6	8	0.7	5	0.4	12	4-18	0	2	1-16	0
EVD without ICP monitoring	18	1.5	4	0.3	8	0.7	14	3-22	0	6	2-8	0
Haemofiltration	8	0.7	2	0.2	3	0.3	4	1-7	0	10	8-28	0
Haemodialysis	85	7.3	16	1.4	25	2.1	5	1-12	0	4	1-7	0
ECMO	1	0.1	1	0.1	0	0	50	50-50	0			
Hepatic clearance techniques	2	0.2										
Clearance techniques during sepsis	7	0.6	1	0.1	1	0.1	1	1-2	0	0	0-3	0
IAP (intra-abdominal pressure)	147	12.6										
Hypothermia	23	2.0	7	0.6	1	0.1	1	1-2	0	0	0-1	0
Enteral nutrition	601	51.5	130	11.1	405	34.7	4	2-13	1	1	1-2	1
Parenteral nutrition	726	62.2	111	9.5	507	43.4	4	2-8	1	1	1-2	1
SDD (Topical, Topical and systemic)	8	0.7										
Patient restraint	10	0.9										
Peridural catheter	217	18.6	214	18.3	187	16	3	2-4	0	3	2-5	0
Electrical cardioversion	8	0.7								2	0-14	0
Vacuum therapy	27	2.3										
Urinary catheter	1133	97.0	1058	90.6	1045	89.5	4	2-9	1	0	0-0	1
Pronation	5	0.4	1	0.1	1	0.1	2	1-2	0	8	3-18	0
Antivirals	33	2.8	13	1.1	24	2.1	4	2-12	0	1	0-3	0

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Process indicators - NON COVID patients

Procedures and/or treatments (Missing=1)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	1089	93.2										
Antibiotic prophylaxis	508	43.5	433	37.1	147	12.6	1	0-2	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	424	36.3	256	21.9	82	7	2	1-5	0	1	0-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	234	20.0	113	9.7	179	15.3	3	1-5	0	1	0-2	0
Targeted antibiotic therapy	426	36.5	76	6.5	279	23.9	6	3-12	1	3	2-6	1
Antifungal in empirical therapy	135	11.6	47	4	41	3.5	3	2-7	1	1	0-3	1
Antifungal in targeted therapy	125	10.7	18	1.5	76	6.5	9	4-15	0	5	2-11	0
Pre-emptive antifungal	12	1.0	4	0.3	7	0.6	4	3-7	0	0	0-2	0

Antibiotic therapy

Pt. infected in ICU only (N=232)	N	%
No therapy	8	3.4
Only empirical	77	33.2
Only targeted	16	6.9
Targeted after empirical	99	42.7
Other	32	13.8
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=232)	N	%
No therapy	188	81.0
Only empirical	22	9.5
Only targeted	15	6.5
Targeted after empirical	4	1.7
Other	3	1.3
Missing	0	

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Process indicators - NON COVID patients

Invasive ventilation (N=587)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	263	43.7	10.6	12.2	6	2–15	0
For airway maintenance	278	46.2	9.0	11.3	4	1–13	0
In weaning	20	3.3	0.6	0.5	1	0–1	0
Not evaluable	41	6.8	9.6	17.1	1	1–8	16
Reintubation within 48 hours	18	3.0	7.2	7.0	4	3–10	0

Non invasive ventilation (N=141)	N	%
Non invasive ventilation only	30	21.3
Non invasive ventilation failed	11	7.8
For weaning	81	57.4
Other	19	13.5
Missing	0	

Tracheostomy not present on admission (N=105)	N	%
Surgical	15	14.3
Percutwist	63	60.0
Ciaglia	1	1.0
Monodil. Ciaglia	2	1.9
Fantoni	0	0.0
Griggs	3	2.9
Other Kind	9	8.6
Unknown	12	11.4
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=105)

Mean	18.6
SD	9.0
Median	19
Q1–Q3	12–25
Missing	0

Invasive monitoring of C.O. (N=47)	N	%
Swan Ganz	5	10.6
PICCO	34	72.3
LIDCO	5	10.6
Vigileo-PRAM	0	0.0
Other	3	6.4
Missing	0	

SDD (N=8)	N	%
Topical	5	62.5
Topical and systemic	3	37.5
Missing	0	

Surgical interventions	N	%
No	1027	88.0
Yes	140	12.0
Missing	2	

Number of surgical interventions	N	%
0	1027	88.0
1	87	7.5
2	24	2.1
3	13	1.1
>3	16	1.4
Missing	2	

Surgical interventions

Days from admission

Mean	8.7
SD	8.2
Median	6
Q1–Q3	3–11
Missing	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	106	9.1
Other surgery	39	3.3
Neurosurgery	35	3.0
Thoracic surgery	16	1.4
Orthopaedic surgery	12	1.0
ENT surgery	11	0.9
Plastic surgery	5	0.4
Hepatic surgery	4	0.3
Thoracic vascular surgery	4	0.3
Pancreatic surgery	3	0.3
Missing	2	

Non surgical interventions	N	%
No	1112	95.3
Yes	55	4.7
Missing	2	

Non surgical interventions

Days from admission

Mean	12.3
SD	12.0
Median	9
Q1–Q3	5–13
Missing	1

Non surgical interventions	N	%
Interventional radiology	35	3.0
Interventional endoscopy	32	2.7
Interventional cardiology	4	0.3
Interventional neuroradiology	0	0.0
Missing	2	

National report - Year 2021**Outcome indicators - NON COVID patients**

ICU outcome	N	%
Dead	161	13.8
Transferred to same hospital	942	80.8
Transferred to other hospital	55	4.7
Discharged home	8	0.7
Disch. terminally ill	0	0.0
Missing	3	

Transferred to (N=997)	N	%
Ward	675	67.7
Other ICU	55	5.5
High dependency care unit	267	26.8
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=55)	N	%
Specialist expertise	11	20.0
Step-up care	0	0.0
Logistical/organizational reasons	21	38.2
Step-down care	23	41.8
Missing	0	

Transferred to Same hospital (N=942)	N	%
Ward	662	70.3
Other ICU	28	3.0
High dependency care unit	252	26.8
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=55)	N	%
Ward	13	23.6
Other ICU	27	49.1
High dependency care unit	15	27.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	1005	86.2
Dead	161	13.8
Missing	3	

Timing of ICU mortality (N=161)	N	%
Daytime (08:00AM - 07:59PM)	117	72.7
Nighttime (08:00PM - 07:59AM)	44	27.3
Weekdays (Monday - Friday)	125	77.6
Weekend (Saturday - Sunday)	36	22.4
Missing	0	

Hospital mortality *	N	%
Alive	889	78.4
Dead	245	21.6
Missing	10	

Timing of hosp. mortality * (N=245)	N	%
In ICU	157	64.1
Within 24 hours after ICU	2	0.8
24-47 hours after ICU	9	3.7
48-71 hours after ICU	7	2.9
72-95 hours after ICU	5	2.0
After 95 hours after ICU	65	26.5
Missing	0	

Timing of hosp. mortality (days from ICU disch.) * Discharged alive from ICU (N=88)		
Mean		17.9
SD		22.2
Median		9
Q1–Q3		3–24.5
Missing		0

* Statistics computed on patients admitted in months with % of patients in status 4 over the threshold (readmissions excluded) (N=1144).

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Outcome indicators - NON COVID patients

Last hospital mortality *	N	%
Alive	874	77.5
Dead	254	22.5
Missing	16	

Readmission from ward	N	%
No	1144	97.9
Yes	25	2.1
Missing	0	

Number of readmissions (N=25)	N	%
1	23	92.0
2	2	8.0
>2	0	0.0
Missing	0	

Timing of readmission (N=25)	N	%
Within 48 hours	3	12.0
48-71 hours	0	0.0
72-95 hours	1	4.0
After 95 hours	21	84.0
Missing	0	

Timing readmission (days)	N	25
Mean	15.2	
SD	26.1	
Median	8.9	
Q1–Q3	4.9–13.5	

ICU stay (days)	Mean	7.9
	SD	11.6
	Median	3
	Q1–Q3	2–9
	Missing	1

ICU stay (days) Alive (N=1005)	Mean	7.3
	SD	11.0
	Median	3
	Q1–Q3	2–7
	Missing	0

ICU stay (days) Dead (N=161)	Mean	12.1
	SD	14.1
	Median	6
	Q1–Q3	2–17
	Missing	0

Stay after ICU (days) * Alive (N=984)	Mean	14.7
	SD	18.7
	Median	8
	Q1–Q3	4–18
	Missing	10

Hospital stay (days) *	Mean	25.4
	SD	28.5
	Median	16
	Q1–Q3	8–31
	Missing	11

Hospital stay (days) * Alive (N=889)	Mean	25.7
	SD	29.5
	Median	16
	Q1–Q3	9–31
	Missing	1

Hospital stay (days) * Dead (N=245)	Mean	24.3
	SD	24.6
	Median	17
	Q1–Q3	7–33
	Missing	0

* Statistics computed on patients admitted in months with % of patients in status 4 over the threshold (readmissions excluded) (N=1144).

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Characteristics on admission - NON COVID adult patients evaluated in the GiViTI model

Patients (N): 1113

Sex	N	%
Male	720	64.7
Female	393	35.3
Missing	0	

Age (years)	N	%
17-45	147	13.2
46-65	333	29.9
66-75	362	32.5
>75	271	24.3
Missing	0	
Mean	64.3	
SD	16.0	
Median	67	
Q1–Q3	57–75	
Min–Max	17–95	

Body mass Index (BMI)	N	%
Underweight	46	4.1
Normal	431	38.7
Overweight	435	39.1
Obese	201	18.1
Missing	0	

Pregnancy status	N	%
Females (N=393)		
Not fertile	177	45.0
Not pregnant/Unknown	212	53.9
Currently pregnant	1	0.3
Post partum	3	0.8
Missing	0	

Comorbidities	N	%
No	136	12.2
Yes	977	87.8
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	574	51.6
Any tumour without metastasis	286	25.7
Arrhythmia	199	17.9
Metastatic cancer	152	13.7
NYHA class II-III	151	13.6
Diabetes Type II without insulin tr.	149	13.4
Moderate or severe renal disease	120	10.8
Endocrine-metabolic diseases	117	10.5
Peripheral vascular disease	109	9.8
Moderate COPD	95	8.5
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	5.5	14.2	1	0–4	0

Source of admission	N	%
Same hospital	1041	93.5
Other hospital	72	6.5
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=1113)		
Medical ward	105	9.4
Surgical ward	682	61.3
Emergency room	235	21.1
Other ICU	48	4.3
High dependency care unit	43	3.9
Missing	0	

Reason for transfer from	N	%
Other ICU (N=48)		
Specialist expertise	19	39.6
Step-up care	9	18.8
Logistical/organizational reasons	18	37.5
Step-down care	2	4.2
Missing	0	

Ward of admission	N	%
Same hospital (N=1041)		
Medical ward	100	9.6
Surgical ward	675	64.8
Emergency room	205	19.7
Other ICU	26	2.5
High dependency care unit	35	3.4
Missing	0	

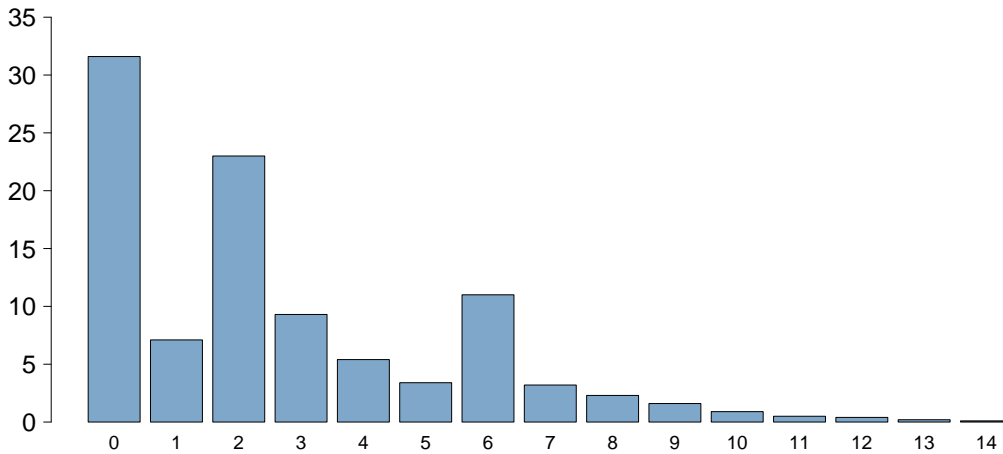
Ward of admission	N	%
Other hospital (N=72)		
Medical ward	5	6.9
Surgical ward	7	9.7
Emergency room	30	41.7
Other ICU	22	30.6
High dependency care unit	8	11.1
Missing	0	

Scheduled admission	N	%
No	739	66.4
Yes	374	33.6
Missing	0	

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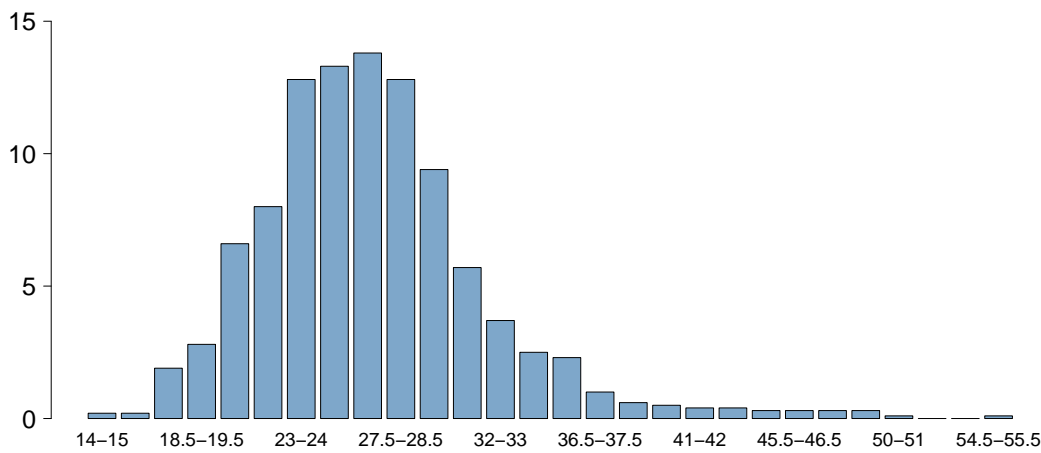
Characteristics on admission - NON COVID adult patients evaluated in the GiViTI model

Charlson (%)



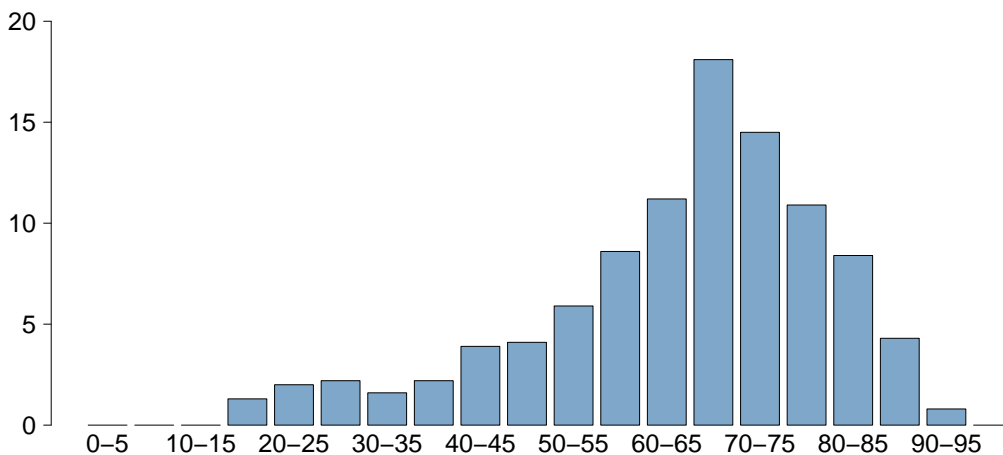
Charlson score	
Mean	2.6
SD	2.7
Median	2
Q1–Q3	0–4
Missing	0

BMI (%)



BMI	
Mean	27.0
SD	5.4
Median	26.4
Q1–Q3	23.7–29.3
Missing	0

Age (%)



Age	
Mean	64.3
SD	16.0
Median	67
Q1–Q3	57–75
Missing	0

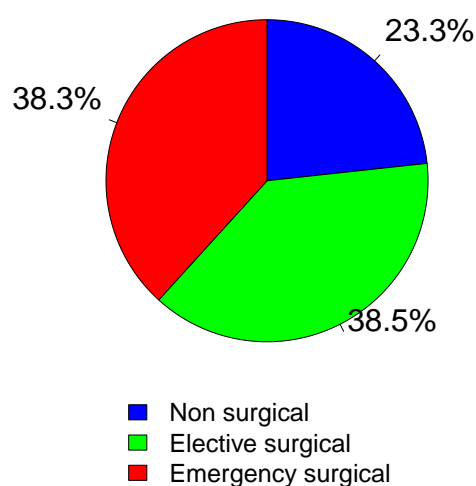
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Characteristics on admission - NON COVID adult patients evaluated in the GiViTI model

Trauma	N	%
No	886	79.6
Yes	227	20.4
Multiple trauma	79	7.1
Missing	0	

Surgical status	N	%
Non surgical	259	23.3
Elective surgical	428	38.5
Emergency surgical	426	38.3
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=854)		
Operating theatre of surgical ward	571	66.9
Operating theatre of emergency room	110	12.9
Surgical ward	59	6.9
Other	114	13.3
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=428)		
Gastrointestinal surgery	279	65.2
Nephro/Urological surgery	26	6.1
Other surgery	26	6.1
Gynaecological surgery	24	5.6
Abdominal vascular surgery	23	5.4
Hepatic surgery	20	4.7
Neurosurgery	15	3.5
Peripheral vascular surgery	14	3.3
Organ/s transplantation	11	2.6
Thoracic surgery	10	2.3
Missing	0	

Timing	N	%
Elective surgical (N=428)		
From -7 to -3 days	13	3.0
From -2 to -1 days	13	3.0
On ICU admission day	452	105.6
The day after ICU admission	9	2.1
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=426)		
Gastrointestinal surgery	180	42.3
Neurosurgery	94	22.1
Other surgery	33	7.7
Orthopaedic surgery	24	5.6
Thoracic surgery	24	5.6
Organ/s transplantation	15	3.5
Nephro/Urological surgery	13	3.1
Biliary tract surgery	12	2.8
Hepatic surgery	10	2.3
Abdominal vascular surgery	9	2.1
Missing	12	

Timing	N	%
Emergency surgical (N=426)		
From -7 to -3 days	26	6.1
From -2 to -1 days	54	12.7
On ICU admission day	365	85.7
The day after ICU admission	25	5.9
Missing	2	

Non surgical interventions	N	%
None	1050	94.3
Elective	12	1.1
Emergency	51	4.6
Missing	0	

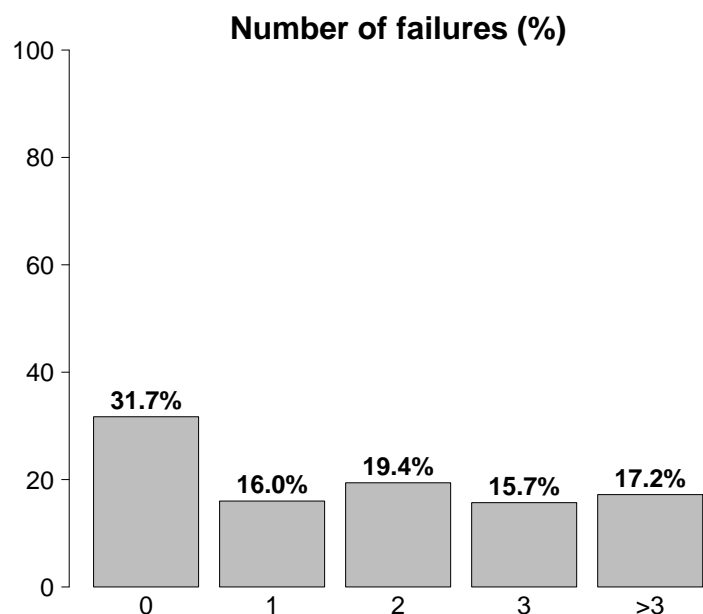
Non surgical interventions	N	%
Elective (N=12)		
Interventional endoscopy	4	33.3
Interventional radiology	2	16.7
Interventional cardiology	1	8.3
Interventional neuroradiology	0	0.0
Missing	5	

Non surgical interventions	N	%
Emergency (N=51)		
Interventional radiology	29	56.9
Interventional endoscopy	12	23.5
Interventional cardiology	3	5.9
Interventional neuroradiology	0	0.0
Missing	7	

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Characteristics on admission - NON COVID adult patients evaluated in the GiViTI model

Reason for admission	N	%
Monitoring/Weaning	501	45.0
Post surgical weaning	17	1.5
Surgical monitoring	415	37.3
Post interventional weaning	0	0.0
Interventional monitoring	6	0.5
Non surgical monitoring	63	5.7
Missing	0	
Intensive Treatment	612	55.0
Only ventilatory support	115	10.3
Only cardiovascular support	103	9.3
Ventilatory and cardiovascular support	394	35.4
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	353	31.7
Yes	760	68.3
A: Respiratory failure	509	45.7
B: Cardiovascular failure	497	44.7
C: Neurological failure	84	7.5
D: Hepatic failure	29	2.6
E: Renal failure	450	40.4
F: Acute skin failure	2	0.2
G: Metabolic failure	336	30.2
H: Coagulation failure	48	4.3
Missing	0	

Failures on admission (top 10)	N	%
ABEG	113	10.2
AB	103	9.3
E	82	7.4
ABE	50	4.5
A	45	4.0
BEG	40	3.6
ABG	32	2.9
EG	32	2.9
G	26	2.3
ABC	23	2.1
Missing	0	

Respiratory failure	N	%
None	604	54.3
Only hypoxic failure	171	15.4
Only hypercapnic failure	25	2.2
Hypoxic-hypercapnic failure	41	3.7
Intubation for airway maint.	272	24.4
Missing	0	

Cardiovascular failure	N	%
None	616	55.3
Without shock	197	17.7
Cardiogenic shock	19	1.7
Septic shock	158	14.2
Haemorrhagic/hypovolemic shock	62	5.6
Hypovolemic shock	10	0.9
Anaphylactic shock	4	0.4
Neurogenic shock	5	0.4
Other shock	20	1.8
Mixed shock	22	2.0
Missing	0	

Neurologic failure	N	%
None	836	90.9
Cerebral coma	48	5.2
Metabolic coma	19	2.1
Postanoxic coma	15	1.6
Toxic coma	2	0.2
Missing or not evaluable	193	

Renal failure (AKIN)	N	%
None	663	59.6
Mild	229	20.6
Moderate	133	11.9
Severe	88	7.9
Missing	0	

Metabolic failure	N	%
None	777	69.8
pH ≤ 7.3, PaCO ₂ < 45 mmHg	119	10.7
Base deficit ≥ 5 mmol/L, lactate > 1.5x	217	19.5
Missing	0	

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Characteristics on admission - NON COVID adult patients evaluated in the GiViTI model

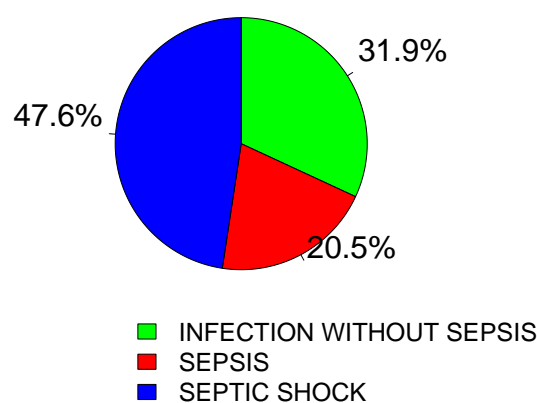
Clinical conditions on admission	N	%
Respiratory	186	16.7
Aspiration pneumonia	59	5.3
Pleural effusion	52	4.7
Atelectasis	22	2.0
Pulmonary embolism	20	1.8
Lung cancer	19	1.7
Cardiovascular	188	16.9
Cardiac arrest	41	3.7
Peripheral vascular disease	32	2.9
Acute severe arrhythmia: tachycardias	30	2.7
Left heart failure without pulm. edema	26	2.3
Non-ruptured aneurysm	26	2.3
Neurological	90	8.1
Seizures	19	1.7
Brain tumour	18	1.6
Neuropathy/myopathy	17	1.5
Metabolic/postanoxic encephalopathy	15	1.3
Non traumatic cerebral oedema	10	0.9
Gastrointestinal and hepatic	486	43.7
Digestive tract malignancy	284	25.5
Gastrointestinal perforation	49	4.4
Intestinal occlusion	45	4.0
Hepatic malignancy	35	3.1
Paralytic Ileus	34	3.1
Trauma (anatomical districts)	227	20.4
Head	150	13.5
Chest	70	6.3
Spine	51	4.6
Pelvis/bone/joint & muscle	43	3.9
Abdomen	36	3.2
Major vessels injury	10	0.9
-	0	0.0
Other	357	32.1
Other disease	188	16.9
Nephrourologic disease	75	6.7
Metabolic disorder	52	4.7
Coagulation disorder	48	4.3
Gynaecological disease	24	2.2
Post transplantation	38	3.4
Liver transplantation	19	1.7
Lung transplantation	11	1.0
Infections	376	33.8
Pneumonia	129	11.6
Post-surgical peritonitis	55	4.9
NON-surgical secondary peritonitis	53	4.8
NON-catheter-related UTI	43	3.9
Clinical sepsis	19	1.7
NON-surgical skin/soft tissue infection	18	1.6
Cholecystitis/choolangitis	17	1.5
Catheter-related UTI	16	1.4
Post-surgical skin/soft tissue infection	13	1.2
Other fungal infections	12	1.1
Missing	0	

Trauma (anatomical districts)	N	%
Head	150	13.5
Traumatic Subdural haematoma	93	8.4
Traumatic subarachnoid haemorrhage	90	8.1
Skull fracture	71	6.4
Maxillofacial fracture	71	6.4
Cerebral contusion/laceration	69	6.2
Spine	51	4.6
Vertebral fracture, without deficit	32	2.9
Cervical injury, incomplete deficit	5	0.4
Tetraplegia	4	0.4
Chest	70	6.3
Traum. haemothorax/pneumothorax	41	3.7
Other injuries of the chest	40	3.6
Severe lung contusion/laceration	18	1.6
Abdomen	36	3.2
Minor injuries of the abdomen	12	1.1
Spleen: Moderate-Severe laceration	11	1.0
Liver: Moderate-Severe laceration	9	0.8
Pelvis/bone/joint & muscle	43	3.9
Long bone fracture	29	2.6
Multiple fracture of the pelvis	17	1.5
Very severe or open fracture of the pelvis	4	0.4
Major vessels injury	10	0.9
Proximal limbs vessels: transection	4	0.4
Neck vessels: dissection/transection	3	0.3
Major abdominal vessels: transection	2	0.2
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	737	66.2
INFECTION WITHOUT SEPSIS	120	10.8
SEPSIS	77	6.9
SEPTIC SHOCK	179	16.1
Missing	0	

Infection severity on admission

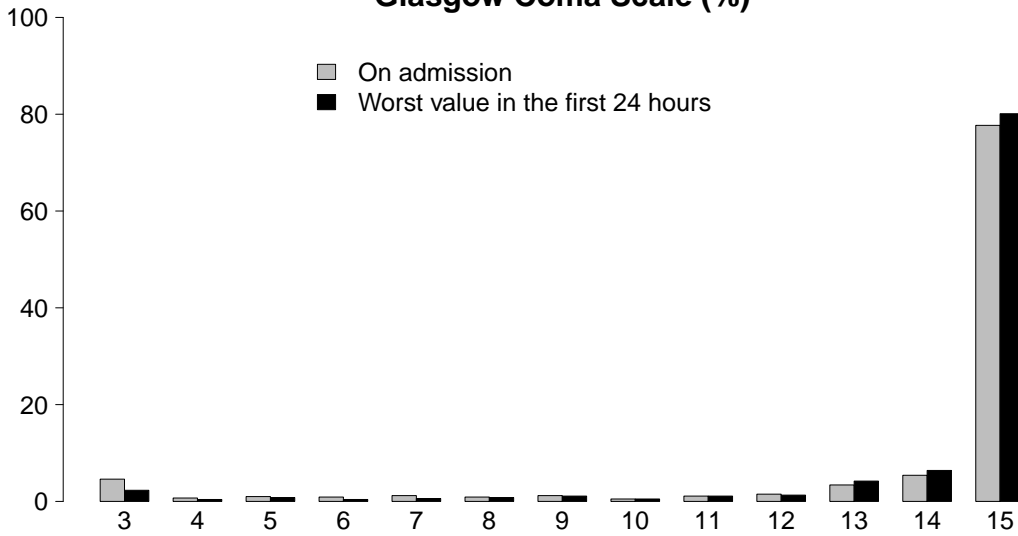
Patients infected (N=376)



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Severity scores - NON COVID adult patients evaluated in the GiViTI model

Glasgow Coma Scale (%)



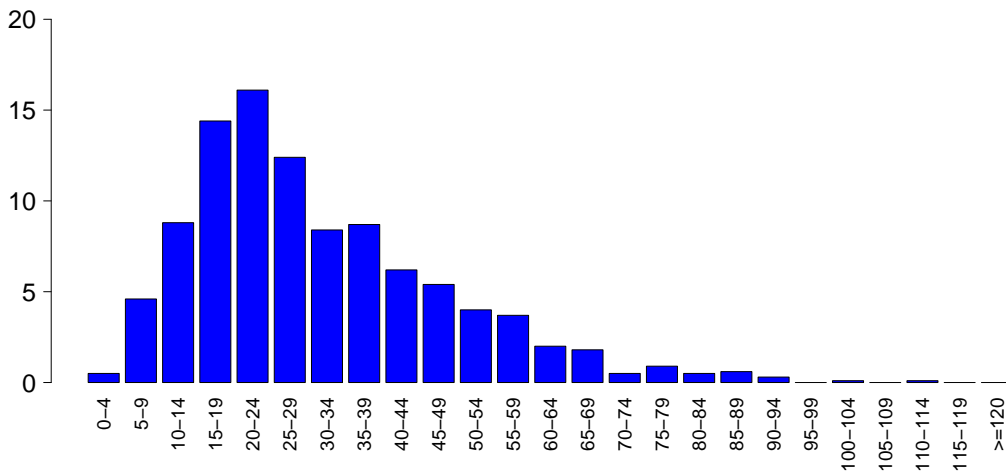
GCS (admission)

Median	15
Q1–Q3	15–15
Not evaluable	193
Missing	0

GCS (worst in first 24 hours)

Median	15
Q1–Q3	15–15
Not evaluable	329
Missing	0

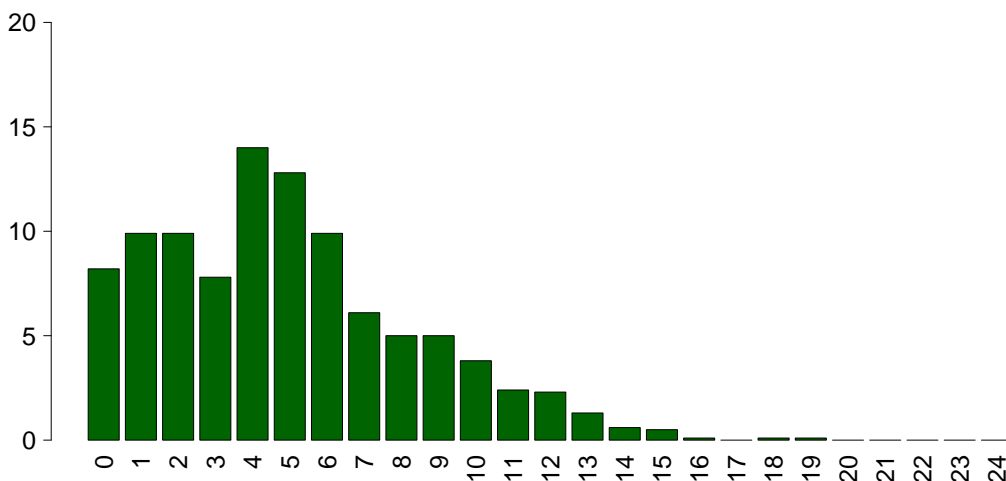
SAPS II (%)



SAPSII

Mean	30.9
SD	17.3
Median	27
Q1–Q3	18–40
Not evaluable	329
Missing	0

SOFA (%)



SOFA

Mean	4.9
SD	3.5
Median	5
Q1–Q3	2–7
Not evaluable	329
Missing	0

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Characteristics during the stay - NON COVID adult patients evaluated in the GiViTI model

Complications during the stay	N	%
No	454	40.8
Yes	659	59.2
Missing	0	

Failures during the stay	N	%
No	839	75.4
Yes	274	24.6

A: Respiratory failure	90	8.1
B: Cardiovascular failure	88	7.9
C: Neurological failure	31	2.8
D: Hepatic failure	48	4.3
E: Renal failure (AKIN)	146	13.1
F: Acute skin failure	4	0.4
G: Metabolic failure	76	6.8
H: Coagulation failure	32	2.9
Missing	0	

Failures during the stay (top 10)	N	%
E	45	4.0
G	37	3.3
A	26	2.3
B	18	1.6
ABE	13	1.2
AE	10	0.9
BE	10	0.9
D	8	0.7
DG	7	0.6
EH	7	0.6
Missing	0	

Respiratory failure occurred	N	%
None	1023	91.9
Intubation for airway maint.	18	1.6
Hypoxic failure	65	5.8
Hypercapnic failure	14	1.3
Missing	0	

Cardiovascular failure occurred	N	%
None	1025	92.1
Cardiogenic shock	13	1.2
Hypovolemic shock	6	0.5
Haemorrhagic/hypovolemic shock	13	1.2
Septic shock	59	5.3
Anaphylactic shock	1	0.1
Neurogenic shock	0	0.0
Other shock	8	0.7
Missing	0	

Neurological failure occurred	N	%
None	1082	97.2
Cerebral coma	15	1.3
Metabolic coma	12	1.1
Postanoxic coma	4	0.4
Missing	0	

Renal failure occurred (AKIN)	N	%
None	967	86.9
Mild	23	2.1
Moderate	24	2.2
Severe	99	8.9
Missing	0	

Complications during the stay	N	%
Respiratory	176	15.8
Pleural effusion	82	7.4
Aspiration pneumonia	42	3.8
Atelectasis	41	3.7
Severe ARDS	19	1.7
Pulmonary embolism	19	1.7
Cardiovascular	153	13.7
Acute severe arrhythmia: tachycardias	101	9.1
Acute severe arrhythmia: bradycardias	25	2.2
Pulmonary edema	16	1.4
Deep venous thrombosis	12	1.1
Cardiac arrest	9	0.8
Neurological	187	16.8
Drowsiness/agitation/delirium	129	11.6
Brain edema	43	3.9
CriMyNe	23	2.1
Intracranial hypertension	23	2.1
Hydrocephalus	19	1.7
Gastrointestinal and hepatic	222	19.9
Paralytic Ileus	114	10.2
Liver Dysfunction Syndrome	38	3.4
Anastomotic dehiscence	25	2.2
Intrabdominal bleeding	24	2.2
Gastrointestinal perforation	20	1.8
Other	238	21.4
Other disease	140	12.6
Metabolic disorder	76	6.8
Nephrourologic disease	36	3.2
Category/Stage II: Partial Thickness Skin Loss	11	1.0
Other skin and/or soft tissue pathology	11	1.0
Category/Stage I: Nonblanchable Erythema	5	0.4
Category/Stage III: Full Thickness Skin Loss	4	0.4
Infections	325	29.2
Pneumonia	155	13.9
Post-surgical peritonitis	83	7.5
NON-catheter-related UTI	39	3.5
Post-surgical skin/soft tissue infection	21	1.9
L.R.T.I. other than pneumonia	20	1.8
Other fungal infections	18	1.6
NON-surgical secondary peritonitis	16	1.4
Clinical sepsis	12	1.1
Primary bacteraemia of unknown origin	9	0.8
NON-surgical skin/soft tissue infection	8	0.7
Missing	0	

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Characteristics during the stay - NON COVID adult patients evaluated in the GiViTI model

Infections	N	%
None	516	46.4
Only on admission	272	24.4
On admission and during ICU stay	104	9.3
Only during ICU stay	221	19.9
Missing	0	

Maximum severity of infection	N	%
None	516	46.4
INFECTION WITHOUT SEPSIS	252	22.6
SEPSIS	128	11.5
SEPTIC SHOCK	217	19.5
Missing	0	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	516 (70.0%)	149 (20.2%)	45 (6.1%)	27 (3.7%)	737
	INFECTION WITHOUT SEPSIS	-	103 (85.8%)	11 (9.2%)	6 (5.0%)	120
	SEPSIS	-	-	72 (93.5%)	5 (6.5%)	77
	SEPTIC SHOCK	-	-	-	179 (100.0%)	179
	TOT	516	252	128	217	1113

Ventil. Associat. Pneumonia (VAP)	N	%
No	984	88.4
Yes	129	11.6
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	36.9
CI (95%)	30.8–43.8

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	29.5%
CI (95%)	24.6–35.1

Catheter Bacteraemia (CR-BSI)	N	%
No	1109	99.6
Yes	4	0.4
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.5
CI (95%)	0.1–1.3

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.6%
CI (95%)	0.2–1.6

Catheter-related urinary tract infection (UTI)	N	%
No	1105	99.3
Yes	8	0.7
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	1.0
CI (95%)	0.4–2.0

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.2%
CI (95%)	0.5–2.4

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Process indicators - NON COVID adult patients evaluated in the PROSAFE study (Missing=0)	N		%		N		%		On discharge		Length (days)		Days from admission			
	1107		99.5		452		40.6		N		%		Median		Missing	
	N	%	N	%	N	%	N	%	Q1-Q3	Missing	Median	Q1-Q3	Missing			
Procedures (antibiotics excluded)	1107	99.5	452	40.6	151	13.6	4	1-13	0	0	0	0-2	0			
Invasive ventilation	547	49.1	452	40.6	151	13.6	4	1-13	0	0	0	0-2	0			
Non invasive ventilation	131	11.8	25	2.2	58	5.2	1	1-3	0	2	1-7	0	0			
Tracheostomy	103	9.3	8	0.7	82	7.4	6	2-16	0	19	12-25	0	0			
iNO (inhaled nitric oxide)	58	5.2	15	1.3	3	0.3	3	2-5	0	0	0-2	0	0			
Central Venous Catheter	984	88.4	831	74.7	856	76.9	4	2-9	0	0	0-0	0	0			
PICC	72	6.5	22	2	63	5.7	4	2-7	0	18	7-26	0	0			
Arterial Catheter	1000	89.8	843	75.7	412	37	4	2-9	0	0	0-0	0	0			
Vasoactive drugs	807	72.5	646	58	80	7.2	2	1-5	0	0	0-0	0	0			
Antiarrhythmics	163	14.6	23	2.1	55	4.9	2	1-5	0	3	1-6	0	0			
IABP	2	0.2	2	0.2	2	0.2	4	4-5	0	0	0	0	0			
Invasive monitoring of C.O.	41	3.7	12	1.1	8	0.7	5	1-10	0	1	0-3	0	0			
Continuous monitoring of ScVO2	7	0.6	3	0.3	0	0	2	0-6	0	6	4-8	0	0			
Temporary pacing	6	0.5	1	0.1	2	0.2	7	1-10	0	2	1-3	0	0			
Ventricular assistance	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0			
DC-shock	25	2.2	25	2.2	25	2.2	25	2.2	2.2	25	2.2	25	2.2			
CPR	25	2.2	25	2.2	25	2.2	25	2.2	2.2	25	2.2	25	2.2			
Massive blood transfusion	17	1.5	17	1.5	17	1.5	17	1.5	1.5	17	1.5	17	1.5			
ICP monitoring without CSF drainage	71	6.4	64	5.8	5	0.4	10	5-18	0	1	0-1	0	0			
ICP monitoring with CSF drainage	17	1.5	7	0.6	5	0.4	12	5-18	0	2	1-14	0	0			
EVD without ICP monitoring	17	1.5	4	0.4	7	0.6	17	4-23	0	6	2-8	0	0			
Haemofiltration	7	0.6	1	0.1	2	0.2	2	1-8	0	10	8-28	0	0			
Haemodialysis	81	7.3	16	1.4	23	2.1	5	1-11	0	4	1-7	0	0			
ECMO	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0			
Hepatic clearance techniques	1	0.1	1	0.1	0	0	1	1-2	0	1	0-4	0	0			
Clearance techniques during sepsis	6	0.5	1	0.1	0	0	1	1-2	0	1	0-4	0	0			
IAP (intra-abdominal pressure)	141	12.7	141	12.7	141	12.7	141	12.7	12.7	141	12.7	141	12.7			
Hypothermia	22	2.0	7	0.6	1	0.1	1	1-3	0	0	0-1	0	0			
Enteral nutrition	568	51.0	128	11.5	388	34.9	4	2-12	0	1	1-2	0	0			
Parenteral nutrition	692	62.2	106	9.5	488	43.8	4	2-8	0	1	1-2	0	0			
SDD (Topical, Topical and systemic)	8	0.7	8	0.7	8	0.7	8	0.7	0.7	8	0.7	8	0.7			
Patient restraint	10	0.9	10	0.9	10	0.9	10	0.9	0.9	10	0.9	10	0.9			
Peridural catheter	217	19.5	214	19.2	187	16.8	3	2-4	0	3	2-5	0	0			
Electrical cardioversion	7	0.6	7	0.6	7	0.6	7	0.6	0.6	7	0.6	7	0.6			
Vacuum therapy	24	2.2	24	2.2	24	2.2	24	2.2	2.2	24	2.2	24	2.2			
Urinary catheter	1080	97.0	1008	90.6	998	89.7	4	2-9	0	0	0-0	0	0			
Pronation	4	0.4	1	0.1	1	0.1	2	1-2	0	13	6-22	0	0			
Antivirals	28	2.5	9	0.8	21	1.9	4	2-6	0	1	0-3	0	0			

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Process indicators - NON COVID adult patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	1038	93.3										
Antibiotic prophylaxis	496	44.6	424	38.1	143	12.8	1	0-2	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	392	35.2	237	21.3	76	6.8	2	1-5	0	1	0-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	226	20.3	109	9.8	172	15.5	3	1-5	0	1	0-2	0
Targeted antibiotic therapy	395	35.5	70	6.3	261	23.5	6	3-12	0	3	2-6	0
Antifungal in empirical therapy	120	10.8	43	3.9	37	3.3	3	2-7	0	1	0-2	0
Antifungal in targeted therapy	115	10.3	14	1.3	72	6.5	9	4-15	0	5	2-10	0
Pre-emptive antifungal	8	0.7	4	0.4	4	0.4	4	3-5	0	0	0-0	0

Antibiotic therapy

Pt. infected in ICU only (N=221)	N	%
No therapy	5	2.3
Only empirical	74	33.5
Only targeted	16	7.2
Targeted after empirical	96	43.4
Other	30	13.6
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=221)	N	%
No therapy	183	82.8
Only empirical	18	8.1
Only targeted	14	6.3
Targeted after empirical	3	1.4
Other	3	1.4
Missing	0	

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Process indicators - NON COVID adult patients evaluated in the GiViTI model

Invasive ventilation (N=547)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	239	42.6	10.5	12.3	6	2–15	0
For airway maintenance	269	48.0	8.5	10.6	4	1–12	0
In weaning	19	3.4	0.6	0.5	1	0–1	0
Not evaluable	34	6.1	11.8	18.6	1.5	1–17	14
Reintubation within 48 hours	16	2.9	6.6	6.6	4	2.75–8	0

Non invasive ventilation (N=131)	N	%
Non invasive ventilation only	28	21.4
Non invasive ventilation failed	11	8.4
For weaning	76	58.0
Other	16	12.2
Missing	0	

Tracheostomy not present on admission (N=95)	N	%
Surgical	14	14.7
Percutwist	58	61.1
Ciaglia	0	0.0
Monodil. Ciaglia	2	2.1
Fantoni	0	0.0
Griggs	2	2.1
Other Kind	9	9.5
Unknown	10	10.5
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=95)

Mean	18.7
SD	9.1
Median	19
Q1–Q3	11.5–25
Missing	0

Invasive monitoring of C.O. (N=41)	N	%
Swan Ganz	4	9.8
PICCO	29	70.7
LIDCO	5	12.2
Vigileo-PRAM	0	0.0
Other	3	7.3
Missing	0	

SDD (N=8)	N	%
Topical	5	62.5
Topical and systemic	3	37.5
Missing	0	

Surgical interventions	N	%
No	983	88.3
Yes	130	11.7
Missing	0	

Number of surgical interventions	N	%
0	983	88.3
1	80	7.2
2	21	1.9
3	13	1.2
>3	16	1.4
Missing	0	

Surgical interventions

Days from admission

Mean	8.5
SD	8.1
Median	6
Q1–Q3	3–11
Missing	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	105	9.4
Other surgery	36	3.2
Neurosurgery	33	3.0
Thoracic surgery	13	1.2
Orthopaedic surgery	12	1.1
ENT surgery	10	0.9
Plastic surgery	5	0.4
Hepatic surgery	4	0.4
Thoracic vascular surgery	4	0.4
Pancreatic surgery	3	0.3
Missing	0	

Non surgical interventions	N	%
No	1060	95.2
Yes	53	4.8
Missing	0	

Non surgical interventions

Days from admission

Mean	12.4
SD	12.2
Median	9
Q1–Q3	5–13.2
Missing	1

Non surgical interventions	N	%
Interventional radiology	34	3.1
Interventional endoscopy	31	2.8
Interventional cardiology	4	0.4
Interventional neuroradiology	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators - NON COVID adult patients evaluated in the GiViTI model**

ICU outcome	N	%
Dead	151	13.6
Transferred to same hospital	903	81.3
Transferred to other hospital	49	4.4
Discharged home	8	0.7
Disch. terminally ill	0	0.0
Missing	2	

Transferred to (N=952)	N	%
Ward	657	69.0
Other ICU	50	5.3
High dependency care unit	245	25.7
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=50)	N	%
Specialist expertise	11	22.0
Step-up care	0	0.0
Logistical/organizational reasons	18	36.0
Step-down care	21	42.0
Missing	0	

Transferred to Same hospital (N=903)	N	%
Ward	644	71.3
Other ICU	27	3.0
High dependency care unit	232	25.7
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=49)	N	%
Ward	13	26.5
Other ICU	23	46.9
High dependency care unit	13	26.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	960	86.4
Dead	151	13.6
Missing	2	

Timing of ICU mortality (N=151)	N	%
Daytime (08:00AM - 07:59PM)	110	72.8
Nighttime (08:00PM - 07:59AM)	41	27.2
Weekdays (Monday - Friday)	116	76.8
Weekend (Saturday - Sunday)	35	23.2
Missing	0	

Hospital mortality	N	%
Alive	875	78.6
Dead	238	21.4
Missing	0	

Timing of hosp. mortality (N=238)	N	%
In ICU	151	63.4
Within 24 hours after ICU	2	0.8
24-47 hours after ICU	9	3.8
48-71 hours after ICU	7	2.9
72-95 hours after ICU	5	2.1
After 95 hours after ICU	64	26.9
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=87)		
Mean		18.0
SD		22.3
Median		9
Q1–Q3		3–25
Missing		0

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Outcome indicators - NON COVID adult patients evaluated in the GiViTI model

Last hospital mortality			ICU stay (days)		
	N	%			
Alive	866	77.8	Mean		7.7
Dead	247	22.2	SD		11.4
Missing	0		Median		3
			Q1–Q3		2–9
			Missing		0
ICU stay (days)			ICU stay (days)		
Alive (N=960)			Alive (N=960)		
			Mean		6.9
			SD		10.6
			Median		3
			Q1–Q3		2–7
			Missing		0
ICU stay (days)			ICU stay (days)		
Dead (N=151)			Dead (N=151)		
			Mean		12.5
			SD		14.3
			Median		7
			Q1–Q3		2–17.5
			Missing		0
Stay after ICU (days)			Stay after ICU (days)		
Alive (N=960)			Alive (N=960)		
			Mean		14.7
			SD		18.4
			Median		8
			Q1–Q3		4–18
			Missing		1
Hospital stay (days)			Hospital stay (days)		
Alive (N=875)			Alive (N=875)		
			Mean		25.5
			SD		28.7
			Median		16
			Q1–Q3		8–31.2
			Missing		1
Hospital stay (days)			Hospital stay (days)		
Alive (N=875)			Alive (N=875)		
			Mean		25.8
			SD		29.6
			Median		16
			Q1–Q3		9–31
			Missing		1
Hospital stay (days)			Hospital stay (days)		
Dead (N=238)			Dead (N=238)		
			Mean		24.7
			SD		24.8
			Median		17
			Q1–Q3		8–34.5
			Missing		0

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Characteristics on admission - Adult NON COVID non surgical pts. in the GiViTI mod.

Patients (N): 259

Sex	N	%
Male	177	68.3
Female	82	31.7
Missing	0	

Age (years)	N	%
17-45	45	17.4
46-65	68	26.3
66-75	85	32.8
>75	61	23.6
Missing	0	
Mean	62.9	
SD	17.5	
Median	68	
Q1–Q3	55–74.5	
Min–Max	17–93	

Body mass Index (BMI)	N	%
Underweight	13	5.0
Normal	101	39.0
Overweight	100	38.6
Obese	45	17.4
Missing	0	

Pregnancy status	N	%
Females (N=82)		
Not fertile	36	43.9
Not pregnant/Unknown	46	56.1
Currently pregnant	0	0.0
Post partum	0	0.0
Missing	0	

Comorbidities	N	%
No	32	12.4
Yes	227	87.6
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	128	49.4
Arrhythmia	59	22.8
NYHA class II-III	48	18.5
Metastatic cancer	43	16.6
Malignant haematological disease	37	14.3
Moderate or severe renal disease	36	13.9
Any tumour without metastasis	35	13.5
Moderate COPD	29	11.2
Severe malnutrition	29	11.2
Diabetes Type II without insulin tr.	28	10.8
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	6.7	14.6	1	0–8	0

Source of admission	N	%
Same hospital	223	86.1
Other hospital	36	13.9
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=259)		
Medical ward	70	27.0
Surgical ward	52	20.1
Emergency room	99	38.2
Other ICU	23	8.9
High dependency care unit	15	5.8
Missing	0	

Reason for transfer from	N	%
Other ICU (N=23)		
Specialist expertise	2	8.7
Step-up care	3	13.0
Logistical/organizational reasons	16	69.6
Step-down care	2	8.7
Missing	0	

Ward of admission	N	%
Same hospital (N=223)		
Medical ward	70	31.4
Surgical ward	48	21.5
Emergency room	87	39.0
Other ICU	6	2.7
High dependency care unit	12	5.4
Missing	0	

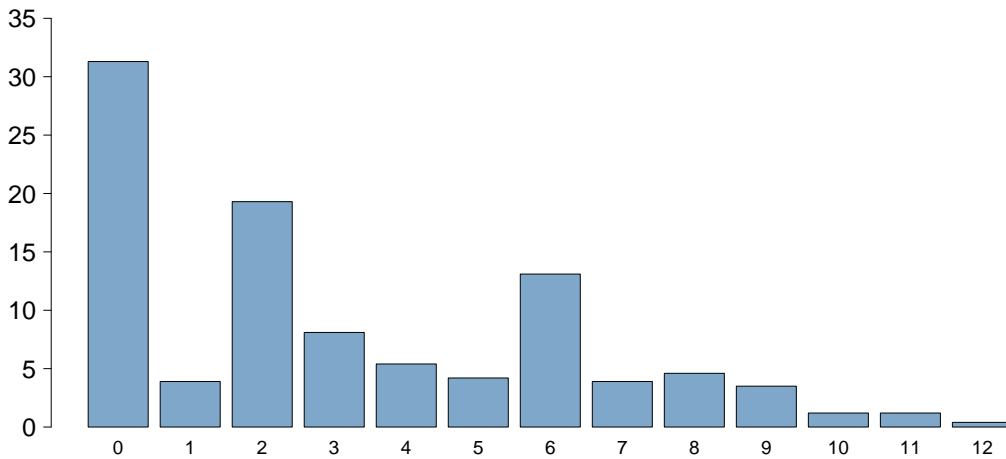
Ward of admission	N	%
Other hospital (N=36)		
Medical ward	0	0.0
Surgical ward	4	11.1
Emergency room	12	33.3
Other ICU	17	47.2
High dependency care unit	3	8.3
Missing	0	

Scheduled admission	N	%
No	259	100.0
Yes	0	0.0
Missing	0	

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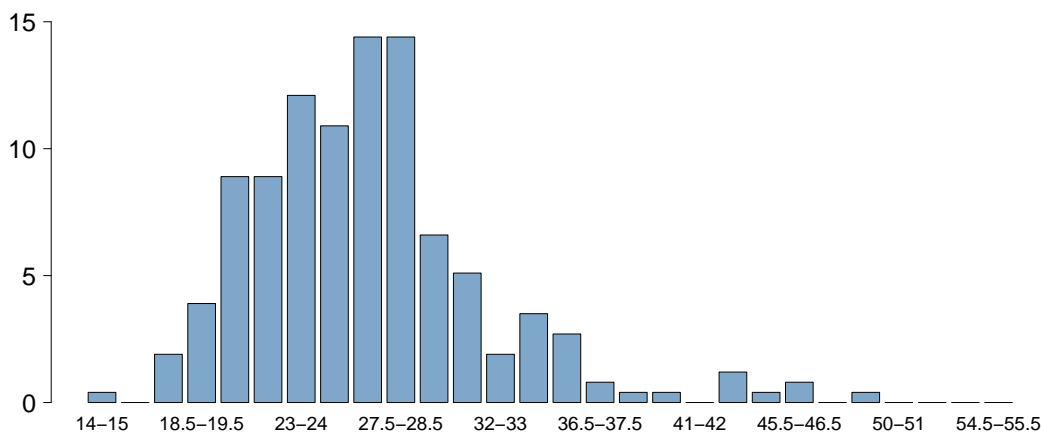
Characteristics on admission - Adult NON COVID non surgical pts. in the GiViTI mod.

Charlson (%)



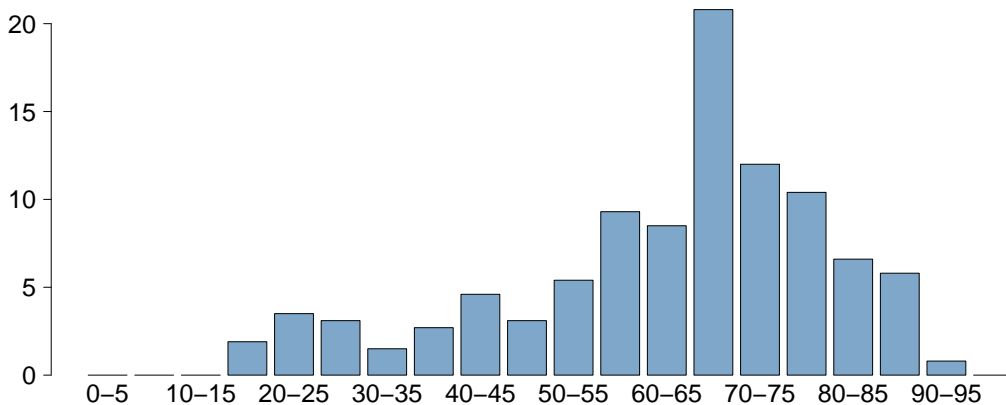
Charlson score	
Mean	3.1
SD	3.0
Median	2
Q1–Q3	0–6
Missing	0

BMI (%)



BMI	
Mean	26.9
SD	6.2
Median	26.3
Q1–Q3	23.1–28.9
Missing	0

Age (%)



Age	
Mean	62.9
SD	17.5
Median	68
Q1–Q3	55–74.5
Missing	0

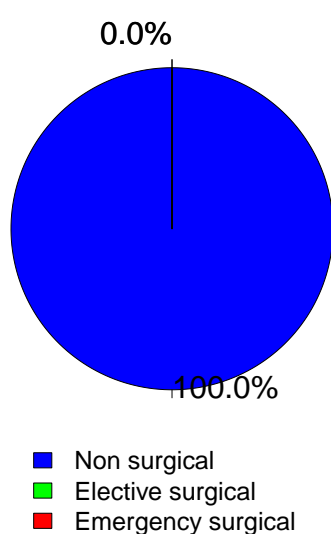
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Characteristics on admission - Adult NON COVID non surgical pts. in the GiViTI mod.

Trauma	N	%
No	185	71.4
Yes	74	28.6
Multiple trauma	22	8.5
Missing	0	

Surgical status	N	%
Non surgical	259	100.0
Elective surgical	0	0.0
Emergency surgical	0	0.0
Missing	0	

Surgical status



Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Emergency surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Source of admission	N	%
Surgical pt. (N=0)		
Operating theatre of surgical ward	0	0.0
Operating theatre of emergency room	0	0.0
Surgical ward	0	0.0
Other	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions	N	%
None	232	89.6
Elective	1	0.4
Emergency	26	10.0
Missing	0	

Non surgical interventions	N	%
Elective (N=1)		
Interventional endoscopy	1	100.0
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=26)		
Interventional radiology	16	61.5
Interventional endoscopy	7	26.9
Interventional cardiology	3	11.5
Interventional neuroradiology	0	0.0
Missing	0	

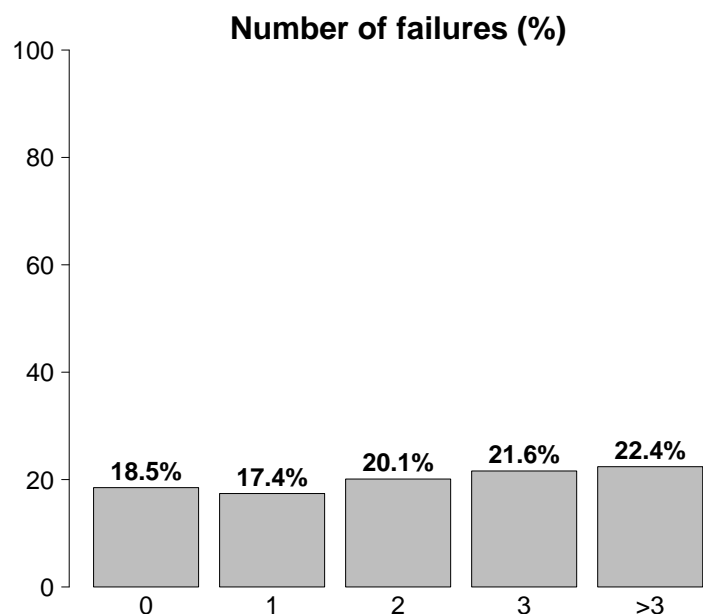
National report - Year 2021

Characteristics on admission - Adult NON COVID non surgical pts. in the GiViTI mod.

Reason for admission	N	%
Monitoring/Weaning	69	26.6
Post surgical weaning	0	0.0
Surgical monitoring	0	0.0
Post interventional weaning	0	0.0
Interventional monitoring	6	2.3
Non surgical monitoring	63	24.3
Missing	0	
Intensive Treatment	190	73.4
Only ventilatory support	55	21.2
Only cardiovascular support	47	18.1
Ventilatory and cardiovascular support	88	34.0
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	

Failures on admission (top 10)	N	%
ABEG	27	10.4
A	21	8.1
BEG	19	7.3
E	13	5.0
ABE	12	4.6
AE	11	4.2
AB	10	3.9
ABG	10	3.9
BE	10	3.9
AC	9	3.5
Missing	0	

Respiratory failure	N	%
None	116	44.8
Only hypoxic failure	54	20.8
Only hypercapnic failure	7	2.7
Hypoxic-hypercapnic failure	18	6.9
Intubation for airway maint.	64	24.7
Missing	0	



Cardiovascular failure	N	%
None	124	47.9
Without shock	38	14.7
Cardiogenic shock	12	4.6
Septic shock	59	22.8
Haemorrhagic/hypovolemic shock	9	3.5
Hypovolemic shock	1	0.4
Anaphylactic shock	0	0.0
Neurogenic shock	1	0.4
Other shock	7	2.7
Mixed shock	8	3.1
Missing	0	

Neurologic failure	N	%
None	182	84.3
Cerebral coma	16	7.4
Metabolic coma	9	4.2
Postanoxic coma	8	3.7
Toxic coma	1	0.5
Missing or not evaluable	43	

Failures on admission	N	%
No	48	18.5
Yes	211	81.5
A: Respiratory failure	143	55.2
B: Cardiovascular failure	135	52.1
C: Neurological failure	34	13.1
D: Hepatic failure	11	4.2
E: Renal failure	132	51.0
F: Acute skin failure	1	0.4
G: Metabolic failure	103	39.8
H: Coagulation failure	8	3.1
Missing	0	

Renal failure (AKIN)	N	%
None	127	49.0
Mild	52	20.1
Moderate	45	17.4
Severe	35	13.5
Missing	0	

Metabolic failure	N	%
None	156	60.2
pH \leq 7.3, PaCO ₂ $<$ 45 mmHg	31	12.0
Base deficit \geq 5 mmol/L, lactate $>$ 1.5x	72	27.8
Missing	0	

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Characteristics on admission - Adult NON COVID non surgical pts. in the GiViTI mod.

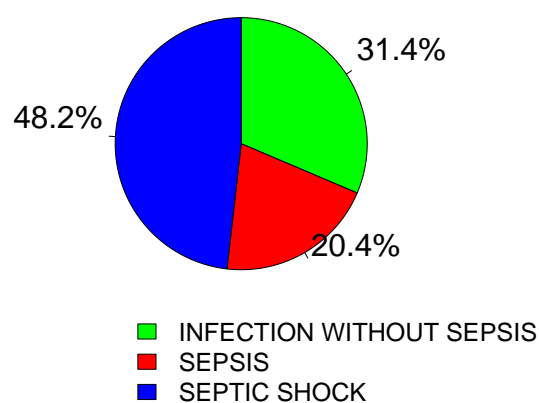
Clinical conditions on admission	N	%
Respiratory	76	29.3
Pleural effusion	21	8.1
Aspiration pneumonia	21	8.1
Atelectasis	15	5.8
Pulmonary embolism	10	3.9
Lung cancer	9	3.5
Cardiovascular	67	25.9
Cardiac arrest	24	9.3
Acute severe arrhythmia: tachycardias	15	5.8
Left heart failure without pulm. edema	11	4.2
Left heart failure with pulm. edema	11	4.2
Peripheral vascular disease	6	2.3
Neurological	39	15.1
Seizures	17	6.6
Neuropathy/myopathy	11	4.2
Metabolic/postanoxic encephalopathy	7	2.7
Cerebral artery stroke	5	1.9
Non traumatic cerebral oedema	4	1.5
Gastrointestinal and hepatic	47	18.1
Digestive tract malignancy	12	4.6
Ascites	12	4.6
Paralytic Ileus	10	3.9
Liver Dysfunction Syndrome	8	3.1
Hepatic malignancy	8	3.1
Trauma (anatomical districts)	74	28.6
Head	46	17.8
Chest	25	9.7
Abdomen	12	4.6
Spine	11	4.2
Pelvis/bone/joint & muscle	9	3.5
Major vessels injury	3	1.2
-	0	0.0
Other	103	39.8
Other disease	54	20.8
Nephrourologic disease	24	9.3
Metabolic disorder	23	8.9
Haematological disease	9	3.5
Acute intoxication	8	3.1
Post transplantation	2	0.8
Bone marrow transplantation	1	0.4
Heart transplantation	1	0.4
Infections	137	52.9
Pneumonia	70	27.0
NON-catheter-related UTI	23	8.9
Clinical sepsis	9	3.5
Gastroenteritis	8	3.1
Other fungal infections	7	2.7
NON-surgical skin/soft tissue infection	6	2.3
Catheter-related UTI	6	2.3
Post-surgical peritonitis	4	1.5
Post-surgical skin/soft tissue infection	4	1.5
Primary bacteraemia of unknown origin	3	1.2
Missing	0	

Trauma (anatomical districts)	N	%
Head	46	17.8
Traumatic subarachnoid haemorrhage	27	10.4
Traumatic Subdural haematoma	22	8.5
Skull fracture	19	7.3
Maxillofacial fracture	19	7.3
Cerebral contusion/laceration	14	5.4
Spine	11	4.2
Vertebral fracture, without deficit	10	3.9
Lumbar injury, incomplete deficit	1	0.4
-	0	0.0
Chest	25	9.7
Traum. haemothorax/pneumothorax	15	5.8
Other injuries of the chest	14	5.4
Severe lung contusion/laceration	5	1.9
Abdomen	12	4.6
Liver: Moderate-Severe laceration	5	1.9
Minor injuries of the abdomen	4	1.5
Kidney: Rupture/laceration	3	1.2
Pelvis/bone/joint & muscle	9	3.5
Long bone fracture	6	2.3
Multiple fracture of the pelvis	3	1.2
Very severe or open fracture of the pelvis	1	0.4
Major vessels injury	3	1.2
Neck vessels: dissection/transection	1	0.4
Major abdominal vessels: transection	1	0.4
Proximal limbs vessels: transection	1	0.4
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	122	47.1
INFECTION WITHOUT SEPSIS	43	16.6
SEPSIS	28	10.8
SEPTIC SHOCK	66	25.5
Missing	0	

Infection severity on admission

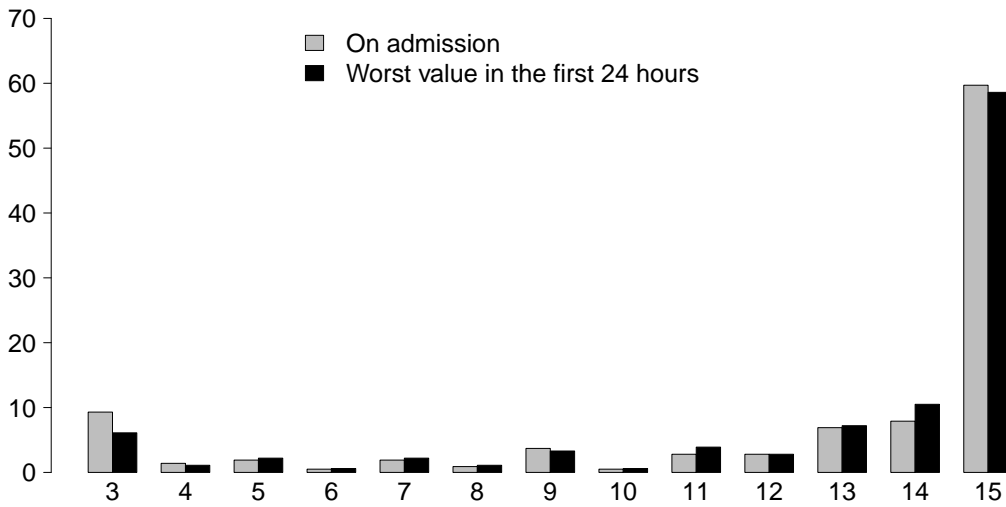
Patients infected (N=137)



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Severity scores - Adult NON COVID non surgical pts. in the GiViTI mod.

Glasgow Coma Scale (%)



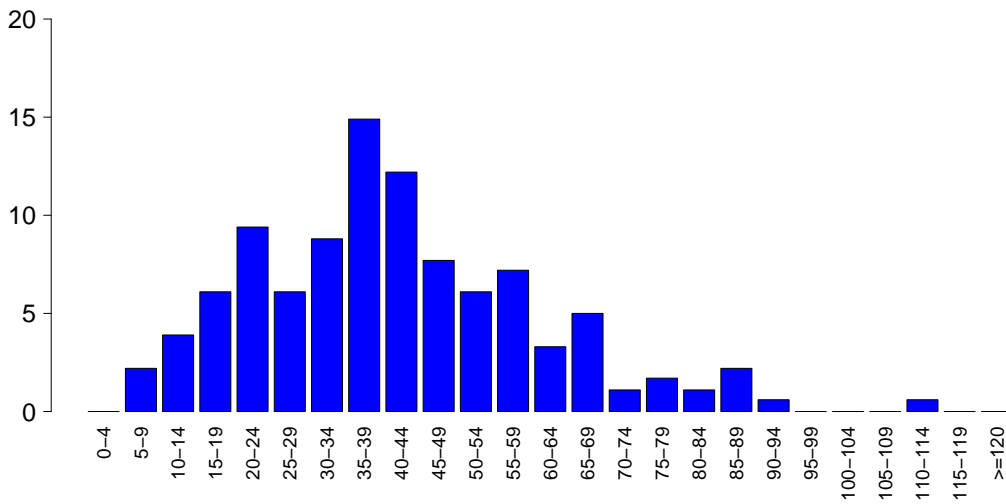
GCS (admission)

Median	15
Q1–Q3	12–15
Not evaluable	43
Missing	0

GCS (worst in first 24 hours)

Median	15
Q1–Q3	13–15
Not evaluable	78
Missing	0

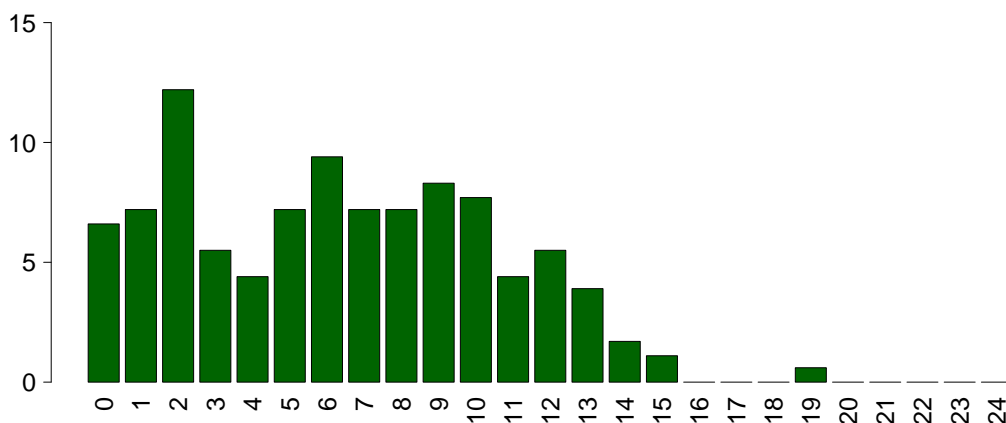
SAPS II (%)



SAPSII

Mean	41.0
SD	19.0
Median	39
Q1–Q3	27–52
Not evaluable	78
Missing	0

SOFA (%)



SOFA

Mean	6.3
SD	4.1
Median	6
Q1–Q3	2–9
Not evaluable	78
Missing	0

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Characteristics during the stay - Adult NON COVID non surgical pts. in the GiViTI mod.

Complications during the stay	N	%
No	102	39.4
Yes	157	60.6
Missing	0	

Failures during the stay	N	%
No	177	68.3
Yes	82	31.7
A: Respiratory failure	34	13.1
B: Cardiovascular failure	22	8.5
C: Neurological failure	10	3.9
D: Hepatic failure	17	6.6
E: Renal failure (AKIN)	42	16.2
F: Acute skin failure	0	0.0
G: Metabolic failure	22	8.5
H: Coagulation failure	7	2.7
Missing	0	

Failures during the stay (top 10)	N	%
E	13	5.0
A	11	4.2
G	9	3.5
ABE	4	1.5
B	4	1.5
AE	3	1.2
AG	3	1.2
CE	3	1.2
DE	3	1.2
ABG	2	0.8
Missing	0	

Respiratory failure occurred	N	%
None	225	86.9
Intubation for airway maint.	7	2.7
Hypoxic failure	24	9.3
Hypercapnic failure	4	1.5
Missing	0	

Cardiovascular failure occurred	N	%
None	237	91.5
Cardiogenic shock	3	1.2
Hypovolemic shock	1	0.4
Haemorrhagic/hypovolemic shock	3	1.2
Septic shock	16	6.2
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	1	0.4
Missing	0	

Neurological failure occurred	N	%
None	249	96.1
Cerebral coma	6	2.3
Metabolic coma	3	1.2
Postanoxic coma	1	0.4
Missing	0	

Renal failure occurred (AKIN)	N	%
None	217	83.8
Mild	6	2.3
Moderate	8	3.1
Severe	28	10.8
Missing	0	

Complications during the stay	N	%
Respiratory	51	19.7
Pleural effusion	20	7.7
Atelectasis	13	5.0
Severe ARDS	12	4.6
Aspiration pneumonia	10	3.9
Moderate ARDS	6	2.3
Cardiovascular	41	15.8
Acute severe arrhythmia: tachycardias	34	13.1
Acute severe arrhythmia: bradycardias	5	1.9
Pulmonary edema	4	1.5
Cardiac arrest	3	1.2
Acute myocardial infarction	2	0.8
Neurological	56	21.6
Drowsiness/agitation/delirium	41	15.8
Seizures	10	3.9
Brain edema	6	2.3
CrIMyNe	5	1.9
Hydrocephalus	2	0.8
Gastrointestinal and hepatic	41	15.8
Paralytic Ileus	18	6.9
Liver Dysfunction Syndrome	14	5.4
Ascites	8	3.1
Acute on chronic liver disease	4	1.5
Gastrointestinal bleeding: upper tract	3	1.2
Other	62	23.9
Other disease	41	15.8
Metabolic disorder	22	8.5
Nephrourologic disease	13	5.0
Other skin and/or soft tissue pathology	6	2.3
Category/Stage II: Partial Thickness Skin Loss	4	1.5
Category/Stage I: Nonblanchable Erythema	1	0.4
Category/Stage IV: Full Thickness Tissue Loss	1	0.4
Infections	63	24.3
Pneumonia	41	15.8
Other fungal infections	7	2.7
NON-catheter-related UTI	6	2.3
Primary bacteraemia of unknown origin	3	1.2
Clinical sepsis	3	1.2
L.R.T.I. other than pneumonia	3	1.2
Pleurisy/Pleural empyema	3	1.2
Gastroenteritis	2	0.8
Post-surgical peritonitis	2	0.8
Catheter-related UTI	2	0.8
Missing	0	

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Characteristics during the stay - Adult NON COVID non surgical pts. in the GiViTI mod.

Infections	N	%
None	92	35.5
Only on admission	104	40.2
On admission and during ICU stay	33	12.7
Only during ICU stay	30	11.6
Missing	0	

Maximum severity of infection	N	%
None	92	35.5
INFECTION WITHOUT SEPSIS	56	21.6
SEPSIS	37	14.3
SEPTIC SHOCK	74	28.6
Missing	0	

Severity evolution

Severity evolution		N (R %)	During the stay				TOT
			None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	
Admission	None	92 (75.4%)	18 (14.8%)	6 (4.9%)	6 (4.9%)	122	
	INFECTION WITHOUT SEPSIS	-	38 (88.4%)	4 (9.3%)	1 (2.3%)	43	
	SEPSIS	-	-	27 (96.4%)	1 (3.6%)	28	
	SEPTIC SHOCK	-	-	-	66 (100.0%)	66	
	TOT	92	56	37	74	259	

Ventil. Associat. Pneumonia (VAP)	N	%
No	228	88.0
Yes	31	12.0
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	29.8
CI (95%)	20.2–42.3

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	23.9%
CI (95%)	16.2–33.9

Catheter Bacteraemia (CR-BSI)	N	%
No	258	99.6
Yes	1	0.4
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.5
CI (95%)	0.0–3.0

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.6%
CI (95%)	0.0–3.6

Catheter-related urinary tract infection (UTI)	N	%
No	257	99.2
Yes	2	0.8
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	1.0
CI (95%)	0.1–3.6

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.2%
CI (95%)	0.1–4.3

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Process indicators - Adult NON COVID non surgical Procedures and/or treatments (Missing=0)	surgical		in the		GiViTI admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
	255		98.5											
Invasive ventilation	147	56.8	102	39.4	58	22.4	5	2-14	0	0	0	0	0-2	0
Non invasive ventilation	44	17.0	15	5.8	16	6.2	1	0-3	0	2	0	2	0-5	0
Tracheostomy	25	9.7	2	0.8	20	7.7	7	2-10	0	13	0	13	8-22	0
iNO (inhaled nitric oxide)	18	6.9	4	1.5	1	0.4	4	2-6	0	0	0	0	0-0	0
Central Venous Catheter	205	79.2	123	47.5	174	67.2	5	3-11	0	0	0	0	0-0	0
PICC	26	10.0	13	5	20	7.7	3	0-6	0	14	0	14	2-20	0
Arterial Catheter	234	90.3	136	52.5	107	41.3	5	2-10	0	0	0	0	0-0	0
Vasoactive drugs	172	66.4	106	40.9	31	12	3	2-8	0	0	0	0	0-0	0
Antiarrhythmics	54	20.8	7	2.7	19	7.3	2	1-5	0	2	0	2	1-5	0
IABP	0	0.0												
Invasive monitoring of C.O.	11	4.2	2	0.8	3	1.2	5	1-8	0	2	0	2	0-3	0
Continuous monitoring of ScVO2	3	1.2	2	0.8	0	0	2	1-6	0	12	0	12	12-12	0
Temporary pacing	1	0.4	0	0	1	0.4	0	0-0	0	1	0	1	1-1	0
Ventricular assistance	0	0.0												
DC-shock	8	3.1												
CPR	9	3.5												
Massive blood transfusion	2	0.8												
ICP monitoring without CSF drainage	4	1.5	3	1.2	0	0	10	7-10	0	1	0	1	1-1	0
ICP monitoring with CSF drainage	1	0.4	0	0	1	0.4	2	2-2	0	2	0	2	2-2	0
EVD without ICP monitoring	0	0.0												
Haemofiltration	2	0.8	0	0	0	0	6	3-8	0	8	0	8	8-8	0
Haemodialysis	27	10.4	7	2.7	6	2.3	7	1-11	0	4	0	4	2-6	0
ECMO	0	0.0												
Hepatic clearance techniques	0	0.0												
Clearance techniques during sepsis	1	0.4	0	0	0	0	0	0-0	0	8	0	8	8-8	0
IAP (intra-abdominal pressure)	18	6.9												
Hypothermia	12	4.6	3	1.2	1	0.4	1	1-1	0	0	0	0	0-0	0
Enteral nutrition	141	54.4	43	16.6	83	32	5	2-13	0	1	0	1	1-2	0
Parenteral nutrition	143	55.2	39	15.1	72	27.8	4	2-10	0	1	0	1	1-2	0
SDD (Topical, Topical and systemic)	1	0.4												
Patient restraint	1	0.4												
Peridural catheter	2	0.8	0	0	1	0.4	2	1-2	0	5	0	5	4-6	0
Electrical cardioversion	4	1.5												
Vacuum therapy	3	1.2												
Urinary catheter	243	93.8	203	78.4	217	83.8	4	2-10	0	0	0	0	0-0	0
Pronation	4	1.5	1	0.4	1	0.4	2	1-2	0	13	0	13	6-22	0
Antivirals	10	3.9	3	1.2	6	2.3	4	3-10	0	10	0	10	2-12	0

National report - Year 2021
Process indicators - Adult NON COVID non surgical pts. in the GiViTI mod.

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	218	84.2										
Antibiotic prophylaxis	25	9.7	7	2.7	15	5.8	1	1-2	0	0	0-1	0
Empirical antibiotic therapy (infection diagnosis confirmed)	112	43.2	77	29.7	21	8.1	2	1-4	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	59	22.8	32	12.4	44	17	3	2-5	0	0	0-0	0
Targeted antibiotic therapy	113	43.6	28	10.8	73	28.2	6	3-13	0	2	2-4	0
Antifungal in empirical therapy	46	17.8	20	7.7	14	5.4	2	1-8	0	1	0-2	0
Antifungal in targeted therapy	38	14.7	5	1.9	21	8.1	10	6-15	0	4	2-12	0
Pre-emptive antifungal	3	1.2	0	0	1	0.4	4	2-12	0	0	0-0	0

Antibiotic therapy

Pt. infected in ICU only (N=30)	N	%
No therapy	0	0.0
Only empirical	10	33.3
Only targeted	0	0.0
Targeted after empirical	14	46.7
Other	6	20.0
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=30)	N	%
No therapy	24	80.0
Only empirical	3	10.0
Only targeted	1	3.3
Targeted after empirical	1	3.3
Other	1	3.3
Missing	0	

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Process indicators - Adult NON COVID non surgical pts. in the GiViTI mod.

Invasive ventilation (N=147)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	77	50.7	10.9	10.9	7	3–15	0
For airway maintenance	62	40.8	6.0	8.0	2	1–7	0
In weaning	0	0.0					
Not evaluable	13	8.6	16.7	14.4	13	5–30	6
Reintubation within 48 hours	3	2.0	5.0	2.0	5	4–6	0

Non invasive ventilation (N=44)	N	%
Non invasive ventilation only	16	36.4
Non invasive ventilation failed	6	13.6
For weaning	16	36.4
Other	6	13.6
Missing	0	

Tracheostomy not present on admission (N=23)	N	%
Surgical	5	21.7
Percutwist	11	47.8
Ciaglia	0	0.0
Monodil. Ciaglia	0	0.0
Fantoni	0	0.0
Griggs	1	4.3
Other Kind	2	8.7
Unknown	4	17.4
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=23)

Mean	15.1
SD	10.8
Median	13
Q1–Q3	8.5–20
Missing	0

Invasive monitoring of C.O. (N=11)	N	%
Swan Ganz	0	0.0
PICCO	9	81.8
LIDCO	1	9.1
Vigileo-PRAM	0	0.0
Other	1	9.1
Missing	0	

SDD (N=1)	N	%
Topical	0	0.0
Topical and systemic	1	100.0
Missing	0	

Surgical interventions	N	%
No	238	91.9
Yes	21	8.1
Missing	0	

Number of surgical interventions	N	%
0	238	91.9
1	17	6.6
2	3	1.2
3	1	0.4
>3	0	0.0
Missing	0	

Surgical interventions

Days from admission

Mean	6.0
SD	4.9
Median	4
Q1–Q3	2–8.5
Missing	0

Surgical interventions (top 10)

	N	%
Gastrointestinal surgery	6	2.3
Other surgery	6	2.3
ENT surgery	3	1.2
Neurosurgery	3	1.2
Hepatic surgery	2	0.8
Nephro/Urological surgery	2	0.8
Orthopaedic surgery	2	0.8
Thoracic surgery	2	0.8
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions

	N	%
No	247	95.4
Yes	12	4.6
Missing	0	

Non surgical interventions

Days from admission

Mean	10.4
SD	7.6
Median	10
Q1–Q3	6.5–10.8
Missing	1

Non surgical interventions

	N	%
Interventional endoscopy	8	3.1
Interventional radiology	7	2.7
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators** - Adult NON COVID non surgical pts. in the GiViTI mod.

ICU outcome	N	%
Dead	68	26.3
Transferred to same hospital	168	64.9
Transferred to other hospital	19	7.3
Discharged home	4	1.5
Disch. terminally ill	0	0.0
Missing	0	

Transferred to (N=187)	N	%
Ward	128	68.4
Other ICU	10	5.3
High dependency care unit	49	26.2
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=10)	N	%
Specialist expertise	6	60.0
Step-up care	0	0.0
Logistical/organizational reasons	4	40.0
Step-down care	0	0.0
Missing	0	

Transferred to Same hospital (N=168)	N	%
Ward	121	72.0
Other ICU	2	1.2
High dependency care unit	45	26.8
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=19)	N	%
Ward	7	36.8
Other ICU	8	42.1
High dependency care unit	4	21.1
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	191	73.7
Dead	68	26.3
Missing	0	

Timing of ICU mortality (N=68)	N	%
Daytime (08:00AM - 07:59PM)	52	76.5
Nighttime (08:00PM - 07:59AM)	16	23.5
Weekdays (Monday - Friday)	54	79.4
Weekend (Saturday - Sunday)	14	20.6
Missing	0	

Hospital mortality	N	%
Alive	166	64.1
Dead	93	35.9
Missing	0	

Timing of hosp. mortality (N=93)	N	%
In ICU	68	73.1
Within 24 hours after ICU	2	2.2
24-47 hours after ICU	3	3.2
48-71 hours after ICU	2	2.2
72-95 hours after ICU	1	1.1
After 95 hours after ICU	17	18.3
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=25)		
Mean		19.0
SD		21.8
Median		9
Q1–Q3		2–28
Missing		0

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Outcome indicators - Adult NON COVID non surgical pts. in the GiViTI mod.

Last hospital mortality	N	%
Alive	164	63.3
Dead	95	36.7
Missing	0	

ICU stay (days)	
Mean	8.5
SD	13.7
Median	4
Q1–Q3	2–9
Missing	0

ICU stay (days) Alive (N=191)	
Mean	7.2
SD	13.8
Median	3
Q1–Q3	2–7
Missing	0

ICU stay (days) Dead (N=68)	
Mean	12.1
SD	12.9
Median	7
Q1–Q3	3–16.5
Missing	0

Stay after ICU (days) Alive (N=191)	
Mean	14.9
SD	18.0
Median	8
Q1–Q3	2.5–21
Missing	0

Hospital stay (days)	
Mean	25.1
SD	29.6
Median	14
Q1–Q3	6–36
Missing	0

Hospital stay (days) Alive (N=166)	
Mean	26.3
SD	31.7
Median	15
Q1–Q3	7–37
Missing	0

Hospital stay (days) Dead (N=93)	
Mean	23.0
SD	25.6
Median	11
Q1–Q3	5–35
Missing	0

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Characteristics on admission - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Patients (N): 428

Sex	N	%
Male	258	60.3
Female	170	39.7
Missing	0	

Age (years)	N	%
17-45	34	7.9
46-65	150	35.0
66-75	154	36.0
>75	90	21.0
Missing	0	
Mean	65.2	
SD	13.6	
Median	67	
Q1–Q3	58–74	
Min–Max	18–94	

Body mass Index (BMI)	N	%
Underweight	15	3.5
Normal	173	40.4
Overweight	168	39.3
Obese	72	16.8
Missing	0	

Pregnancy status	N	%
Females (N=170)		
Not fertile	59	34.7
Not pregnant/Unknown	110	64.7
Currently pregnant	0	0.0
Post partum	1	0.6
Missing	0	

Comorbidities	N	%
No	27	6.3
Yes	401	93.7
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	237	55.4
Any tumour without metastasis	187	43.7
Metastatic cancer	71	16.6
Diabetes Type II without insulin tr.	68	15.9
Arrhythmia	56	13.1
NYHA class II-III	43	10.0
Peripheral vascular disease	41	9.6
Myocardial infarction	39	9.1
Moderate COPD	37	8.6
Endocrine-metabolic diseases	36	8.4
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	5.2	15.9	1	1–3	0

Source of admission	N	%
Same hospital	424	99.1
Other hospital	4	0.9
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=428)		
Medical ward	4	0.9
Surgical ward	410	95.8
Emergency room	1	0.2
Other ICU	5	1.2
High dependency care unit	8	1.9
Missing	0	

Reason for transfer from	N	%
Other ICU (N=5)		
Specialist expertise	3	60.0
Step-up care	2	40.0
Logistical/organizational reasons	0	0.0
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=424)		
Medical ward	3	0.7
Surgical ward	410	96.7
Emergency room	1	0.2
Other ICU	3	0.7
High dependency care unit	7	1.7
Missing	0	

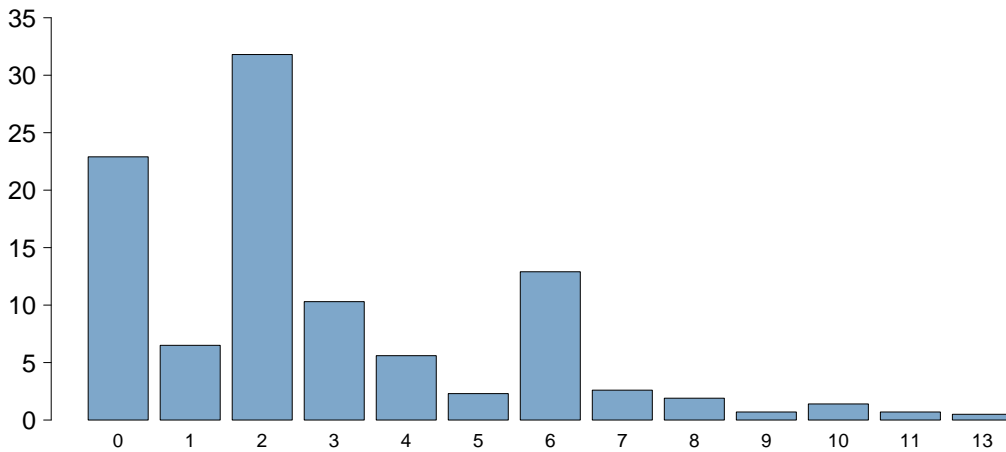
Ward of admission	N	%
Other hospital (N=4)		
Medical ward	1	25.0
Surgical ward	0	0.0
Emergency room	0	0.0
Other ICU	2	50.0
High dependency care unit	1	25.0
Missing	0	

Scheduled admission	N	%
No	54	12.6
Yes	374	87.4
Missing	0	

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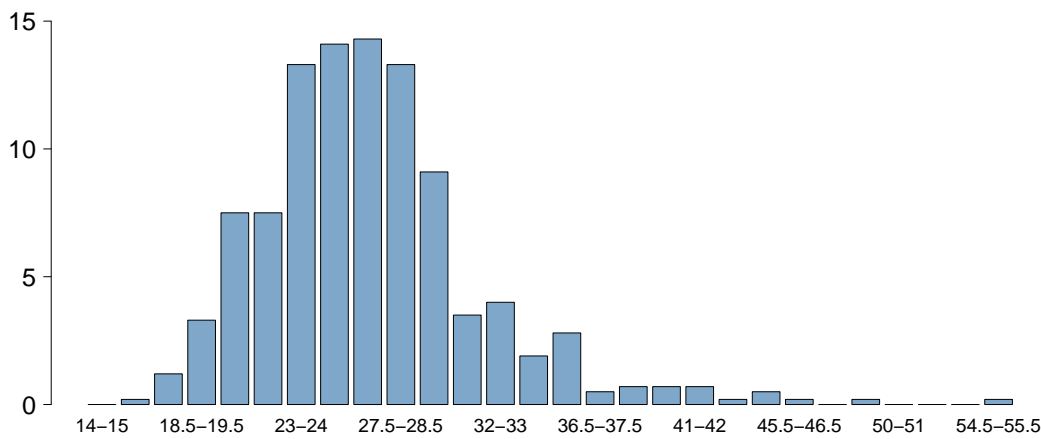
Characteristics on admission - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Charlson (%)



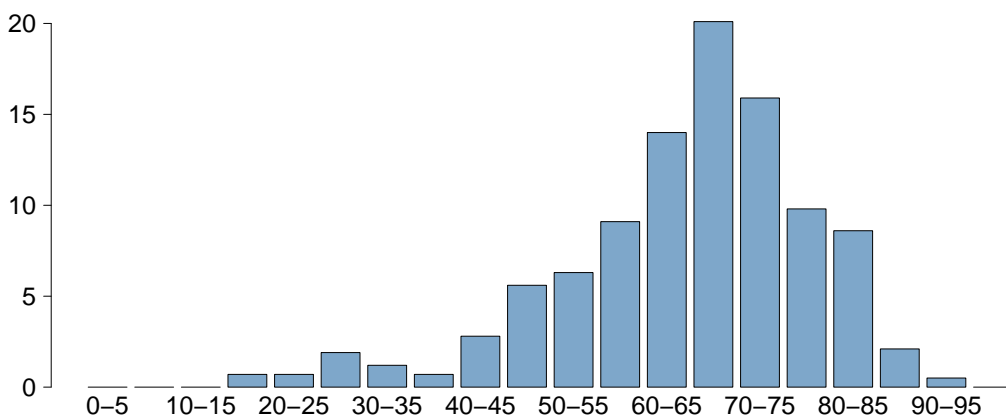
Charlson score	
Mean	2.8
SD	2.6
Median	2
Q1–Q3	1–4
Missing	0

BMI (%)



BMI	
Mean	27.0
SD	5.3
Median	26.3
Q1–Q3	23.8–29.1
Missing	0

Age (%)



Age	
Mean	65.2
SD	13.6
Median	67
Q1–Q3	58–74
Missing	0

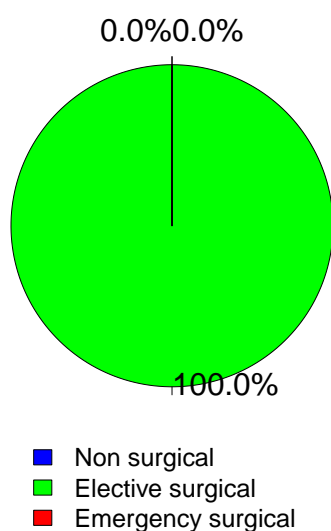
National report - Year 2021

Characteristics on admission - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Trauma	N	%
No	421	98.4
Yes	7	1.6
Multiple trauma	3	0.7
Missing	0	

Surgical status	N	%
Non surgical	0	0.0
Elective surgical	428	100.0
Emergency surgical	0	0.0
Missing	0	

Surgical status



Timing	N	%
Elective surgical (N=428)		
From -7 to -3 days	13	3.0
From -2 to -1 days	13	3.0
On ICU admission day	452	105.6
The day after ICU admission	9	2.1
Missing	0	

Surgical interventions (top 10)

Emergency surgical (N=0)	N	%
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing

Emergency surgical (N=0)	N	%
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Source of admission

Surgical pt. (N=428)	N	%
Operating theatre of surgical ward	392	91.6
Operating theatre of emergency room	0	0.0
Surgical ward	18	4.2
Other	18	4.2
Missing	0	

Surgical interventions (top 10)

Elective surgical (N=428)	N	%
Gastrointestinal surgery	279	65.2
Nephro/Urological surgery	26	6.1
Other surgery	26	6.1
Gynaecological surgery	24	5.6
Abdominal vascular surgery	23	5.4
Hepatic surgery	20	4.7
Neurosurgery	15	3.5
Peripheral vascular surgery	14	3.3
Organ/s transplantation	11	2.6
Thoracic surgery	10	2.3
Missing	0	

Non surgical interventions

	N	%
None	414	96.7
Elective	7	1.6
Emergency	7	1.6
Missing	0	

Non surgical interventions

Elective (N=7)	N	%
Interventional radiology	1	14.3
Interventional cardiology	1	14.3
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	5	

Non surgical interventions

Emergency (N=7)	N	%
Interventional radiology	3	42.9
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	4	

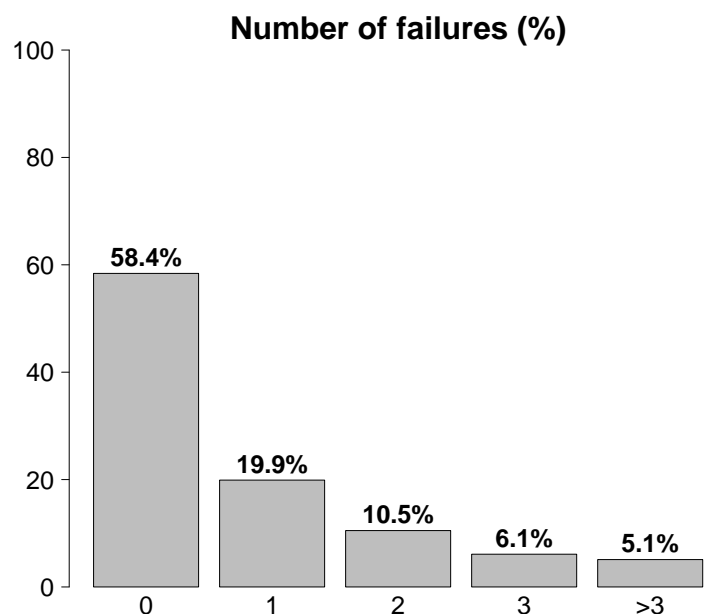
National report - Year 2021

Characteristics on admission - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Reason for admission	N	%
Monitoring/Weaning	338	79.0
Post surgical weaning	7	1.6
Surgical monitoring	331	77.3
Post interventional weaning	0	0.0
Interventional monitoring	0	0.0
Non surgical monitoring	0	0.0
Missing	0	
Intensive Treatment	90	21.0
Only ventilatory support	17	4.0
Only cardiovascular support	15	3.5
Ventilatory and cardiovascular support	58	13.6
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	

Failures on admission (top 10)	N	%
E	49	11.4
AB	21	4.9
G	19	4.4
EG	17	4.0
ABEG	15	3.5
A	10	2.3
ABE	8	1.9
B	6	1.4
ABG	5	1.2
BEG	5	1.2
Missing	0	

Respiratory failure	N	%
None	353	82.5
Only hypoxic failure	16	3.7
Only hypercapnic failure	5	1.2
Hypoxic-hypercapnic failure	11	2.6
Intubation for airway maint.	43	10.0
Missing	0	



Cardiovascular failure	N	%
None	355	82.9
Without shock	33	7.7
Cardiogenic shock	2	0.5
Septic shock	9	2.1
Haemorrhagic/hypovolemic shock	12	2.8
Hypovolemic shock	1	0.2
Anaphylactic shock	3	0.7
Neurogenic shock	0	0.0
Other shock	9	2.1
Mixed shock	4	0.9
Missing	0	

Neurologic failure	N	%
None	395	98.0
Cerebral coma	1	0.2
Metabolic coma	4	1.0
Postanoxic coma	3	0.7
Toxic coma	0	0.0
Missing or not evaluable	25	

Failures on admission	N	%
No	250	58.4
Yes	178	41.6
A: Respiratory failure	75	17.5
B: Cardiovascular failure	73	17.1
C: Neurological failure	8	1.9
D: Hepatic failure	5	1.2
E: Renal failure	108	25.2
F: Acute skin failure	0	0.0
G: Metabolic failure	70	16.4
H: Coagulation failure	6	1.4
Missing	0	

Renal failure (AKIN)	N	%
None	320	74.8
Mild	75	17.5
Moderate	24	5.6
Severe	9	2.1
Missing	0	

Metabolic failure	N	%
None	358	83.6
pH <= 7.3, PaCO2 < 45 mmHg	32	7.5
Base deficit >= 5 mmol/L, lactate >1.5x	38	8.9
Missing	0	

National report - Year 2021

Characteristics on admission - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

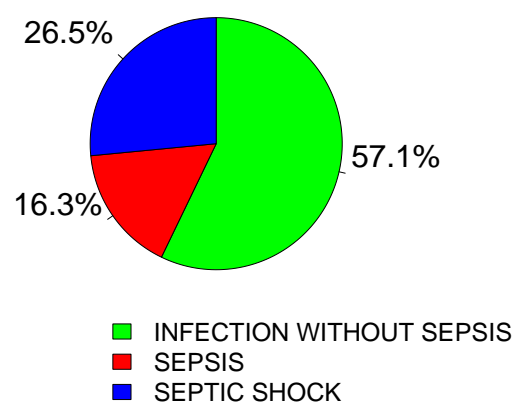
Clinical conditions on admission	N	%
Respiratory	28	6.5
Pleural effusion	10	2.3
Aspiration pneumonia	9	2.1
Lung cancer	7	1.6
Atelectasis	2	0.5
Pulmonary embolism	2	0.5
Cardiovascular	58	13.6
Non-ruptured aneurysm	19	4.4
Peripheral vascular disease	17	4.0
Left heart failure without pulm. edema	6	1.4
Cardiac arrest	6	1.4
Acute severe arrhythmia: tachycardias	5	1.2
Neurological	17	4.0
Brain tumour	6	1.4
Neuropathy/myopathy	5	1.2
Cerebral Aneurysm	3	0.7
Non traumatic cerebral oedema	2	0.5
Metabolic/postanoxic encephalopathy	2	0.5
Gastrointestinal and hepatic	273	63.8
Digestive tract malignancy	244	57.0
Hepatic malignancy	21	4.9
Paralytic Ileus	6	1.4
Pancreatic malignancy	6	1.4
Liver Dysfunction Syndrome	4	0.9
Trauma (anatomical districts)	7	1.6
Chest	4	0.9
Head	3	0.7
Spine	3	0.7
Pelvis/bone/joint & muscle	1	0.2
-	0	0.0
-	0	0.0
-	0	0.0
Other	138	32.2
Other disease	91	21.3
Nephrourologic disease	22	5.1
Gynaecological disease	13	3.0
Metabolic disorder	8	1.9
Coagulation disorder	6	1.4
Post transplantation	12	2.8
Liver transplantation	8	1.9
Lung transplantation	3	0.7
Infections	49	11.4
Post-surgical peritonitis	20	4.7
Pneumonia	14	3.3
NON-catheter-related UTI	5	1.2
NON-surgical secondary peritonitis	4	0.9
Catheter-related UTI	3	0.7
Cholecystitis/cholangitis	2	0.5
Pleurisy/Pleural empyema	2	0.5
Post-surgical skin/soft tissue infection	2	0.5
Primary bacteraemia of unknown origin	1	0.2
Clinical sepsis	1	0.2
Missing	0	

Trauma (anatomical districts)	N	%
Head	3	0.7
Traumatic Subdural haematoma	2	0.5
Cerebral contusion/laceration	1	0.2
Extradural/epidural haematoma	1	0.2
Traumatic subarachnoid haemorrhage	1	0.2
Maxillofacial fracture	1	0.2
Spine	3	0.7
Vertebral fracture, without deficit	2	0.5
Cervical injury, incomplete deficit	1	0.2
-	0	0.0
Chest	4	0.9
Traum. haemothorax/pneumothorax	3	0.7
Flail chest	2	0.5
Major laceration of trachea/larynx	1	0.2
Abdomen	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Pelvis/bone/joint & muscle	1	0.2
Multiple fracture of the pelvis	1	0.2
-	0	0.0
-	0	0.0
Major vessels injury	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	379	88.6
INFECTION WITHOUT SEPSIS	28	6.5
SEPSIS	8	1.9
SEPTIC SHOCK	13	3.0
Missing	0	

Infection severity on admission

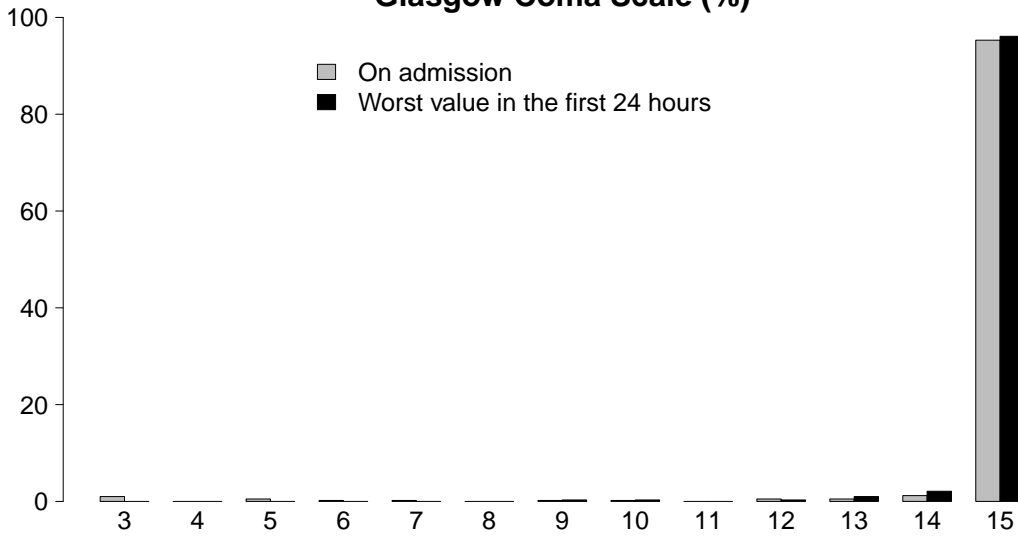
Patients infected (N=49)



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Severity scores - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

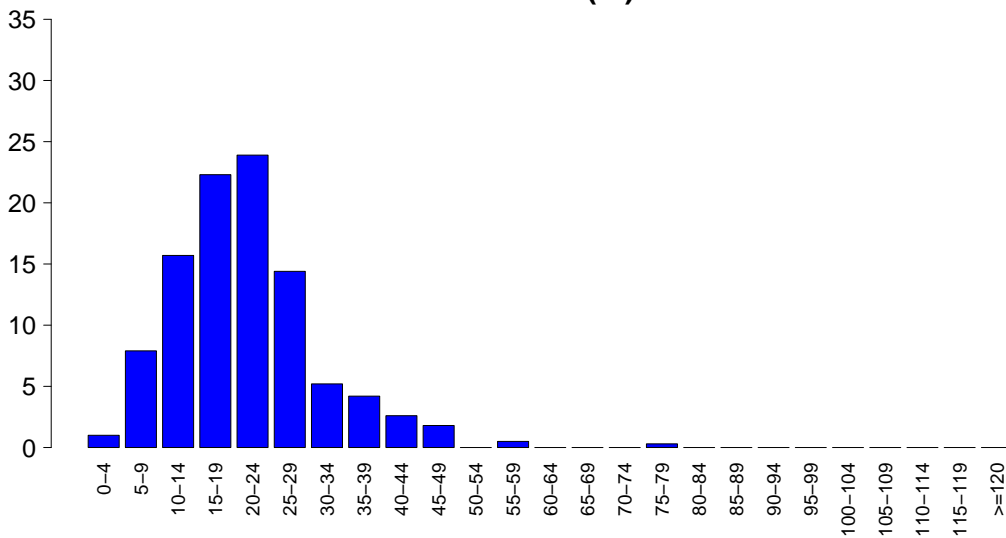
Glasgow Coma Scale (%)



GCS (admission)	
Median	15
Q1–Q3	15–15
Not evaluable	25
Missing	0

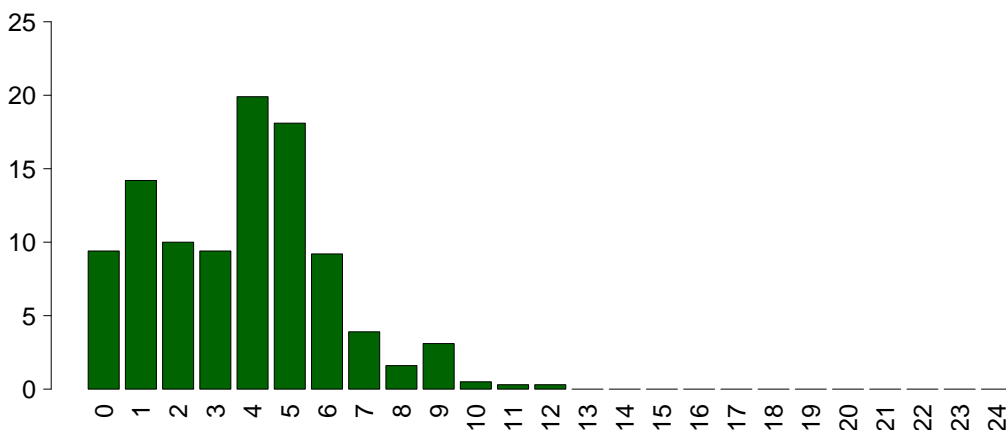
GCS (worst in first 24 hours)	
Median	15
Q1–Q3	15–15
Not evaluable	47
Missing	0

SAPS II (%)



SAPSII	
Mean	21.1
SD	9.7
Median	20
Q1–Q3	15–25
Not evaluable	47
Missing	0

SOFA (%)



SOFA	
Mean	3.7
SD	2.4
Median	4
Q1–Q3	2–5
Not evaluable	47
Missing	0

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Characteristics during the stay - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Complications during the stay	N	%
No	227	53.0
Yes	201	47.0
Missing	0	

Failures during the stay	N	%
No	377	88.1
Yes	51	11.9
A: Respiratory failure	12	2.8
B: Cardiovascular failure	17	4.0
C: Neurological failure	5	1.2
D: Hepatic failure	8	1.9
E: Renal failure (AKIN)	28	6.5
F: Acute skin failure	1	0.2
G: Metabolic failure	18	4.2
H: Coagulation failure	1	0.2
Missing	0	

Failures during the stay (top 10)	N	%
G	13	3.0
E	11	2.6
B	4	0.9
ABEG	3	0.7
AE	3	0.7
BDE	3	0.7
AB	2	0.5
DE	2	0.5
A	1	0.2
ABCE	1	0.2
Missing	0	

Respiratory failure occurred	N	%
None	416	97.2
Intubation for airway maint.	2	0.5
Hypoxic failure	10	2.3
Hypercapnic failure	4	0.9
Missing	0	

Cardiovascular failure occurred	N	%
None	411	96.0
Cardiogenic shock	2	0.5
Hypovolemic shock	2	0.5
Haemorrhagic/hypovolemic shock	2	0.5
Septic shock	9	2.1
Anaphylactic shock	1	0.2
Neurogenic shock	0	0.0
Other shock	1	0.2
Missing	0	

Neurological failure occurred	N	%
None	423	98.8
Cerebral coma	2	0.5
Metabolic coma	3	0.7
Postanoxic coma	0	0.0
Missing	0	

Renal failure occurred (AKIN)	N	%
None	400	93.5
Mild	6	1.4
Moderate	5	1.2
Severe	17	4.0
Missing	0	

Complications during the stay	N	%
Respiratory	19	4.4
Pleural effusion	9	2.1
Mild ARDS	3	0.7
Aspiration pneumonia	3	0.7
Atelectasis	3	0.7
Pneumothorax/Pneumomediastinum	3	0.7
Cardiovascular	32	7.5
Acute severe arrhythmia: tachycardias	19	4.4
Acute severe arrhythmia: bradycardias	8	1.9
Pulmonary edema	5	1.2
Deep venous thrombosis	2	0.5
Hypertensive crisis	2	0.5
Neurological	26	6.1
Drowsiness/agitation/delirium	21	4.9
CrIMyNe	4	0.9
Brain edema	3	0.7
New ischaemic stroke	3	0.7
Post-surgical intracranial bleeding	2	0.5
Gastrointestinal and hepatic	82	19.2
Paralytic Ileus	56	13.1
Anastomotic dehiscence	12	2.8
Gastrointestinal perforation	6	1.4
Intrabdominal bleeding	6	1.4
Liver Dysfunction Syndrome	6	1.4
Other	93	21.7
Other disease	68	15.9
Metabolic disorder	18	4.2
Nephrourologic disease	8	1.9
Category/Stage III: Full Thickness Skin Loss	2	0.5
Other skin and/or soft tissue pathology	2	0.5
Iatrogenic major vessels injury	1	0.2
-	0	0.0
Infections	85	19.9
Post-surgical peritonitis	58	13.6
Pneumonia	14	3.3
Post-surgical skin/soft tissue infection	7	1.6
L.R.T.I. other than pneumonia	5	1.2
NON-catheter-related UTI	4	0.9
Clinical sepsis	3	0.7
NON-surgical secondary peritonitis	2	0.5
Catheter-related UTI	2	0.5
Cholecystitis/cholangitis	1	0.2
Other fungal infections	1	0.2
Missing	0	

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Characteristics during the stay - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Infections	N	%
None	303	70.8
Only on admission	40	9.3
On admission and during ICU stay	9	2.1
Only during ICU stay	76	17.8
Missing	0	

Maximum severity of infection	N	%
None	303	70.8
INFECTION WITHOUT SEPSIS	67	15.7
SEPSIS	37	8.6
SEPTIC SHOCK	21	4.9
Missing	0	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	303 (79.9%)	45 (11.9%)	24 (6.3%)	7 (1.8%)	379
	INFECTION WITHOUT SEPSIS	-	22 (78.6%)	5 (17.9%)	1 (3.6%)	28
	SEPSIS	-	-	8 (100.0%)	0 (0.0%)	8
	SEPTIC SHOCK	-	-	-	13 (100.0%)	13
	TOT	303	67	37	21	428

Ventil. Associat. Pneumonia (VAP)	N	%
No	417	97.4
Yes	11	2.6
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	23.8
CI (95%)	11.9–42.6

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	19.1%
CI (95%)	9.5–34.1

Catheter Bacteraemia (CR-BSI)	N	%
No	428	100.0
Yes	0	0.0
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.0
CI (95%)	0.0–2.1

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.0%
CI (95%)	0.0–2.5

Catheter-related urinary tract infection (UTI)	N	%
No	426	99.5
Yes	2	0.5
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	1.1
CI (95%)	0.1–4.1

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.4%
CI (95%)	0.2–4.9

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Process indicators - Adult NON COVID elect. Procedures and/or treatments (Missing=0)	surgical		% eval. in		O ₂ saturation		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	427	99.8												
Invasive ventilation	86	20.1	73	17.1	15	3.5	2	1-6	0	0-3	0	0	0-3	0
Non invasive ventilation	23	5.4	3	0.7	12	2.8	1	0-4	0	0-4	0	2	0-4	0
Tracheostomy	12	2.8	2	0.5	10	2.3	10	5-18	0	9-18	0	15	9-18	0
iNO (inhaled nitric oxide)	8	1.9	4	0.9	0	0	2	1-3	0	0-3	0	1	0-3	0
Central Venous Catheter	394	92.1	376	87.9	364	85	3	2-5	0	0-0	0	0	0-0	0
PICC	9	2.1	4	0.9	9	2.1	2	2-3	0	2-8	0	5	2-8	0
Arterial Catheter	370	86.4	356	83.2	81	18.9	3	2-4	0	0-0	0	0	0-0	0
Vasoactive drugs	284	66.4	244	57	15	3.5	2	1-3	0	0-0	0	0	0-0	0
Antiarrhythmics	30	7.0	5	1.2	11	2.6	1	1-3	0	1-5	0	3	1-5	0
IABP	1	0.2	1	0.2	1	0.2	3	3-3	0					
Invasive monitoring of C.O.	5	1.2	2	0.5	0	0	7	1-15	0	0-3	0	0	0-3	0
Continuous monitoring of ScVO2	0	0.0												
Temporary pacing	2	0.5	1	0.2	0	0	7	6-8	0	3-3	0	3	3-3	0
Ventricular assistance	0	0.0												
DC-shock	2	0.5										2	2-2	0
CPR	4	0.9										0	0-2	0
Massive blood transfusion	5	1.2										0	0-0	0
ICP monitoring without CSF drainage	4	0.9	3	0.7	0	0	7	6-9	0	1-1	0	1	1-1	0
ICP monitoring with CSF drainage	0	0.0												
EVD without ICP monitoring	4	0.9	2	0.5	3	0.7	6	4-14	0	2-2	0	2	2-2	0
Haemofiltration	1	0.2	0	0	1	0.2	11	11-11	0	13-13	0	13	13-13	0
Haemodialysis	13	3.0	2	0.5	3	0.7	1	0-11	0	1-4	0	1	1-4	0
ECMO	0	0.0												
Hepatic clearance techniques	0	0.0												
Clearance techniques during sepsis	0	0.0												
IAP (intra-abdominal pressure)	21	4.9												
Hypothermia	3	0.7	0	0	0	0	1	1-1	0	0-0	0	0	0-0	0
Enteral nutrition	168	39.3	62	14.5	141	32.9	3	2-5	0	1-2	0	1	1-2	0
Parenteral nutrition	285	66.6	40	9.3	252	58.9	2	1-4	0	1-1	0	1	1-1	0
SDD (Topical, Topical and systemic)	2	0.5												
Patient restraint	1	0.2												
Peridural catheter	205	47.9	205	47.9	181	42.3	3	2-4	0	1-1	0	1	1-1	0
Electrical cardioversion	1	0.2												
Vacuum therapy	2	0.5												
Urinary catheter	420	98.1	413	96.5	403	94.2	3	2-4	0	0-0	0	0	0-0	0
Pronation	0	0.0												
Antivirals	5	1.2	1	0.2	5	1.2	2	1-3	0	1-3	0	2	1-3	0

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Process indicators - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	408	95.3										
Antibiotic prophylaxis	340	79.4	312	72.9	84	19.6	0	0-1	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	60	14.0	22	5.1	12	2.8	2	1-3	0	1	1-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	79	18.5	16	3.7	67	15.7	2	1-4	0	1	1-2	0
Targeted antibiotic therapy	69	16.1	13	3	51	11.9	4	2-9	0	3	2-5	0
Antifungal in empirical therapy	14	3.3	2	0.5	7	1.6	3	2-6	0	2	1-4	0
Antifungal in targeted therapy	14	3.3	2	0.5	6	1.4	11	2-20	0	5	4-5	0
Pre-emptive antifungal	3	0.7	2	0.5	1	0.2	3	3-4	0	0	0-0	0

Antibiotic therapy			
Pt. infected in ICU only (N=76)			
	N	%	
No therapy	3	3.9	
Only empirical	42	55.3	
Only targeted	4	5.3	
Targeted after empirical	25	32.9	
Other	2	2.6	
Missing	0		

Antifungal therapy			
Pt. infected in ICU only (N=76)			
	N	%	
No therapy	67	88.2	
Only empirical	5	6.6	
Only targeted	4	5.3	
Targeted after empirical	0	0.0	
Other	0	0.0	
Missing	0		

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Process indicators - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

		Length (days)						
Invasive ventilation (N=86)		N	%	Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure		36	40.0	8.5	9.7	5	1.8–10.2	0
For airway maintenance		42	46.7	4.1	6.6	2	1–3	0
In weaning		7	7.8	0.4	0.5	0	0–1	0
Not evaluable		5	5.6	35.5	48.8	35.5	18.2–52.8	3
Reintubation within 48 hours		3	3.3	15.7	8.1	17	12–20	0

Non invasive ventilation (N=23)		N	%
Non invasive ventilation only		4	17.4
Non invasive ventilation failed		2	8.7
For weaning		13	56.5
Other		4	17.4
Missing		0	

Tracheostomy not present on admission (N=10)		N	%
Surgical		4	40.0
Percutwist		4	40.0
Ciaglia		0	0.0
Monodil. Ciaglia		1	10.0
Fantoni		0	0.0
Griggs		0	0.0
Other Kind		0	0.0
Unknown		1	10.0
Missing		0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=10)		Mean	SD	Median	Q1–Q3	Missing
		14.6	8.5	15	9.2–17.8	0

Invasive monitoring of C.O. (N=5)		N	%
Swan Ganz		0	0.0
PICCO		4	80.0
LIDCO		0	0.0
Vigileo-PRAM		0	0.0
Other		1	20.0
Missing		0	

SDD (N=2)		N	%
Topical		2	100.0
Topical and systemic		0	0.0
Missing		0	

Surgical interventions		N	%
No		405	94.6
Yes		23	5.4
Missing		0	

Number of surgical interventions		N	%
0		405	94.6
1		16	3.7
2		1	0.2
3		3	0.7
>3		3	0.7
Missing		0	

Surgical interventions Days from admission		Mean	SD	Median	Q1–Q3	Missing
		6.3	4.8	5	3–8.2	0

Surgical interventions (top 10)		N	%
Gastrointestinal surgery		31	7.2
Other surgery		5	1.2
Hepatic surgery		1	0.2
ENT surgery		1	0.2
Thoracic surgery		1	0.2
Neurosurgery		1	0.2
-		0	0.0
-		0	0.0
-		0	0.0
-		0	0.0
Missing		0	

Non surgical interventions		N	%
No		416	97.2
Yes		12	2.8
Missing		0	

Non surgical interventions Days from admission		Mean	SD	Median	Q1–Q3	Missing
		18.0	19.6	12	4.5–22.2	0

Non surgical interventions		N	%
Interventional endoscopy		11	2.6
Interventional cardiology		3	0.7
Interventional radiology		2	0.5
Interventional neuroradiology		0	0.0
Missing		0	

National report - Year 2021**Outcome indicators** - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

ICU outcome	N	%
Dead	10	2.3
Transferred to same hospital	408	95.6
Transferred to other hospital	6	1.4
Discharged home	3	0.7
Disch. terminally ill	0	0.0
Missing	1	

Transferred to (N=414)	N	%
Ward	353	85.3
Other ICU	10	2.4
High dependency care unit	51	12.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=10)	N	%
Specialist expertise	1	10.0
Step-up care	0	0.0
Logistical/organizational reasons	3	30.0
Step-down care	6	60.0
Missing	0	

Transferred to Same hospital (N=408)	N	%
Ward	351	86.0
Other ICU	6	1.5
High dependency care unit	51	12.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=6)	N	%
Ward	2	33.3
Other ICU	4	66.7
High dependency care unit	0	0.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	417	97.7
Dead	10	2.3
Missing	1	

Timing of ICU mortality (N=10)	N	%
Daytime (08:00AM - 07:59PM)	7	70.0
Nighttime (08:00PM - 07:59AM)	3	30.0
Weekdays (Monday - Friday)	8	80.0
Weekend (Saturday - Sunday)	2	20.0
Missing	0	

Hospital mortality	N	%
Alive	406	94.9
Dead	22	5.1
Missing	0	

Timing of hosp. mortality (N=22)	N	%
In ICU	10	45.5
Within 24 hours after ICU	0	0.0
24-47 hours after ICU	1	4.5
48-71 hours after ICU	2	9.1
72-95 hours after ICU	0	0.0
After 95 hours after ICU	9	40.9
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=12)		
Mean		17.6
SD		19.0
Median		12.5
Q1–Q3		3.5–20.8
Missing		0

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Outcome indicators - Adult NON COVID elect. surgical pts. eval. in the GiViTI m.

Last hospital mortality			ICU stay (days)		
	N	%			
Alive	405	94.6	Mean	4.1	
Dead	23	5.4	SD	6.4	
Missing	0		Median	2	
			Q1–Q3	1–4	
			Missing	0	
			ICU stay (days)		
			Alive (N=417)		
			Mean	3.9	
			SD	6.1	
			Median	2	
			Q1–Q3	1–4	
			Missing	0	
			ICU stay (days)		
			Dead (N=10)		
			Mean	14.4	
			SD	11.7	
			Median	15	
			Q1–Q3	6–16.5	
			Missing	0	
			Stay after ICU (days)		
			Alive (N=417)		
			Mean	10.2	
			SD	10.2	
			Median	7	
			Q1–Q3	4–12	
			Missing	0	
			Hospital stay (days)		
			Mean	19.4	
			SD	21.5	
			Median	13	
			Q1–Q3	8–22	
			Missing	0	
			Hospital stay (days)		
			Alive (N=406)		
			Mean	18.7	
			SD	21.3	
			Median	12.5	
			Q1–Q3	8–21	
			Missing	0	
			Hospital stay (days)		
			Dead (N=22)		
			Mean	31.7	
			SD	21.9	
			Median	25	
			Q1–Q3	16.5–43.5	
			Missing	0	

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Characteristics on admission - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Patients (N): 426

Sex	N	%
Male	285	66.9
Female	141	33.1
Missing	0	

Age (years)	N	%
17-45	68	16.0
46-65	115	27.0
66-75	123	28.9
>75	120	28.2
Missing	0	
Mean	64.4	
SD	17.1	
Median	68	
Q1–Q3	55.2–77	
Min–Max	18–95	

Body mass Index (BMI)	N	%
Underweight	18	4.2
Normal	157	36.9
Overweight	167	39.2
Obese	84	19.7
Missing	0	

Pregnancy status	N	%
Females (N=141)		
Not fertile	82	58.2
Not pregnant/Unknown	56	39.7
Currently pregnant	1	0.7
Post partum	2	1.4
Missing	0	

Comorbidities	N	%
No	77	18.1
Yes	349	81.9
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	209	49.1
Arrhythmia	84	19.7
Any tumour without metastasis	64	15.0
NYHA class II-III	60	14.1
Endocrine-metabolic diseases	56	13.1
Diabetes Type II without insulin tr.	53	12.4
Moderate or severe renal disease	49	11.5
Peripheral vascular disease	42	9.9
Drug-induced coagulopathy	41	9.6
Metastatic cancer	38	8.9
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	5.0	12.0	1	0–4	0

Source of admission	N	%
Same hospital	394	92.5
Other hospital	32	7.5
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=426)		
Medical ward	31	7.3
Surgical ward	220	51.6
Emergency room	135	31.7
Other ICU	20	4.7
High dependency care unit	20	4.7
Missing	0	

Reason for transfer from	N	%
Other ICU (N=20)		
Specialist expertise	14	70.0
Step-up care	4	20.0
Logistical/organizational reasons	2	10.0
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=394)		
Medical ward	27	6.9
Surgical ward	217	55.1
Emergency room	117	29.7
Other ICU	17	4.3
High dependency care unit	16	4.1
Missing	0	

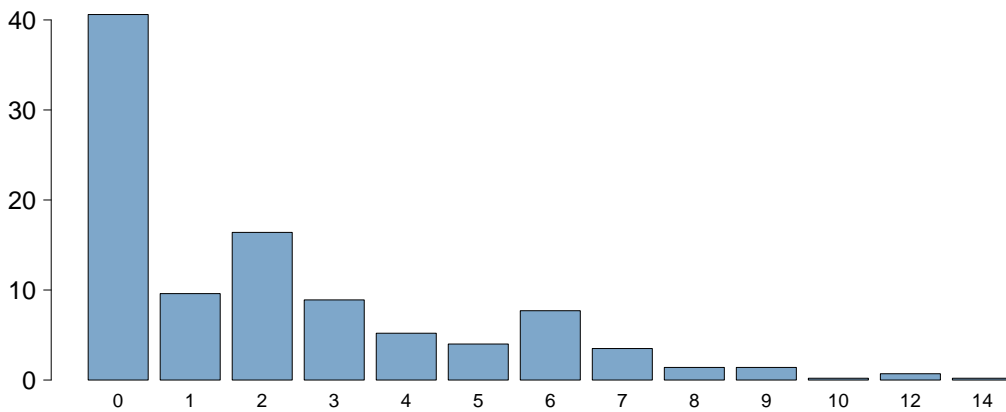
Ward of admission	N	%
Other hospital (N=32)		
Medical ward	4	12.5
Surgical ward	3	9.4
Emergency room	18	56.2
Other ICU	3	9.4
High dependency care unit	4	12.5
Missing	0	

Scheduled admission	N	%
No	426	100.0
Yes	0	0.0
Missing	0	

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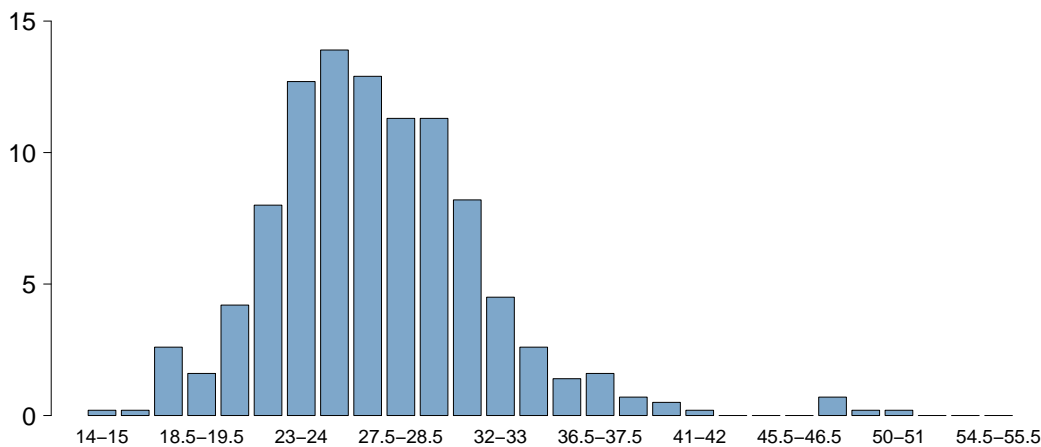
Characteristics on admission - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Charlson (%)



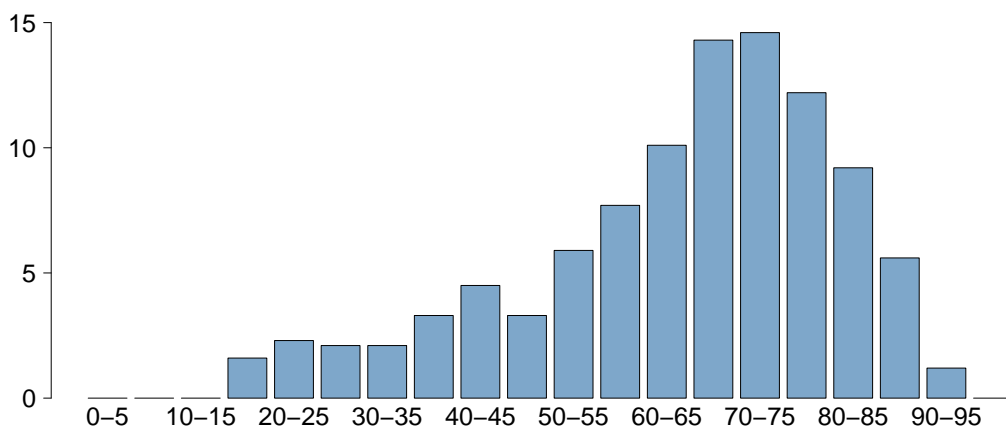
Charlson score	
Mean	2.2
SD	2.6
Median	1
Q1–Q3	0–3
Missing	0

BMI (%)



BMI	
Mean	27.2
SD	5.1
Median	26.8
Q1–Q3	24–29.9
Missing	0

Age (%)



Age	
Mean	64.4
SD	17.1
Median	68
Q1–Q3	55.2–77
Missing	0

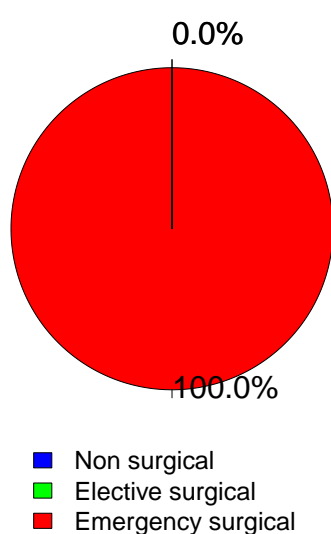
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Characteristics on admission - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Trauma	N	%
No	280	65.7
Yes	146	34.3
Multiple trauma	54	12.7
Missing	0	

Surgical status	N	%
Non surgical	0	0.0
Elective surgical	0	0.0
Emergency surgical	426	100.0
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=426)		
Operating theatre of surgical ward	179	42.0
Operating theatre of emergency room	110	25.8
Surgical ward	41	9.6
Other	96	22.5
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=426)		
Gastrointestinal surgery	180	42.3
Neurosurgery	94	22.1
Other surgery	33	7.7
Orthopaedic surgery	24	5.6
Thoracic surgery	24	5.6
Organ/s transplantation	15	3.5
Nephro/Urological surgery	13	3.1
Biliary tract surgery	12	2.8
Hepatic surgery	10	2.3
Abdominal vascular surgery	9	2.1
Missing	12	

Timing	N	%
Emergency surgical (N=426)		
From -7 to -3 days	26	6.1
From -2 to -1 days	54	12.7
On ICU admission day	365	85.7
The day after ICU admission	25	5.9
Missing	2	

Non surgical interventions	N	%
None	404	94.8
Elective	4	0.9
Emergency	18	4.2
Missing	0	

Non surgical interventions	N	%
Elective (N=4)		
Interventional endoscopy	3	75.0
Interventional radiology	1	25.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=18)		
Interventional radiology	10	55.6
Interventional endoscopy	5	27.8
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	3	

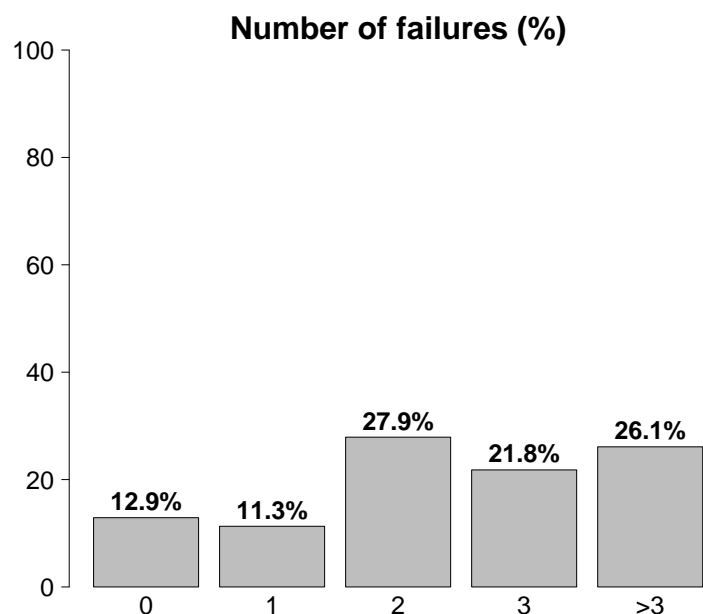
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Characteristics on admission - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Reason for admission	N	%
Monitoring/Weaning	94	22.1
Post surgical weaning	10	2.3
Surgical monitoring	84	19.7
Post interventional weaning	0	0.0
Interventional monitoring	0	0.0
Non surgical monitoring	0	0.0
Missing	0	
Intensive Treatment	332	77.9
Only ventilatory support	43	10.1
Only cardiovascular support	41	9.6
Ventilatory and cardiovascular support	248	58.2
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	

Failures on admission (top 10)	N	%
AB	72	16.9
ABEG	71	16.7
ABE	30	7.0
E	20	4.7
ABC	17	4.0
ABG	17	4.0
BEG	16	3.8
A	14	3.3
EG	11	2.6
AE	10	2.3
Missing	0	

Respiratory failure	N	%
None	135	31.7
Only hypoxic failure	101	23.7
Only hypercapnic failure	13	3.1
Hypoxic-hypercapnic failure	12	2.8
Intubation for airway maint.	165	38.7
Missing	0	



Cardiovascular failure	N	%
None	137	32.2
Without shock	126	29.6
Cardiogenic shock	5	1.2
Septic shock	90	21.1
Haemorrhagic/hypovolemic shock	41	9.6
Hypovolemic shock	8	1.9
Anaphylactic shock	1	0.2
Neurogenic shock	4	0.9
Other shock	4	0.9
Mixed shock	10	2.3
Missing	0	

Neurologic failure	N	%
None	259	86.0
Cerebral coma	31	10.3
Metabolic coma	6	2.0
Postanoxic coma	4	1.3
Toxic coma	1	0.3
Missing or not evaluable	125	

Failures on admission	N	%
No	55	12.9
Yes	371	87.1
A: Respiratory failure	291	68.3
B: Cardiovascular failure	289	67.8
C: Neurological failure	42	9.9
D: Hepatic failure	13	3.1
E: Renal failure	210	49.3
F: Acute skin failure	1	0.2
G: Metabolic failure	163	38.3
H: Coagulation failure	34	8.0
Missing	0	

Renal failure (AKIN)	N	%
None	216	50.7
Mild	102	23.9
Moderate	64	15.0
Severe	44	10.3
Missing	0	

Metabolic failure	N	%
None	263	61.7
pH \leq 7.3, PaCO ₂ $<$ 45 mmHg	56	13.1
Base deficit \geq 5 mmol/L, lactate $>$ 1.5x	107	25.1
Missing	0	

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Characteristics on admission - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

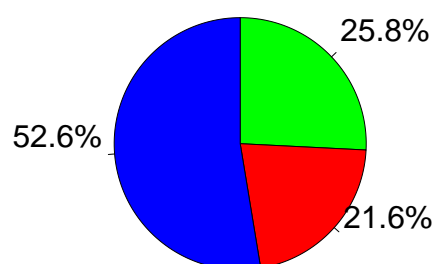
Clinical conditions on admission	N	%
Respiratory	82	19.2
Aspiration pneumonia	29	6.8
Pleural effusion	21	4.9
Pulmonary embolism	8	1.9
Atelectasis	5	1.2
Pneumothorax/Pneumomediastinum	5	1.2
Cardiovascular	63	14.8
Cardiac arrest	11	2.6
Acute severe arrhythmia: tachycardias	10	2.3
Left heart failure without pulm. edema	9	2.1
Pulmonary hypertension	9	2.1
Non-congenital valvular disease	9	2.1
Neurological	34	8.0
Brain tumour	8	1.9
Metabolic/postanoxic encephalopathy	6	1.4
Spontaneous Intraparenchymal bleeding	6	1.4
Chronic Subdural haematoma	5	1.2
Intracranial hypertension	4	0.9
Gastrointestinal and hepatic	166	39.0
Gastrointestinal perforation	46	10.8
Intestinal occlusion	43	10.1
Digestive tract malignancy	28	6.6
Paralytic Ileus	18	4.2
Bowel ischaemia	15	3.5
Trauma (anatomical districts)	146	34.3
Head	101	23.7
Chest	41	9.6
Spine	37	8.7
Pelvis/bone/joint & muscle	33	7.7
Abdomen	24	5.6
Major vessels injury	7	1.6
-	0	0.0
Other	116	27.2
Other disease	43	10.1
Coagulation disorder	34	8.0
Nephrourologic disease	29	6.8
Metabolic disorder	21	4.9
Other skin and/or soft tissue pathology	8	1.9
Post transplantation	24	5.6
Liver transplantation	11	2.6
Lung transplantation	8	1.9
Infections	190	44.6
NON-surgical secondary peritonitis	46	10.8
Pneumonia	45	10.6
Post-surgical peritonitis	31	7.3
NON-catheter-related UTI	15	3.5
Cholecystitis/cholangitis	13	3.1
NON-surgical skin/soft tissue infection	12	2.8
Tertiary peritonitis	10	2.3
Clinical sepsis	9	2.1
Primary peritonitis	8	1.9
Post-surgical skin/soft tissue infection	7	1.6
Missing	0	

Trauma (anatomical districts)	N	%
Head	101	23.7
Traumatic Subdural haematoma	69	16.2
Traumatic subarachnoid haemorrhage	62	14.6
Cerebral contusion/laceration	54	12.7
Skull fracture	52	12.2
Maxillofacial fracture	51	12.0
Spine	37	8.7
Vertebral fracture, without deficit	20	4.7
Cervical injury, incomplete deficit	4	0.9
Tetraplegia	4	0.9
Chest	41	9.6
Other injuries of the chest	26	6.1
Traum. haemothorax/pneumothorax	23	5.4
Severe lung contusion/laceration	13	3.1
Abdomen	24	5.6
Spleen: Moderate-Severe laceration	9	2.1
Minor injuries of the abdomen	8	1.9
Bowel transection/perforation	7	1.6
Pelvis/bone/joint & muscle	33	7.7
Long bone fracture	23	5.4
Multiple fracture of the pelvis	13	3.1
Very severe or open fracture of the pelvis	3	0.7
Major vessels injury	7	1.6
Proximal limbs vessels: transection	3	0.7
Neck vessels: dissection/transection	2	0.5
Major thoracic vessels: transection	1	0.2
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	236	55.4
INFECTION WITHOUT SEPSIS	49	11.5
SEPSIS	41	9.6
SEPTIC SHOCK	100	23.5
Missing	0	

Infection severity on admission

Patients infected (N=190)

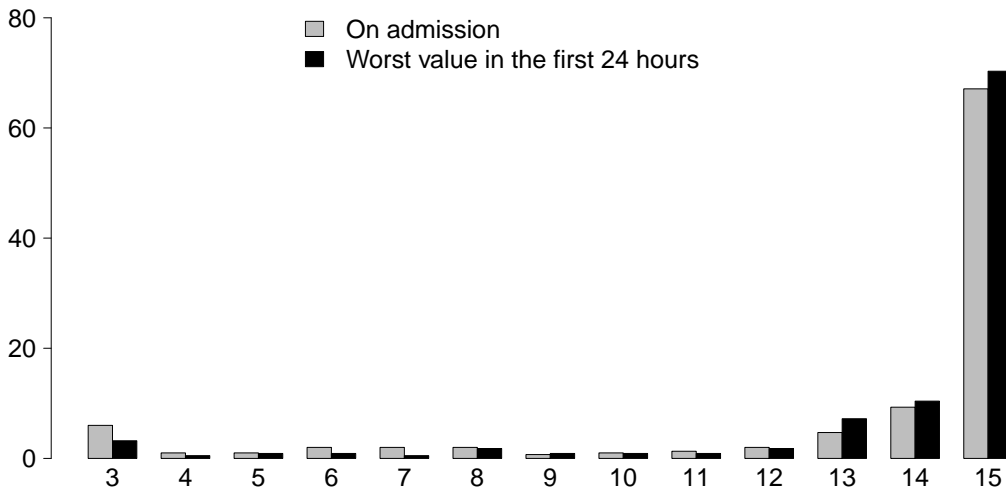


■ INFECTION WITHOUT SEPSIS
■ SEPSIS
■ SEPTIC SHOCK

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Severity scores - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

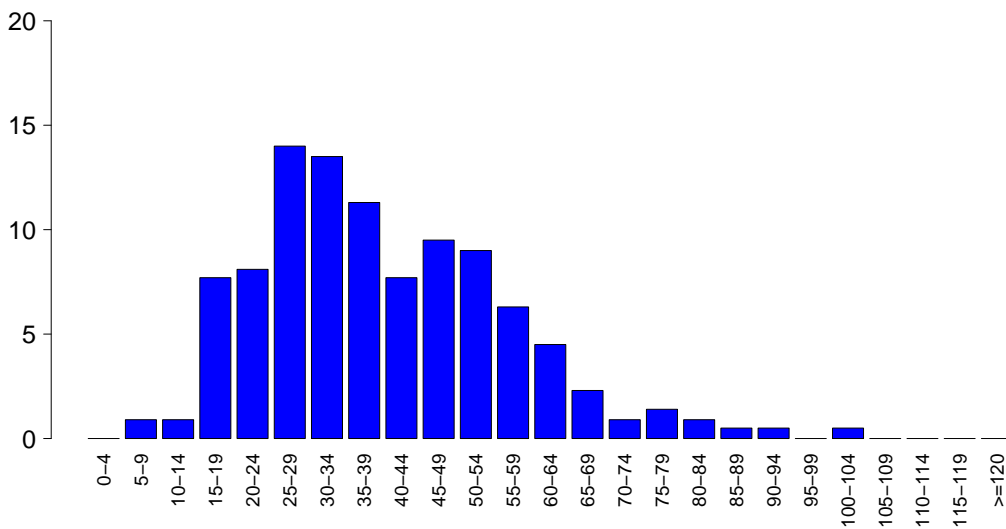
Glasgow Coma Scale (%)



GCS (admission)	
Median	15
Q1–Q3	14–15
Not evaluable	125
Missing	0

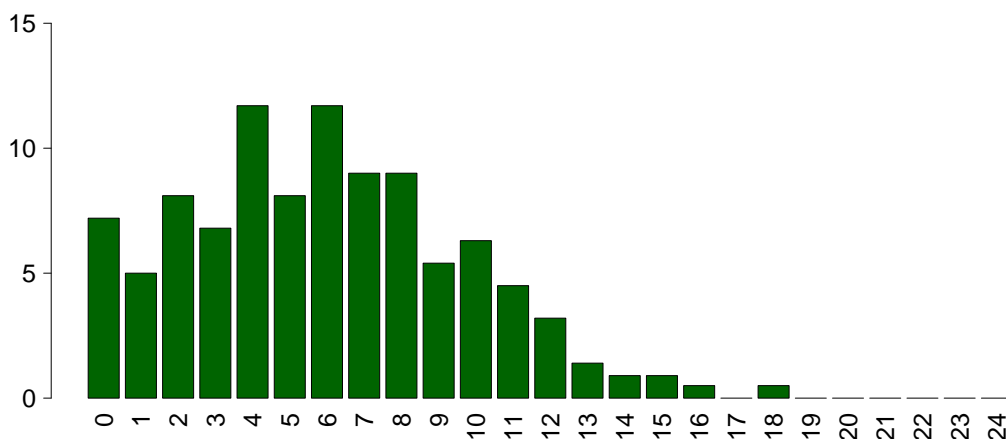
GCS (worst in first 24 hours)	
Median	15
Q1–Q3	14–15
Not evaluable	204
Missing	0

SAPS II (%)



SAPSII	
Mean	39.6
SD	16.7
Median	37
Q1–Q3	28–51
Not evaluable	204
Missing	0

SOFA (%)



SOFA	
Mean	5.9
SD	3.7
Median	6
Q1–Q3	3–8
Not evaluable	204
Missing	0

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Characteristics during the stay - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Complications during the stay	N	%
No	125	29.3
Yes	301	70.7
Missing	0	

Failures during the stay	N	%
No	285	66.9
Yes	141	33.1
A: Respiratory failure	44	10.3
B: Cardiovascular failure	49	11.5
C: Neurological failure	16	3.8
D: Hepatic failure	23	5.4
E: Renal failure (AKIN)	76	17.8
F: Acute skin failure	3	0.7
G: Metabolic failure	36	8.5
H: Coagulation failure	24	5.6
Missing	0	

Failures during the stay (top 10)	N	%
E	21	4.9
G	15	3.5
A	14	3.3
B	10	2.3
ABE	8	1.9
BE	8	1.9
D	5	1.2
DG	5	1.2
EH	5	1.2
AB	4	0.9
Missing	0	

Respiratory failure occurred	N	%
None	382	89.7
Intubation for airway maint.	9	2.1
Hypoxic failure	31	7.3
Hypercapnic failure	6	1.4
Missing	0	

Cardiovascular failure occurred	N	%
None	377	88.5
Cardiogenic shock	8	1.9
Hypovolemic shock	3	0.7
Haemorrhagic/hypovolemic shock	8	1.9
Septic shock	34	8.0
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	6	1.4
Missing	0	

Neurological failure occurred	N	%
None	410	96.2
Cerebral coma	7	1.6
Metabolic coma	6	1.4
Postanoxic coma	3	0.7
Missing	0	

Renal failure occurred (AKIN)	N	%
None	350	82.2
Mild	11	2.6
Moderate	11	2.6
Severe	54	12.7
Missing	0	

Complications during the stay	N	%
Respiratory	106	24.9
Pleural effusion	53	12.4
Aspiration pneumonia	29	6.8
Atelectasis	25	5.9
Pulmonary embolism	16	3.8
Moderate ARDS	8	1.9
Cardiovascular	80	18.8
Acute severe arrhythmia: tachycardias	48	11.3
Acute severe arrhythmia: bradycardias	12	2.8
Deep venous thrombosis	10	2.3
Pulmonary edema	7	1.6
Cardiac arrest	5	1.2
Neurological	105	24.6
Drowsiness/agitation/delirium	67	15.7
Brain edema	34	8.0
Intracranial hypertension	21	4.9
Hydrocephalus	16	3.8
CrIMyNe	14	3.3
Gastrointestinal and hepatic	99	23.2
Paralytic Ileus	40	9.4
Liver Dysfunction Syndrome	18	4.2
Intrabdominal bleeding	17	4.0
Anastomotic dehiscence	12	2.8
Gastrointestinal perforation	12	2.8
Other	83	19.5
Metabolic disorder	36	8.5
Other disease	31	7.3
Nephrourologic disease	15	3.5
Category/Stage II: Partial Thickness Skin Loss	7	1.6
Category/Stage I: Nonblanchable Erythema	4	0.9
Other skin and/or soft tissue pathology	3	0.7
Category/Stage III: Full Thickness Skin Loss	2	0.5
Infections	177	41.5
Pneumonia	100	23.5
NON-catheter-related UTI	29	6.8
Post-surgical peritonitis	23	5.4
NON-surgical secondary peritonitis	13	3.1
Post-surgical skin/soft tissue infection	13	3.1
L.R.T.I. other than pneumonia	12	2.8
Other fungal infections	10	2.3
Primary bacteraemia of unknown origin	6	1.4
Clinical sepsis	6	1.4
NON-surgical skin/soft tissue infection	6	1.4
Missing	0	

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Characteristics during the stay - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Infections	N	%
None	121	28.4
Only on admission	128	30.0
On admission and during ICU stay	62	14.6
Only during ICU stay	115	27.0
Missing	0	

Maximum severity of infection	N	%
None	121	28.4
INFECTION WITHOUT SEPSIS	129	30.3
SEPSIS	54	12.7
SEPTIC SHOCK	122	28.6
Missing	0	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	121 (51.3%)	86 (36.4%)	15 (6.4%)	14 (5.9%)	236
	INFECTION WITHOUT SEPSIS	-	43 (87.8%)	2 (4.1%)	4 (8.2%)	49
	SEPSIS	-	-	37 (90.2%)	4 (9.8%)	41
	SEPTIC SHOCK	-	-	-	100 (100.0%)	100
	TOT	121	129	54	122	426

Ventil. Associat. Pneumonia (VAP)	N	%
No	339	79.6
Yes	87	20.4
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	43.6
CI (95%)	34.9–53.8

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	34.9%
CI (95%)	27.9–43.0

Catheter Bacteraemia (CR-BSI)	N	%
No	423	99.3
Yes	3	0.7
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.7
CI (95%)	0.1–2.1

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.9%
CI (95%)	0.2–2.5

Catheter-related urinary tract infection (UTI)	N	%
No	422	99.1
Yes	4	0.9
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	1.0
CI (95%)	0.3–2.5

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.2%
CI (95%)	0.3–3.0

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Process indicators - Adult NON COVID emerg. surg (Missing=0)	N		%		On discharge		Length (days)		Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	425	99.8									
Invasive ventilation	314	73.7	277	65	78	18.3	5	1-15	0	0	0-1
Non invasive ventilation	64	15.0	7	1.6	30	7	1	1-2	0	3	1-8
Tracheostomy	66	15.5	4	0.9	52	12.2	6	2-16	0	20	16-26
iNO (inhaled nitric oxide)	32	7.5	7	1.6	2	0.5	3	2-4	0	0	0-5
Central Venous Catheter	385	90.4	332	77.9	318	74.6	6	3-15	0	0	0-0
PICC	37	8.7	5	1.2	34	8	5	2-10	0	24	14-28
Arterial Catheter	396	93.0	351	82.4	224	52.6	6	2-15	0	0	0-0
Vasoactive drugs	351	82.4	296	69.5	34	8	3	1-7	0	0	0-0
Antiarrhythmics	79	18.5	11	2.6	25	5.9	2	1-8	0	4	1-9
IABP	1	0.2	1	0.2	1	0.2	6	6-6	0		
Invasive monitoring of C.O.	25	5.9	8	1.9	5	1.2	4	1-10	0	1	0-1
Continuous monitoring of ScVO2	4	0.9	1	0.2	0	0	2	1-5	0	6	3-6
Temporary pacing	3	0.7	0	0	1	0.2	11	6-12	0	2	1-18
Ventricular assistance	0	0.0									
DC-shock	15	3.5								4	2-8
CPR	12	2.8								2	1-10
Massive blood transfusion	10	2.3								0	0-5
ICP monitoring without CSF drainage	63	14.8	58	13.6	5	1.2	11	5-18	0	0	0-1
ICP monitoring with CSF drainage	16	3.8	7	1.6	4	0.9	14	5-18	0	2	1-17
EVD without ICP monitoring	13	3.1	2	0.5	4	0.9	17	7-23	0	7	2-8
Haemofiltration	4	0.9	1	0.2	1	0.2	2	1-3	0	33	17-44
Haemodialysis	41	9.6	7	1.6	14	3.3	5	1-12	0	5	2-9
ECMO	0	0.0									
Hepatic clearance techniques	1	0.2									
Clearance techniques during sepsis	5	1.2	1	0.2	0	0	1	1-2	0	0	0-2
IAP (intra-abdominal pressure)	102	23.9									
Hypothermia	7	1.6	4	0.9	0	0	15	6-16	0	1	1-4
Enteral nutrition	259	60.8	23	5.4	164	38.5	6	2-16	0	1	1-2
Parenteral nutrition	264	62.0	27	6.3	164	38.5	5	2-11	0	2	1-3
SDD (Topical, Topical and systemic)	5	1.2									
Patient restraint	8	1.9									
Peridural catheter	10	2.3	9	2.1	5	1.2	2	1-4	0	1	1-1
Electrical cardioversion	2	0.5								23	12-34
Vacuum therapy	19	4.5									
Urinary catheter	417	97.9	392	92	378	88.7	5	2-15	0	0	0-0
Pronation	0	0.0									
Antivirals	13	3.1	5	1.2	10	2.3	4	2-6	0	0	0-1

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Process indicators - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	412	96.7										
Antibiotic prophylaxis	131	30.8	105	24.6	44	10.3	1	1-3	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	220	51.6	138	32.4	43	10.1	3	2-5	0	0	0-3	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	88	20.7	61	14.3	61	14.3	3	1-5	0	0	0-1	0
Targeted antibiotic therapy	213	50.0	29	6.8	137	32.2	6	3-11	0	4	2-7	0
Antifungal in empirical therapy	60	14.1	21	4.9	16	3.8	4	2-7	0	1	0-2	0
Antifungal in targeted therapy	63	14.8	7	1.6	45	10.6	9	4-14	0	4	2-10	0
Pre-emptive antifungal	2	0.5	2	0.5	2	0.5	5	5-5	0			

Antibiotic therapy

Pt. infected in ICU only (N=115)	N	%
No therapy	2	1.7
Only empirical	22	19.1
Only targeted	12	10.4
Targeted after empirical	57	49.6
Other	22	19.1
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=115)	N	%
No therapy	92	80.0
Only empirical	10	8.7
Only targeted	9	7.8
Targeted after empirical	2	1.7
Other	2	1.7
Missing	0	

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Process indicators - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

		Length (days)					
Invasive ventilation (N=314)	N	%	Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	126	39.5	10.8	13.8	5	2–14	0
For airway maintenance	165	51.7	10.6	11.7	6	1–17	0
In weaning	12	3.8	0.8	0.5	1	0.8–1	0
Not evaluable	16	5.0	4.4	10.2	1	1–1.5	5
Reintubation within 48 hours	10	3.1	4.3	4.9	3	1.25–4	0

Non invasive ventilation (N=64)	N	%
Non invasive ventilation only	8	12.5
Non invasive ventilation failed	3	4.7
For weaning	47	73.4
Other	6	9.4
Missing	0	

Tracheostomy not present on admission (N=62)	N	%
Surgical	5	8.1
Percutwist	43	69.4
Ciaglia	0	0.0
Monodil. Ciaglia	1	1.6
Fantoni	0	0.0
Griggs	1	1.6
Other Kind	7	11.3
Unknown	5	8.1
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=62)	Mean	SD	Median	Q1–Q3	Missing
	20.6	8.0	20.5	16–25.8	0

Invasive monitoring of C.O. (N=25)	N	%
Swan Ganz	4	16.0
PICCO	16	64.0
LIDCO	4	16.0
Vigileo-PRAM	0	0.0
Other	1	4.0
Missing	0	

SDD (N=5)	N	%
Topical	3	60.0
Topical and systemic	2	40.0
Missing	0	

Surgical interventions	N	%
No	340	79.8
Yes	86	20.2
Missing	0	

Number of surgical interventions	N	%
0	340	79.8
1	47	11.0
2	17	4.0
3	9	2.1
>3	13	3.1
Missing	0	

Surgical interventions Days from admission	Mean	SD	Median	Q1–Q3	Missing
	9.4	8.9	6	3–12	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	68	16.0
Neurosurgery	29	6.8
Other surgery	25	5.9
Orthopaedic surgery	10	2.3
Thoracic surgery	10	2.3
ENT surgery	6	1.4
Plastic surgery	5	1.2
Thoracic vascular surgery	4	0.9
Pancreatic surgery	3	0.7
Peripheral vascular surgery	3	0.7
Missing	0	

Non surgical interventions	N	%
No	397	93.2
Yes	29	6.8
Missing	0	

Non surgical interventions Days from admission	Mean	SD	Median	Q1–Q3	Missing
	10.8	8.7	8	5.2–12.8	0

Non surgical interventions	N	%
Interventional radiology	25	5.9
Interventional endoscopy	12	2.8
Interventional cardiology	1	0.2
Interventional neuroradiology	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators** - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

ICU outcome	N	%
Dead	73	17.2
Transferred to same hospital	327	76.9
Transferred to other hospital	24	5.6
Discharged home	1	0.2
Disch. terminally ill	0	0.0
Missing	1	

Transferred to (N=351)	N	%
Ward	176	50.1
Other ICU	30	8.5
High dependency care unit	145	41.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=30)	N	%
Specialist expertise	4	13.3
Step-up care	0	0.0
Logistical/organizational reasons	11	36.7
Step-down care	15	50.0
Missing	0	

Transferred to Same hospital (N=327)	N	%
Ward	172	52.6
Other ICU	19	5.8
High dependency care unit	136	41.6
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=24)	N	%
Ward	4	16.7
Other ICU	11	45.8
High dependency care unit	9	37.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	352	82.8
Dead	73	17.2
Missing	1	

Timing of ICU mortality (N=73)	N	%
Daytime (08:00AM - 07:59PM)	51	69.9
Nighttime (08:00PM - 07:59AM)	22	30.1
Weekdays (Monday - Friday)	54	74.0
Weekend (Saturday - Sunday)	19	26.0
Missing	0	

Hospital mortality	N	%
Alive	303	71.1
Dead	123	28.9
Missing	0	

Timing of hosp. mortality (N=123)	N	%
In ICU	73	59.3
Within 24 hours after ICU	0	0.0
24-47 hours after ICU	5	4.1
48-71 hours after ICU	3	2.4
72-95 hours after ICU	4	3.3
After 95 hours after ICU	38	30.9
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=50)		
Mean		17.7
SD		23.7
Median		9
Q1–Q3		4–19.2
Missing		0

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Outcome indicators - Adult NON COVID emerg. surgical pts. eval. in the GiViTI m.

Last hospital mortality			ICU stay (days)		
	N	%			
Alive	297	69.7	Mean	10.8	
Dead	129	30.3	SD	12.6	
Missing	0		Median	6	
			Q1–Q3	2–15	
			Missing	0	
			ICU stay (days)		
			Alive (N=352)		
			Mean	10.4	
			SD	11.8	
			Median	6	
			Q1–Q3	2–14	
			Missing	0	
			ICU stay (days)		
			Dead (N=73)		
			Mean	12.7	
			SD	16.0	
			Median	6	
			Q1–Q3	2–19	
			Missing	0	
			Stay after ICU (days)		
			Alive (N=352)		
			Mean	19.9	
			SD	23.9	
			Median	11	
			Q1–Q3	6–26	
			Missing	1	
			Hospital stay (days)		
			Mean	31.9	
			SD	32.8	
			Median	22	
			Q1–Q3	11–40	
			Missing	1	
			Hospital stay (days)		
			Alive (N=303)		
			Mean	34.9	
			SD	35.2	
			Median	25	
			Q1–Q3	12–42.8	
			Missing	1	
			Hospital stay (days)		
			Dead (N=123)		
			Mean	24.7	
			SD	24.5	
			Median	18	
			Q1–Q3	9–30.5	
			Missing	0	

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Characteristics on admission - Trauma patients

Patients (N): 227

Sex	N	%
Male	179	78.9
Female	48	21.1
Missing	0	

Age (years)	N	%
17-45	63	27.8
46-65	59	26.0
66-75	42	18.5
>75	63	27.8
Missing	0	
Mean	59.3	
SD	20.9	
Median	63	
Q1–Q3	44–77	
Min–Max	17–93	

Body mass Index (BMI)	N	%
Underweight	5	2.2
Normal	87	38.3
Overweight	102	44.9
Obese	33	14.5
Missing	0	

Pregnancy status	N	%
Females (N=48)		
Not fertile	33	68.8
Not pregnant/Unknown	15	31.2
Currently pregnant	0	0.0
Post partum	0	0.0
Missing	0	

Comorbidities	N	%
No	72	31.7
Yes	155	68.3
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	87	38.3
Arrhythmia	40	17.6
Alcohol addiction	29	12.8
NYHA class II-III	29	12.8
Drug-induced coagulopathy	27	11.9
Endocrine-metabolic diseases	21	9.3
Any tumour without metastasis	20	8.8
Moderate or severe renal disease	17	7.5
Diabetes Type II without insulin tr.	15	6.6
Myocardial infarction	15	6.6
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	2.0	8.2	0	0–1	0

Source of admission	N	%
Same hospital	196	86.3
Other hospital	31	13.7
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=227)		
Medical ward	4	1.8
Surgical ward	54	23.8
Emergency room	150	66.1
Other ICU	11	4.8
High dependency care unit	8	3.5
Missing	0	

Reason for transfer from	N	%
Other ICU (N=11)		
Specialist expertise	5	45.5
Step-up care	4	36.4
Logistical/organizational reasons	2	18.2
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=196)		
Medical ward	3	1.5
Surgical ward	53	27.0
Emergency room	129	65.8
Other ICU	5	2.6
High dependency care unit	6	3.1
Missing	0	

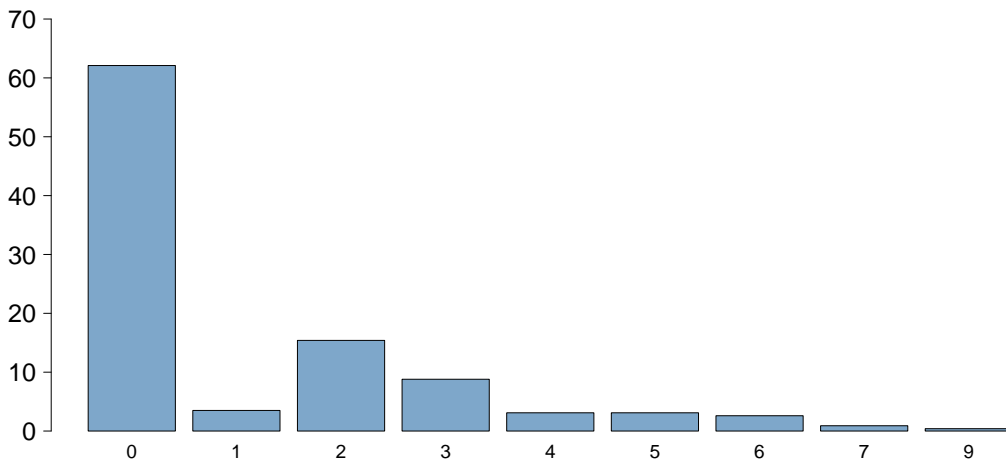
Ward of admission	N	%
Other hospital (N=31)		
Medical ward	1	3.2
Surgical ward	1	3.2
Emergency room	21	67.7
Other ICU	6	19.4
High dependency care unit	2	6.5
Missing	0	

Scheduled admission	N	%
No	222	97.8
Yes	5	2.2
Missing	0	

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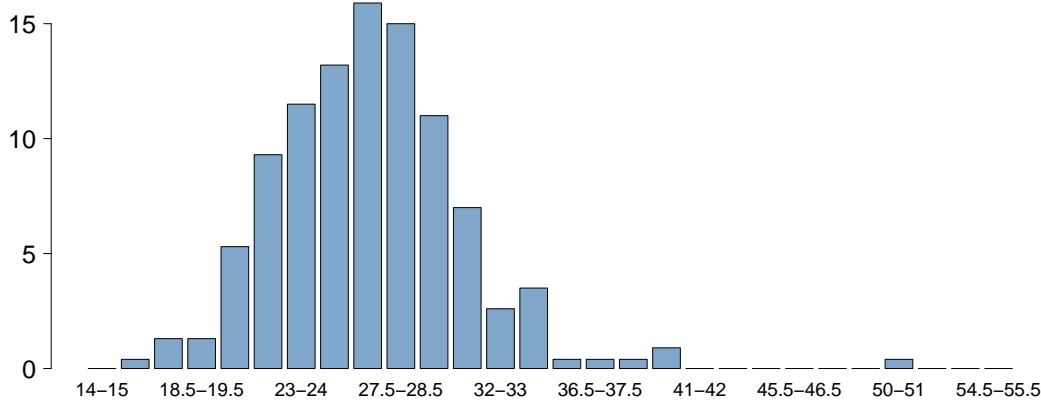
Characteristics on admission - Trauma patients

Charlson (%)



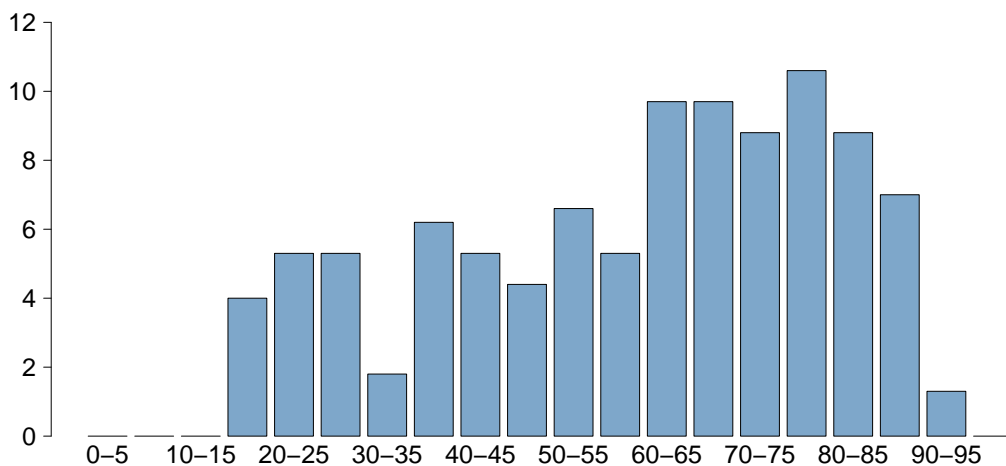
Charlson score	
Mean	1.1
SD	1.8
Median	0
Q1–Q3	0–2
Missing	0

BMI (%)



BMI	
Mean	26.9
SD	4.3
Median	26.8
Q1–Q3	24.2–29.1
Missing	0

Age (%)



Age	
Mean	59.3
SD	20.9
Median	63
Q1–Q3	44–77
Missing	0

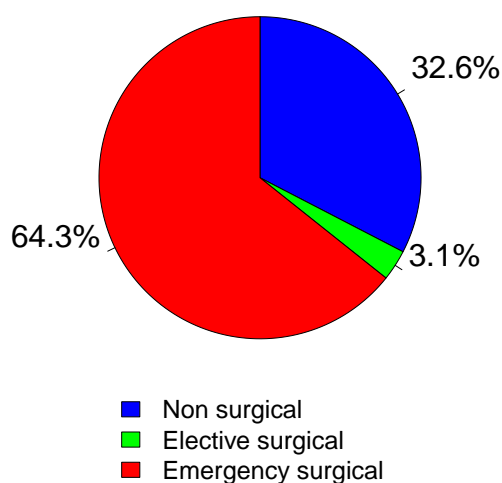
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Characteristics on admission - Trauma patients

Trauma	N	%
No	0	0.0
Yes	227	100.0
Multiple trauma	79	34.8
Missing	0	

Surgical status	N	%
Non surgical	74	32.6
Elective surgical	7	3.1
Emergency surgical	146	64.3
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=153)		
Operating theatre of surgical ward	37	24.2
Operating theatre of emergency room	75	49.0
Surgical ward	6	3.9
Other	35	22.9
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=7)		
Thoracic surgery	3	42.9
Maxillo-Facial surgery	2	28.6
Orthopaedic surgery	1	14.3
Abdominal vascular surgery	1	14.3
Neurosurgery	1	14.3
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=7)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	4	57.1
The day after ICU admission	4	57.1
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=146)		
Neurosurgery	79	54.1
Orthopaedic surgery	21	14.4
Other surgery	16	11.0
Gastrointestinal surgery	11	7.5
Thoracic surgery	10	6.8
Maxillo-Facial surgery	8	5.5
Nephro/Urological surgery	3	2.1
Ophthalmic surgery	2	1.4
Peripheral vascular surgery	2	1.4
Splenectomy	2	1.4
Missing	0	

Timing	N	%
Emergency surgical (N=146)		
From -7 to -3 days	3	2.1
From -2 to -1 days	16	11.0
On ICU admission day	129	88.4
The day after ICU admission	9	6.2
Missing	1	

Non surgical interventions	N	%
None	213	93.8
Elective	0	0.0
Emergency	14	6.2
Missing	0	

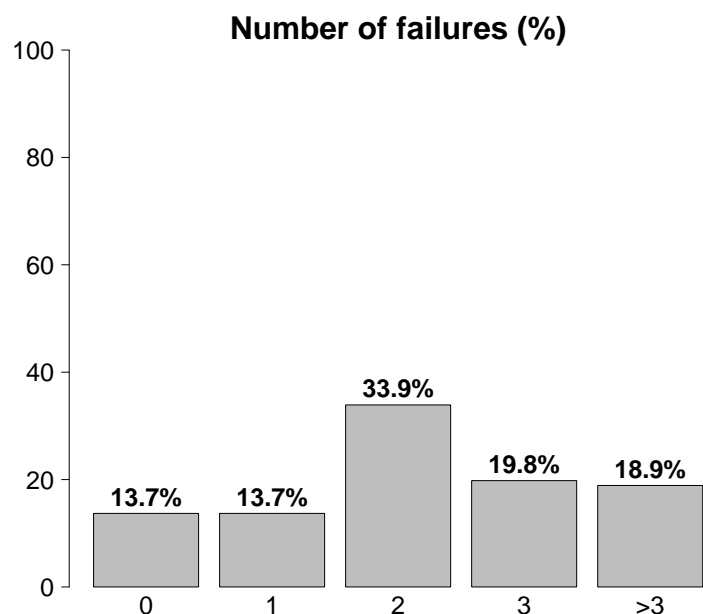
Non surgical interventions	N	%
Elective (N=0)		
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=14)		
Interventional radiology	7	50.0
Interventional endoscopy	3	21.4
Interventional cardiology	2	14.3
Interventional neuroradiology	0	0.0
Missing	2	

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Characteristics on admission - Trauma patients

Reason for admission	N	%
Monitoring/Weaning	40	17.6
Post surgical weaning	1	0.4
Surgical monitoring	10	4.4
Post interventional weaning	0	0.0
Interventional monitoring	1	0.4
Non surgical monitoring	28	12.3
Missing	0	
Intensive Treatment	187	82.4
Only ventilatory support	39	17.2
Only cardiovascular support	11	4.8
Ventilatory and cardiovascular support	137	60.4
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	31	13.7
Yes	196	86.3
A: Respiratory failure	176	77.5
B: Cardiovascular failure	148	65.2
C: Neurological failure	43	18.9
D: Hepatic failure	5	2.2
E: Renal failure	65	28.6
F: Acute skin failure	0	0.0
G: Metabolic failure	54	23.8
H: Coagulation failure	15	6.6
Missing	0	

Failures on admission (top 10)	N	%
AB	56	24.7
A	20	8.8
ABC	17	7.5
ABEG	16	7.0
ABE	11	4.8
ABG	11	4.8
AC	7	3.1
AE	6	2.6
E	6	2.6
ABCE	5	2.2
Missing	0	

Respiratory failure	N	%
None	51	22.5
Only hypoxic failure	34	15.0
Only hypercapnic failure	5	2.2
Hypoxic-hypercapnic failure	5	2.2
Intubation for airway maint.	132	58.1
Missing	0	

Cardiovascular failure	N	%
None	79	34.8
Without shock	89	39.2
Cardiogenic shock	7	3.1
Septic shock	7	3.1
Haemorrhagic/hypovolemic shock	29	12.8
Hypovolemic shock	4	1.8
Anaphylactic shock	0	0.0
Neurogenic shock	5	2.2
Other shock	1	0.4
Mixed shock	6	2.6
Missing	0	

Neurologic failure	N	%
None	115	72.8
Cerebral coma	36	22.8
Metabolic coma	3	1.9
Postanoxic coma	3	1.9
Toxic coma	1	0.6
Missing or not evaluable	69	

Renal failure (AKIN)	N	%
None	162	71.4
Mild	41	18.1
Moderate	12	5.3
Severe	12	5.3
Missing	0	

Metabolic failure	N	%
None	173	76.2
pH \leq 7.3, PaCO ₂ $<$ 45 mmHg	15	6.6
Base deficit \geq 5 mmol/L, lactate $>$ 1.5x	39	17.2
Missing	0	

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Characteristics on admission - Trauma patients

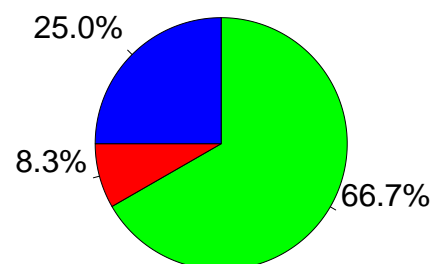
Clinical conditions on admission	N	%
Respiratory	37	16.3
Aspiration pneumonia	25	11.0
Pleural effusion	4	1.8
Atelectasis	2	0.9
Pneumothorax/Pneumomediastinum	2	0.9
Moderate ARDS	2	0.9
Cardiovascular	26	11.5
Cardiac arrest	10	4.4
Non-congenital valvular disease	7	3.1
Left heart failure without pulm. edema	5	2.2
Acute severe arrhythmia: tachycardias	3	1.3
Acute severe arrhythmia: bradycardias	3	1.3
Neurological	15	6.6
Intracranial hypertension	4	1.8
Metabolic/postanoxic encephalopathy	4	1.8
Seizures	3	1.3
Chronic Subdural haematoma	2	0.9
Cerebral artery stroke	1	0.4
Gastrointestinal and hepatic	19	8.4
Liver Dysfunction Syndrome	4	1.8
Gastrointestinal bleeding: upper tract	3	1.3
Paralytic Ileus	3	1.3
Gastrointestinal perforation	3	1.3
Digestive tract malignancy	3	1.3
Trauma (anatomical districts)	227	100.0
Head	150	66.1
Chest	70	30.8
Spine	51	22.5
Pelvis/bone/joint & muscle	43	18.9
Abdomen	36	15.9
Major vessels injury	10	4.4
-	0	0.0
Other	43	18.9
Coagulation disorder	15	6.6
Other disease	15	6.6
Nephrourologic disease	8	3.5
Metabolic disorder	6	2.6
Acute intoxication	6	2.6
Post transplantation	1	0.4
Heart transplantation	1	0.4
-	0	0.0
Infections	36	15.9
Pneumonia	23	10.1
NON-surgical secondary peritonitis	4	1.8
Post-surgical peritonitis	2	0.9
NON-catheter-related UTI	2	0.9
NON-surgical bone and joint infection	1	0.4
Clinical sepsis	1	0.4
NON-surgical CNS infection	1	0.4
L.R.T.I. other than pneumonia	1	0.4
NON-surgical skin/soft tissue infection	1	0.4
Post-surgical skin/soft tissue infection	1	0.4
Missing	0	

Trauma (anatomical districts)	N	%
Head	150	66.1
Traumatic Subdural haematoma	93	41.0
Traumatic subarachnoid haemorrhage	90	39.6
Skull fracture	71	31.3
Maxillofacial fracture	71	31.3
Cerebral contusion/laceration	69	30.4
Spine	51	22.5
Vertebral fracture, without deficit	32	14.1
Cervical injury, incomplete deficit	5	2.2
Tetraplegia	4	1.8
Chest	70	30.8
Traum. haemothorax/pneumothorax	41	18.1
Other injuries of the chest	40	17.6
Severe lung contusion/laceration	18	7.9
Abdomen	36	15.9
Minor injuries of the abdomen	12	5.3
Spleen: Moderate-Severe laceration	11	4.8
Liver: Moderate-Severe laceration	9	4.0
Pelvis/bone/joint & muscle	43	18.9
Long bone fracture	29	12.8
Multiple fracture of the pelvis	17	7.5
Very severe or open fracture of the pelvis	4	1.8
Major vessels injury	10	4.4
Proximal limbs vessels: transection	4	1.8
Neck vessels: dissection/transection	3	1.3
Major abdominal vessels: transection	2	0.9
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	191	84.1
INFECTION WITHOUT SEPSIS	24	10.6
SEPSIS	3	1.3
SEPTIC SHOCK	9	4.0
Missing	0	

Infection severity on admission

Patients infected (N=36)

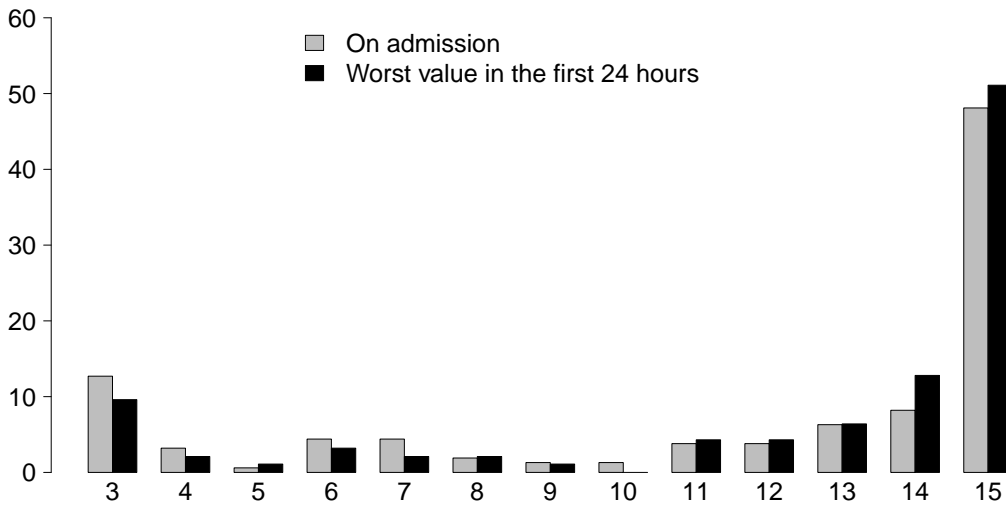


■ INFECTION WITHOUT SEPSIS
■ SEPSIS
■ SEPTIC SHOCK

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Severity scores - Trauma patients

Glasgow Coma Scale (%)



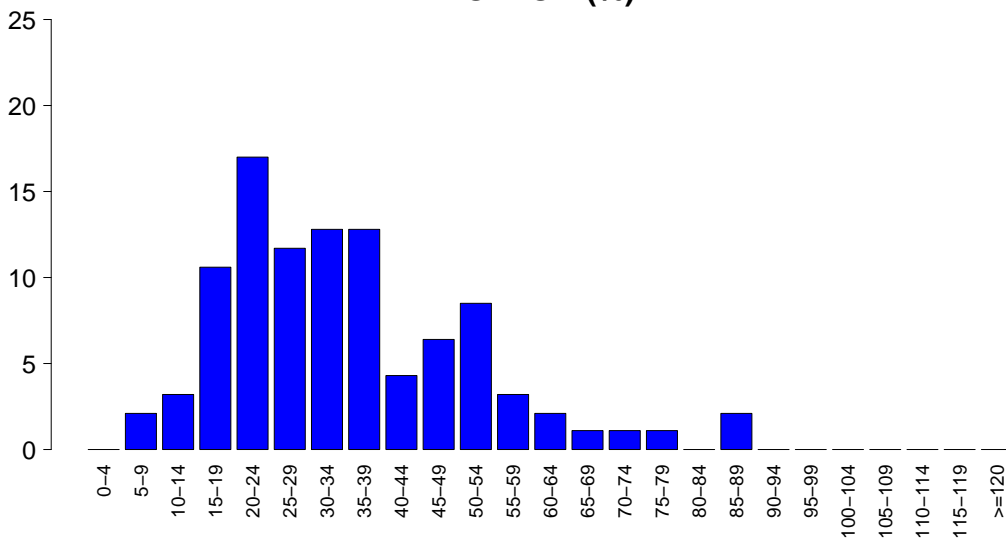
GCS (admission)

Median	14
Q1–Q3	7.2–15
Not evaluable	69
Missing	0

GCS (worst in first 24 hours)

Median	15
Q1–Q3	11.2–15
Not evaluable	133
Missing	0

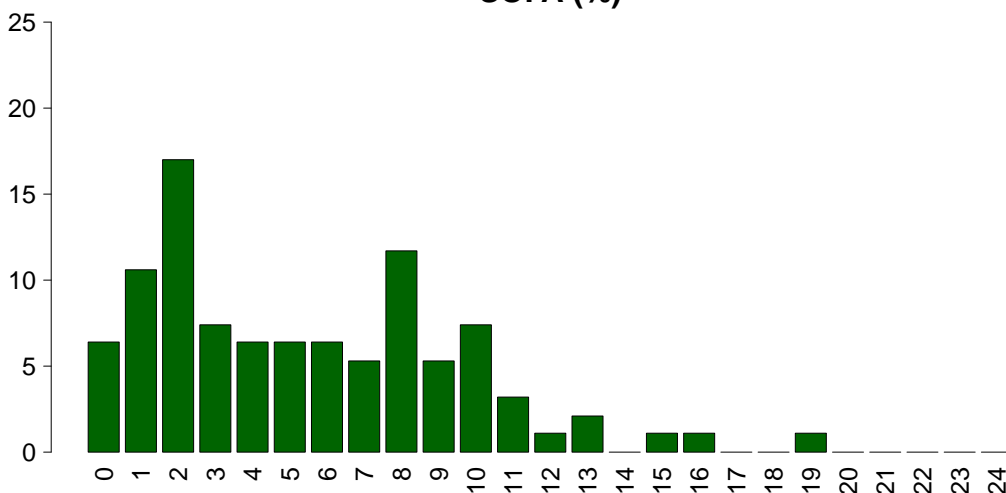
SAPS II (%)



SAPSII

Mean	34.4
SD	16.6
Median	31.5
Q1–Q3	23–44.2
Not evaluable	133
Missing	0

SOFA (%)



SOFA

Mean	5.4
SD	4.1
Median	5
Q1–Q3	2–8
Not evaluable	133
Missing	0

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Characteristics during the stay - Trauma patients

Complications during the stay	N	%
No	72	31.7
Yes	155	68.3
Missing	0	

Failures during the stay	N	%
No	167	73.6
Yes	60	26.4
A: Respiratory failure	22	9.7
B: Cardiovascular failure	19	8.4
C: Neurological failure	7	3.1
D: Hepatic failure	11	4.8
E: Renal failure (AKIN)	25	11.0
F: Acute skin failure	2	0.9
G: Metabolic failure	16	7.0
H: Coagulation failure	6	2.6
Missing	0	

Failures during the stay (top 10)	N	%
G	10	4.4
A	7	3.1
E	6	2.6
AB	4	1.8
BE	4	1.8
C	4	1.8
B	3	1.3
DG	3	1.3
ABE	2	0.9
ABEH	2	0.9
Missing	0	

Respiratory failure occurred	N	%
None	205	90.3
Intubation for airway maint.	4	1.8
Hypoxic failure	19	8.4
Hypercapnic failure	2	0.9
Missing	0	

Cardiovascular failure occurred	N	%
None	208	91.6
Cardiogenic shock	3	1.3
Hypovolemic shock	0	0.0
Haemorrhagic/hypovolemic shock	4	1.8
Septic shock	10	4.4
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	3	1.3
Missing	0	

Neurological failure occurred	N	%
None	220	96.9
Cerebral coma	4	1.8
Metabolic coma	0	0.0
Postanoxic coma	3	1.3
Missing	0	

Renal failure occurred (AKIN)	N	%
None	202	89.0
Mild	4	1.8
Moderate	3	1.3
Severe	18	7.9
Missing	0	

Complications during the stay	N	%
Respiratory	62	27.3
Aspiration pneumonia	22	9.7
Pleural effusion	22	9.7
Atelectasis	18	7.9
Pulmonary embolism	10	4.4
Pneumothorax/Pneumomediastinum	7	3.1
Cardiovascular	29	12.8
Acute severe arrhythmia: tachycardias	14	6.2
Acute severe arrhythmia: bradycardias	10	4.4
Deep venous thrombosis	7	3.1
Cardiac arrest	2	0.9
Acute myocardial infarction	1	0.4
Neurological	72	31.7
Drowsiness/agitation/delirium	40	17.6
Brain edema	35	15.4
Intracranial hypertension	21	9.3
Hydrocephalus	12	5.3
Vasospasm	12	5.3
Gastrointestinal and hepatic	34	15.0
Paralytic Ileus	11	4.8
Liver Dysfunction Syndrome	10	4.4
Intrabdominal bleeding	5	2.2
Retroperitoneal bleeding	4	1.8
Ascites	3	1.3
Other	39	17.2
Metabolic disorder	16	7.0
Other disease	12	5.3
Nephrourologic disease	8	3.5
Category/Stage II: Partial Thickness Skin Loss	5	2.2
Blunt cerebral vessels trauma	1	0.4
Delayed liver rupture	1	0.4
Category/Stage III: Full Thickness Skin Loss	1	0.4
Infections	106	46.7
Pneumonia	85	37.4
NON-catheter-related UTI	19	8.4
L.R.T.I. other than pneumonia	8	3.5
Primary bacteraemia of unknown origin	5	2.2
Post-surgical skin/soft tissue infection	5	2.2
Other fungal infections	3	1.3
NON-surgical secondary peritonitis	3	1.3
Post-surgical CNS infection	2	0.9
Sinusitis	2	0.9
NON-surgical skin/soft tissue infection	2	0.9
Missing	0	

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Characteristics during the stay - Trauma patients

Infections	N	%
None	96	42.3
Only on admission	25	11.0
On admission and during ICU stay	11	4.8
Only during ICU stay	95	41.9
Missing	0	

Maximum severity of infection	N	%
None	96	42.3
INFECTION WITHOUT SEPSIS	101	44.5
SEPSIS	11	4.8
SEPTIC SHOCK	19	8.4
Missing	0	

Severity evolution

Severity evolution		During the stay				
		None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	TOT
Admission	None	96 (50.3%)	79 (41.4%)	8 (4.2%)	8 (4.2%)	191
	INFECTION WITHOUT SEPSIS	-	22 (91.7%)	0 (0.0%)	2 (8.3%)	24
	SEPSIS	-	-	3 (100.0%)	0 (0.0%)	3
	SEPTIC SHOCK	-	-	-	9 (100.0%)	9
	TOT	96	101	11	19	227

Ventil. Associat. Pneumonia (VAP)	N	%
No	149	65.6
Yes	78	34.4
Missing	0	

Incidence of VAP

(Pts. with VAP/1000 days of VM pre-VAP)

Estimate	62.4
CI (95%)	49.3–77.9

Incidence of VAP

(Pts. with VAP/pts. ventilated for 8 days)

Estimate	49.9%
CI (95%)	39.5–62.3

Catheter Bacteraemia (CR-BSI)	N	%
No	227	100.0
Yes	0	0.0
Missing	0	

Incidence of CR-BSI

(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)

Estimate	0.0
CI (95%)	0.0–1.6

Incidence of CR-BSI

(Pts. with CR-BSI/pts. catheterized for 12 days)

Estimate	0.0%
CI (95%)	0.0–1.9

Catheter-related urinary tract infection (UTI)	N	%
No	225	99.1
Yes	2	0.9
Missing	0	

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/1000 days of UC pre-UTI)

Estimate	0.8
CI (95%)	0.1–2.9

Incidence of catheter-related UTI

(Pts. with catheter-related UTI/pts. with UC for 12 days)

Estimate	1.0%
CI (95%)	0.1–3.5

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Process indicators - Trauma patients Procedures and/or treatments (Missing=0) Procedures (antibiotics excluded)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Median	Q1-Q3	Missing	
	225	99.1										
Invasive ventilation	180	79.3	165	72.7	53	23.3	8	2-19	0	0	0-1	0
Non invasive ventilation	31	13.7	4	1.8	18	7.9	1	1-3	0	5	2-17	0
Tracheostomy	51	22.5	2	0.9	41	18.1	5	2-14	0	21	16-26	0
iNO (inhaled nitric oxide)	16	7.0	2	0.9	0	0	4	2-6	0	0	0-12	0
Central Venous Catheter	185	81.5	160	70.5	133	58.6	9	4-19	0	0	0-0	0
PICC	33	14.5	1	0.4	30	13.2	4	2-8	0	20	14-26	0
Arterial Catheter	218	96.0	181	79.7	141	62.1	6	2-18	0	0	0-0	0
Vasoactive drugs	181	79.7	155	68.3	14	6.2	5	2-11	0	0	0-0	0
Antiarrhythmics	26	11.5	4	1.8	12	5.3	2	1-16	0	8	3-10	0
IABP	1	0.4	1	0.4	1	0.4	6	6-6	0			
Invasive monitoring of C.O.	5	2.2	0	0	0	0	12	5-20	0	1	0-1	0
Continuous monitoring of ScVO2	3	1.3	1	0.4	0	0	7	4-8	0	6	6-7	0
Temporary pacing	1	0.4	0	0	0	0	9	9-9	0	3	3-3	0
Ventricular assistance	0	0.0										
DC-shock	4	1.8								8	6-9	0
CPR	1	0.4								3	3-3	0
Massive blood transfusion	4	1.8								0	0-4	0
ICP monitoring without CSF drainage	65	28.6	59	26	4	1.8	11	6-18	0	0	0-1	0
ICP monitoring with CSF drainage	13	5.7	5	2.2	3	1.3	17	9-19	0	2	1-7	0
EVD without ICP monitoring	8	3.5	2	0.9	2	0.9	18	15-28	0	7	6-8	0
Haemofiltration	1	0.4	0	0	0	0	2	2-2	0	33	33-33	0
Haemodialysis	13	5.7	1	0.4	2	0.9	5	3-16	0	5	2-22	0
ECMO	0	0.0										
Hepatic clearance techniques	0	0.0										
Clearance techniques during sepsis	1	0.4	0	0	0	0	1	1-1	0	4	4-4	0
IAP (intra-abdominal pressure)	39	17.2										
Hypothermia	11	4.8	5	2.2	0	0	3	1-15	0	0	0-1	0
Enteral nutrition	152	67.0	13	5.7	92	40.5	9	3-20	0	1	1-2	0
Parenteral nutrition	122	53.7	5	2.2	56	24.7	6	2-10	0	2	1-5	0
SDD (Topical, Topical and systemic)	2	0.9										
Patient restraint	2	0.9										
Peridural catheter	2	0.9	1	0.4	1	0.4	2	1-3	0	3	3-3	0
Electrical cardioversion	0	0.0										
Vacuum therapy	4	1.8										
Urinary catheter	222	97.8	202	89	200	88.1	7	2-19	0	0	0-0	0
Pronation	1	0.4	1	0.4	1	0.4	2	2-2	0			
Antivirals	0	0.0										

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Process indicators - Trauma patients

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	207	91.2										
Antibiotic prophylaxis	83	36.6	54	23.8	27	11.9	1	0-2	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	104	45.8	48	21.1	11	4.8	4	2-6	0	1	0-3	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	50	22.0	29	12.8	32	14.1	4	2-6	0	0	0-1	0
Targeted antibiotic therapy	105	46.3	4	1.8	48	21.1	6	4-10	0	5	3-9	0
Antifungal in empirical therapy	11	4.8	3	1.3	2	0.9	5	2-13	0	8	1-16	0
Antifungal in targeted therapy	10	4.4	0	0	5	2.2	8	5-12	0	16	5-21	0
Pre-emptive antifungal	0	0.0										

Antibiotic therapy
Pt. infected in ICU only (N=95)

	N	%
No therapy	0	0.0
Only empirical	13	13.7
Only targeted	7	7.4
Targeted after empirical	51	53.7
Other	24	25.3
Missing	0	

Antifungal therapy
Pt. infected in ICU only (N=95)

	N	%
No therapy	86	90.5
Only empirical	4	4.2
Only targeted	4	4.2
Targeted after empirical	1	1.1
Other	0	0.0
Missing	0	

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Process indicators - Trauma patients

Invasive ventilation (N=180)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	45	24.7	12.4	12.3	8	3–19	0
For airway maintenance	129	70.9	12.7	12.4	8	2–19	0
In weaning	2	1.1	1.0	0.0	1	1–1	0
Not evaluable	6	3.3	2.8	3.6	1.5	0.8–3.5	2
Reintubation within 48 hours	2	1.1	5.0	2.8	5	4–6	0

Non invasive ventilation (N=31)	N	%
Non invasive ventilation only	2	6.5
Non invasive ventilation failed	2	6.5
For weaning	26	83.9
Other	1	3.2
Missing	0	

Tracheostomy not present on admission (N=49)	N	%
Surgical	3	6.1
Percutwist	34	69.4
Ciaglia	0	0.0
Monodil. Ciaglia	1	2.0
Fantoni	0	0.0
Griggs	2	4.1
Other Kind	5	10.2
Unknown	4	8.2
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=49)

Mean	21.3
SD	7.6
Median	21
Q1–Q3	16–26
Missing	0

Invasive monitoring of C.O. (N=5)	N	%
Swan Ganz	0	0.0
PICCO	5	100.0
LIDCO	0	0.0
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=2)	N	%
Topical	1	50.0
Topical and systemic	1	50.0
Missing	0	

Surgical interventions	N	%
No	184	81.1
Yes	43	18.9
Missing	0	

Number of surgical interventions	N	%
0	184	81.1
1	26	11.5
2	9	4.0
3	3	1.3
>3	5	2.2
Missing	0	

Surgical interventions

Days from admission

Mean	9.8
SD	8.0
Median	7
Q1–Q3	4–14
Missing	0

Surgical interventions (top 10)	N	%
Neurosurgery	26	11.5
Orthopaedic surgery	11	4.8
Gastrointestinal surgery	11	4.8
Other surgery	8	3.5
Plastic surgery	5	2.2
Thoracic surgery	4	1.8
ENT surgery	3	1.3
Peripheral vascular surgery	3	1.3
Hepatic surgery	2	0.9
Maxillo-Facial surgery	2	0.9
Missing	0	

Non surgical interventions	N	%
No	209	92.1
Yes	18	7.9
Missing	0	

Non surgical interventions

Days from admission

Mean	7.5
SD	3.2
Median	8
Q1–Q3	6–9
Missing	0

Non surgical interventions	N	%
Interventional radiology	16	7.0
Interventional endoscopy	4	1.8
Interventional cardiology	2	0.9
Interventional neuroradiology	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators - Trauma patients**

ICU outcome	N	%
Dead	36	15.9
Transferred to same hospital	165	72.7
Transferred to other hospital	26	11.5
Discharged home	0	0.0
Disch. terminally ill	0	0.0
Missing	0	

Transferred to (N=191)	N	%
Ward	74	38.7
Other ICU	23	12.0
High dependency care unit	94	49.2
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=23)	N	%
Specialist expertise	1	4.3
Step-up care	0	0.0
Logistical/organizational reasons	9	39.1
Step-down care	13	56.5
Missing	0	

Transferred to Same hospital (N=165)	N	%
Ward	73	44.2
Other ICU	8	4.8
High dependency care unit	84	50.9
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=26)	N	%
Ward	1	3.8
Other ICU	15	57.7
High dependency care unit	10	38.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	191	84.1
Dead	36	15.9
Missing	0	

Timing of ICU mortality (N=36)	N	%
Daytime (08:00AM - 07:59PM)	24	66.7
Nighttime (08:00PM - 07:59AM)	12	33.3
Weekdays (Monday - Friday)	28	77.8
Weekend (Saturday - Sunday)	8	22.2
Missing	0	

Hospital mortality	N	%
Alive	168	74.0
Dead	59	26.0
Missing	0	

Timing of hosp. mortality (N=59)	N	%
In ICU	36	61.0
Within 24 hours after ICU	2	3.4
24-47 hours after ICU	3	5.1
48-71 hours after ICU	0	0.0
72-95 hours after ICU	2	3.4
After 95 hours after ICU	16	27.1
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=23)		
Mean		20.6
SD		30.8
Median		5
Q1–Q3		3–24.5
Missing		0

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Outcome indicators - Trauma patients

Last hospital mortality	N	%
Alive	163	71.8
Dead	64	28.2
Missing	0	

ICU stay (days)	
Mean	11.9
SD	12.7
Median	7
Q1–Q3	2–18
Missing	0

ICU stay (days) Alive (N=191)	
Mean	11.7
SD	12.3
Median	6
Q1–Q3	2–19.5
Missing	0

ICU stay (days) Dead (N=36)	
Mean	13.2
SD	15.1
Median	8.5
Q1–Q3	2.8–16.2
Missing	0

Stay after ICU (days) Alive (N=191)	
Mean	16.4
SD	20.0
Median	9.5
Q1–Q3	3–23
Missing	1

Hospital stay (days)	
Mean	27.3
SD	27.4
Median	18
Q1–Q3	7–39
Missing	1

Hospital stay (days) Alive (N=168)	
Mean	28.3
SD	26.5
Median	23
Q1–Q3	8–39
Missing	1

Hospital stay (days) Dead (N=59)	
Mean	24.6
SD	30.0
Median	13
Q1–Q3	6–36.5
Missing	0

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Characteristics on admission - COVID adult patients

Patients (N): 86

Sex	N	%
Male	64	74.4
Female	22	25.6
Missing	0	

Age (years)	N	%
17-45	9	10.5
46-65	33	38.4
66-75	34	39.5
>75	10	11.6
Missing	0	
Mean	63.5	
SD	12.5	
Median	66	
Q1–Q3	58–72.5	
Min–Max	24–85	

Body mass Index (BMI)	N	%
Underweight	1	1.2
Normal	23	27.4
Overweight	34	40.5
Obese	26	31.0
Missing	2	

Pregnancy status	N	%
Females (N=22)		
Not fertile	7	31.8
Not pregnant/Unknown	13	59.1
Currently pregnant	0	0.0
Post partum	2	9.1
Missing	0	

Comorbidities	N	%
No	20	23.3
Yes	66	76.7
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	43	50.0
Diabetes Type II without insulin tr.	21	24.4
Arrhythmia	8	9.3
Any tumour without metastasis	7	8.1
NYHA class II-III	7	8.1
Moderate or severe renal disease	7	8.1
Peripheral vascular disease	5	5.8
Asthma	4	4.7
Cerebrovascular disease	4	4.7
Diabetes Type II with insulin treatment	4	4.7
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	9.1	17.2	3	0–6	1

Source of admission	N	%
Same hospital	71	82.6
Other hospital	15	17.4
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=86)		
Medical ward	52	60.5
Surgical ward	2	2.3
Emergency room	17	19.8
Other ICU	13	15.1
High dependency care unit	2	2.3
Missing	0	

Reason for transfer from	N	%
Other ICU (N=13)		
Specialist expertise	1	7.7
Step-up care	0	0.0
Logistical/organizational reasons	12	92.3
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=71)		
Medical ward	48	67.6
Surgical ward	2	2.8
Emergency room	14	19.7
Other ICU	6	8.5
High dependency care unit	1	1.4
Missing	0	

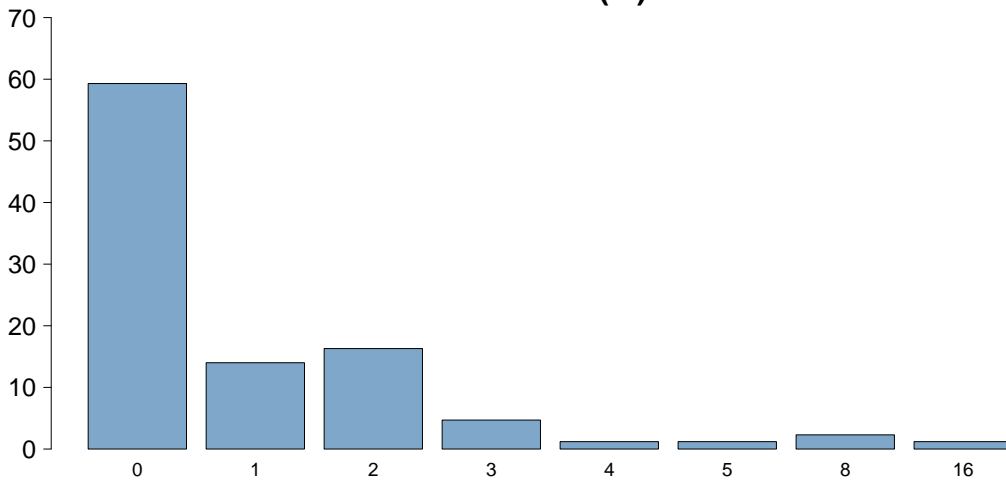
Ward of admission	N	%
Other hospital (N=15)		
Medical ward	4	26.7
Surgical ward	0	0.0
Emergency room	3	20.0
Other ICU	7	46.7
High dependency care unit	1	6.7
Missing	0	

Scheduled admission	N	%
No	86	100.0
Yes	0	0.0
Missing	0	

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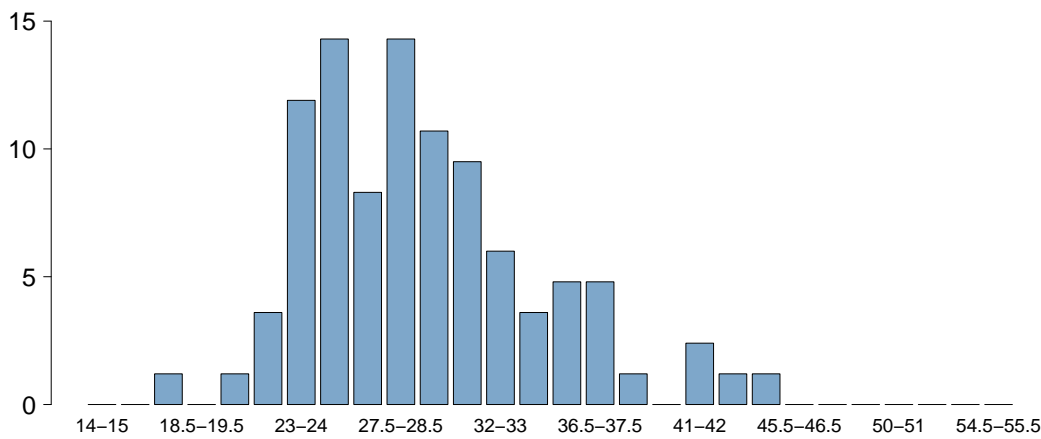
Characteristics on admission - COVID adult patients

Charlson (%)



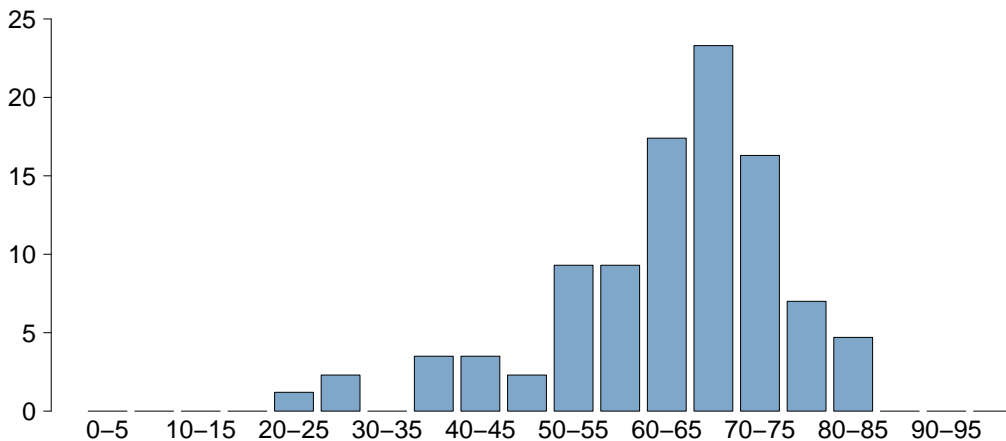
Charlson score	
Mean	1.1
SD	2.2
Median	0
Q1–Q3	0–2
Missing	0

BMI (%)



BMI	
Mean	29.3
SD	5.3
Median	28.4
Q1–Q3	25.3–31.7
Missing	2

Age (%)



Age	
Mean	63.5
SD	12.5
Median	66
Q1–Q3	58–72.5
Missing	0

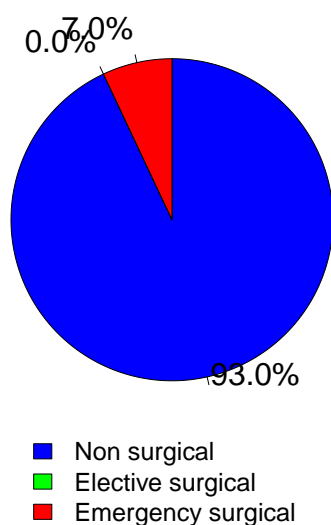
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Characteristics on admission - COVID adult patients

Trauma	N	%
No	85	98.8
Yes	1	1.2
Multiple trauma	0	0.0
Missing	0	

Surgical status	N	%
Non surgical	80	93.0
Elective surgical	0	0.0
Emergency surgical	6	7.0
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=6)		
Operating theatre of surgical ward	2	33.3
Operating theatre of emergency room	1	16.7
Surgical ward	0	0.0
Other	3	50.0
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=6)		
Pancreatic surgery	1	16.7
Gastrointestinal surgery	1	16.7
Thoracic surgery	1	16.7
Peripheral vascular surgery	1	16.7
Neurosurgery	1	16.7
Splenectomy	1	16.7
Organ/s transplantation	1	16.7
Lung transplantation	1	16.7
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Emergency surgical (N=6)		
From -7 to -3 days	0	0.0
From -2 to -1 days	2	33.3
On ICU admission day	5	83.3
The day after ICU admission	1	16.7
Missing	0	

Non surgical interventions	N	%
None	84	97.7
Elective	0	0.0
Emergency	2	2.3
Missing	0	

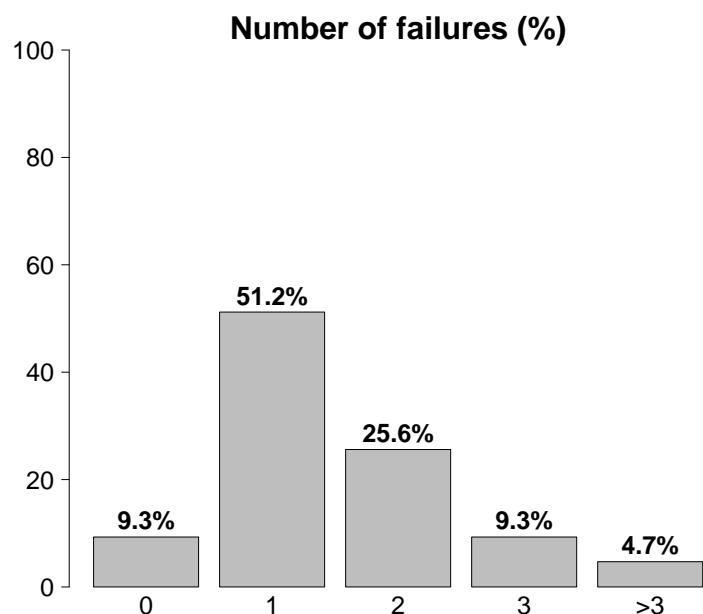
Non surgical interventions	N	%
Elective (N=0)		
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=2)		
Interventional cardiology	1	50.0
Interventional endoscopy	1	50.0
Interventional radiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

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Characteristics on admission - COVID adult patients

Reason for admission	N	%
Monitoring/Weaning	9	10.5
Post surgical weaning	0	0.0
Surgical monitoring	0	0.0
Post interventional weaning	0	0.0
Interventional monitoring	1	1.2
Non surgical monitoring	7	8.2
Missing	1	
Intensive Treatment	77	89.5
Only ventilatory support	60	69.8
Only cardiovascular support	2	2.3
Ventilatory and cardiovascular support	15	17.4
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	8	9.3
Yes	78	90.7
A: Respiratory failure	75	87.2
B: Cardiovascular failure	17	19.8
C: Neurological failure	2	2.3
D: Hepatic failure	0	0.0
E: Renal failure	23	26.7
F: Acute skin failure	0	0.0
G: Metabolic failure	11	12.8
H: Coagulation failure	0	0.0
Missing	0	

Failures on admission (top 10)	N	%
A	44	51.2
AE	11	12.8
AB	6	7.0
ABEG	4	4.7
ABE	3	3.5
ABG	2	2.3
AG	2	2.3
AC	1	1.2
ACE	1	1.2
AEG	1	1.2
Missing	0	

Respiratory failure	N	%
None	11	12.8
Only hypoxic failure	68	79.1
Only hypercapnic failure	1	1.2
Hypoxic-hypercapnic failure	2	2.3
Intubation for airway maint.	4	4.7
Missing	0	

Cardiovascular failure	N	%
None	69	80.2
Without shock	7	8.1
Cardiogenic shock	0	0.0
Septic shock	6	7.0
Haemorrhagic/hypovolemic shock	0	0.0
Hypovolemic shock	0	0.0
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	2	2.3
Mixed shock	2	2.3
Missing	0	

Neurologic failure	N	%
None	76	97.4
Cerebral coma	0	0.0
Metabolic coma	1	1.3
Postanoxic coma	1	1.3
Toxic coma	0	0.0
Missing or not evaluable	8	

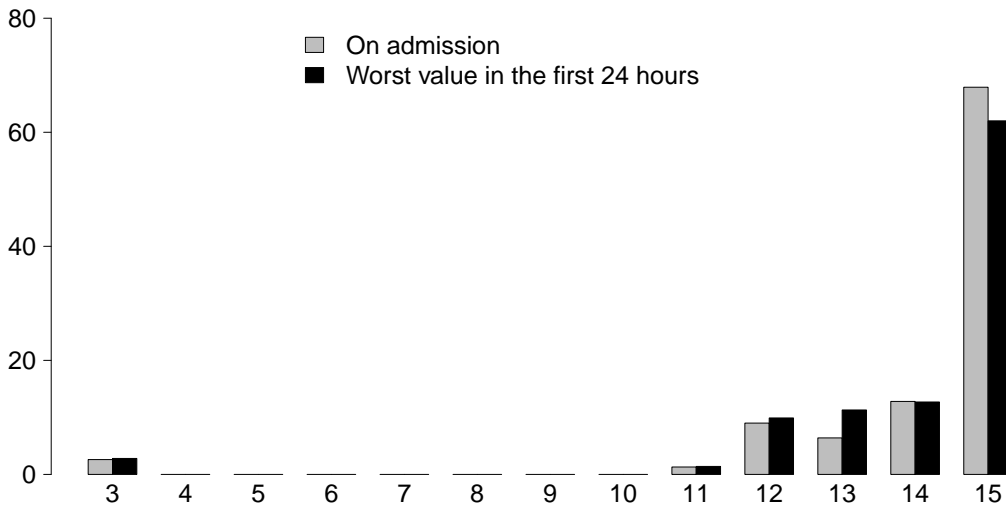
Renal failure (AKIN)	N	%
None	63	73.3
Mild	13	15.1
Moderate	7	8.1
Severe	3	3.5
Missing	0	

Metabolic failure	N	%
None	75	87.2
pH \leq 7.3, PaCO ₂ $<$ 45 mmHg	5	5.8
Base deficit \geq 5 mmol/L, lactate $>$ 1.5x	6	7.0
Missing	0	

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Severity scores - COVID adult patients

Glasgow Coma Scale (%)



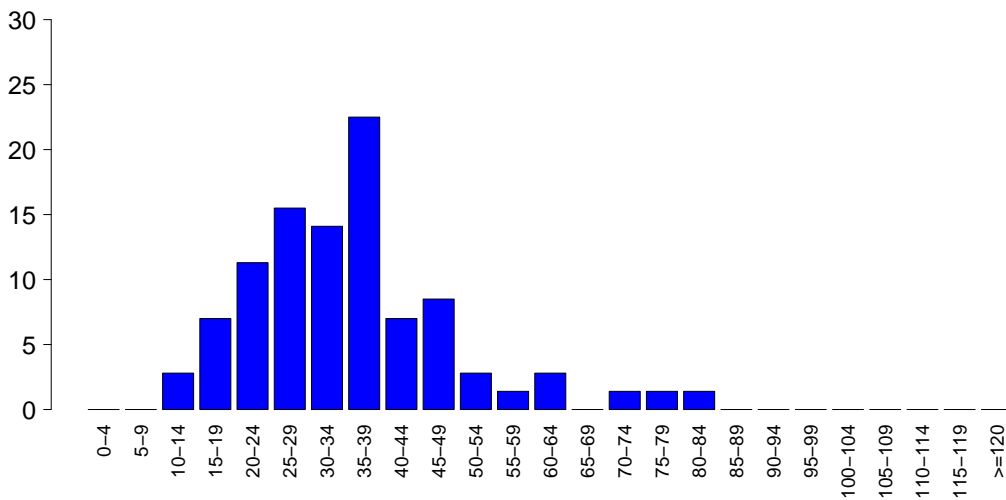
GCS (admission)

Median	15
Q1-Q3	14-15
Not evaluable	8
Missing	0

GCS (worst in first 24 hours)

Median	15
Q1-Q3	13.5-15
Not evaluable	15
Missing	0

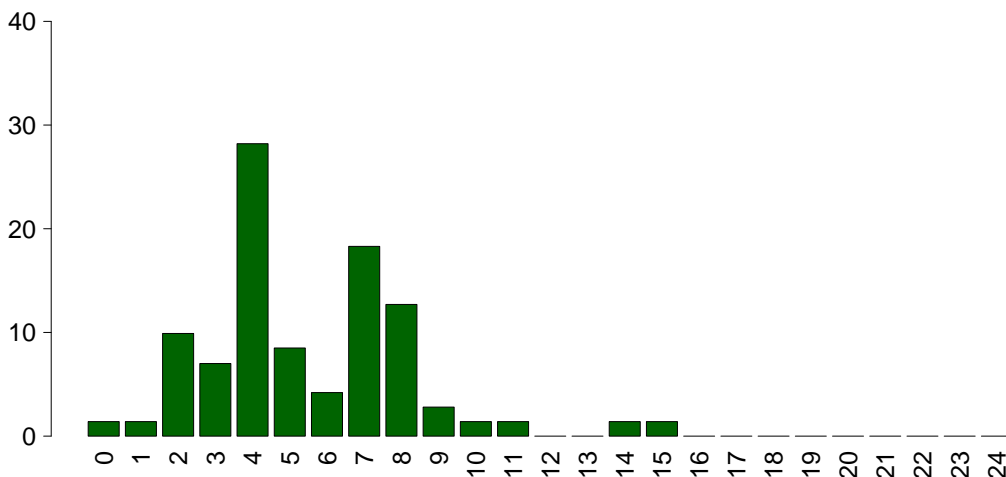
SAPS II (%)



SAPSII

Mean	35.6
SD	13.9
Median	34
Q1-Q3	27-41
Not evaluable	15
Missing	0

SOFA (%)



SOFA

Mean	5.5
SD	2.8
Median	5
Q1-Q3	4-7
Not evaluable	15
Missing	0

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Characteristics during the stay - COVID adult patients

Complications during the stay	N	%
No	20	23.3
Yes	66	76.7
Missing	0	

Failures during the stay	N	%
No	44	51.2
Yes	42	48.8
A: Respiratory failure	28	32.6
B: Cardiovascular failure	14	16.3
C: Neurological failure	1	1.2
D: Hepatic failure	3	3.5
E: Renal failure (AKIN)	17	19.8
F: Acute skin failure	2	2.3
G: Metabolic failure	8	9.3
H: Coagulation failure	9	10.5
Missing	0	

Failures during the stay (top 10)	N	%
A	13	15.1
ABE	5	5.8
G	5	5.8
AB	3	3.5
ABEH	2	2.3
B	2	2.3
AEFH	1	1.2
AEG	1	1.2
AEGH	1	1.2
AEH	1	1.2
Missing	0	

Respiratory failure occurred	N	%
None	58	67.4
Intubation for airway maint.	1	1.2
Hypoxic failure	26	30.2
Hypercapnic failure	2	2.3
Missing	0	

Cardiovascular failure occurred	N	%
None	72	83.7
Cardiogenic shock	3	3.5
Hypovolemic shock	0	0.0
Haemorrhagic/hypovolemic shock	0	0.0
Septic shock	8	9.3
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	4	4.7
Missing	0	

Neurological failure occurred	N	%
None	85	98.8
Cerebral coma	0	0.0
Metabolic coma	1	1.2
Postanoxic coma	0	0.0
Missing	0	

Renal failure occurred (AKIN)	N	%
None	69	80.2
Mild	1	1.2
Moderate	5	5.8
Severe	11	12.8
Missing	0	

Complications during the stay	N	%
Respiratory	19	22.1
Pleural effusion	10	11.6
Atelectasis	9	10.5
Severe ARDS	3	3.5
Pneumothorax/Pneumomediastinum	3	3.5
Pulmonary embolism	2	2.3
Cardiovascular	14	16.3
Acute severe arrhythmia: tachycardias	10	11.6
Deep venous thrombosis	4	4.7
Cardiac arrest	2	2.3
Left heart failure w/o pulm. edema	1	1.2
Pulmonary edema	1	1.2
Neurological	30	34.9
Drowsiness/agitation/delirium	28	32.6
CrIMyNe	20	23.3
Seizures	2	2.3
-	0	0.0
-	0	0.0
Gastrointestinal and hepatic	11	12.8
Paralytic Ileus	7	8.1
Liver Dysfunction Syndrome	3	3.5
Acute bile-duct disease	2	2.3
Acute pancreatitis	2	2.3
Gastrointestinal bleeding: lower tract	2	2.3
Other	11	12.8
Metabolic disorder	8	9.3
Other disease	4	4.7
Iatrogenic major vessels injury	2	2.3
Category/Stage I: Nonblanchable Erythema	1	1.2
F.U.O. fever of unknown origin	1	1.2
-	0	0.0
-	0	0.0
Infections	45	52.3
Pneumonia	30	34.9
Catheter-related UTI	11	12.8
L.R.T.I. other than pneumonia	5	5.8
Clinical sepsis	4	4.7
Sinusitis	3	3.5
Primary bacteraemia of unknown origin	2	2.3
Catheter-related bacteremia (CR-BSI)	2	2.3
NON-catheter-related UTI	2	2.3
Cholecystitis/cholangitis	1	1.2
Other viral infections	1	1.2
Missing	0	

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Characteristics during the stay - COVID adult patients

Infections	N	%
None	0	0.0
Only on admission	41	47.7
On admission and during ICU stay	45	52.3
Only during ICU stay	0	0.0
Missing	0	

Ventil. Associat. Pneumonia (VAP)	N	%
No	63	73.3
Yes	23	26.7
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	36.7
CI (95%)	23.2–55.0

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	29.4%
CI (95%)	18.6–44.0

Catheter Bacteraemia (CR-BSI)	N	%
No	84	97.7
Yes	2	2.3
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	1.9
CI (95%)	0.2–7.0

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	2.3%
CI (95%)	0.3–8.4

Catheter-related urinary tract infection (UTI)	N	%
No	75	87.2
Yes	11	12.8
Missing	0	

Incidence of catheter-related UTI*(Pts. with catheter-related UTI/1000 days of UC pre-UTI)*

Estimate	10.2
CI (95%)	5.1–18.3

Incidence of catheter-related UTI*(Pts. with catheter-related UTI/pts. with UC for 12 days)*

Estimate	12.3%
CI (95%)	6.1–22.0

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Process indicators - COVID adult patients Procedures and/or treatments (Missing=0) Procedures (antibiotics excluded)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
	86	100.0										
Invasive ventilation	61	70.9	24	27.9	29	33.7	13	6-18	0	2	0-4	0
Non invasive ventilation	48	55.8	17	19.8	10	11.6	3	1-5	0	0	0-1	0
Tracheostomy	13	15.1	3	3.5	11	12.8	9	6-12	0	22	16-22	0
iNO (inhaled nitric oxide)	1	1.2	0	0	0	0	8	8-8	0	5	5-5	0
Central Venous Catheter	71	82.6	30	34.9	59	68.6	12	6-20	0	0	0-1	0
PICC	3	3.5	1	1.2	2	2.3	6	4-6	0	9	6-12	0
Arterial Catheter	85	98.8	35	40.7	51	59.3	8	4-16	0	0	0-0	0
Vasoactive drugs	52	60.5	15	17.4	13	15.1	3	1-6	0	1	0-3	0
Antiarrhythmics	13	15.1	0	0	0	0	0	0-1	0	3	1-7	0
IABP	0	0.0										
Invasive monitoring of C.O.	1	1.2	1	1.2	0	0	1	1-1	0			
Continuous monitoring of ScVO2	0	0.0										
Temporary pacing	0	0.0										
Ventricular assistance	0	0.0										
DC-shock	4	4.7								5	4-10	0
CPR	1	1.2								21	21-21	0
Massive blood transfusion	0	0.0										
ICP monitoring without CSF drainage	1	1.2	1	1.2	0	0	14	14-14	0			
ICP monitoring with CSF drainage	0	0.0										
EVD without ICP monitoring	0	0.0										
Haemofiltration	0	0.0										
Haemodialysis	6	7.0	0	0	5	5.8	9	4-14	0	8	6-10	0
ECMO	0	0.0										
Hepatic clearance techniques	0	0.0										
Clearance techniques during sepsis	0	0.0										
IAP (intra-abdominal pressure)	1	1.2										
Hypothermia	0	0.0										
Enteral nutrition	66	76.7	10	11.6	41	47.7	12	5-20	0	1	1-3	0
Parenteral nutrition	32	37.2	3	3.5	10	11.6	4	1-7	0	6	2-12	0
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	4	4.7										
Peridural catheter	0	0.0										
Electrical cardioversion	0	0.0										
Vacuum therapy	0	0.0										
Urinary catheter	86	100.0	54	62.8	83	96.5	10	6-20	0	0	0-0	0
Pronation	29	33.7	0	0	1	1.2	1	1-1	0	2	0-4	0
Antivirals	2	2.3	2	2.3	1	1.2	6	5-7	0			

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Process indicators - COVID adult patients

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	71	82.6										
Antibiotic prophylaxis	3	3.5	1	1.2	1	1.2	10	6-12	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	46	53.5	17	19.8	16	18.6	6	2-11	0	4	1-7	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	13	15.1	6	7	6	7	6	3-6	0	1	0-2	0
Targeted antibiotic therapy	43	50.0	7	8.1	25	29.1	6	4-8	0	8	2-14	0
Antifungal in empirical therapy	8	9.3	0	0	5	5.8	4	3-6	0	12	10-17	0
Antifungal in targeted therapy	5	5.8	1	1.2	1	1.2	10	8-11	0	6	3-10	0
Pre-emptive antifungal	0	0.0										

Antibiotic therapy			
Pt. infected in ICU only (N=0)			
	N	%	
No therapy	0	0.0	
Only empirical	0	0.0	
Only targeted	0	0.0	
Targeted after empirical	0	0.0	
Other	0	0.0	
Missing	0		

Antifungal therapy			
Pt. infected in ICU only (N=0)			
	N	%	
No therapy	0	0.0	
Only empirical	0	0.0	
Only targeted	0	0.0	
Targeted after empirical	0	0.0	
Other	0	0.0	
Missing	0		

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Process indicators - COVID adult patients

Invasive ventilation (N=61)	N	%	Length (days)				Missing
			Mean	SD	Median	Q1-Q3	
Due to pulmonary failure	53	84.1	13.0	8.1	13	7–18	0
For airway maintenance	3	4.8	12.3	10.6	14	7.5–18	0
In weaning	1	1.6	1.0		1	1–1	0
Not evaluable	6	9.5	14.2	10.1	14	5.8–22.5	2
Reintubation within 48 hours	3	4.8	8.0	4.6	7	5.5–10	0

Non invasive ventilation (N=48)	N	%
Non invasive ventilation only	16	33.3
Non invasive ventilation failed	2	4.2
For weaning	6	12.5
Other	24	50.0
Missing	0	

Tracheostomy not present on admission (N=10)	N	%
Surgical	5	50.0
Percutwist	1	10.0
Ciaglia	1	10.0
Monodil. Ciaglia	0	0.0
Fantoni	0	0.0
Griggs	2	20.0
Other Kind	1	10.0
Unknown	0	0.0
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=10)

Mean	18.5
SD	12.9
Median	18.5
Q1–Q3	10.8–20.8
Missing	0

Invasive monitoring of C.O. (N=1)	N	%
Swan Ganz	1	100.0
PICCO	0	0.0
LIDCO	0	0.0
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	84	97.7
Yes	2	2.3
Missing	0	

Number of surgical interventions	N	%
0	84	97.7
1	2	2.3
2	0	0.0
3	0	0.0
>3	0	0.0
Missing	0	

Surgical interventions

Days from admission

Mean	18.5
SD	12.0
Median	18.5
Q1–Q3	14.2–22.8
Missing	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	1	1.2
Other surgery	1	1.2
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions	N	%
No	85	98.8
Yes	1	1.2
Missing	0	

Non surgical interventions

Days from admission

Mean	2.0
SD	
Median	2
Q1–Q3	2–2
Missing	0

Non surgical interventions	N	%
Interventional neuroradiology	1	1.2
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators - COVID adult patients**

ICU outcome	N	%
Dead	17	19.8
Transferred to same hospital	60	69.8
Transferred to other hospital	9	10.5
Discharged home	0	0.0
Disch. terminally ill	0	0.0
Missing	0	

Transferred to (N=69)	N	%
Ward	47	68.1
Other ICU	17	24.6
High dependency care unit	5	7.2
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=17)	N	%
Specialist expertise	5	29.4
Step-up care	2	11.8
Logistical/organizational reasons	10	58.8
Step-down care	0	0.0
Missing	0	

Transferred to Same hospital (N=60)	N	%
Ward	44	73.3
Other ICU	12	20.0
High dependency care unit	4	6.7
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=9)	N	%
Ward	3	33.3
Other ICU	5	55.6
High dependency care unit	1	11.1
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	69	80.2
Dead	17	19.8
Missing	0	

Timing of ICU mortality (N=17)	N	%
Daytime (08:00AM - 07:59PM)	11	64.7
Nighttime (08:00PM - 07:59AM)	6	35.3
Weekdays (Monday - Friday)	14	82.4
Weekend (Saturday - Sunday)	3	17.6
Missing	0	

Hospital mortality	N	%
Alive	61	73.5
Dead	22	26.5
Missing	3	

Timing of hosp. mortality (N=22)	N	%
In ICU	17	77.3
Within 24 hours after ICU	1	4.5
24-47 hours after ICU	1	4.5
48-71 hours after ICU	0	0.0
72-95 hours after ICU	0	0.0
After 95 hours after ICU	3	13.6
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=5)		
Mean		9.4
SD		11.1
Median		4
Q1–Q3		1–17
Missing		0

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Outcome indicators - COVID adult patients

Last hospital mortality	N	%
Alive	60	72.3
Dead	23	27.7
Missing	3	

Readmission from ward	N	%
No	86	100.0
Yes	0	0.0
Missing	0	

Number of readmissions (N=0)	N	%
1	0	0.0
2	0	0.0
>2	0	0.0
Missing	0	

Timing of readmission (N=0)	N	%
Within 48 hours	0	0.0
48-71 hours	0	0.0
72-95 hours	0	0.0
After 95 hours	0	0.0
Missing	0	

Timing readmission (days)	N	%
Mean	0	
SD		
Median		
Q1-Q3		

ICU stay (days)	Mean	SD	Median	Q1-Q3	Missing
	14.6	10.7	13.5	6-22	0

ICU stay (days) Alive (N=69)	Mean	SD	Median	Q1-Q3	Missing
	13.6	11.1	11	5-20	0

ICU stay (days) Dead (N=17)	Mean	SD	Median	Q1-Q3	Missing
	18.6	7.9	16	12-27	0

Stay after ICU (days) Alive (N=69)	Mean	SD	Median	Q1-Q3	Missing
	16.7	18.1	11.5	4-23.8	3

Hospital stay (days)	Mean	SD	Median	Q1-Q3	Missing
	32.9	26.0	28	15-41.5	3

Hospital stay (days) Alive (N=61)	Mean	SD	Median	Q1-Q3	Missing
	36.6	28.3	33	18-46	0

Hospital stay (days) Dead (N=22)	Mean	SD	Median	Q1-Q3	Missing
	22.8	14.0	23	13.2-28	0

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Characteristics on admission - COVID adult patients evaluated in the covid-GiViTI model

Patients (N): 82

Sex	N	%
Male	60	73.2
Female	22	26.8
Missing	0	

Age (years)	N	%
17-45	9	11.0
46-65	32	39.0
66-75	31	37.8
>75	10	12.2
Missing	0	
Mean	63.2	
SD	12.7	
Median	65.5	
Q1–Q3	57.2–72.5	
Min–Max	24–85	

Body mass Index (BMI)	N	%
Underweight	1	1.2
Normal	22	27.5
Overweight	34	42.5
Obese	23	28.7
Missing	2	

Pregnancy status	N	%
Females (N=22)		
Not fertile	7	31.8
Not pregnant/Unknown	13	59.1
Currently pregnant	0	0.0
Post partum	2	9.1
Missing	0	

Comorbidities	N	%
No	20	24.4
Yes	62	75.6
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	39	47.6
Diabetes Type II without insulin tr.	19	23.2
Any tumour without metastasis	7	8.5
Arrhythmia	7	8.5
NYHA class II-III	6	7.3
Moderate or severe renal disease	5	6.1
Asthma	4	4.9
Diabetes Type II with insulin treatment	4	4.9
Immunosuppression	4	4.9
Peripheral vascular disease	4	4.9
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	8.7	16.7	3	0–6	0

Source of admission	N	%
Same hospital	69	84.1
Other hospital	13	15.9
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=82)		
Medical ward	49	59.8
Surgical ward	2	2.4
Emergency room	17	20.7
Other ICU	12	14.6
High dependency care unit	2	2.4
Missing	0	

Reason for transfer from	N	%
Other ICU (N=12)		
Specialist expertise	1	8.3
Step-up care	0	0.0
Logistical/organizational reasons	11	91.7
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=69)		
Medical ward	46	66.7
Surgical ward	2	2.9
Emergency room	14	20.3
Other ICU	6	8.7
High dependency care unit	1	1.4
Missing	0	

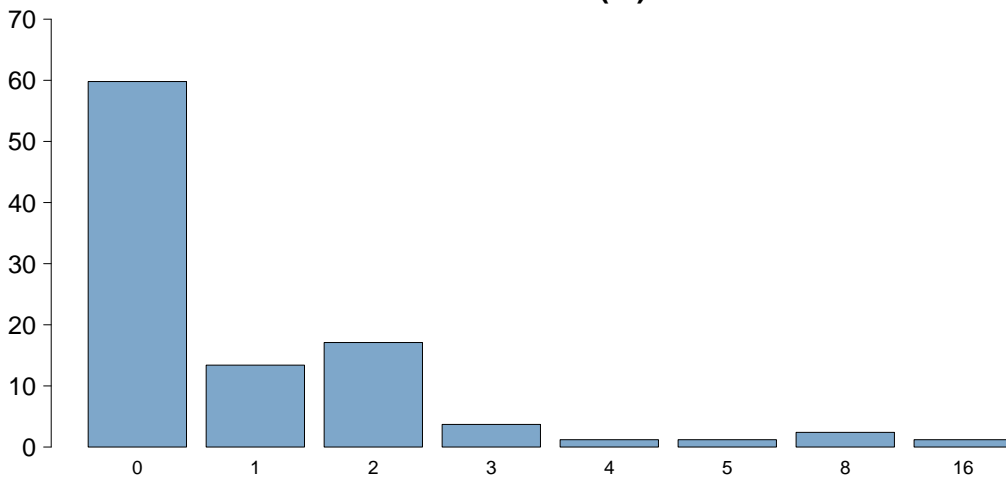
Ward of admission	N	%
Other hospital (N=13)		
Medical ward	3	23.1
Surgical ward	0	0.0
Emergency room	3	23.1
Other ICU	6	46.2
High dependency care unit	1	7.7
Missing	0	

Scheduled admission	N	%
No	82	100.0
Yes	0	0.0
Missing	0	

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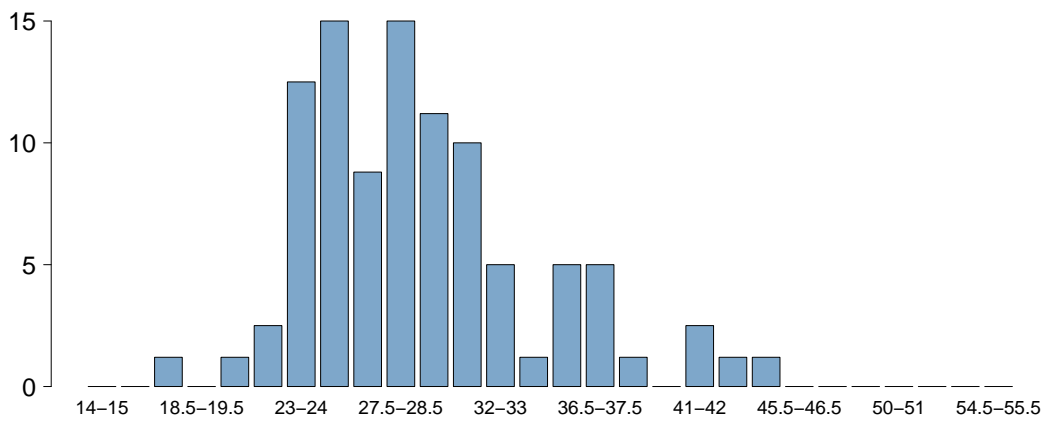
Characteristics on admission - COVID adult patients evaluated in the covid-GiViTI model

Charlson (%)



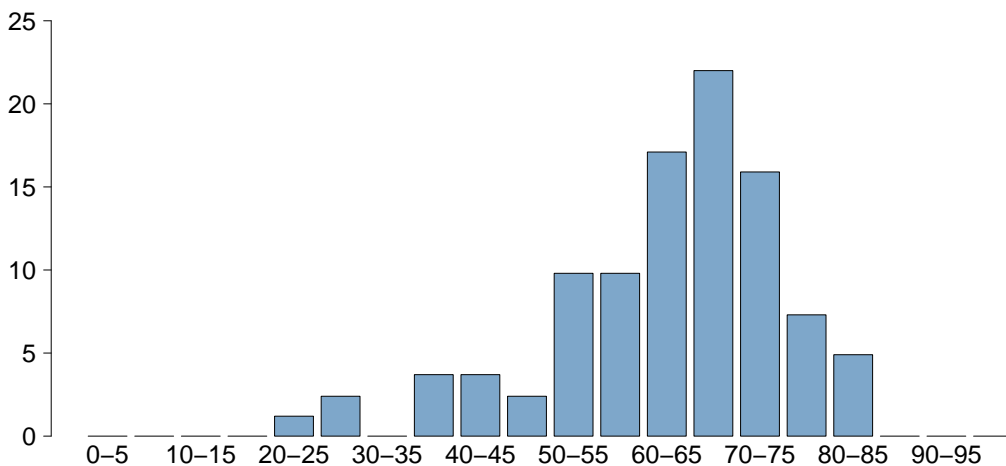
Charlson score	
Mean	1.1
SD	2.3
Median	0
Q1–Q3	0–2
Missing	0

BMI (%)



BMI	
Mean	29.2
SD	5.3
Median	28.4
Q1–Q3	25.3–31.3
Missing	2

Age (%)



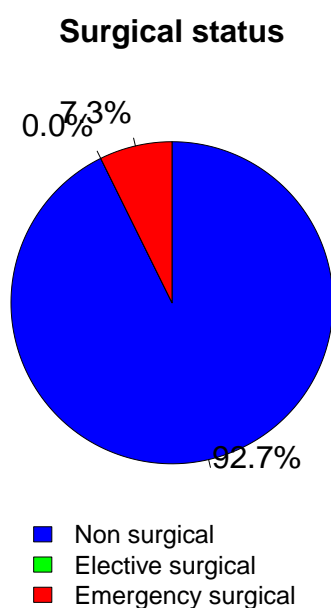
Age	
Mean	63.2
SD	12.7
Median	65.5
Q1–Q3	57.2–72.5
Missing	0

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Characteristics on admission - COVID adult patients evaluated in the covid-GiViTI model

Trauma	N	%
No	81	98.8
Yes	1	1.2
Multiple trauma	0	0.0
Missing	0	

Surgical status	N	%
Non surgical	76	92.7
Elective surgical	0	0.0
Emergency surgical	6	7.3
Missing	0	



Source of admission	N	%
Surgical pt. (N=6)		
Operating theatre of surgical ward	2	33.3
Operating theatre of emergency room	1	16.7
Surgical ward	0	0.0
Other	3	50.0
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=6)		
Pancreatic surgery	1	16.7
Gastrointestinal surgery	1	16.7
Thoracic surgery	1	16.7
Peripheral vascular surgery	1	16.7
Neurosurgery	1	16.7
Splenectomy	1	16.7
Organ/s transplantation	1	16.7
Lung transplantation	1	16.7
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Emergency surgical (N=6)		
From -7 to -3 days	0	0.0
From -2 to -1 days	2	33.3
On ICU admission day	5	83.3
The day after ICU admission	1	16.7
Missing	0	

Non surgical interventions	N	%
None	80	97.6
Elective	0	0.0
Emergency	2	2.4
Missing	0	

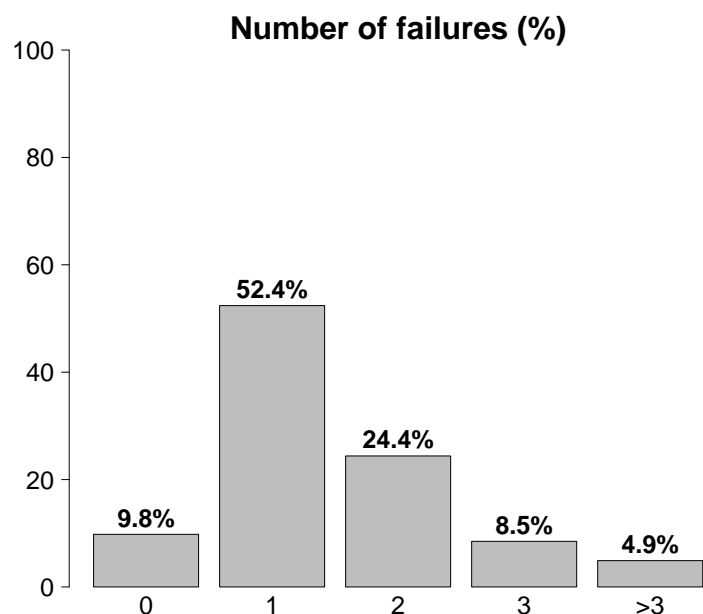
Non surgical interventions	N	%
Elective (N=0)		
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=2)		
Interventional cardiology	1	50.0
Interventional endoscopy	1	50.0
Interventional radiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

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Characteristics on admission - COVID adult patients evaluated in the covid-GiViTI model

Reason for admission	N	%
Monitoring/Weaning	9	11.0
Post surgical weaning	0	0.0
Surgical monitoring	0	0.0
Post interventional weaning	0	0.0
Interventional monitoring	1	1.2
Non surgical monitoring	7	8.6
Missing	1	
Intensive Treatment	73	89.0
Only ventilatory support	56	68.3
Only cardiovascular support	2	2.4
Ventilatory and cardiovascular support	15	18.3
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	8	9.8
Yes	74	90.2
A: Respiratory failure	71	86.6
B: Cardiovascular failure	17	20.7
C: Neurological failure	1	1.2
D: Hepatic failure	0	0.0
E: Renal failure	20	24.4
F: Acute skin failure	0	0.0
G: Metabolic failure	11	13.4
H: Coagulation failure	0	0.0
Missing	0	

Failures on admission (top 10)	N	%
A	43	52.4
AE	9	11.0
AB	6	7.3
ABEG	4	4.9
ABE	3	3.7
ABG	2	2.4
AG	2	2.4
AC	1	1.2
AEG	1	1.2
BE	1	1.2
Missing	0	

Respiratory failure	N	%
None	11	13.4
Only hypoxic failure	66	80.5
Only hypercapnic failure	1	1.2
Hypoxic-hypercapnic failure	1	1.2
Intubation for airway maint.	3	3.7
Missing	0	

Cardiovascular failure	N	%
None	65	79.3
Without shock	7	8.5
Cardiogenic shock	0	0.0
Septic shock	6	7.3
Haemorrhagic/hypovolemic shock	0	0.0
Hypovolemic shock	0	0.0
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	2	2.4
Mixed shock	2	2.4
Missing	0	

Neurologic failure	N	%
None	73	98.6
Cerebral coma	0	0.0
Metabolic coma	1	1.4
Postanoxic coma	0	0.0
Toxic coma	0	0.0
Missing or not evaluable	8	

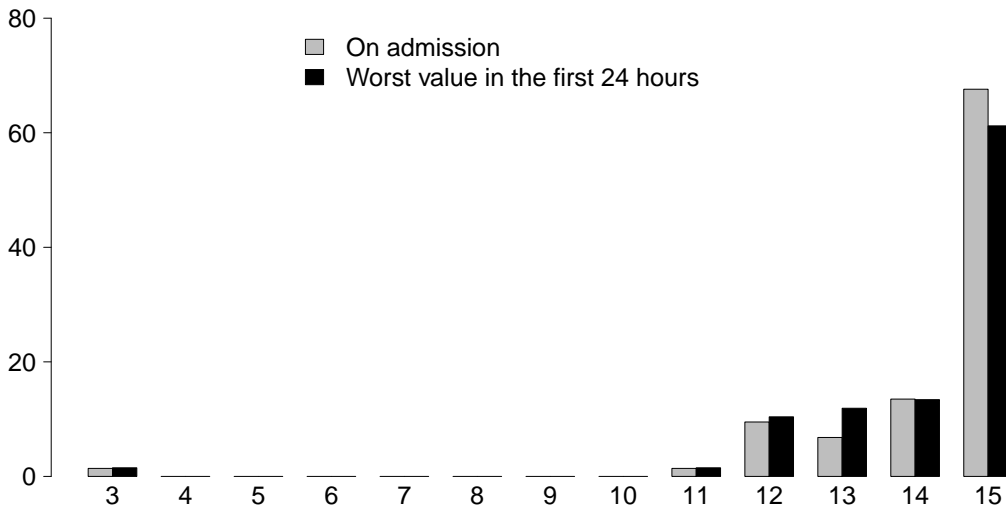
Renal failure (AKIN)	N	%
None	62	75.6
Mild	12	14.6
Moderate	5	6.1
Severe	3	3.7
Missing	0	

Metabolic failure	N	%
None	71	86.6
pH ≤ 7.3, PaCO ₂ < 45 mmHg	5	6.1
Base deficit ≥ 5 mmol/L, lactate > 1.5x	6	7.3
Missing	0	

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Severity scores - COVID adult patients evaluated in the covid-GiViTI model

Glasgow Coma Scale (%)



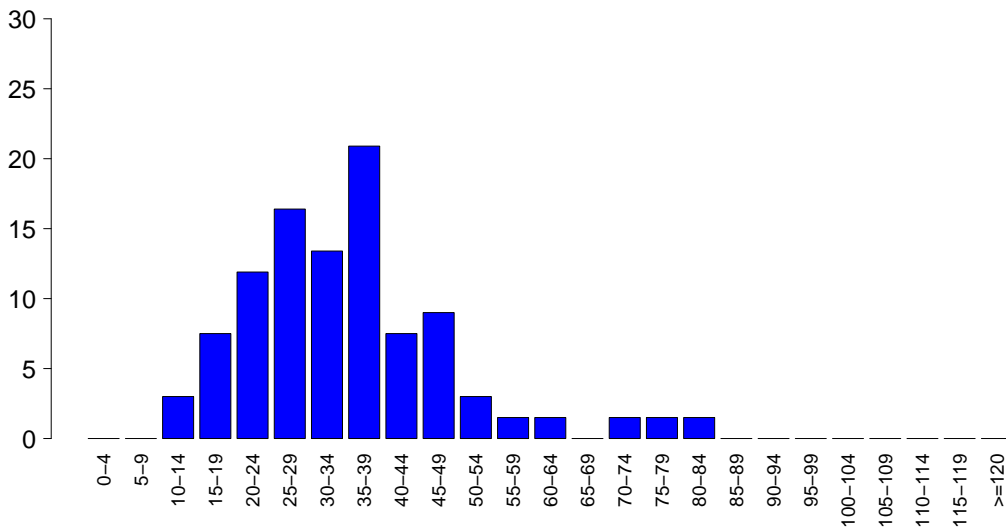
GCS (admission)

Median	15
Q1–Q3	14–15
Not evaluable	8
Missing	0

GCS (worst in first 24 hours)

Median	15
Q1–Q3	13.5–15
Not evaluable	15
Missing	0

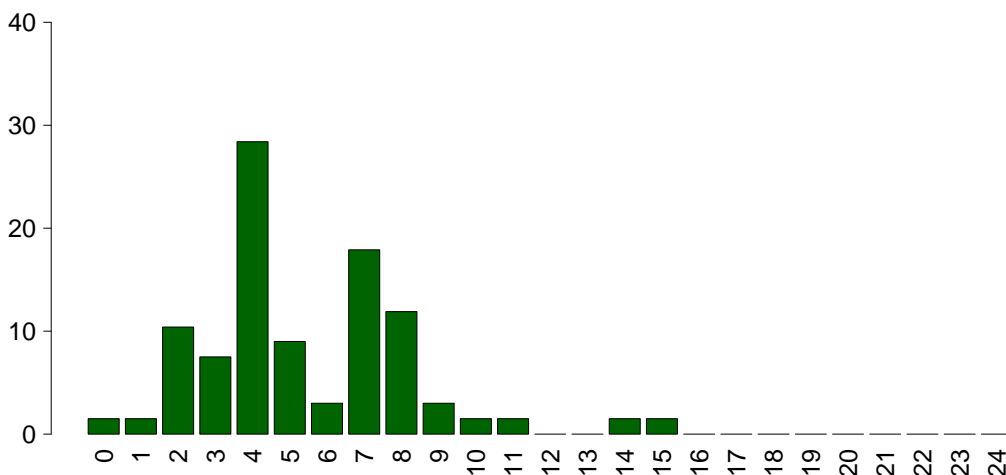
SAPS II (%)



SAPSII

Mean	35.2
SD	13.9
Median	33
Q1–Q3	26.5–41
Not evaluable	15
Missing	0

SOFA (%)



SOFA

Mean	5.4
SD	2.8
Median	5
Q1–Q3	4–7
Not evaluable	15
Missing	0

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Characteristics during the stay - COVID adult patients evaluated in the covid-GiViTI model

Complications during the stay	N	%
No	19	23.2
Yes	63	76.8
Missing	0	

Failures during the stay	N	%
No	43	52.4
Yes	39	47.6
A: Respiratory failure	25	30.5
B: Cardiovascular failure	14	17.1
C: Neurological failure	1	1.2
D: Hepatic failure	3	3.7
E: Renal failure (AKIN)	16	19.5
F: Acute skin failure	2	2.4
G: Metabolic failure	7	8.5
H: Coagulation failure	8	9.8
Missing	0	

Failures during the stay (top 10)	N	%
A	12	14.6
ABE	5	6.1
G	5	6.1
AB	3	3.7
ABEH	2	2.4
B	2	2.4
AEFH	1	1.2
AEGH	1	1.2
AEH	1	1.2
BDEH	1	1.2
Missing	0	

Respiratory failure occurred	N	%
None	57	69.5
Intubation for airway maint.	1	1.2
Hypoxic failure	24	29.3
Hypercapnic failure	1	1.2
Missing	0	

Cardiovascular failure occurred	N	%
None	68	82.9
Cardiogenic shock	3	3.7
Hypovolemic shock	0	0.0
Haemorrhagic/hypovolemic shock	0	0.0
Septic shock	8	9.8
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	4	4.9
Missing	0	

Neurological failure occurred	N	%
None	81	98.8
Cerebral coma	0	0.0
Metabolic coma	1	1.2
Postanoxic coma	0	0.0
Missing	0	

Renal failure occurred (AKIN)	N	%
None	66	80.5
Mild	1	1.2
Moderate	4	4.9
Severe	11	13.4
Missing	0	

Complications during the stay	N	%
Respiratory	19	23.2
Pleural effusion	10	12.2
Atelectasis	9	11.0
Severe ARDS	3	3.7
Pneumothorax/Pneumomediastinum	3	3.7
Pulmonary embolism	2	2.4
Cardiovascular	13	15.9
Acute severe arrhythmia: tachycardias	10	12.2
Deep venous thrombosis	3	3.7
Cardiac arrest	2	2.4
Left heart failure w/o pulm. edema	1	1.2
Pulmonary edema	1	1.2
Neurological	30	36.6
Drowsiness/agitation/delirium	28	34.1
CrIMyNe	20	24.4
Seizures	2	2.4
-	0	0.0
-	0	0.0
Gastrointestinal and hepatic	10	12.2
Paralytic Ileus	6	7.3
Liver Dysfunction Syndrome	3	3.7
Acute bile-duct disease	2	2.4
Acute pancreatitis	2	2.4
Gastrointestinal bleeding: lower tract	2	2.4
Other	10	12.2
Metabolic disorder	7	8.5
Other disease	3	3.7
Iatrogenic major vessels injury	2	2.4
Category/Stage I: Nonblanchable Erythema	1	1.2
F.U.O. fever of unknown origin	1	1.2
-	0	0.0
-	0	0.0
Infections	42	51.2
Pneumonia	27	32.9
Catheter-related UTI	11	13.4
L.R.T.I. other than pneumonia	5	6.1
Clinical sepsis	4	4.9
Sinusitis	3	3.7
Primary bacteraemia of unknown origin	2	2.4
NON-catheter-related UTI	2	2.4
Catheter-related bacteremia (CR-BSI)	1	1.2
Cholecystitis/cholangitis	1	1.2
Other viral infections	1	1.2
Missing	0	

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Characteristics during the stay - COVID adult patients evaluated in the covid-GiViTI model

Infections	N	%
None	0	0.0
Only on admission	40	48.8
On admission and during ICU stay	42	51.2
Only during ICU stay	0	0.0
Missing	0	

Ventil. Associat. Pneumonia (VAP)	N	%
No	62	75.6
Yes	20	24.4
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	35.5
CI (95%)	21.7–54.8

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	28.4%
CI (95%)	17.3–43.8

Catheter Bacteraemia (CR-BSI)	N	%
No	81	98.8
Yes	1	1.2
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	1.1
CI (95%)	0.0–6.0

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	1.3%
CI (95%)	0.0–7.1

Catheter-related urinary tract infection (UTI)	N	%
No	71	86.6
Yes	11	13.4
Missing	0	

Incidence of catheter-related UTI*(Pts. with catheter-related UTI/1000 days of UC pre-UTI)*

Estimate	11.3
CI (95%)	5.6–20.2

Incidence of catheter-related UTI*(Pts. with catheter-related UTI/pts. with UC for 12 days)*

Estimate	13.6%
CI (95%)	6.8–24.3

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Procedures and/or treatments (Missing=0)	N		%		On discharge		Length (days)		Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	82	100.0									
Invasive ventilation	58	70.7	24	29.3	27	32.9	12	6-18	2	0-4	0
Non invasive ventilation	44	53.7	14	17.1	9	11	3	1-5	0	0-1	0
Tracheostomy	11	13.4	3	3.7	10	12.2	9	6-12	22	19-22	0
iNO (inhaled nitric oxide)	1	1.2	0	0	0	0	8	8-8	5	5-5	0
Central Venous Catheter	67	81.7	28	34.1	55	67.1	11	6-20	0	0-1	0
PICC	3	3.7	1	1.2	2	2.4	6	4-6	9	6-12	0
Arterial Catheter	81	98.8	32	39	49	59.8	8	4-16	0	0-0	0
Vasoactive drugs	49	59.8	15	18.3	13	15.9	3	1-6	1	0-3	0
Antiarrhythmics	13	15.9	0	0	0	0	0	0-1	3	1-7	0
IABP	0	0.0									
Invasive monitoring of C.O.	1	1.2	1	1.2	0	0	1	1-1	0		
Continuous monitoring of ScVO2	0	0.0									
Temporary pacing	0	0.0									
Ventricular assistance	0	0.0									
DC-shock	4	4.9							5	4-10	0
CPR	1	1.2							21	21-21	0
Massive blood transfusion	0	0.0									
ICP monitoring without CSF drainage	1	1.2	1	1.2	0	0	14	14-14	0		
ICP monitoring with CSF drainage	0	0.0									
EVD without ICP monitoring	0	0.0									
Haemofiltration	0	0.0									
Haemodialysis	6	7.3	0	0	5	6.1	9	4-14	8	6-10	0
ECMO	0	0.0									
Hepatic clearance techniques	0	0.0									
Clearance techniques during sepsis	0	0.0									
IAP (intra-abdominal pressure)	1	1.2									
Hypothermia	0	0.0									
Enteral nutrition	62	75.6	8	9.8	37	45.1	12	5-19	1	1-3	0
Parenteral nutrition	32	39.0	3	3.7	10	12.2	4	1-7	6	2-12	0
SDD (Topical, Topical and systemic)	0	0.0									
Patient restraint	4	4.9									
Peridural catheter	0	0.0									
Electrical cardioversion	0	0.0									
Vacuum therapy	0	0.0									
Urinary catheter	82	100.0	50	61	79	96.3	10	6-19	0	0-0	0
Pronation	27	32.9	0	0	1	1.2	1	1-1	2	0-4	0
Antivirals	2	2.4	2	2.4	1	1.2	6	5-7	0		

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Process indicators - COVID adult patients evaluated in the covid-GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	68	82.9										
Antibiotic prophylaxis	3	3.7	1	1.2	1	1.2	10	6-12	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	44	53.7	17	20.7	16	19.5	6	2-11	0	4	1-8	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	13	15.9	6	7.3	6	7.3	6	3-6	0	1	0-2	0
Targeted antibiotic therapy	40	48.8	7	8.5	23	28	6	4-8	0	7	2-14	0
Antifungal in empirical therapy	8	9.8	0	0	5	6.1	4	3-6	0	12	10-17	0
Antifungal in targeted therapy	3	3.7	1	1.2	1	1.2	10	6-18	0	2	2-3	0
Pre-emptive antifungal	0	0.0										

Antibiotic therapy			
Pt. infected in ICU only (N=0)	N	%	
No therapy	0	0.0	
Only empirical	0	0.0	
Only targeted	0	0.0	
Targeted after empirical	0	0.0	
Other	0	0.0	
Missing	0		

Antifungal therapy			
Pt. infected in ICU only (N=0)	N	%	
No therapy	0	0.0	
Only empirical	0	0.0	
Only targeted	0	0.0	
Targeted after empirical	0	0.0	
Other	0	0.0	
Missing	0		

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Process indicators - COVID adult patients evaluated in the covid-GiViTI model

Invasive ventilation (N=58)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	50	83.3	12.7	8.1	12	6.2–18	0
For airway maintenance	3	5.0	12.3	10.6	14	7.5–18	0
In weaning	1	1.7	1.0		1	1–1	0
Not evaluable	6	10.0	14.2	10.1	14	5.8–22.5	2
Reintubation within 48 hours	3	5.0	8.0	4.6	7	5.5–10	0

Non invasive ventilation (N=44)	N	%
Non invasive ventilation only	15	34.1
Non invasive ventilation failed	2	4.5
For weaning	6	13.6
Other	21	47.7
Missing	0	

Tracheostomy not present on admission (N=8)	N	%
Surgical	4	50.0
Percutwist	1	12.5
Ciaglia	1	12.5
Monodil. Ciaglia	0	0.0
Fantoni	0	0.0
Griggs	2	25.0
Other Kind	0	0.0
Unknown	0	0.0
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=8)

Mean	16.5
SD	5.6
Median	18.5
Q1–Q3	14.2–20.2
Missing	0

Invasive monitoring of C.O. (N=1)	N	%
Swan Ganz	1	100.0
PICCO	0	0.0
LIDCO	0	0.0
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	80	97.6
Yes	2	2.4
Missing	0	

Number of surgical interventions	N	%
0	80	97.6
1	2	2.4
2	0	0.0
3	0	0.0
>3	0	0.0
Missing	0	

Surgical interventions	Mean	SD	Median	Q1–Q3	Missing
Days from admission	18.5	12.0	18.5	14.2–22.8	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	1	1.2
Other surgery	1	1.2
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions	N	%
No	81	98.8
Yes	1	1.2
Missing	0	

Non surgical interventions	Mean	SD	Median	Q1–Q3	Missing
Days from admission	2.0		2	2–2	0

Non surgical interventions	N	%
Interventional neuroradiology	1	1.2
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

National report - Year 2021**Outcome indicators - COVID adult patients evaluated in the covid-GiViTI model**

ICU outcome	N	%
Dead	17	20.7
Transferred to same hospital	57	69.5
Transferred to other hospital	8	9.8
Discharged home	0	0.0
Disch. terminally ill	0	0.0
Missing	0	

Transferred to (N=65)	N	%
Ward	45	69.2
Other ICU	15	23.1
High dependency care unit	5	7.7
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=15)	N	%
Specialist expertise	5	33.3
Step-up care	2	13.3
Logistical/organizational reasons	8	53.3
Step-down care	0	0.0
Missing	0	

Transferred to Same hospital (N=57)	N	%
Ward	43	75.4
Other ICU	10	17.5
High dependency care unit	4	7.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=8)	N	%
Ward	2	25.0
Other ICU	5	62.5
High dependency care unit	1	12.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	65	79.3
Dead	17	20.7
Missing	0	

Timing of ICU mortality (N=17)	N	%
Daytime (08:00AM - 07:59PM)	11	64.7
Nighttime (08:00PM - 07:59AM)	6	35.3
Weekdays (Monday - Friday)	14	82.4
Weekend (Saturday - Sunday)	3	17.6
Missing	0	

Hospital mortality	N	%
Alive	60	73.2
Dead	22	26.8
Missing	0	

Timing of hosp. mortality (N=22)	N	%
In ICU	17	77.3
Within 24 hours after ICU	1	4.5
24-47 hours after ICU	1	4.5
48-71 hours after ICU	0	0.0
72-95 hours after ICU	0	0.0
After 95 hours after ICU	3	13.6
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=5)		
Mean		9.4
SD		11.1
Median		4
Q1–Q3		1–17
Missing		0

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Outcome indicators - COVID adult patients evaluated in the covid-GiViTI model

Last hospital mortality			ICU stay (days)		
	N	%			
Alive	59	72.0	Mean	14.0	
Dead	23	28.0	SD	9.5	
Missing	0		Median	13	
			Q1–Q3	6–21.8	
			Missing	0	
			ICU stay (days)		
			Alive (N=65)		
			Mean	12.7	
			SD	9.5	
			Median	9	
			Q1–Q3	5–19	
			Missing	0	
			ICU stay (days)		
			Dead (N=17)		
			Mean	18.6	
			SD	7.9	
			Median	16	
			Q1–Q3	12–27	
			Missing	0	
			Stay after ICU (days)		
			Alive (N=65)		
			Mean	17.0	
			SD	18.1	
			Median	12	
			Q1–Q3	4–24	
			Missing	0	
			Hospital stay (days)		
			Mean	32.7	
			SD	26.0	
			Median	28	
			Q1–Q3	15–40	
			Missing	0	
			Hospital stay (days)		
			Alive (N=60)		
			Mean	36.3	
			SD	28.4	
			Median	33	
			Q1–Q3	17.2–45.2	
			Missing	0	
			Hospital stay (days)		
			Dead (N=22)		
			Mean	22.8	
			SD	14.0	
			Median	23	
			Q1–Q3	13.2–28	
			Missing	0	

Appendix

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