# Section 1 - ICU Structure

1.1 The ICU is situated in a
- Teaching hospital
- Non-teaching Hospital

1.2 Funding

*please enter what is most prevalent, if less than 10% of private funding please enter public*
- Public
- Private
- Mixed

1.3 Type of ICU
- Mixed (medical-surgical)
- Medical
- Surgical

1.4 Specific recruitment (check all that apply)
- General
- Paediatric
- Cardiac-Surgical
- Coronary-Care
- Post-Operative
- Neuro-surgical
- Trauma
- Burns

1.5 Structure of the ICU
- Open-ICU
- Closed ICU

1.6 Number of Ventilator equivalent beds in the ICU ______
(what is the maximum number of ventilated patients your ICU can accommodate at one time)

1.7 Number of non-ventilator capable or High dependency unit (HDU) beds in the ICU ______
(additionally to the ventilator equivalent beds, are there any beds available for lower acuity or a different group of patients)

1.8 How many nurses are available in the ICU for patient care at a given time ______
(if variable please provide the mean)

1.9 How many Doctors are available in the ICU for patient care at a given time ______
(if variable please provide the mean)

Of which ____ senior level, ____ junior or in training
1.10 The ICU has 24-hour medical coverage by (check all that apply)
☐ Physicians in training
☐ Staff physicians

1.11 A general surgery team and an operating theatre is usually available for emergency operations:
☐ 24/7
☐ During the day (but not at night)
☐ Weekdays but not the weekend

1.12 Severity score most commonly used in your ICU (one possible answer)
None ☐  SAPSII ☐  SAPSIII ☐  APACHE II ☐  APACHEIII ☐  APACHE IV ☐
ANZROD ☐  OTHER ☐

Section 2 – ID and Antibiotics

2.1 Infectious diseases (ID) specialists or clinical microbiologists are consulted (check all that apply):
☐ Never or sporadically.
☐ When required, only during business hours.
☐ When required, 24/7.
☐ Available as part of the permanent staff of the ICU, or at least one ICU physician is an ID specialist.
☐ Scheduled ID rounds or multidisciplinary meetings, at least weekly.

2.2 Clinical pharmacists are consulted (check all that apply)
☐ Never or sporadically.
☐ Available only during business hours.
☐ Available when requested 24/7.
☐ Available as part of the permanent staff of the ICU.
☐ Scheduled multidisciplinary staff meetings.

2.3 Choice of empirical antibiotic treatment is determined by (check all that apply):
☐ Local infection treatment guidelines
☐ National/international infection treatment guidelines
☐ Surveillance cultures
☐ Routine consultation of infectious diseases specialists, microbiologists or clinical pharmacists
☐ The treating physician.
☐ none of the above

2.4 Selective oropharyngeal and/or digestive tract decontamination is used:
☐ Never
☐ In All ICU patients
☐ In a selected group of patients, please specify _______
2.5 Surveillance cultures and screening for multidrug resistant organism carriage is performed:
- Never
- Only when clinically indicated
- For all (most) patients, on admission
- For all (most) patients, on admission and at least once weekly during the ICU stay

2.6 Central Vein Catheter tip culture is performed:
- Never
- Only when clinically indicated
- Every-time a catheter is removed

2.7 In case of fever or hypothermia, blood cultures are taken:
- Following a written protocol and initiated by nurses if the temperature reaches a threshold.
- Routinely performed by nurses without a specific written protocol.
- Only if prescribed by specific physician order.

2.8 Following a positive blood culture, do you check for microbiological resolution with a follow-up blood culture within the next 4 days? Most commonly:
- A subsequent blood-culture is taken every 1 or 2 days until resolution is confirmed.
- At least 1 subsequent blood culture is taken within the following 4 days.
- Only if clinical signs of sepsis or infection persist.
- Practice is variable owing to attending clinician’s preference
- Unfrequently or never.

2.9 With regards to source control, when an infection is suspected, surgical site or procedural site specimens are taken and sent for culture:
- Never
- Always
- Most frequently
- Only when requested by the treating physician

2.10 Regarding Therapeutic Drug Monitoring (TDM) for the following antibiotics:

**Aminoglycosides**
- TDM is not available
- TDM is available at least once a week
- TDM is available everyday

Results are usually available:
- within a few hours
- within 24 hours
- More than 24 hours after

**Vancomycin**
- TDM is not available
- TDM is available at least once a week
- TDM is available everyday

Results are available:
within a few hours
within 24 hours
More than 24 hours after sampling

Beta-Lactams

☐ TDM is not available
☐ TDM is available at least once a week
☐ TDM is available everyday

Results are available:
☐ within a few hours
☐ within 24 hours
☐ More than 24 hours after sampling

2.11 Does your ICU use hydrocortisone for the following indications? (one possible answer)
☐ Sepsis
☐ Septic shock
☐ Septic shock with high vasoactive drugs requirements, please specify ____ (unit selector)

If yes:
what dosing regimen: (one possible answer)
☐ 50mg intravenously every 6 hours
☐ 200mg/24 hrs continuous intravenous infusion
☐ Other, please specify____

Does your ICU use fludrocortisone in addition to hydrocortisone:
☐ Yes  ☐ No

What is the usual duration of treatment (one possible answer)
☐ 7 days or until ICU discharge
☐ Until resolution of shock
☐ Other, please specify____
Section 3 – Microbiology and Laboratory practices

This section is intended to be completed by the microbiologist

3.1 Location of the microbiology lab where blood cultures are processed
   ☐ Inside the hospital or in the same campus
   ☐ At another hospital with a partnership or agreement
   ☐ Off site at an independent microbiology laboratory

3.2 When blood cultures are taken, is incubation started (check all that apply)
   ☐ 24 hours / 7 days a week.
   ☐ If taken at night they will be processed in the morning.
   ☐ If taken during the weekend they will be processed on the Monday.

3.3 Automated blood culture processing is used
   ☐ No
   ☐ Yes, Bactec
   ☐ Yes, BactAlert
   ☐ Yes, Other _______

3.4 Is there monitoring for positive blood cultures:
   (is someone able to check and process any positive blood culture at those times)
   ☐ 24 hours / 7 days a week
   ☐ Every day (including week-end), but not at night
   ☐ During business hours of week days only (not weekends nor nights)

3.5 The results of direct microscopic examination (Gram’s stain) of a positive blood culture are reported. (multiple possible answers)
   ☐ They are not reported
   ☐ On paper
   ☐ Electronic system (up to the clinician to check).
   ☐ Personal contact (e.g. phone call or any other alert) 24/7, as soon as the result is available.
   ☐ Personal contact during week days, business hours only (not night or weekends).
   ☐ Personal contact during the day, 7 days a week.

3.6 Time to positivity is reported:
   ☐ Not reported
   ☐ Reported depending on bacterial species (this should open a short list of choices)
   ☐ Always reported.

3.7 Do you use molecular test for S. aureus identification and methicillin resistance detection when Gram positive cocci are seen at the direct smear examination of a positive blood culture?
   ☐ Yes
   ☐ No
3.8 Do you perform an antibiotic susceptibility test:
- Directly from the positive blood culture (unless the direct smear examination shows different bacteria)
- From a sub-culture of the positive blood culture

3.9 Interpretation of antibiotic susceptibility is done following the recommendations of:
- EUCAST
- CLSI
- Other, please specify ____________________________

3.10 Susceptibility testing is routinely performed by:
- disk diffusion
- broth dilution test
- Other, please specify ____________________________

3.11 MIC determination is performed by:
- broth dilution test
- E-test
- Both, depending on the antibiotic
- No MIC is performed

3.12 In case of multidrug resistant bacteria, do you perform (check all that applies):
- Phenotypic tests to confirm the underlying mechanism (e.g. DDST, betalacta-test, CARBA-NP)
- Molecular tests (e.g. commercial panels, home-brewed PCRs)
- Whole genome sequencing
- None of the above

3.13 The results of susceptibility testing and the antibiogram are reported to the treating physician:
- Not reported
- On paper
- Electronic system.
- Personal contact (e.g. phone call) 24/7, as soon as the result is available.
- Personal contact during business hours only (not night or weekends).
- Personal contact during the day, 7 days a week.

3.14 Susceptibility results are reported to the treating physician:
- Selectively (in other words not all agents that are tested are reported)
- All antibiotic agents that are tested are reported

3.15 Does your lab routinely provide susceptibility results as (check all that apply):
- Sensitive /Resistant (without further detail)
- Inhibition zones diameter with interpretation S/I/R
- MIC data
4.1 Percentage of Staphylococcus aureus isolates resistant to methicillin (MRSA):
   - In the ICU: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown
   - In the hospital: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown

4.2 Percentage of Enterococcus spp. isolates resistant to vancomycin (VRE):
   - In the ICU: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown
   - In the hospital: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown

4.3 Percentage of Enterobacteriaceae isolates producing extended-spectrum β-lactamase (ESBL):
   - In the ICU: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown
   - In the hospital: □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown

4.4 Percentage of Enterobacteriaceae isolates producing carbapenemases:
   - In the ICU: □ less than 5% □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown
   - In the hospital: □ less than 5% □ less than 10% □ 10 to 25% □ 25 to 50% □ more than 50% □ Unknown

**Definitions (Should go as hover text in the e-crf)**

Open/Closed ICU: “Open” means the physician responsible for the patient admits the patient to the ICU and keeps the formal responsibility for the patient and his treatment. The intensivist is a consultant without primary responsibility for the patient. A “closed” format means the patient is admitted to the ICU and the responsibility for the patient and his treatment is transferred to the intensivist.