

# ANTIBIOTIC RESISTANCE: PERCEPTIONS

## PRESERATION

The aim of the survey is to evaluate the perception of medical residents about antimicrobial resistance and antimicrobial use in hospitals. Data will be considered in a aggregated way, respecting confidentiality of the respondents.

Your opinion is important to us. Thank you!

#### A) GENERAL INFORMATION

1. In which hospital do you work?
2. Designation PGY-1  PGY-2  PGY-3  PGY-4  PGY-5
  
3. When was your entry year to your undergraduate medical training?
4. In which country did you get your graduate in medicine?
  
5. What is your speciality?
  
6. Have you previously rotation on an Infectious diseases ward? Yes  <sub>1</sub> No  <sub>2</sub>

## B) DECISION MAKING

1. Have you prescribed an antibiotic within the past month?

Yes   
No

\*1. How many prescriptions for antibiotics have you written  
in the last 7 days?

2  1  
3 to 5  2  
5  3

\*2. When you prescribe antibiotics in the hospital, who is taking the decision? (Choose the most appropriate choice)

- Myself

- More experienced resident

- My attending

- Another specialist

\*3. How confident do you feel in the following scenarios when prescribing an antibiotic by yourself?

	Very unconfident <input type="checkbox"/> 1	Unconfident <input type="checkbox"/> 2	Confident <input type="checkbox"/> 3	Very Confident <input type="checkbox"/> 4	Uncertain <input type="checkbox"/> 5
• Making an accurate diagnosis of infection /sepsis?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Not prescribing an antibiotic if the patient has fever but no severity criteria, and if you are not sure about your diagnosis	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Choosing the correct antibiotic	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Choosing the correct dose and interval of administration	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Using a combination therapy if appropriate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Choosing between IV and PO administration	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Finding interactions between antibiotics and other drugs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Interpreting microbiological results	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Planning to streamline/stop the antibiotic treatment according to clinical evolution and investigations	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Planning the duration of the antibiotic treatment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

\*4. What influences or guides your prescribing decision?

Tick all that apply

• Previous experience/knowledge/training  1

- Seeking advice from a senior colleague
- Seeking advice from an ID specialist
- Seeking advice from a microbiologist
- Seeking advice from a pharmacist
- Use of local/national guidelines/policies/protocols
- Unsure
- Other

<input type="checkbox"/>	2
<input type="checkbox"/>	3
<input type="checkbox"/>	4
<input type="checkbox"/>	5
<input type="checkbox"/>	6
<input type="checkbox"/>	7

*Please specify*

### C) PERCEIVED IMPORTANCE OF THE PROBLEM OF ANTIBIOTIC RESISTANCE

Unsure Yes No

\*1. Do you think that antibiotic resistance is a national problem? 1 2  
3

Do you think that antibiotic resistance is a problem in 1 2  
3 your hospital?

Do you think that antibiotic resistance is a problem in 1 2  
3 your clinical practice?

\*2. In your institution, how often do you think *E. coli* is resistant to quinolones?

<5%	<input type="checkbox"/> 1
5-20%	<input type="checkbox"/> 2
21-50%	<input type="checkbox"/> 3
>50%	<input type="checkbox"/> 4

Unsure 5

\*3. How often do you think *S. aureus* is resistant to methicillin in your hospital?

<5%	<input type="checkbox"/> 1
5-20%	<input type="checkbox"/> 2
21-50%	<input type="checkbox"/> 3
>50%	<input type="checkbox"/> 4

Unsure 5

## D) ANTIBIOTIC PRESCRIBING

### 1. What proportion of antibiotics do you consider to be unnecessary or inappropriate prescriptions in your hospital?

- |        |                            |
|--------|----------------------------|
| <10%   | <input type="checkbox"/> 1 |
| 11-20% | <input type="checkbox"/> 2 |
| 21-50% | <input type="checkbox"/> 3 |
| Unsure | <input type="checkbox"/> 5 |
| >50%   | <input type="checkbox"/> 4 |

### 2. How many antibiotic prescriptions around you think are unnecessary?

(The patient did not need antibiotics at the time)

- <10  1
- 10-20  1
- 21-50  1
- >50%  1
- I do not know  1

### \*3. The following scenarios are potential causes for resistance; please identify which, in your opinion, are the most or least important.

	Very important	Important	Neutral	Unimportant	Very Unimportant
• Too many antibiotic prescriptions	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Too many broad spectrum antibiotics used	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Too long durations of antibiotic treatment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Too low a dose of antibiotics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Excessive use of antibiotics in livestock	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Poor hand hygiene	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Not removing the focus of infection (e.g. medical devices or catheters)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Paying too much attention to pharmaceutical representatives/advertising	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

## E) ATTITUDES ABOUT CURRENT AND POTENTIAL INTERVENTIONS TO EVALUATE THE PROBLEM OF ANTIBIOTIC PRESCRIBING

\*1. How is the training that you received in your hospital on antibiotic use and resistance?

- Excellent 1
- Good 1
- Poor 1
- Very poor 1
- Non-existent/Null 1

\*2. What measures do you think would be the most helpful in improving antibiotic prescribing?

	Very helpful	Helpful	Neutral	Unhelpful	Very unhelpful
• Educational sessions on prescribing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Availability of local / national guidelines / policies / protocols	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Availability of local/national resistance data	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Computer-aided prescribing	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Presence of an antimicrobial management team	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Readily accessible advice from ID physician	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Advice from senior colleagues	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Speaking to a pharmaceutical representative	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
•					
• Restriction of prescription of certain antibiotics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Restriction of prescription of all antibiotics	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
• Regular audit and feedback on antibiotic prescribing on your ward	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

\*3. In the last year, have you received any training in antibiotic prescribing?

Tick all that apply

- Lecture 1
- Workshop 2
- Informal educational in the clinical workplace 3

- Web-based learning
- Self-directed learning
- No formative activities
- I don't know

<input type="checkbox"/>	4
<input type="checkbox"/>	5
<input type="checkbox"/>	6
<input type="checkbox"/>	7