Infection control specialists' perception of antimicrobial resistance in European health care facilities : The Percept-R study.

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BACKGROUND

➢ The **framework of infection control policy varies** across different countries: **diversity of approaches** adopted by European countries to manage the same problem (ie CPE or VRE).

➢ The **societal/cultural context and the administrative framework could play a role** in the differences of national strategies.

➢ The study of infection control specialists (ICS) **perception of antimicrobial resistance (AMR)** and infection control strategies in Europe may allow **explaining the wider choice of strategies and giving** helpful data to build efficient interventions and national infection control strategies.

OBJECTIVES

➢The objectives of this study are:

➢ **To assess the perception of AMR** by ICS across Europe;

➢ **To assess the variability of control strategies** that ICS across Europe would adopt facing situations of antimicrobial resistance in hospital;

➢ **To estimate the impact of the cultural/societal context, the national organisation** and the administrative framework on the perception AMR by ICPs and the measures they would adopt.

METHODS

➢ **16 case vignettes** built from real situations
- 3 MRSA, 4 ESBLPE, 4 CPE, 2 CRAB, 2 GRE, 1 *P.aeruginosa*
- **Setting:** specialty, awareness, ATB, Hand hygiene, workload…
- **Patient:** clinic, specimen (screening vs clinical), ATB…

➢ Vignettes were submitted to **ICS from 223 hospitals in 15 European countries**

➢ Each participant **scored 5 randomly-assigned case-vignettes** on:
- Risk perception (7-point Likert scale), and control measures
- **Insetting IPC organization:** epidemiology, perception and attitude regarding IPC/AMR and working conditions/organization.
- **National context:** sociocultural, economic and ECDC indicators
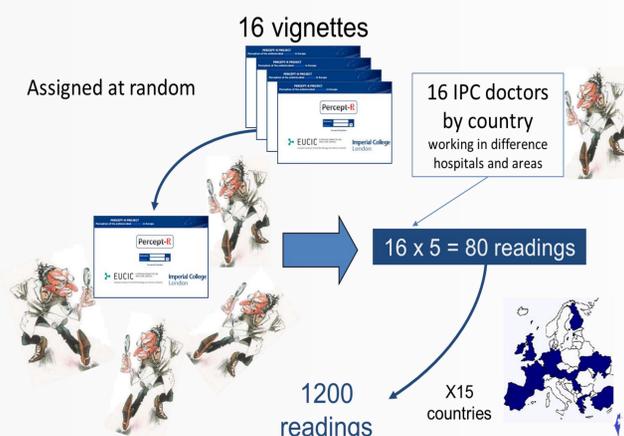
RESULTS (1)

➢ A total of 149 ICS scored 655 case-vignettes.

➢The individual (positive patients) and collective risks (contact patients) were estimated high in 72% and 75% of situations, respectively (55% to 89% according to MDRO).

RESULTS (2)

➢The intra-country agreement regarding the individual risk varied from 0.00 (ICC: 0-0.25) to 0.51 (0.29-0.74), and globally 0.20 (0.07-0.33).

An ICC value of 0 indicates the level of agreement produced by chance alone and a value of 1 indicates perfect agreement. We defined poor agreement as ICC values lower than 0.4, good agreement as ICC values of 0.4 to 0.7, and very good agreement as ICC values higher than 0.7

Agreement regarding the risk to patients (individual risk for positive cases and collective for contact cases)

➢The IPC strategy included alcohol hands rub (82%), gloves (76%, 20%-100% according to countries), and single room (80%, 59%-93% according to MDRO)

Control measures for positive cases	MRSA N (%)	ESBL N (%)	CPE N (%)	CRAB N (%)	VRE N (%)	*P.a* N (%)
Standard precautions						
1 - Standard precautions (hand hygiene with soap)	32 (28)	45 (26.0)	44 (26.0)	15 (17.6)	17 (23.3)	9 (21.4)
2 - Standard precautions (hand hygiene with alcohol hand rub)	90 (80)	146 (84.4)	135 (79.9)	70 (82.4)	60 (82.2)	39 (92.9)
Contact precautions						
3 - Positive patient in single room	97 (86)	102 (59.0)	147 (87.0)	76 (89.4)	61 (83.6)	39 (92.9)
4 - Systematic worn of gloves for healthcare professionals	91 (81)	108 (62.4)	135 (79.9)	72 (84.7)	55 (75.3)	34 (81.0)
5 - Systematic worn of gowns for healthcare professionals	80 (71)	91 (52.6)	128 (75.7)	69 (81.2)	56 (76.7)	34 (81.0)
6 - Label of the patient status on the door of the room	90 (80)	106 (61.3)	130 (76.9)	65 (76.5)	59 (80.8)	32 (76.2)
14- Increase in environmental decontamination	70 (62)	77 (44.5)	123 (72.8)	66 (77.6)	59 (80.8)	34 (81.0)
Organisation						
7 - Cares performed in last instance (after non colonised patients)	78 (69)	83 (48.0)	108 (63.9)	50 (58.8)	48 (65.8)	32 (76.2)
8 - Hospital discharge as soon as possible	53 (47)	71 (41.0)	82 (48.5)	39 (45.9)	44 (60.3)	16 (38.1)
9 - No transfer to other units or hospital	26 (23)	34 (19.7)	71 (42.0)	27 (31.8)	27 (37.0)	18 (42.9)
11 - Dedicated area for colonised patients	44 (39)	70 (40.5)	117 (69.2)	52 (61.2)	43 (58.9)	24 (57.1)
12 - Dedicated staff for colonised patients	35 (31)	47 (27.2)	111 (65.7)	48 (56.5)	36 (49.3)	23 (54.8)
Management of flora						
10 - Restriction of antibiotic treatments	42 (37)	78 (45.1)	90 (53.3)	44 (51.8)	29 (39.7)	21 (50.0)
13 - Digestive decolonization	-	7 (4.0)	30 (17.8)	27 (31.8)	14 (19.2)	6 (14.3)
14 - Skin decolonization	81 (72)	18 (10.4)	30 (17.8)	27 (31.8)	14 (19.2)	6 (14.3)
15 - Follow-up with alert at readmission	95 (84)	111 (64.2)	148 (87.6)	65 (76.5)	58 (79.5)	28 (66.7)
16 - Follow-up of carriage with faecal screening	77 (68)	60 (34.7)	107 (63.3)	47 (55.3)	41 (56.2)	22 (52.4)

Control strategies selected by IPS across Europe

➢A lower perception of both individual/collective risks was
- **Inversely correlated with local MDRO epidemiology** (p<0.01), and lower perception of management (p=0.01).
- **Inversely correlated with long-term orientation**, and uncertainty avoidance (p<0.01),
- **Positively correlated with country's economic performance** indicators (p<0.01).

CONCLUSION

➢ This survey is **the first to assess the variability of AMR perception**, IPC strategies and local/national determinants across European ICS.

➢ These results confirm **the importance of socio-economic and cultural indicators** when planning national campaigns, implementing new tools or developing guidelines.

➢ Data collected during this survey may help to shape educational programs adjusted to the national and local context.