

**REQ-2022-062 Supplementary material**

**Supplementary Table 1. Mesh terms used for respiratory tract and rectal colonization sites per pathogen**

<b>Respiratory tract</b>
<b>Risk Factors of infection progression from CRGN colonization by site and pathogen</b>
<b><i>P. aeruginosa</i></b>
("Pseudomonas aeruginosa"[Mesh] OR "pseudomonas aeruginosa"[All Fields] OR "P. aeruginosa"[All Fields]) AND ("coloni*" [All Fields] OR "Carrier State"[Mesh] OR "carrier*" [All Fields] OR "carriage"[All Fields]) AND ("lung*" [All Fields] OR "respiratory tract" [All Fields] OR "respiratory"[All Fields] OR "airway"[All Fields] OR "sputum"[All Fields] OR "bronchioalveolar"[All Fields] OR "alveolar"[All Fields] OR "tracheal"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]
<b><i>A. baumannii</i></b>
("Acinetobacter baumannii"[Mesh] OR "acinetobacter baumannii"[All Fields] OR "A. baumannii"[All Fields]) AND ("coloni*" [All Fields] OR "Carrier State"[Mesh] OR "carrier*" [All Fields] OR "carriage"[All Fields]) AND ("lung*" [All Fields] OR "respiratory tract" [All Fields] OR "respiratory"[All Fields] OR "airway"[All Fields] OR "sputum"[All Fields] OR "bronchioalveolar"[All Fields] OR "alveolar"[All Fields] OR "tracheal"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]
<b><i>E. coli</i></b>
("Escherichia coli"[Mesh] OR "Escherichia coli"[All Fields] OR "E. coli"[All Fields]) AND ("coloni*" [All Fields] OR "Carrier State"[Mesh] OR "carrier*" [All Fields] OR "carriage"[All Fields]) AND ("lung*" [All Fields] OR "respiratory tract" [All Fields] OR "respiratory"[All Fields] OR "airway"[All Fields] OR "sputum"[All Fields] OR "bronchioalveolar"[All Fields] OR "alveolar"[All Fields] OR "tracheal"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

**K. pneumoniae**

("Klebsiella pneumoniae"[Mesh] OR "klebsiella pneumoniae"[All Fields] OR "K. pneumoniae"[All Fields]) AND ("coloni\*" [All Fields] OR "Carrier State"[Mesh] OR "carrier\*" [All Fields] OR "carriage"[All Fields]) AND ("lung\*" [All Fields] OR "respiratory tract" [All Fields] OR "respiratory"[All Fields] OR "airway"[All Fields] OR "sputum"[All Fields] OR "bronchioalveolar"[All Fields] OR "alveolar"[All Fields] OR "tracheal"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

**E. cloacae**

("Enterobacter cloacae"[Mesh] OR "enterobacter cloacae"[All Fields] OR "E. cloacae"[All Fields]) AND ("coloni\*" [All Fields] OR "Carrier State"[Mesh] OR "carrier\*" [All Fields] OR "carriage"[All Fields]) AND ("lung\*" [All Fields] OR "respiratory tract" [All Fields] OR "respiratory"[All Fields] OR "airway"[All Fields] OR "sputum"[All Fields] OR "bronchioalveolar"[All Fields] OR "alveolar"[All Fields] OR "tracheal"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

**Rectal colonization****Risk factors of infection progression from rectal colonization****P. aeruginosa**

("Pseudomonas aeruginosa"[Mesh] OR "pseudomonas aeruginosa"[All Fields] OR "P. aeruginosa"[All Fields]) AND ("coloni\*" [All Fields] OR "Carrier State"[Mesh] OR "carrier\*" [All Fields] OR "carriage"[All Fields]) AND ("rectal"[All Fields] OR "rectum"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

**A. baumannii**

("Acinetobacter baumannii"[Mesh] OR "acinetobacter baumannii"[All Fields] OR "A. baumannii"[All Fields]) AND ("coloni\*" [All Fields] OR "Carrier State"[Mesh] OR "carrier\*" [All Fields] OR "carriage"[All Fields]) AND ("rectal"[All Fields] OR "rectum"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*" [All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*" [All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

***E. coli***

("Escherichia coli"[Mesh] OR "Escherichia coli"[All Fields] OR "E. coli"[All Fields]) AND ("coloni\*"[All Fields] OR "Carrier State"[Mesh] OR "carrier\*"[All Fields] OR "carriage"[All Fields]) AND ("rectal"[All Fields] OR "rectum"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*"[All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*"[All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

***K. pneumoniae***



("Klebsiella pneumoniae"[Mesh] OR "klebsiella pneumoniae"[All Fields] OR "K. pneumoniae"[All Fields]) AND ("coloni\*"[All Fields] OR "Carrier State"[Mesh] OR "carrier\*"[All Fields] OR "carriage"[All Fields]) AND ("rectal"[All Fields] OR "rectum"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*"[All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*"[All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

***E. cloacae***

("Enterobacter cloacae"[Mesh] OR "enterobacter cloacae"[All Fields] OR "E. cloacae"[All Fields]) AND ("coloni\*"[All Fields] OR "Carrier State"[Mesh] OR "carrier\*"[All Fields] OR "carriage"[All Fields]) AND ("rectal"[All Fields] OR "rectum"[All Fields]) AND ("Risk Factors"[Mesh] OR "Risk Assessment"[Mesh] OR "risk assessment"[All Fields] OR "risk factor\*"[All Fields] OR "population at risk"[All Fields]) AND ("Infections"[Mesh] OR "Cross Infection"[Mesh] OR "infection\*"[All Fields]) AND ("2016"[Date - Publication] : "2021"[Date - Publication]) AND "Humans"[Mesh]

**Supplementary Table 2. Evidence supporting each of the risk factors identified in the SLR and discussed during the consensus session for CRGN respiratory tract colonization**




	<i>P. aeruginosa</i>	<i>A. baumannii</i>	<i>K. pneumoniae</i>	<i>Enterobacterales</i>
Respiratory colonization	Fernández-Barat et al., 2016	Expert opinion	Expert opinion	Andremont et al., 2020
	Borgatta et al., 2017			
Previous exposure to antibiotic therapy	Fernández-Barat et al., 2016	in Chen et al., 2018	Sbrana et al., 2016	Expert opinion
Intake of vasopressors	Borgatta et al., 2017			
The presence of a solid cancer	Fernández-Barat et al., 2016			
Higher age		Chen et al., 2018		
Diabetes		Lin et al., 201		
Administration of amoxicillin/clavulanic acid			Sbrana et al., 2016	
Previous infection episodes			Sbrana et al., 2016	
Use of mechanical ventilation		Chen et al., 2018		
Mechanical ventilation at ICU admission	Paling et al., 2017			
Previous stay in ICU	Expert opinion	Expert opinion	Expert opinion	Expert opinion
Longer stay in ICU	Expert opinion	Chen et al., 2018	Expert opinion	Expert opinion

 Relevant  
 Not relevant

Supplementary Table 3. Evidence supporting each of the risk factors identified in the SLR and discussed during the consensus session for CRGN rectal colonization

	<i>P. aeruginosa</i>	<i>A. baumannii</i>	<i>E. coli</i>	<i>K. pneumoniae</i>	<i>Enterobacteriales</i>
Rectal colonization	Gómez-Zorrilla 2015*	Qiao et al., 2020	Expert opinion	Isendahl et al., 2019	Lin et al., 2021 Andremont et al., 2020 McConville et al., 2017 Denkel et al., 2020
Active exposure to antibiotic therapy	Hoang et al., 2018				
Previous exposure to antibiotic therapy				Sbrana et al., 2016	
Use of mechanical ventilation	Paling et al., 2017				Freedberg et al., 2018
Previous carbapenem use		Qiao et al., 2020	Liu et al., 2018		
Previous cephamycin use		Qiao et al., 2020			
Previous cephalosporin use		Qiao et al., 2020	Liu et al., 2018		
Previous penicillin use			Liu et al., 2018		
Liver dysfunction		Qiao et al., 2020			
Previous stay in ICU	Expert opinion	Expert opinion	Liu et al., 2018	Chen et al., 2020 Giacobbe et al., 2017	Pintos-Pascual et al., 2021
Previous infection episodes				Sbrana et al., 2016 Giacobbe et al., 2017	
Administration of amoxicillin/clavulanic acid				Sbrana et al., 2016	
Longer stay in ICU	Expert opinion	Expert opinion	Expert opinion	Madueño et al., 2017	Expert opinion
Use of central venous catheter				Madueño et al., 2017 Chen et al., 2020	
Transfer between hospital units				Madueño et al., 2017	
Being in coma condition				Chen et al., 2020	
Higher density of MDR colonies					Andremont et al., 2020
Presenting a high-level resistance to carbapenems					Lin et al., 2021
Higher age					Isendahl et al., 2019
Presence of malign solid tumour					Isendahl et al., 2019 Denkel et al., 2020
Haematological malignancy					Isendahl et al., 2019
Congestive heart failure					Denkel et al., 2020
Chronic obstructive pulmonary disease (COPD)					Isendahl et al., 2019
Immunological disorder					Isendahl et al., 2019
Severe liver disease					Denkel et al., 2020
Diabetes					Isendahl et al., 2019
Urological disorder					Isendahl et al., 2019
Peptic ulcer					Denkel et al., 2020
Psychiatric disorder					Isendahl et al., 2019

\*Gómez-Zorrilla., 2015 was proposed by the experts in the consensus session

 Relevant  
 Not relevant  
 Consensus not reached