



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



## In this report

- Main results for 2015, full year
- Breakdown of factors by organism and resistance subtype
- Updated protocol and data entry tool
- Data quality assessment

## Abbreviations Used Here

**BSI** – Bloodstream Infections  
**CVC** – Central Venous Catheter  
**EARS-Net** – European Antimicrobial Resistance Surveillance Network  
**MRSA** – Meticillin Resistant *Staphylococcus aureus*  
**MSSA** – Meticillin Sensitive *Staphylococcus aureus*  
**PNSP** – Penicillin Non-Susceptible *S. pneumoniae*  
**PSSP** – Penicillin Susceptible *S. pneumoniae*  
**PVC** – Peripheral Venous Catheter  
**VRE** – Vancomycin Resistant Enterococci  
**VSE** – Vancomycin Sensitive Enterococci

From the HPSC website click on “**Topics A-Z**”, then on “**Enhanced Bacteraemia Surveillance**” for the appropriate page.

Also visit the HPSC website for information on Care Bundles, Hand Hygiene, Antibiotic Resistance and Antibiotic Consumption

(Version 2, Oct 16)

On behalf of the Irish EARS-Net Steering Group with thanks to all the participating hospital-laboratories

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# Enhanced EARS-Net Surveillance

## 2015 Full Year

### Key Points

- ⊙ **Enhanced data were collected on 2,432 EARS-Net blood-culture isolates for 2015, from 22 laboratories**
- ⊙ **The proportion of MRSA BSI detected on or before 2 days of hospital stay decreased from 58% in 2014 to 47% for 2015; there was an increase in MRSA BSI detected after 5 days of stay (32% in 2014 versus 43% for 2015). Other recent changes include an increase in the proportion of primary source as surgical wound (4% in 2014 versus 9% in 2015)**
- ⊙ **The [protocol and data entry tool](#) have been updated**
- ⊙ **Data quality has improved since 2014 in the overall consistency, however, data fewer records were completed for specific key fields**

### Introduction

Enhanced data have been collected on European Antimicrobial Resistance Surveillance Network (EARS-Net) isolates since 2004 in Ireland.

The purpose of the enhanced programme is to help guide local and national strategies for antibiotic resistant infections. Data from the enhanced EARS-Net system can identify changes in the association of infection with specific factors over time (e.g., community or healthcare-associated), identify potentially preventable sources of bloodstream infection (e.g., IV lines and urinary catheters) and enable this information to help track the progress of intervention programmes. The ultimate aim is to improve overall patient safety.

A new simplified data collection protocol was used since the start of 2014. This report includes a breakdown of the most recent findings.

### Results

Data from 22 laboratories were available. Enhanced data records collected for 2015 (n = 2,432) which represents 45% of all the isolates of the core EARS-Net dataset for the same time period.

**Table 1.** Overview of the data including organism, antibiotic resistance, age, gender and onset of bloodstream infection.

		Total for 2015	Percent female	Mean age in years	Detected <48 hours after admission	Detected >5 days after admission
<i>Staphylococcus aureus</i>	Meticillin Resistant (MRSA)	<b>97</b>	34%	69.5	47%	43%
	Meticillin Susceptible	<b>462</b>	40%	57.7	68%	22%
<i>Streptococcus pneumoniae</i>	Penicillin non-Susceptible	<b>25</b>	40%	61.3	96%	4%
	Penicillin Susceptible	<b>97</b>	51%	63.5	95%	5%
Enterococci	Vancomycin Resistant	<b>78</b>	35%	61.7	14%	77%
	Vancomycin Sensitive	<b>191</b>	41%	66.0	43%	48%
<i>Escherichia coli</i>	Fluoroquinolone Resistant	<b>285</b>	46%	73.5	74%	20%
	Fluoroquinolone Susceptible	<b>929</b>	59%	67.0	77%	17%
<i>Klebsiella pneumoniae</i>		<b>172</b>	39%	67.3	59%	32%
<i>Pseudomonas aeruginosa</i>		<b>96</b>	40%	69.5	59%	35%

## Main findings

Please see Appendix 1 for a complete breakdown for all organisms.

### 1. *S. aureus* (Appendix 1A)

- 57% MRSA and 44% MSSA bloodstream infection were classified as healthcare-associated that were likely acquired in the reporting hospital, whilst 14% of MRSA and 6% MSSA were classed as otherwise healthcare-associated
- The proportion of MRSA BSI detected on or before 2 days of hospital stay decreased from 58% in 2014 to 47% for 2015; there was an increase in MRSA BSI detected after 5 days of stay (32% in 2014 versus 43% for 2015). These changes reflect patterns of MRSA BSI detection not observed since 2010. Other recent changes include an increase in the proportion of primary source primary source as surgical wound (4% in 2014 versus 9% in 2015)
- 25% of MRSA infections were device associated: 11% CVC/CVC-PICC
- 16% of MSSA infections were device associated: 6% CVC/CVC-PICC, 5% PVC
- 32% of MRSA and 22% of MSSA isolates were noted as having recent exposure to antibiotics

### 2. Enterococcal BSI (Appendix 1D)

- 92% of VRE and 61% of the VSE infections were classed as acquired in the reporting hospital
- 22% of VRE were device associated: 15% CVC/CVC-PICC, 5% dialysis catheter
- 10% of VSE were device associated: 8% CVC/CVC-PICC
- 21% of VRE and 14% of VSE isolates were noted as exposed to antibiotics

### 3. Pneumococcal BSI (Appendix 1B)

- Respiratory tract infection remains the most common source of pneumococcal BSI

Further information on Invasive Pneumococcal Disease can be found on the HPSC website:

<http://www.hpsc.ie/A-Z/VaccinePreventable/PneumococcalDisease/EpidemiologicalData/>

### 4. *E. coli* (Appendix 1C)

- 37% of FQREC and 28% of FQSEC were classified as acquired in the reporting hospital
- 10% of FQREC were device associated, 8% associated with urinary catheter
- Urinary tract remains the most common source site (49% for FQREC and 41% for FQSEC)
- Recent antibiotic exposure was noted in 8% of *E. coli* BSI

### 5. *K. pneumoniae* & *P. aeruginosa* BSI (Appendix 1E)

- 52% of KPN and 60% of PAE were classified as acquired in the reporting hospital
- 11% of KPN were device associated: 7% CVC/CVC-PICC
- 18% of PAE were device associated: 5% CVC/CVC-PICC, 9% urinary catheter
- Urinary tract remains the most common source site

Further information on EARS-Net can be found on the HPSC website:

<http://www.hpsc.ie/A-Z/MicrobiologyAntimicrobialResistance/EuropeanAntimicrobialResistanceSurveillanceSystemEARSS/>

## Updated Protocol and Data Entry Tool

The [updated protocol and the data entry tool](#) are available from the HPSC website.

A minimal dataset is requested for each bloodstream infection reported to EARS-Net. The dataset has been selected to reflect the type of data routinely gathered as part of clinical liaison by microbiologists and the local infection control team.

The data should be reported using this “Enhanced EARS-Net Surveillance” protocol onto an MS Excel, after suitable encryption. Data should be collected quarterly, along with the corresponding EARS-Net isolate data. Participation to the enhanced programme is voluntary but encouraged.

Laboratories should report using current EARS-Net surveillance definitions. The first invasive isolate of a pathogen under EARS-Net surveillance per patient per quarter should be reported. For the purposes of the protocol this only includes blood culture isolates of *Staphylococcus aureus*, *Streptococcus pneumoniae* and *Escherichia coli*, *Enterococcus faecium*, *E. faecalis*, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*.

Participants may supply data for *S. aureus* blood stream infection at a minimum, but are encouraged to submit data on all EARS-Net pathogens. Participants may supply data to LEVEL 1 only (healthcare and device-association), but are encouraged to submit data to LEVEL 2 also (source and outcome). Many hospitals are unable to find data on antibiotic exposure, however, they may still continue to participate.

- Core data
  - Matched records with EARS-Net resistance data for each isolate
- Level 1
  - Is the isolate a contaminant?
  - Is the infection healthcare-associated and was it acquired in the reporting hospital?
  - Were there devices, procedures or implants involved in the infection?
- Level 2
  - From which organ site did the infection originate?
  - To which antibiotics was the patient exposed?
  - What was the outcome of the patient?

Definitions and detailed data entry procedures are available with the protocol.

The latest MS Excel tool contains minor changes which will add to the data quality in the future. The data quality analysis in appendix 2 shows that completeness of data provided by laboratories has improved. There were more participants with >95% completeness and fewer <90% completeness compared to 2014. However, there is scope for improvement, in particular note:

1. Date of specimen Taken has been added to the latest MS Excel tool
2. Patient and specimen identification numbers must be matched exactly with what has been provided for the core EARS-Net data; this includes any letters, symbols and prefixes
3. The wording in the definitions section of the protocol has been altered to reflect the purpose of the enhanced programme
4. It is vital if a device or procedure has been involved in the infection, that this information is recorded

### Appendix 1A. Breakdown for MRSA – Meticillin Resistant *Staphylococcus aureus* and MSSA – Meticillin Sensitive *Staphylococcus aureus*

		MRSA										MSSA									
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Demographic	Gender Female	39%	46%	44%	35%	35%	33%	32%	25%	43%	34%	36%	32%	37%	35%	35%	33%	36%	37%	36%	40%
	Mean age in years	68.2	65.8	68.5	68.5	66.4	67.1	69.0	69.0	71.2	69.5	54.9	55.5	55.8	60.4	57.6	57.7	58.8	57.7	56.7	57.7
Length of Stay	Less than or equal to 2 days	27%	31%	35%	45%	36%	51%	54%	59%	58%	47%	51%	48%	51%	56%	59%	56%	66%	66%	62%	68%
	Greater than 5 days	52%	48%	43%	46%	54%	37%	37%	34%	32%	43%	25%	25%	26%	29%	26%	26%	21%	23%	25%	22%
Association	Community	5%	7%	8%	11%	12%	19%	21%	19%	25%	23%	23%	18%	24%	24%	23%	22%	25%	24%	36%	27%
	HCA: not in reporting hospital	14%	19%	22%	23%	15%	19%	19%	21%	13%	14%	12%	23%	19%	21%	20%	16%	16%	17%	5%	6%
	HCA: in reporting hospital	74%	68%	67%	64%	72%	51%	51%	48%	49%	57%	58%	51%	51%	52%	54%	50%	47%	46%	49%	44%
	Unknown	7%	5%	3%	3%	1%	10%	9%	12%	14%	6%	7%	8%	6%	4%	2%	12%	12%	13%	9%	22%
	Device									19%	25%									29%	16%
	Implant									4%	4%									4%	3%
	Procedure									2%	7%									4%	5%
	Device/Implnt/Proc Unkown									12%	25%									10%	32%
Not Device/Implnt/Proc Assoc.									63%	39%									54%	44%	
Primary source	Intra-abdominal / GI tract	2%	5%	1%	2%	1%	2%	0%	0%	0%	0%	1%	3%	1%	1%	2%	1%	1%	1%	1%	0%
	Respiratory tract	12%	13%	8%	11%	9%	9%	10%	10%	11%	9%	5%	6%	5%	5%	3%	3%	4%	4%	7%	7%
	Surgical wound	2%	3%	2%	3%	1%	1%	1%	5%	4%	9%	2%	3%	3%	4%	3%	3%	3%	3%	2%	8%
	Non-surg. wound / Skin tissue	13%	13%	14%	16%	15%	15%	13%	26%	18%	24%	12%	18%	14%	14%	14%	12%	16%	22%	24%	18%
	Urinary tract without catheter	3%	4%	2%	2%	0%	1%	1%	3%	6%	5%	1%	2%	1%	1%	1%	2%	2%	2%	2%	2%
	Other source	37%	36%	37%	33%	46%	32%	33%	33%	17%	11%	40%	32%	32%	35%	41%	34%	34%	35%	19%	19%
	Unknown	32%	26%	37%	34%	28%	40%	41%	23%	45%	41%	39%	36%	44%	40%	36%	46%	39%	34%	45%	47%
Antibiotic Exposure	Yes									27%	32%									24%	22%
	No									6%	2%									5%	2%
	Unknown									67%	66%									71%	76%
<b>Total</b>		<b>285</b>	<b>190</b>	<b>180</b>	<b>195</b>	<b>175</b>	<b>109</b>	<b>78</b>	<b>97</b>	<b>101</b>	<b>97</b>	<b>347</b>	<b>264</b>	<b>299</b>	<b>470</b>	<b>495</b>	<b>312</b>	<b>261</b>	<b>327</b>	<b>420</b>	<b>462</b>

2015\* to end of quarter 4

### Appendix 1B. Breakdown for PNSP – Penicillin non-Susceptible *Streptococcus pneumoniae* and PSSP – Penicillin Susceptible *Streptococcus pneumoniae*

		PNSP										PSSP									
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Demographic	Gender Female	74%	48%	44%	48%	44%	33%	39%	29%	52%	40%	40%	43%	41%	43%	48%	40%	41%	52%	51%	51%
	Mean age in years	48.3	53.7	44.5	61.5	65.6	68.6	57.8	59.3	53.9	61.3	50.4	54.8	52.3	57.1	58.6	60.1	63.5	61.5	61.2	63.5
Length of Stay	Less than or equal to 2 days	52%	68%	69%	68%	91%	95%	65%	67%	90%	96%	74%	63%	70%	65%	89%	92%	77%	90%	95%	95%
	Greater than 5 days	10%	4%	8%	8%	6%	0%	26%	19%	5%	4%	9%	11%	4%	12%	8%	5%	8%	4%	2%	5%
Association	Community	42%	48%	56%	32%	56%	29%	32%	43%	43%	40%	56%	46%	46%	45%	58%	55%	50%	48%	60%	58%
	HCA: not in reporting hospital	10%	24%	17%	32%	24%	29%	13%	24%	5%	8%	15%	20%	23%	23%	18%	13%	13%	20%	1%	4%
	HCA: in reporting hospital	10%	4%	11%	8%	6%	5%	32%	19%	19%	4%	12%	13%	7%	13%	9%	7%	11%	10%	5%	5%
	Unknown	39%	24%	17%	28%	15%	38%	23%	14%	33%	48%	17%	21%	23%	20%	15%	25%	27%	21%	34%	33%
	Device									5%	0%									0%	0%
	Implant									0%	0%									0%	0%
	Procedure									0%	0%									1%	0%
	Device/Implnt/Proc Unkown									19%	76%									27%	53%
Not Device/Implnt/Proc Assoc.									76%	24%									72%	47%	
Primary source	Intra-abdominal / GI tract	0%	0%	6%	0%	3%	5%	0%	5%	0%	0%	1%	1%	0%	2%	1%	2%	0%	0%	0%	0%
	Respiratory tract	48%	60%	50%	64%	62%	38%	65%	67%	57%	48%	65%	66%	61%	64%	59%	62%	57%	67%	53%	64%
	Surgical wound	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
	Non-surg. wound / Skin tissue	0%	4%	0%	0%	0%	5%	0%	5%	5%	0%	1%	0%	1%	1%	1%	1%	2%	0%	0%	0%
	Urinary tract without catheter	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%
	Other source	6%	0%	0%	0%	9%	5%	3%	0%	10%	8%	1%	3%	3%	1%	11%	1%	2%	1%	14%	11%
	Unknown	45%	36%	44%	36%	26%	48%	32%	24%	29%	44%	32%	31%	36%	32%	28%	34%	40%	30%	33%	24%
Antibiotic Exposure	Yes									5%	4%									20%	8%
	No									19%	0%									5%	0%
	Unknown									76%	96%									75%	92%
<b>Total</b>		<b>31</b>	<b>25</b>	<b>36</b>	<b>25</b>	<b>34</b>	<b>21</b>	<b>31</b>	<b>21</b>	<b>21</b>	<b>25</b>	<b>156</b>	<b>114</b>	<b>142</b>	<b>120</b>	<b>138</b>	<b>107</b>	<b>111</b>	<b>89</b>	<b>111</b>	<b>97</b>

2015\* to end of quarter 4

### Appendix 1C. Breakdown for FQREC – Fluoroquinolone Resistant *Escherichia coli* and FQSEC – Fluoroquinolone Sensitive *Escherichia coli*

		FQREC										FQSEC									
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Demographic	Gender Female	48%	39%	43%	48%	50%	41%	42%	46%	45%	46%	58%	60%	58%	58%	58%	59%	58%	56%	56%	59%
	Mean age in years	69.2	69.2	70.0	70.9	70.3	71.8	71.5	72.1	76.2	73.5	62.2	66.8	64.7	67.1	67.5	66.2	68.6	67.7	68.4	67.0
Length of Stay	Less than or equal to 2 days	38%	37%	38%	55%	60%	63%	58%	73%	73%	74%	49%	49%	52%	54%	69%	69%	68%	77%	74%	77%
	Greater than 5 days	40%	34%	34%	20%	32%	30%	28%	22%	21%	20%	24%	17%	19%	21%	23%	21%	17%	16%	19%	17%
Association	Community	15%	11%	15%	23%	18%	18%	17%	20%	31%	28%	33%	28%	31%	32%	38%	39%	38%	38%	41%	40%
	HCA: not in reporting hospital	18%	20%	20%	29%	28%	17%	23%	25%	12%	12%	11%	18%	20%	19%	20%	15%	18%	20%	5%	5%
	HCA: in reporting hospital	48%	50%	44%	37%	42%	49%	39%	30%	38%	37%	34%	27%	28%	31%	32%	30%	25%	25%	30%	28%
	Unknown	19%	19%	21%	12%	12%	16%	21%	25%	19%	23%	22%	27%	21%	19%	10%	17%	19%	18%	24%	27%
	Device									16%	10%									7%	5%
	Implant									0%	1%									0%	0%
	Procedure									5%	5%									3%	2%
	Device/Implnt/Proc Unkown									19%	45%									19%	42%
Not Device/Implnt/Proc Assoc.									60%	39%									71%	50%	
Primary source	Intra-abdominal / GI tract	15%	16%	16%	22%	15%	19%	17%	17%	6%	6%	12%	16%	16%	20%	18%	19%	18%	18%	11%	9%
	Respiratory tract	4%	2%	2%	3%	4%	3%	2%	2%	1%	3%	2%	2%	1%	4%	3%	2%	2%	1%	2%	1%
	Surgical wound	1%	0%	1%	1%	1%	0%	3%	0%	0%	1%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%
	Non-surg. wound / Skin tissue	0%	1%	1%	2%	3%	1%	1%	1%	1%	1%	0%	1%	1%	0%	1%	0%	0%	1%	0%	1%
	Urinary tract without catheter	31%	21%	24%	28%	29%	22%	23%	28%	49%	49%	35%	30%	32%	32%	30%	34%	36%	43%	43%	41%
	Other source	19%	24%	16%	12%	18%	22%	11%	10%	10%	12%	12%	11%	9%	10%	19%	8%	7%	7%	12%	14%
	Unknown	31%	36%	41%	31%	30%	33%	44%	42%	32%	29%	38%	40%	40%	34%	29%	37%	37%	30%	32%	35%
Antibiotic Exposure	Yes									26%	13%									21%	7%
	No									3%	3%									5%	3%
	Unknown									71%	84%									74%	91%
<b>Total</b>		<b>167</b>	<b>161</b>	<b>180</b>	<b>230</b>	<b>273</b>	<b>203</b>	<b>238</b>	<b>234</b>	<b>276</b>	<b>285</b>	<b>519</b>	<b>473</b>	<b>594</b>	<b>652</b>	<b>860</b>	<b>664</b>	<b>662</b>	<b>673</b>	<b>833</b>	<b>929</b>

2015\* to end of quarter 4

### Appendix 1D. Breakdown for VRE – Vancomycin Resistant Enterococci and VSE – Vancomycin Sensitive Enterococci

		VRE										VSE									
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Demographic	Gender Female	23%	41%	48%	34%	45%	50%	40%	45%	41%	35%	42%	45%	42%	44%	43%	38%	39%	40%	46%	41%
	Mean age in years	62.9	59.6	64.8	62.6	59.5	61.7	66.6	66.2	65.6	61.7	61.6	64.0	63.4	65.4	63.3	66.0	66.3	65.1	66.8	66.0
Length of Stay	Less than or equal to 2 days	18%	9%	5%	10%	8%	16%	18%	18%	9%	14%	29%	23%	25%	31%	32%	39%	32%	41%	42%	43%
	Greater than 5 days	75%	76%	76%	77%	87%	73%	70%	76%	81%	77%	48%	46%	48%	45%	56%	55%	52%	47%	47%	48%
Association	Community	5%	0%	2%	1%	2%	10%	8%	4%	0%	3%	14%	9%	9%	15%	12%	16%	11%	14%	20%	15%
	HCA: not in reporting hospital	11%	4%	6%	9%	5%	8%	4%	6%	4%	3%	9%	12%	15%	15%	12%	13%	13%	16%	4%	5%
	HCA: in reporting hospital	80%	89%	85%	83%	92%	81%	82%	86%	91%	92%	65%	61%	64%	56%	70%	63%	62%	58%	62%	61%
	Unknown	5%	7%	8%	6%	1%	2%	6%	5%	5%	3%	12%	18%	13%	13%	7%	9%	13%	12%	14%	19%
	Device									40%	22%									19%	10%
	Implant									1%	1%									0%	3%
	Procedure									4%	1%									3%	2%
	Device/Implnt/Proc Unkown									19%	45%									30%	51%
Not Device/Implnt/Proc Assoc.									36%	31%									48%	34%	
Primary source	Intra-abdominal / GI tract	7%	13%	26%	27%	30%	32%	30%	31%	10%	23%	19%	25%	24%	28%	25%	24%	19%	22%	13%	13%
	Respiratory tract	5%	2%	3%	1%	2%	0%	0%	1%	1%	3%	3%	3%	1%	1%	2%	1%	1%	2%	1%	2%
	Surgical wound	0%	0%	0%	0%	1%	0%	1%	1%	4%	3%	2%	1%	1%	0%	1%	1%	0%	1%	1%	1%
	Non-surg. wound / Skin tissue	5%	2%	3%	1%	4%	2%	0%	4%	1%	4%	3%	1%	4%	2%	1%	2%	3%	3%	2%	2%
	Urinary tract without catheter	2%	2%	2%	3%	2%	3%	4%	4%	1%	4%	7%	4%	8%	6%	5%	5%	6%	7%	9%	9%
	Other source	39%	37%	23%	31%	19%	13%	25%	21%	12%	14%	29%	21%	20%	18%	20%	18%	24%	17%	11%	17%
	Unknown	43%	43%	44%	36%	42%	50%	40%	38%	71%	50%	37%	45%	43%	44%	46%	49%	47%	50%	62%	56%
Antibiotic Exposure	Yes									29%	21%									18%	14%
	No									3%	1%									5%	3%
	Unknown									68%	78%									77%	84%
<b>Total</b>		<b>44</b>	<b>46</b>	<b>66</b>	<b>77</b>	<b>84</b>	<b>62</b>	<b>77</b>	<b>84</b>	<b>78</b>	<b>78</b>	<b>181</b>	<b>184</b>	<b>225</b>	<b>218</b>	<b>241</b>	<b>198</b>	<b>194</b>	<b>199</b>	<b>228</b>	<b>191</b>

2015\* to end of quarter 4

### Appendix 1E. Breakdown for KPN – *Klebsiella pneumoniae* and PAE – *Pseudomonas aeruginosa*

		KPN										PAE									
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*
Demographic	Gender Female	37%	36%	39%	41%	48%	39%	47%	37%	43%	39%	47%	46%	30%	40%	38%	37%	47%	44%	44%	40%
	Mean age in years	58.3	65.8	63.1	63.9	62.1	64.0	64.0	65.8	66.0	67.3	66.2	66.8	68.3	66.2	67.7	70.4	68.9	67.5	69.0	69.5
Length of Stay	Less than or equal to 2 days	28%	39%	35%	49%	46%	42%	43%	49%	51%	59%	32%	25%	34%	34%	48%	54%	53%	54%	68%	59%
	Greater than 5 days	48%	35%	44%	34%	42%	45%	42%	41%	36%	32%	40%	42%	43%	41%	44%	34%	33%	34%	23%	35%
Association	Community	16%	12%	18%	25%	18%	15%	19%	16%	23%	24%	9%	14%	8%	9%	13%	16%	19%	21%	32%	13%
	HCA: not in reporting hospital	12%	26%	18%	16%	15%	10%	14%	18%	6%	4%	17%	12%	22%	22%	21%	15%	21%	17%	6%	6%
	HCA: in reporting hospital	58%	47%	53%	44%	56%	57%	52%	56%	52%	52%	53%	51%	56%	53%	61%	47%	44%	46%	38%	60%
	Unknown	14%	15%	11%	14%	12%	18%	14%	10%	18%	19%	21%	23%	15%	16%	5%	22%	16%	15%	24%	21%
	Device									19%	11%									13%	18%
	Implant									1%	1%									0%	0%
	Procedure									1%	4%									4%	4%
	Device/Implnt/Proc Unkown									15%	44%									21%	49%
Not Device/Implnt/Proc Assoc.									65%	41%									62%	29%	
Primary source	Intra-abdominal / GI tract	18%	24%	26%	29%	20%	25%	21%	26%	15%	12%	4%	7%	11%	17%	7%	12%	5%	10%	13%	4%
	Respiratory tract	11%	10%	9%	10%	5%	7%	6%	6%	6%	6%	11%	10%	13%	11%	9%	4%	18%	6%	11%	8%
	Surgical wound	5%	0%	1%	1%	2%	0%	1%	0%	0%	1%	0%	3%	3%	1%	0%	4%	0%	0%	1%	0%
	Non-surg. wound / Skin tissue	0%	3%	0%	1%	2%	1%	0%	0%	1%	2%	13%	4%	3%	3%	6%	7%	4%	6%	4%	2%
	Urinary tract without catheter	10%	8%	13%	12%	10%	12%	13%	13%	25%	21%	11%	9%	3%	8%	13%	6%	7%	15%	27%	19%
	Other source	17%	20%	18%	19%	18%	18%	20%	21%	19%	20%	13%	19%	27%	19%	27%	13%	18%	13%	4%	7%
	Unknown	40%	36%	32%	29%	43%	39%	39%	34%	34%	39%	49%	48%	42%	40%	38%	53%	48%	51%	39%	59%
Antibiotic Exposure	Yes									14%	6%									23%	9%
	No									3%	2%									3%	0%
	Unknown									83%	92%									75%	91%
<b>Total</b>		<b>83</b>	<b>92</b>	<b>114</b>	<b>140</b>	<b>147</b>	<b>137</b>	<b>132</b>	<b>118</b>	<b>143</b>	<b>172</b>	<b>47</b>	<b>69</b>	<b>79</b>	<b>99</b>	<b>94</b>	<b>68</b>	<b>73</b>	<b>71</b>	<b>71</b>	<b>96</b>

2015\* to end of quarter 4

## Appendix 2. Data Quality Analysis

<b>2015 Full Year</b>		
<b>Participation</b>		
Participation metric	Value	2014 data
Number of laboratories	22	22
Proportion of total EARS-Net	45.2%	40.0%
<b>Consistency</b>		
<i>Proportion of records in the core dataset with enhanced data from participants</i>		
Proportion of matched records	Number of participants	2014 data
100%-95%	15	10
95%-90%	2	5
<90%	5	7
<b>Data Completion</b>		
<i>Availability of data (usually Y or N, or dates) for key fields</i>		
Field name	% records completed	2014 data
Date of admission	99%	97%
Probable contaminant	84%	88%
Healthcare-association	72%	81%
Device-related	77%	87%
Implant-related	71%	86%
Procedure-related	64%	85%
Source organ site	76%	77%
ICU-acquired	63%	85%
Outcome	82%	96%
Antibiotic exposure	15%	64%