



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



## Invasive Group B Streptococcal Infection

### 2016 Summary

Number of cases = 65

- Early-onset disease (EOD) = 42
- Late-onset disease (LOD) = 23

EOD rate per 1,000 live births = 0.66

LOD rate per 1,000 live births = 0.36

The figures presented in this summary are based on data extracted from Computerised Infectious Disease Reporting (CIDR) System on **11<sup>th</sup> August 2017**.

### Background

Invasive group B streptococcal (iGBS; *Streptococcus agalactiae*) infection in infants <90 days old or stillborn infants has been notifiable in Ireland since January 2012. In neonates, two syndromes exist:

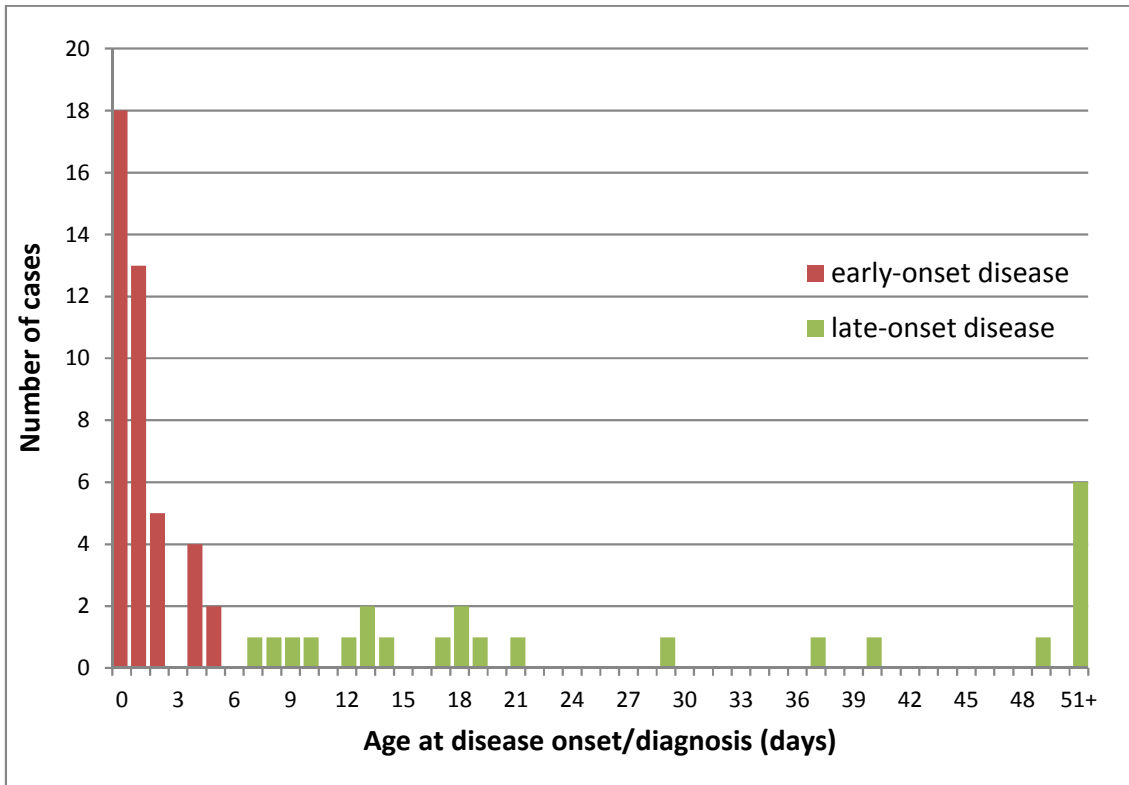
1. Early-onset disease (EOD) where age at onset/diagnosis <7 days
2. Late-onset disease (LOD) where age at onset/diagnosis 7 – 89 days

Both include sepsis, pneumonia and meningitis. Stillbirth associated with isolation/detection of *Streptococcus agalactiae* from the placenta or amniotic fluid is also notifiable. The rate is expressed per 1,000 live births. In 2016, there were 63,897 live births according to the Central Statistics Office (CSO).

<http://www.cso.ie/en/releasesandpublications/ep/p-vsyst/vitalstatisticsyearlysummary2016/>

### Notifications

In 2016, 65 iGBS cases were notified. The majority were EOD (n=42; 65%); rate = 0.66. LOD accounted for 23 cases (35%); rate = 0.36 (Figure 1 and Table 1). Two cases presented with meningitis and two were associated with stillbirth.



**Figure 1.** iGBS by age (in days) at diagnosis (2016) (EOD <7 days; LOD 7 – 89 days)

**Table 1.** Annual iGBS cases and rates, stratified by EOD & LOD (2012 – 2016)

Year	EOD		LOD		TOTAL	
	n (%)	Rate*	n (%)	Rate*	n (%)	Rate*
<b>2012</b>	57 (75%)	0.80	19 (25%)	0.27	<b>76</b>	<b>1.06</b>
<b>2013</b>	42 (64%)	0.61	24 (36%)	0.35	<b>66</b>	<b>0.96</b>
<b>2014</b>	46 (68%)	0.68	22 (32%)	0.33	<b>68</b>	<b>1.01</b>
<b>2015</b>	43 (62%)	0.65	26 (38%)	0.39	<b>69</b>	<b>1.05</b>
<b>2016</b>	42 (65%)	0.66	23 (35%)	0.36	<b>65</b>	<b>1.02</b>

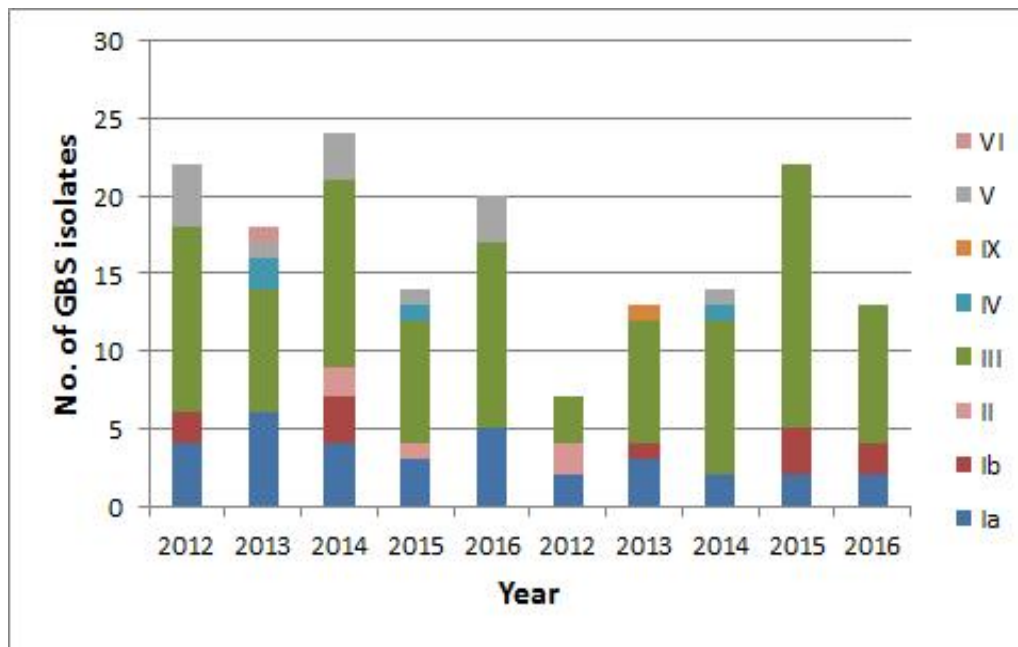
EOD, early-onset disease; LOD, late-onset disease

\* Incidence rate per 1,000 live births

Live births in the Republic of Ireland (source: [www.cso.ie](http://www.cso.ie)): 2012, 71,674; 2013, 68,954; 2014, 67,295; 2015, 65,909; and 2016, 63,897

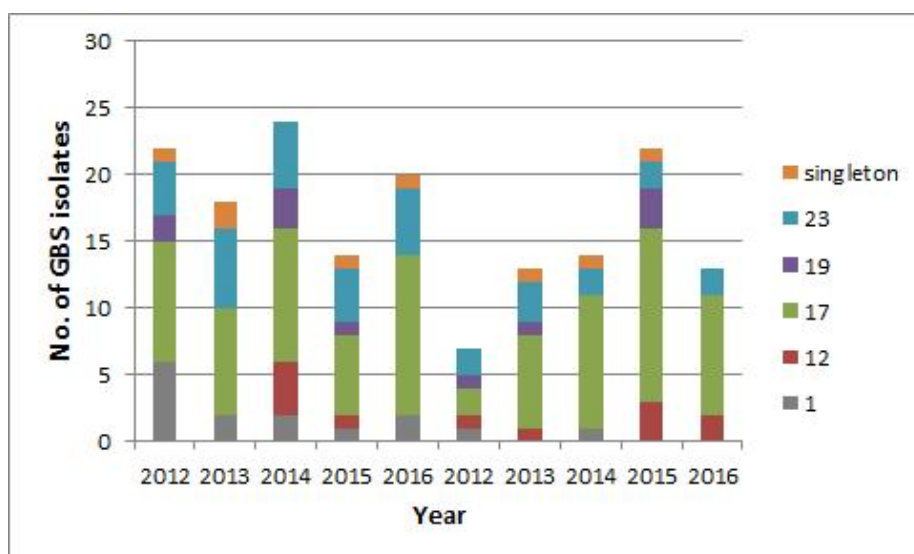
The Irish Meningitis and Sepsis Reference Laboratory (IMSRL), based at Temple Street Children’s University Hospital, provides a national typing service for Group B Streptococcus. IMSRL performs serotyping and multi-locus sequence typing (MLST) on iGBS isolates. Between 2012 and 2016, 167 iGBS isolates were received by IMSRL. Figure 2 displays the annual

breakdown (2012 – 2016) of isolates by serotype. Serotype III has predominated as a cause of both EOD and LOD since typing began.



**Figure 2.** Serotype distribution of iGBS isolates 2012 - 2016: **Source:** IMSRL

There are ten capsular serotypes of GBS (serotypes 1a, 1b and II – IX). Based on MLST data, GBS may be categorised into five main clonal complexes (1, 12, 17, 19 & 23). Figure 3 displays the annual breakdown (2012 – 2016) of isolates by MLST clonal complex. Clonal complex 17 includes serotype III and has predominated as a cause of both EOD and LOD since typing began.



**Figure 3.** MLST clonal complex distribution of iGBS isolates 2012 - 2016. **Source:** IMSRL



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### **Notes to colleagues in microbiology laboratories**

Please forward any GBS isolates from normally sterile sites to IMSRL for typing, along with a completed IMSRL request form: available from

<http://www.cuh.ie/healthcare-professionals/departments/irish-meningitis-sepsis-reference-laboratory-imsrl/>

### **Acknowledgement**

HPSC would like to thank colleagues in microbiology laboratories and Departments of Public Health for submitting data on iGBS since 2012 and colleagues in IMSRL for sharing typing information.