

The burden of invasive Group B Streptococcal (GBS) disease in young infants in the UK & Republic of Ireland

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The burden of invasive GBS in young infants in the UK & ROI 2014 -2015

Surveillance



- To define the current burden of GBS in UK & Irish infants less than 90 days of age and to identify the current disease-causing serotypes.
- Case definition:
 - Sterile site
 - Infant <90 days
- Sources:
 - Paediatricians / neonatologists (BPSU)
 - Isolates
 - Laboratory notifications

British Paediatric Surveillance Unit

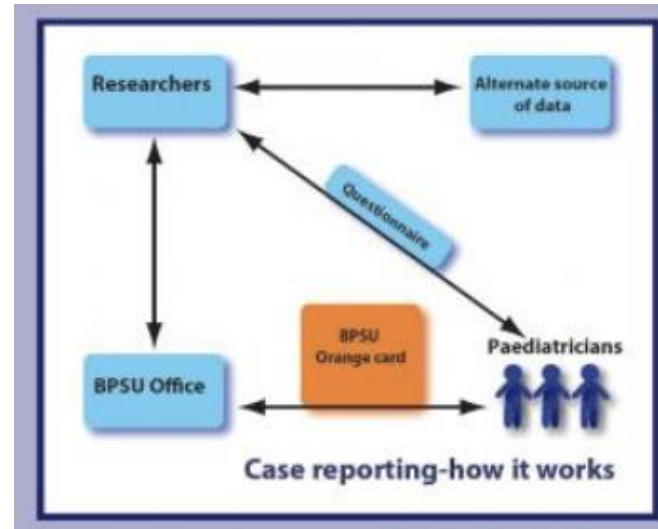


British Paediatric Surveillance Unit Report Card

NOTHING TO REPORT 2811
CODE No []

Specify in the box number of cases seen

- AIDS/HIV
- Congenital Rubella
- Progressive Intellectual & Neurological Deterioration
- Severe neonatal Hypertoniaemia
- Guillain-Barre syndrome / Fisher syndrome
- CNS inflammatory Demyelinating Disease
- Gonorrhoea, Syphilis, Chlamydia, and Trichomonas infections
- Congenital Syphilis



CASES



597 CLINICIAN CASES

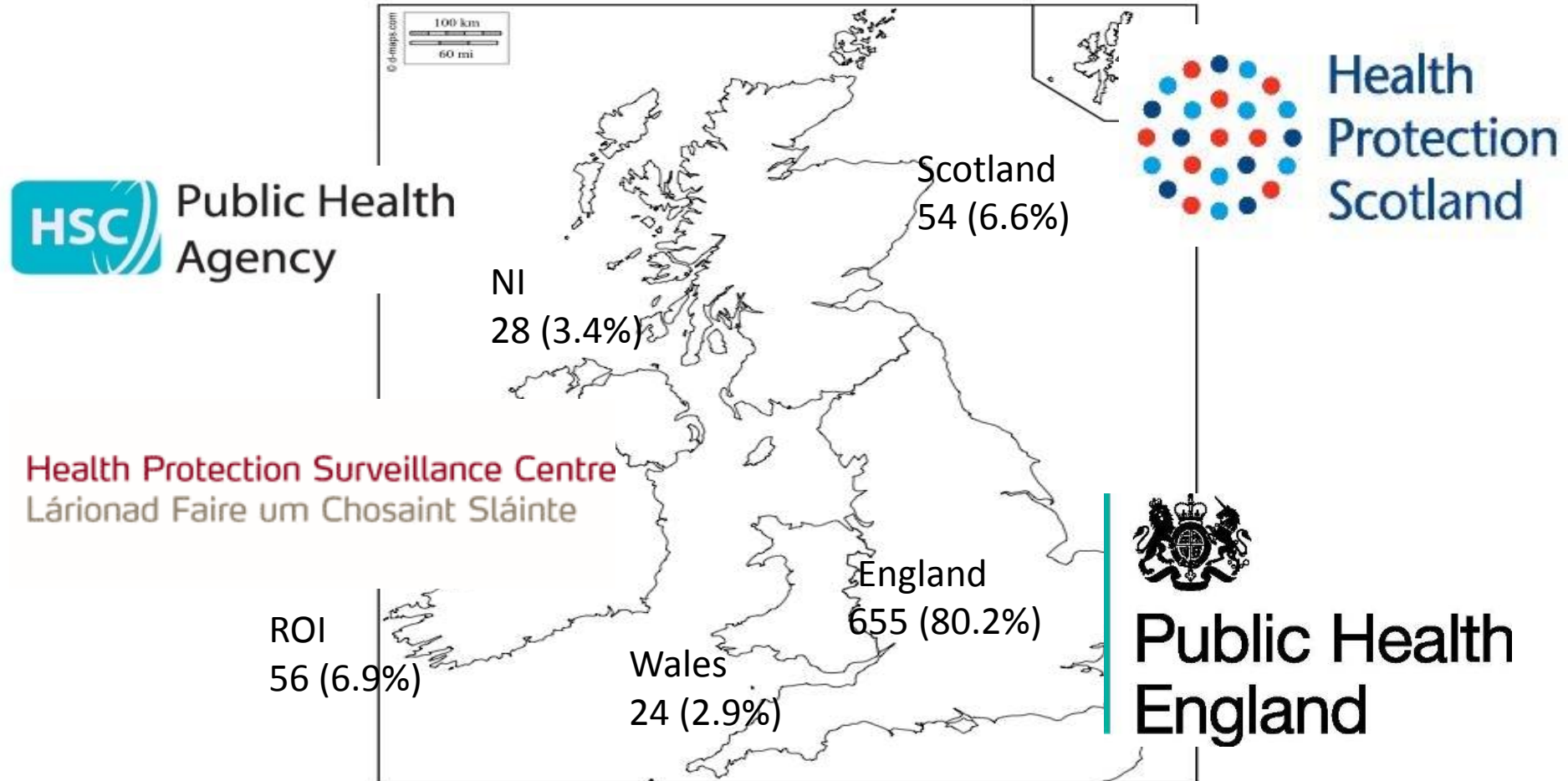
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220 MICRO CASES

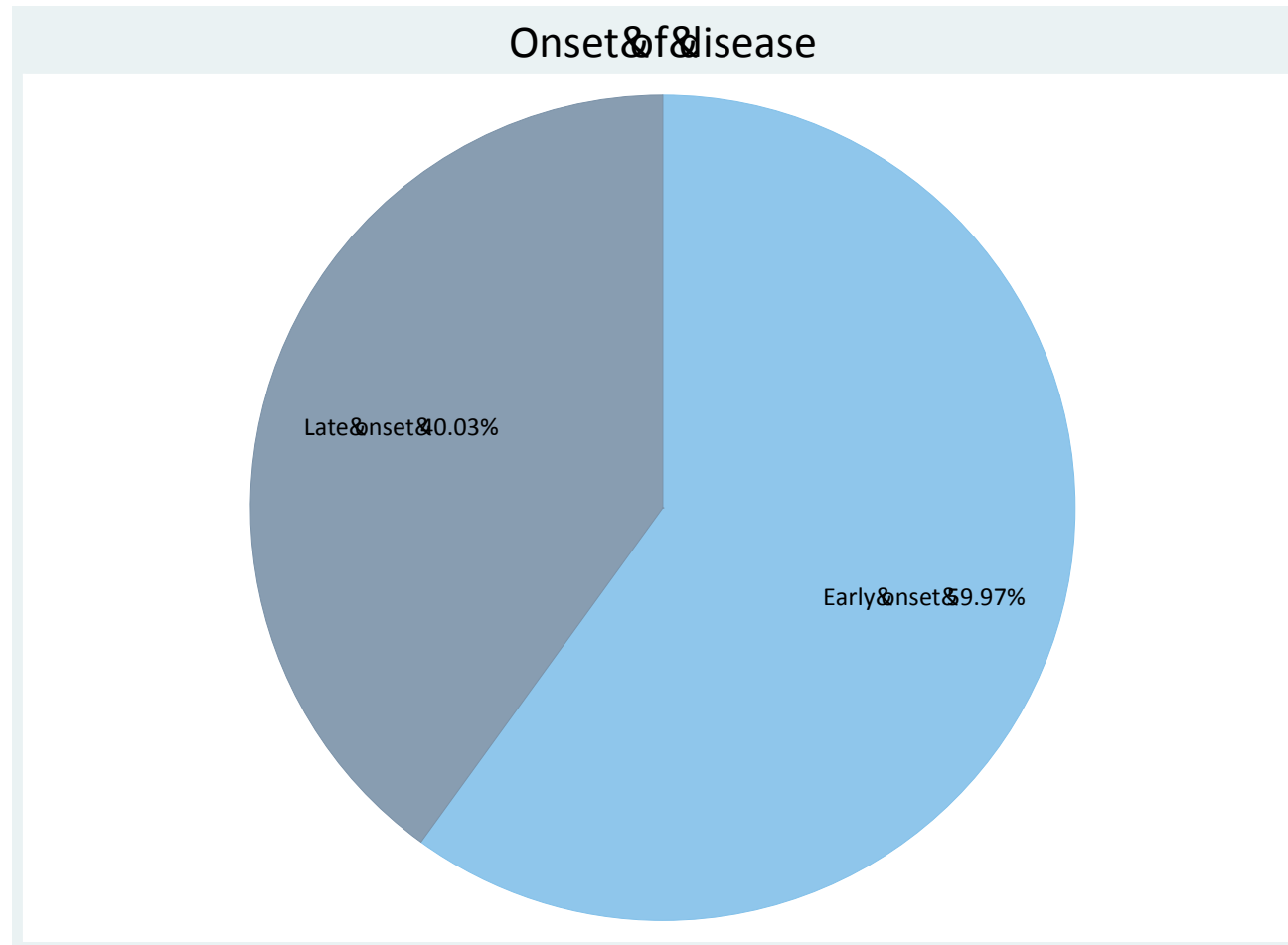
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817 CASES

Country



Onset



2000-2001:
LO 33.6%
EO 66.3%

Incidence per 1,000 LBs



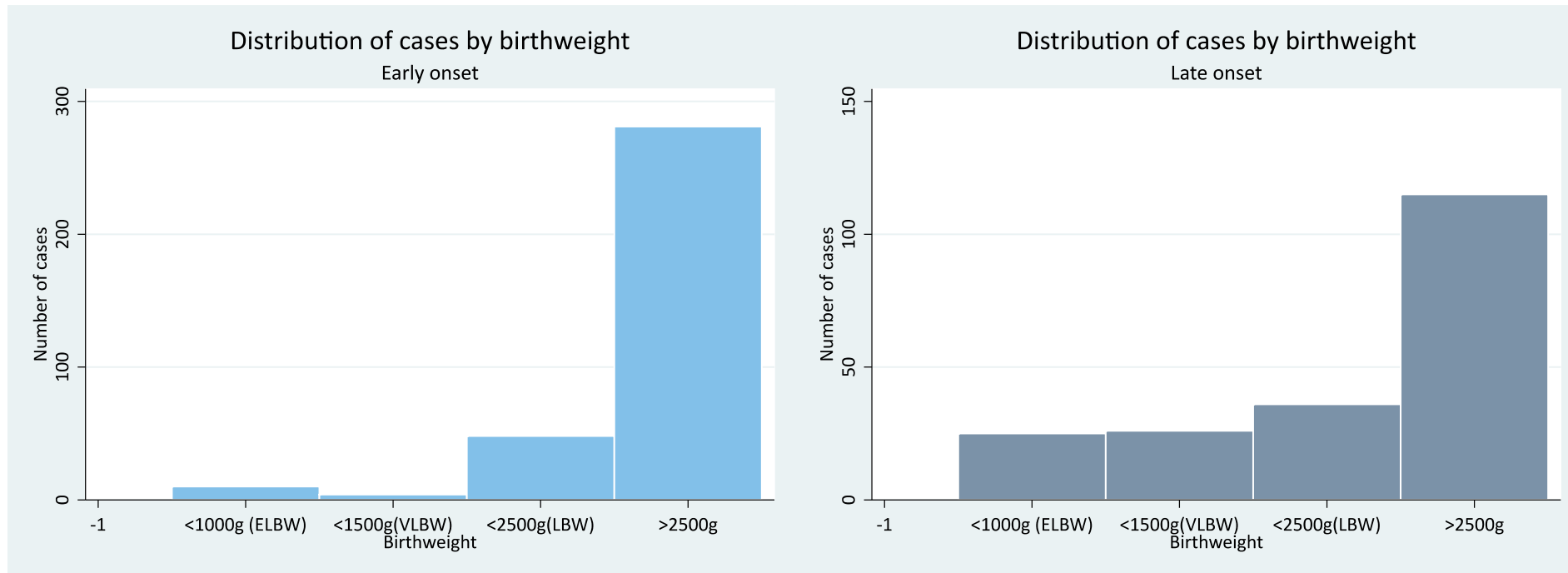
	Total cases (n)	Total incidence 2014-2015	2000-2001 incidence	Early onset cases (n)	Early onset incidence 2014-2015	2000-2001 incidence	Late onset cases (n)	Late onset incidence 2014-2015	2000-2001 incidence
Incidence per 1,000 LBs	817	0.89	0.72	475	0.52	0.48	317	0.35	0.24

Incidence per 1,000 LBs



Country	Total cases (n)	Total incidence 2014-2015	2000-2001 incidence	Early onset incidence 2014-2015	2000-2001 incidence	Late onset incidence 2014-2015	2000-2001 incidence
England	655	0.91	0.75	0.56	0.5	0.36	0.25
Scotland	54	0.88	0.42	0.24	0.21	0.28	0.21
Wales	24	0.66	0.59	0.33	0.35	0.33	0.24
NI	28	1.06	0.9	0.64	0.73	0.34	0.17
ROI	56	0.77	0.6	0.44	0.34	0.31	0.26

Birth weight

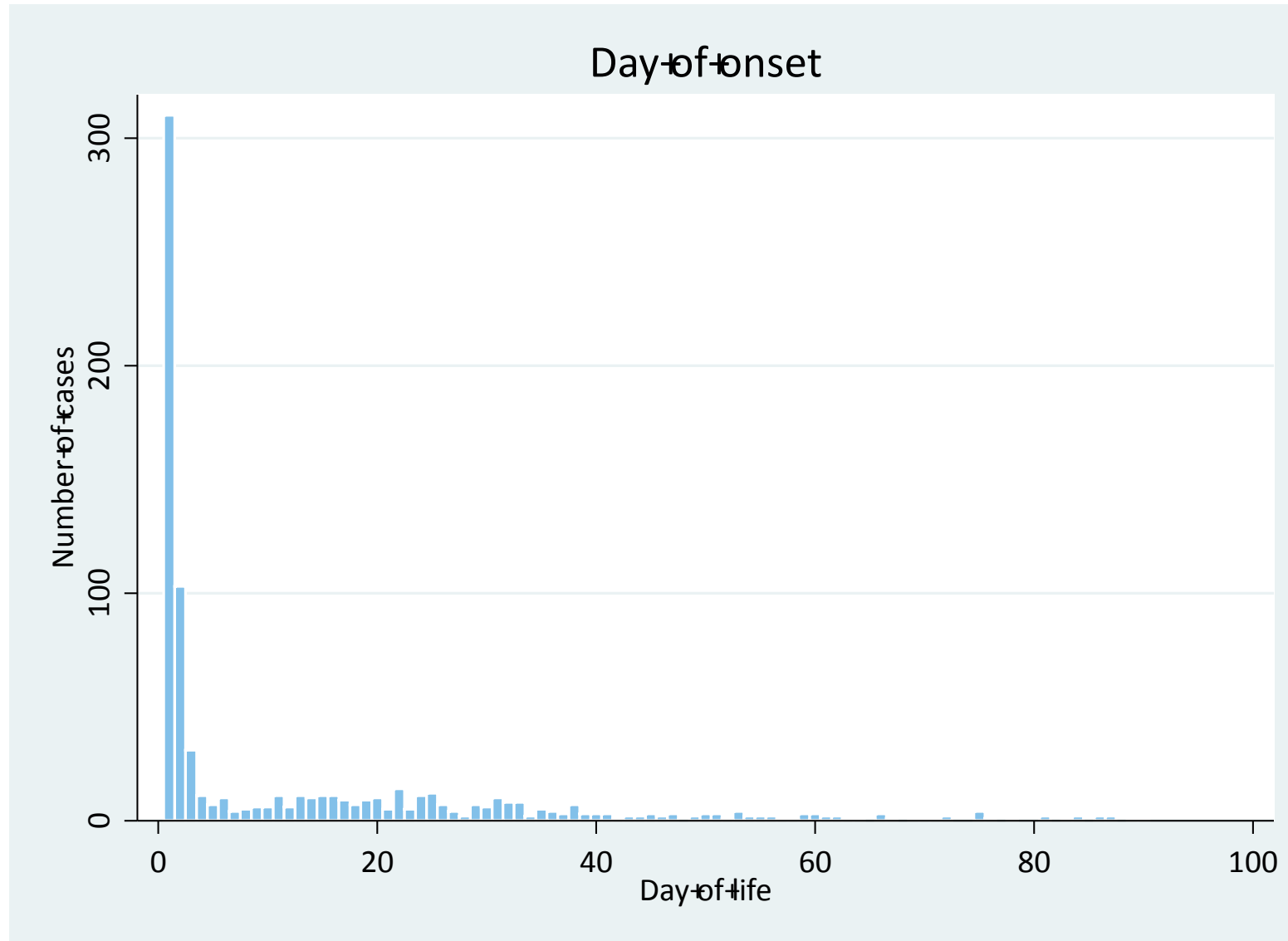


Incidence England BW per 1,000 LBs



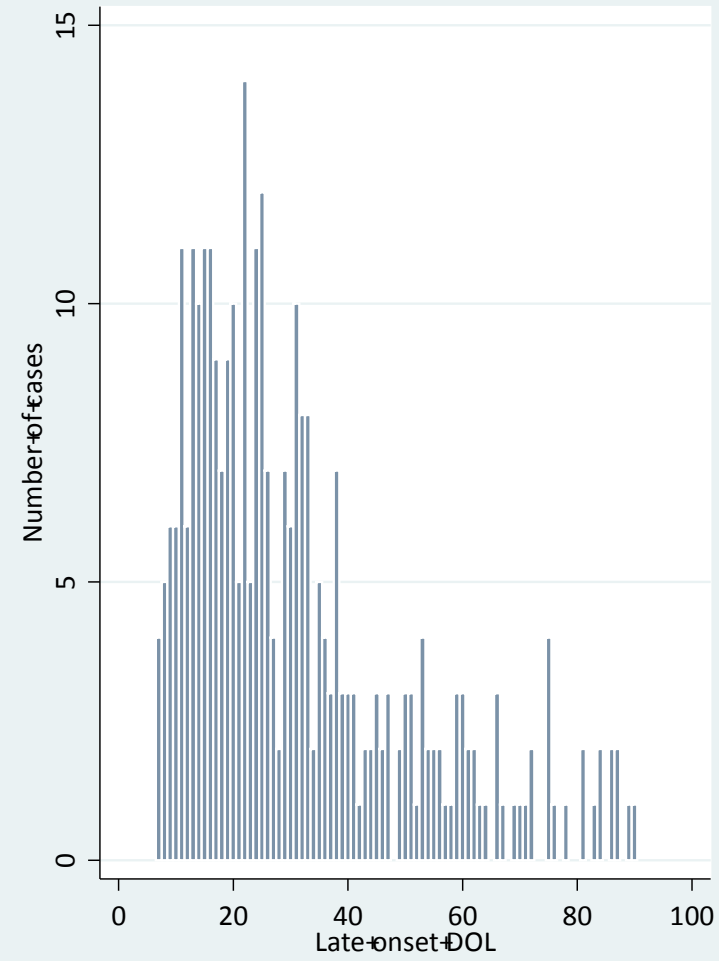
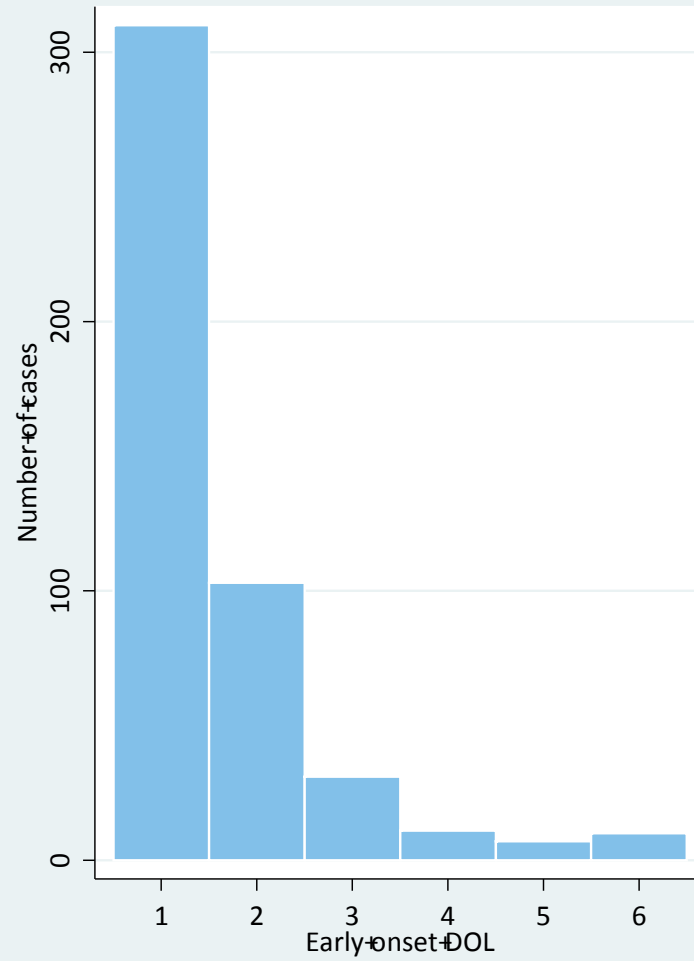
BW	Total cases (n)	Total incidence 2014-2015	Early onset incidence 2014-2015	Late onset incidence 2014-2015
VLBW ($\leq 1500\text{g}$)	52	6.87	1.32	5.55
LBW ($< 2500\text{g}$)	70	1.65	0.99	0.66
$\geq 2500\text{g}$	313	0.48	0.35	0.13

Day of onset





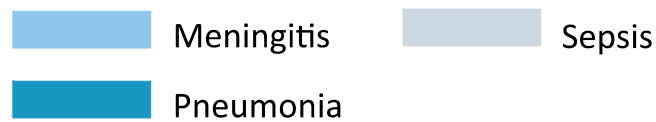
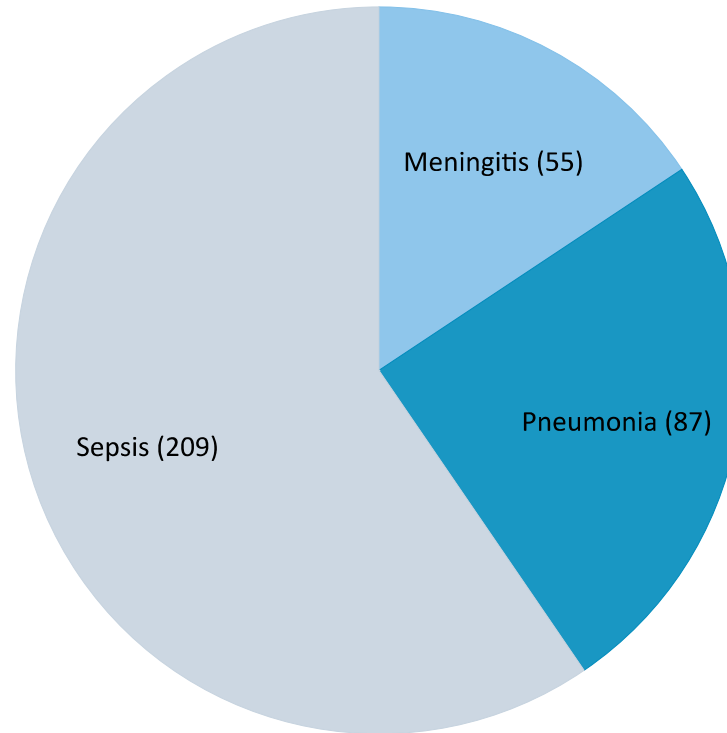
Day of onset



Clinical Dx EOD



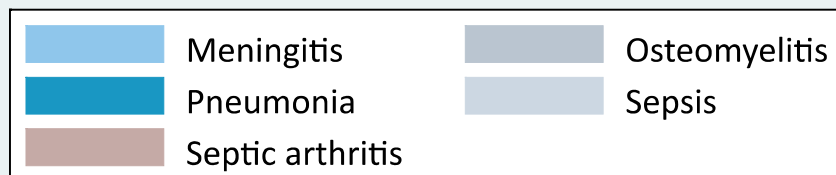
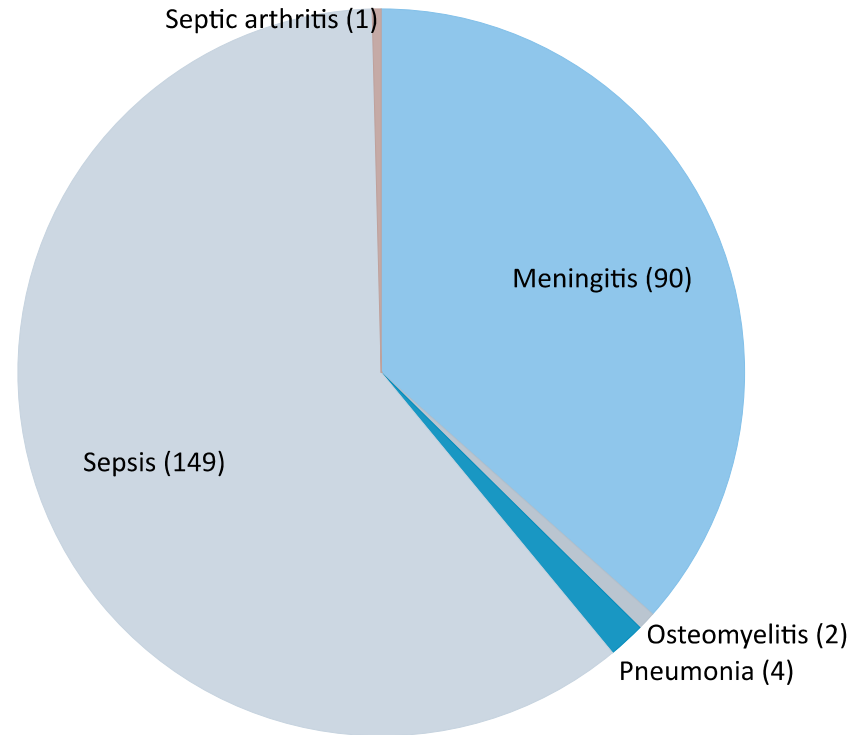
Clinical syndromes in EOD



Clinical Dx LOD



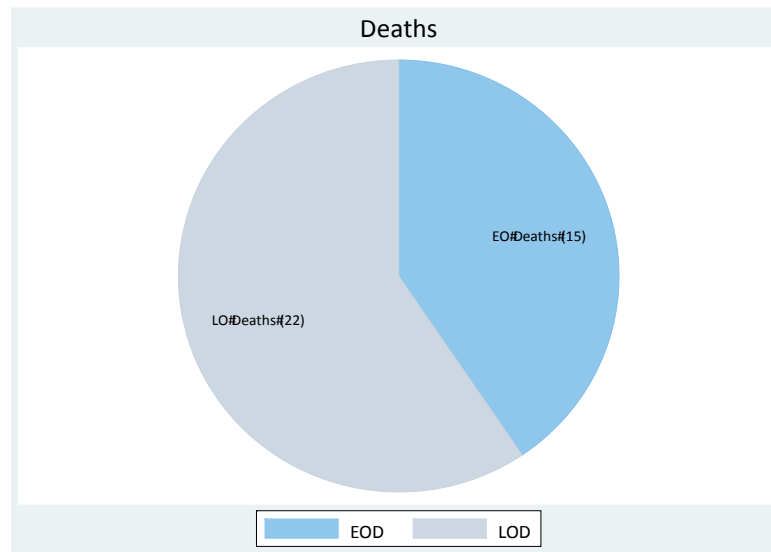
Clinical syndromes in LOD



Mortality



Overall mortality 2014-2015	Overall mortality 2000-2001	Early onset mortality 2014-2015	Early onset mortality 2000-2001	Late onset mortality 2014-2015	Late onset mortality 2000-2001
6.2% (n=37)	9.7% (n=53)	4.3% (n=15)	10.6% (n=38)	8.9% (n=22)	8% (n=15)



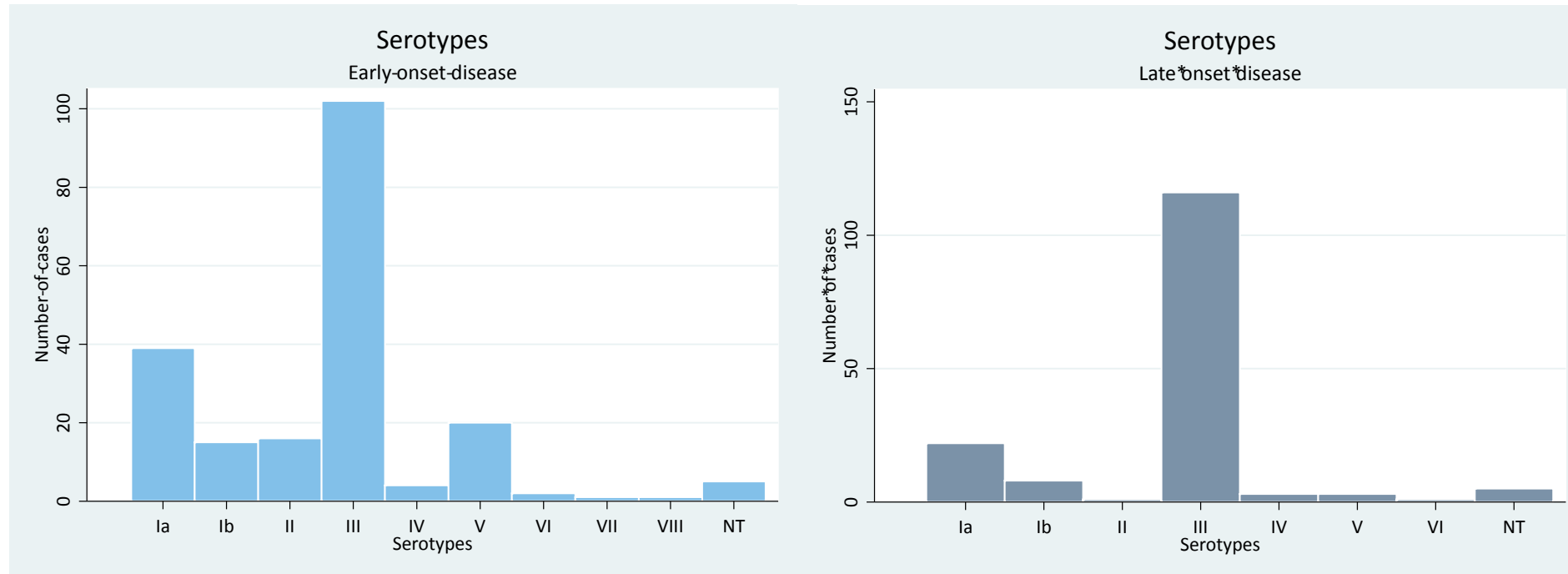
Median time after infection: 3 days
76% within 7 days of infection
22% within 28 days of infection

Mortality Gestation & BW

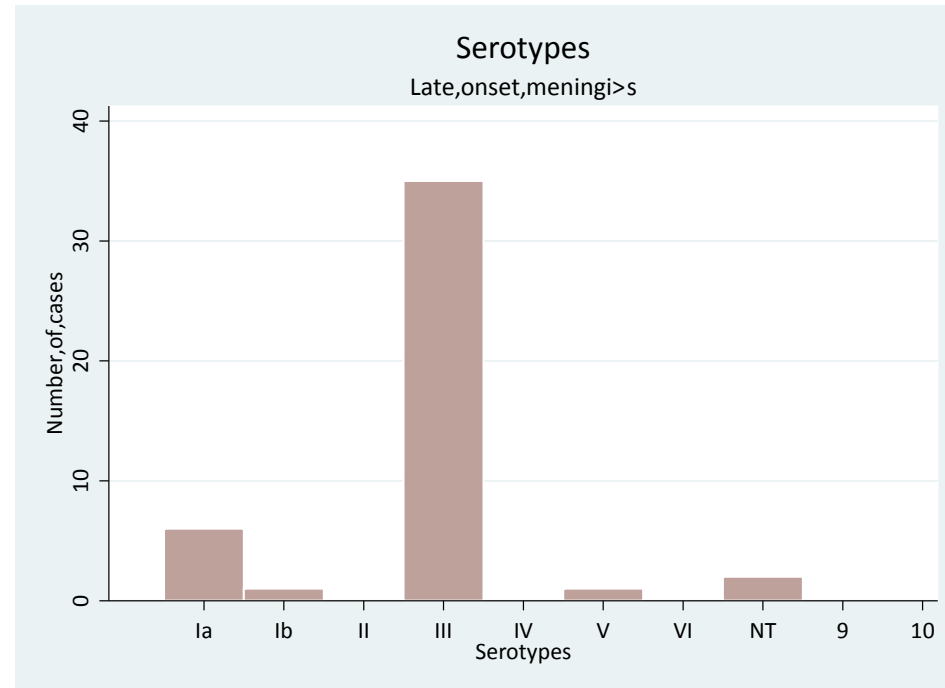
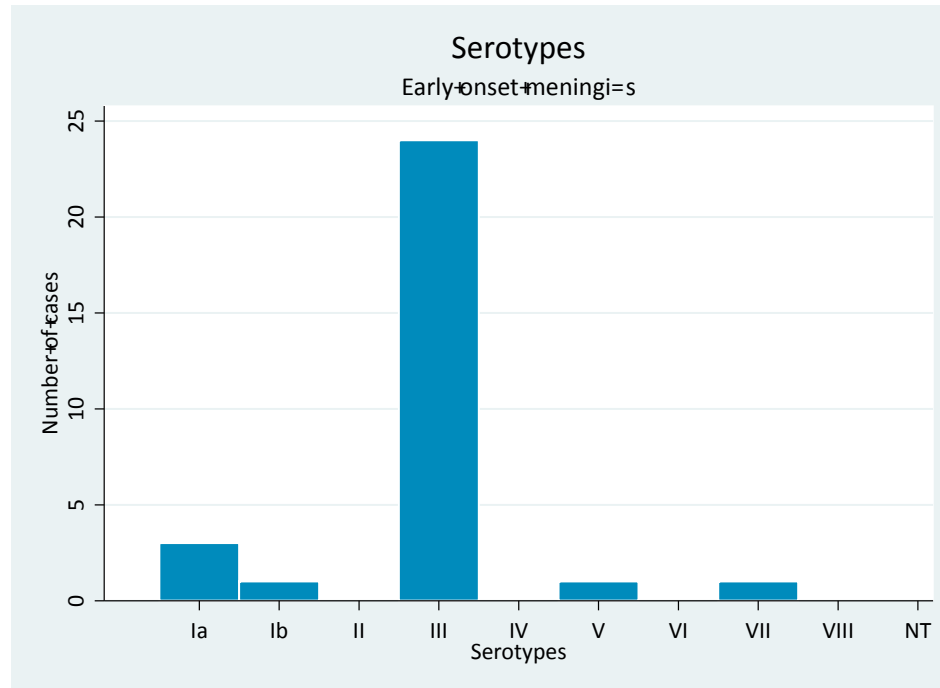


Mortality ≤33/40 2014- 2015	Mortality ≤33/40 2000- 2001	Mortality 34-36/40 2014- 2015	Mortality 34-36/40 2000- 2001	Mortality ≥37/40 2014- 2015	Mortality ≥37/40 2000- 2001
12.2%(n=12)	15.2%(n=19)	4.2%(n=3)	13.2%(n=12)	4.4%(n=18)	6.4%(n=21)
Mortality <1000g (ELBW)	Mortality <1500g (VLBW)	Mortality <2500g (LBW)	Mortality >2500g		
17.1% (n=6)	13.3% (n=4)	6% (n=5)	4.5% (n=18)		

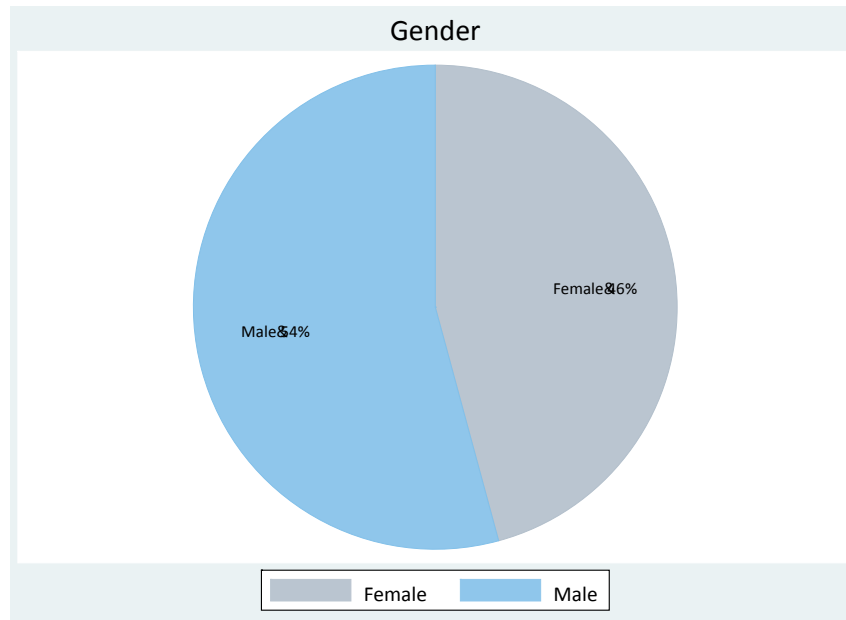
Serotypes



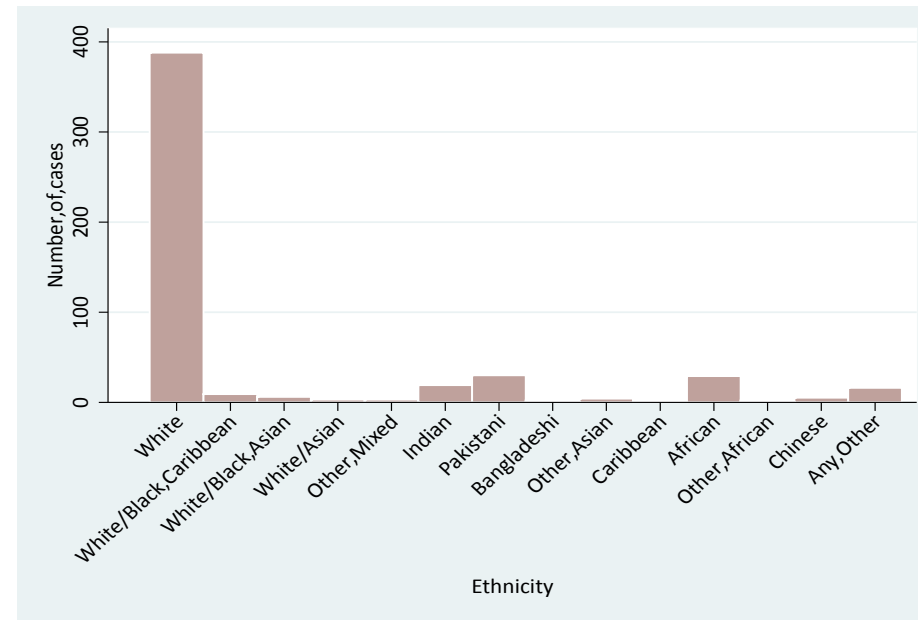
Serotypes Meningitis



Demographics



38 twins



Ethnicity available for 63.4% of cases (n=518)

White 74.9%

Pakistani 3%

African 2.9%

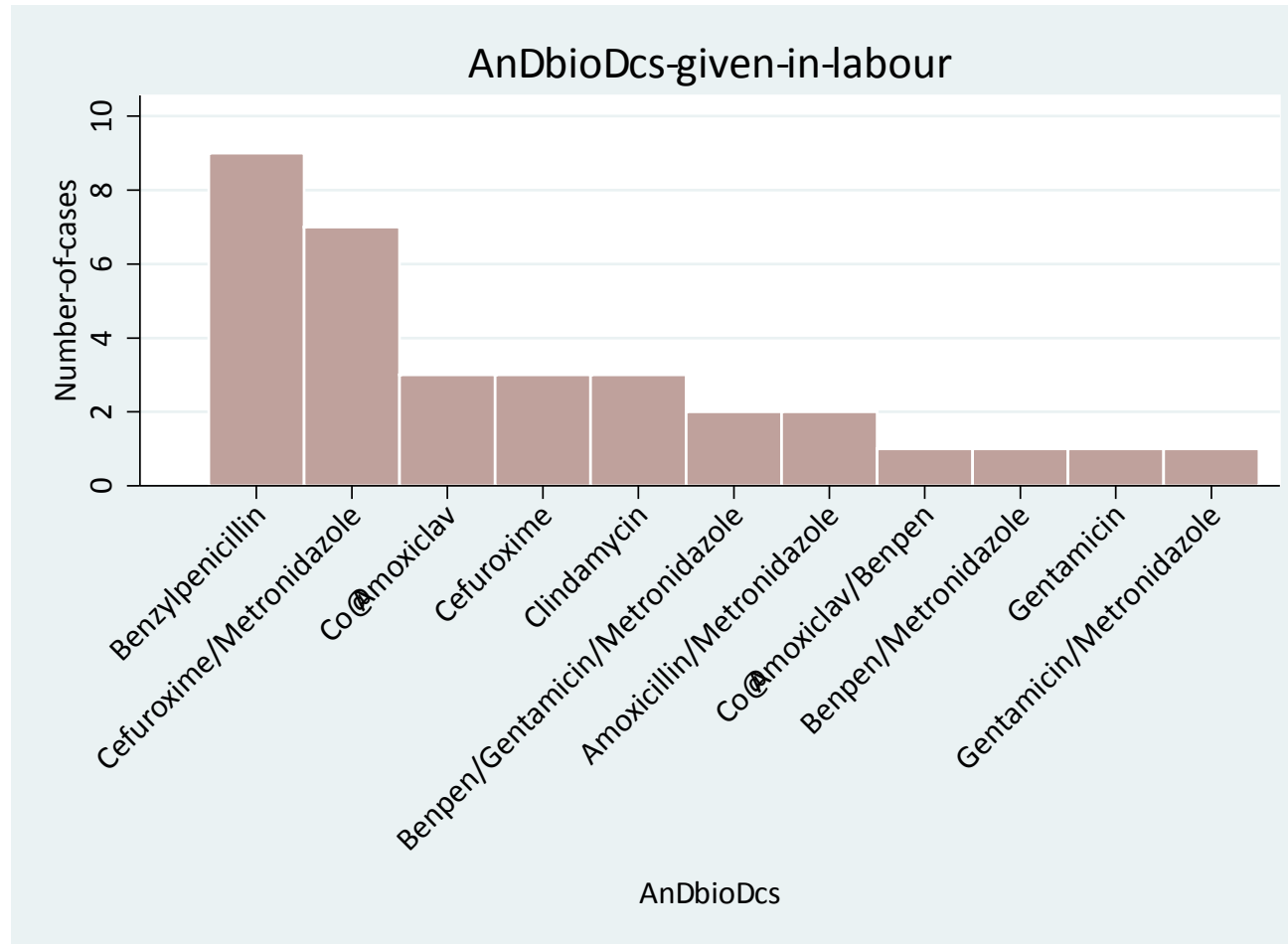
Risk factors EOD



- RCOG Green top Guidance recommends IAP to those:
- Found to be colonised
- GBS bacteriuria/UTI
- Suspected chorioamnionitis
- Maternal pyrexia (T>38°C)
- Previous baby with GBS

Preterm delivery < 37/40 2014-2015	Preterm delivery < 37/40 2000-2001	PROM >18hrs 2014-2015	PROM >18hrs 2000-2001	Known carriage 2014-2015	Known carriage 2000-2001	Maternal pyrexia and/or suspected chorioamnionitis
21% (n=75)	37% (n=131)	5.4%(n=19)	44% (n=140)	10.8%(n=38)	4% (n=13)	29% (n=102)

Antibiotics given during labour



Median time given:
2 hours pre-delivery
2-4hrs: 30%
> 4hrs: 13%

LOD



- NICU inpatient: 21%
- Relapses:
 - 1.68% (n=10)
- Outcomes:
 - 1 died
 - 1 major disability
 - 8 healthy at discharge

Meningitis

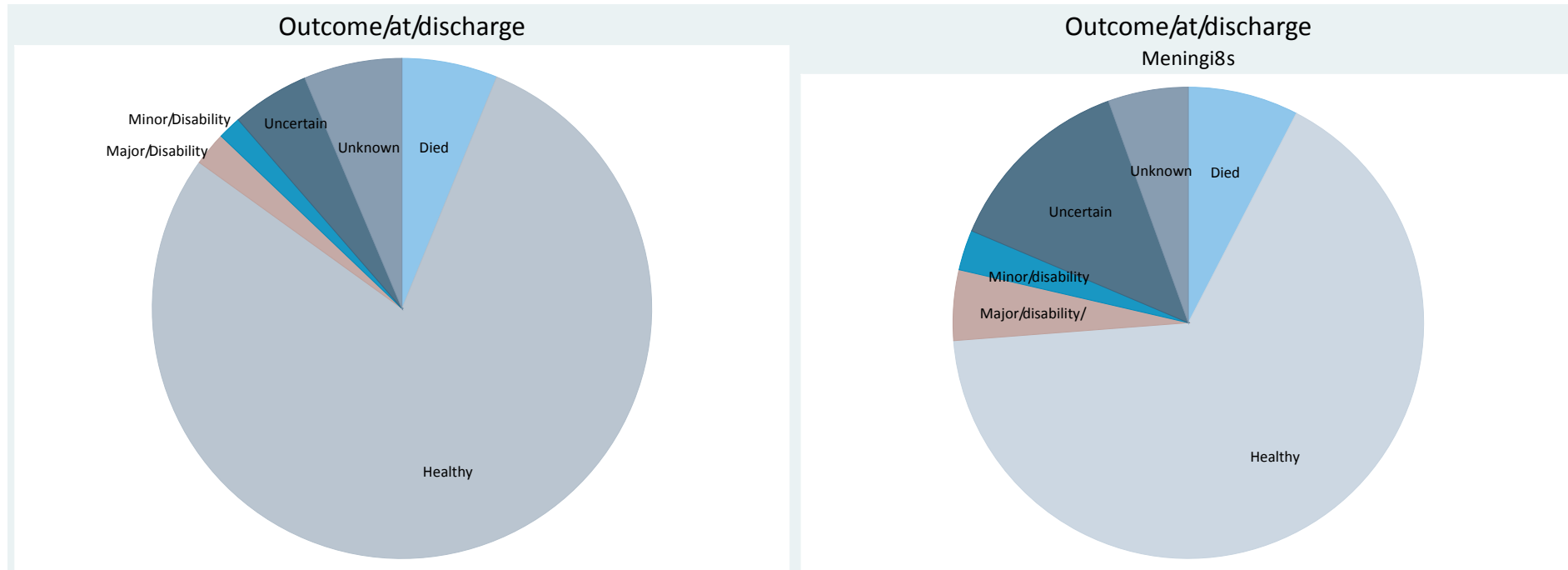


- CSF culture: 69%
- Clinical/LP results consistent: 31%

- EOD 55%
- LOD 90%

- Lumbar puncture:
 - Yes 84%, Unknown 2.5%, No 13.4%
 - NO:
 - Too sick 31
 - Unsuccessful attempt 22
 - Parents refused 1
 - No reason given 26

Outcome



78% healthy at discharge

66% healthy at discharge

Summary



- 2014-2015 Incidence in young infants:
 - 0.89 per 1,000 LBs
- Changes since 2000-2001 surveillance:
 - Increased incidence across countries
 - Greater increase in LOD incidence
 - Lower overall mortality & EOD mortality
 - Higher LOD mortality
- Serotype distribution – vaccine coverage
 - Ia, Ib, II, III, V: 94%
 - Trivalent: Ia, Ib, III: 82%
 - Ia, Ib, II, III: 87.6%

Acknowledgements



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