

A vibrant field of yellow tulips in full bloom, set against a clear, bright blue sky. The flowers are the central focus, with their petals showing some natural veining and slight variations in shade. The background is a soft-focus field of more tulips, creating a sense of depth. The overall mood is bright, cheerful, and fresh.

REPORT 2023

EpicLatino

ACKNOWLEDGMENTS

This report is based on the data collected during the year 2023 by 27 newborn units (NICU) from Latin America that belong to the neonatal network EpicLatino. We appreciate the invaluable support of the participating NICUs who contributed this information, and we acknowledge the dedication and work of the researchers, NICU directors, and the people who have entered the information into the database. Additionally, we appreciate the support given by Dr. Shoo Lee, former director of the Maternal-Infant Research Center at Mount Sinai Hospital, scientific director CIHR Institute of Human Development, Child and Youth Health, an Associate Member of the Lunenfeld-Tanenbaum Research Institute, and professor at the University of Toronto for his help, leadership and financial support through the CIHR grant, for the development of this project. Dr. Shoo Lee, has been named to the Order of Canada, the country's highest honor for his lifetime achievement. We thank also Amara Rivero for her important collaboration in the reception and organization of the database.

STRUCTURE OF THE NEONATAL EPICLATINO NETWORK

The EpicLatino neonatal network is a group of Latin American researchers and neonatologists who work on projects related to perinatal and neonatal care. It was founded in 2015 by Drs. Carlos Fajardo, Angela Hoyos, Carolina Villegas, Fernando Aguinaga, María Inés Martinini and Mariela Fernández. Thanks to the contacts with the Canadian neonatal network (CNN), data collection has been carried out under this network's program, translated into Spanish. Thanks to this system, the units that were already collecting information contributed their database of several years. This network maintains a standard database that allows researchers to participate in collaborative projects, both national and international. Health professionals, researchers and administrators can actively participate in different research projects related to clinical aspects, health services, health policies, etc. focused on improving the quality of care, efficacy, and effectiveness of neonatal care.

The Latin American Epiq Neonatal Network Foundation

Board of directors: Dr. Carlos Fajardo Dra. Angela Hoyos
Dr. Fernando Aguinaga Dr. Horacio Osiovich
Dr. Luis Monterrosa

Coordinating center Neonatal EpicLatino network

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Review committee: Drs. Carlos Fajardo, Pablo Vasquez and Angela Hoyos

Acronym	Institutions	Above sea level (m)	Place	Investigators	Site Characteristics
CDC	Clínica del Country	2640	Bogotá, Colombia	Dr. Angela Hoyos	All with readmissions
CDSC	Clínica Dávila	570	Santiago, Chile	Dr. Manuel Becerra	< 33 weeks with readmissions
CHMH	Centenario H de Esp Miguel Hidalgo	1885	Aguascalientes, Mexico	Drs. Manuel Bernal Benitez, Jose Ruben and Hyernandez Patiño	All with readmissions
CLC	Clínica la Colina	2640	Bogotá, Colombia	Drs. Martha Colon, Ximena Soler	< 36 weeks without readmissions
CMISL	Clínica Materno Infantil San Luis	959	Bucaramanga, Colombia	Dr Martha Lucía Africano, Nurse: Luz Marina Ramírez	All, no readmission
CS	Clínica Somer	2113	Rio Negro, Colombia	Drs. Edwin Antonio González, Luisa Medina Nurse: Luz Beatriz Sáenz	< 38 weeks without readmissions
CSB	Clínica Santa Bárbara	2850	Quito, Ecuador	Drs. Edgar Jara Muñoz Natalia Sánchez and Pamela Izquierdo	All, no readmission
CSFP	Clínica San Felipe	3	Lima, Perú	Drs. Jaime Zegarra y Fabiola Rivera	Selected < 36 weeks without readmissions
CSMS	Clínica de Santa María de Santiago	570	Santiago, Chile	Drs. María Carolina Gandolfi, Luisina Martínez	< 33 weeks without readmissions
CV	Clínica Vespucio	570	Santiago, Chile	Dr. Iván Morera	< 33 weeks without readmissions
HASS	Hospital Nacional Alberto Sabogal Soliguren	3	Lima, Perú	Drs. Rossana Bautista, Eliana Nuñez Mora, Luis Cam, Julissa Pita, Haidee Amaya, Diana Sánchez	<33weeks and/or \leq 1500 gr.
HCI	Hospital Civil de Ipiales E.S.E	2898	Ipiales, Colombia	Drs. Carlos Guillermo Burbano	< 34 weeks with readmissions
HCMP	Hospital Central Dr. Ignacio Morones Prieto	1850	San Luis Potosí, México	Dr. Carolina Villegas	All, no readmission

Acronym	Institutions	Above sea level (m)	Place	Investigators	Site Characteristics
HDC	S.E.S. Hospital de Caldas	2150	Manizales, Colombia	Dr. Oscar Julián López Uribe y enfermera Diana Marcela López	< 38 weeks without readmissions
HDLV	Hospital de los Valles	2850	Quito, Ecuador	Dr. Verónica Delgado.	< 36 weeks without readmissions
HEM	Hospital Español de Mendoza	746	Mendoza, Argentina	Drs. Horacio Roge, Damián Pretz and Daniel Agost	All, no readmission
HGDM	Hospital General de Medellín	1495	Medellin, Colombia	Dr. Juan Carlos Jimenez	< 38 without readmission
HILP	Hospital Italiano de La Plata	10	La Plata, Argentina	Drs. Guillermo Agustin Zambosco and Maricel Uria	< 37 weeks without readmissions
HMC	Hospital Militar Central	2640	Bogotá, Colombia	Drs. Claudia Alarcón, Jorge López and Alejandro Colmenares	< 33 weeks without readmissions
HMIP	Hospital Materno Infantil	3640	La Paz, Bolivia	Dr. Abraham Badner	All with readmission
HMT	Hospital Metropolitano	2850	Quito, Ecuador	Drs. Fernando Aguinaga, Verónica Guzmán and Francis Ponce	All, no readmission
HRPG	H Regional DR Rafael Pascacio Gamboa	522	Tuxtla Gutiérrez, México	Dr. María de la Luz Sánchez Tirado	All with readmission
HRU	Hospital Regional Universitario de Colima	570	Colima, Mexico	Dr. Juana de la Luz Castellanos	All, no readmission
HSJ	Hospital San José	2640	Bogotá, Colombia	Drs. Diana Arias and Bladimir Marin Montoya	< 35 weeks without readmissions
MNSM	Maternidad Nuestra Sra. de las Mercedes	396	Tucuman, Argentina	Drs. María Inés Martinini, Daniel Amado, María Jorgelina Neme, Marta Alvarez, Gloria Ferreyra and Maria Cristina Sanchez	All, no readmission

Acronym	Institutions	Above sea level (m)	Place	Investigators	Site Characteristics
SEHOS	St. Elisabeth Hospital	1	Willemstad, Curaçao	Dr. Naijla Duque	All with readmission

The units which did not complete more than 10 patients ≤ 32 weeks gestational age at birth during the year, will not be included in the comparison section between units. Only the patients with all the information are included, except for hypothermia where it is used, we include them if they have data in this area.

Acronyms used in the document

asl: above sea level
BPD: Bronchopulmonary Dysplasia
Birthweight: Weight at birth in grams
CONS: Staphylococcus coagulase negative
CPAP: Continuous Airway Pressure
Gestational Age: Gestational age at birth in weeks
GBS: Group B Streptococcus
Gr: grams
HFOV: High Frequency oscillatory ventilation
IQR: interquartile range
IPPV: Intermittent positive pressure ventilation
IVH: Intraventricular Hemorrhage
NEC: Necrotizing Enterocolitis
NICU: Neonatal Intensive care units
NIVn: nasal noninvasive ventilation
OTI: Oral Tracheal Intubation
PDA: Patent ductus arteriosus
PMA: Postmenstrual age
PPV: Positive Pressure ventilation
ROP: Retinopathy of Prematurity
Staph aureus: Staphylococcus aureus
TPN: parenteral nutrition
w: Weeks

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GENERAL SUMMARY

This report is based on data collected during 2023 by 27 newborn third-level care units (NICU) from Latin America and that belong to the EpicLatino neonatal network. For the analysis of the different variables, all the NICUs were included in the database. For comparison between units, only those with more than 10 patients ≤ 32 weeks at birth during the year, were included, so data calculated in se comparison section correspond to NICUs as described.

The goals of EpicLatino's neonatal network are:

- To establish and maintain a data source for Latin American Newborn Units.
- To provide the infrastructure to facilitate knowledge on morbidity and mortality and care of newborns in Latin America.
- To facilitate the obtaining of reliable data that produces information and to translate into actions that allow the improvement of neonatal and perinatal health at the local and regional level.
- To establish a Latin American network of researchers interested in neonatal and perinatal care.
- To develop innovative research methods that lead to the improvement of the quality of neonatal and perinatal health care and attention in Latin America.

Summary of Results / Methodology

EpicLatino neonatal network data source: admissions from January 1, 2023 to December 31, 2023.

The total number of eligible admissions from participating centers was 3935, including readmissions; deaths at the delivery room or moribund on admission (4 cases) were not included.

Total number of patients admitted to participating NICUs 3935.

Total number of eligible very premature infants (≤ 32 weeks at birth) 803.

Total number of very low Birthweight infants (≤ 1500 gr at birth) 599.

The gestational age in this document refers to full weeks (example week 32 includes children from 32 weeks to 32 weeks and 6 days of gestation). Those children transferred to the normal newborn area (primary care level) were excluded, but those who died during their stay in the unit were included regardless of the time in the unit. The demographic information of the patients, without personal identification data, components of care and the end results upon leaving the hospital were entered into a computer and sent electronically to MiCare, where data was verified; Statistical analysis was performed at the coordinating center in Calgary and Bogotá.

BACKGROUND AND OBJECTIVES

NICUs use the combined capabilities of diverse health care members and advances in technology to provide effective care for newborns. To assist in this task, the EpicLatino neonatal network data source provides ordinal and categorical information to identify variations in issues such as mortality and morbidity and the use of available resources.

Three scores are used, namely: SNAP II, NTISS and TRIPS, which allow adjusting the risk variations in both mortality and morbidity. This adjustment will allow in subsequent analyzes to investigate what specific practices can be changed to improve the quality of care of our newborns.

Using the EPIQ (Evidence-Based Practice Quality Improvement) program allows exploring new methodologies to identify care practices associated with good or poor outcomes and provide a way to improve the quality of evidence-based care.

INFORMATION SYSTEMS

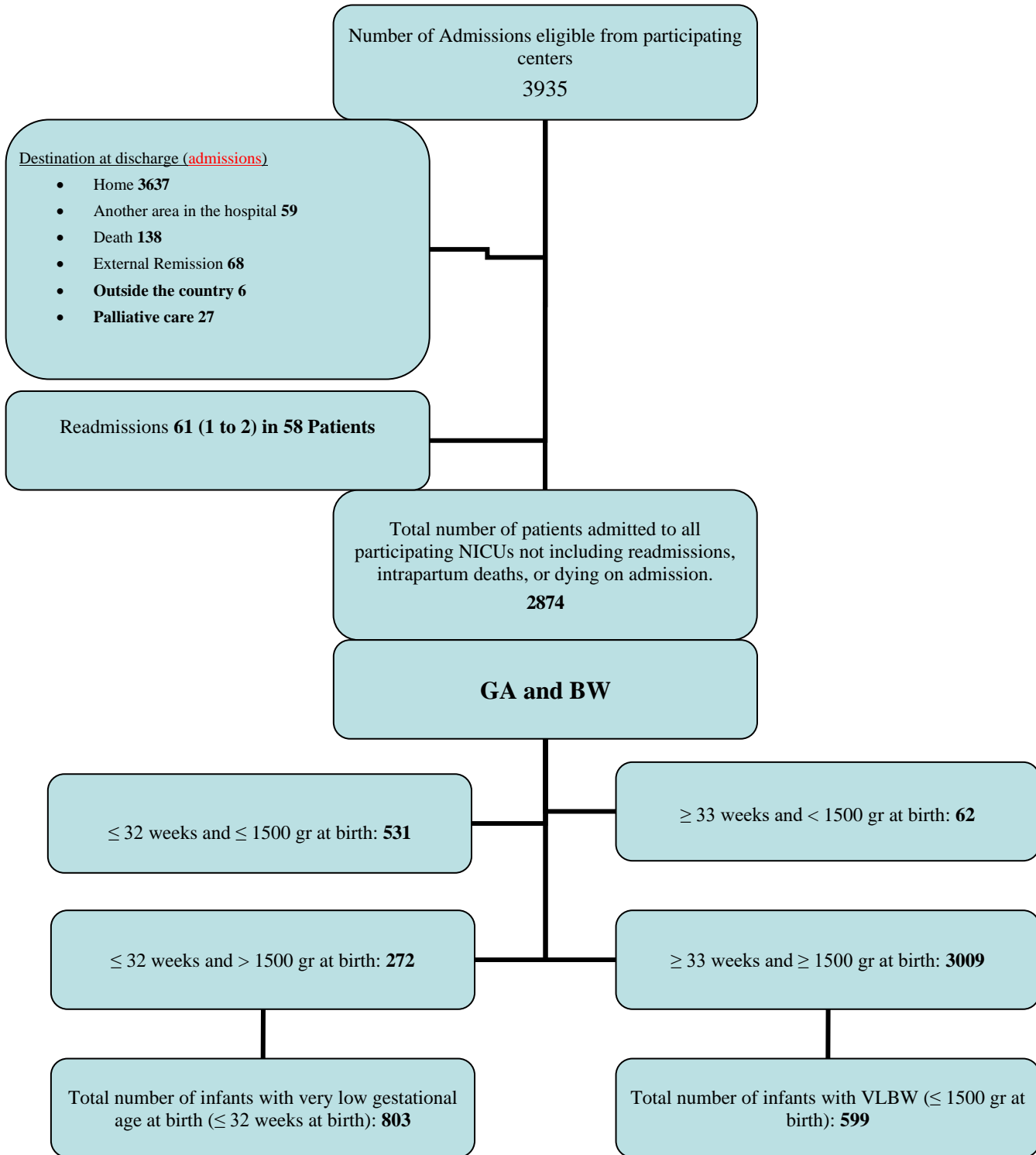
Patient information was collected retrospectively from medical records by researchers or their associates using standardized definitions and protocols present in the network operating manual available to all participating NICUs. This information was entered into a computer using the program that allows for errors to be reviewed locally prior to being sent to the Research Center for Maternal and Child Care (MiCARE) in Toronto. The information of the patients in the different NICUs is available only to the researcher corresponding to each NICU. All data that could identify the patient were removed BEFORE the data was transferred to the coordinating center. The confidentiality of the patients was strictly preserved.

As the responsibility of the local researcher in each participating center, the information is stored in a secure data source of the NICU or in a secure alternative site such as a medical file, a computer area, etc. At the coordinating center, the central data source is stored in a secure computer located on a server and a copy is maintained and secured by the Mount Sinai Hospital's IT and technology department.

At the coordinating center, analyzes by variable, between two variables and multiple variables are conducted both for the entire group and for each individual center. Multiple logistic regression analysis is used to identify risk factors associated with increased mortality and morbidity. The pooled information allows the presentation of graphs of mortality and morbidity results from Gestational Age and Birthweight. Similar systems have been used to guide stratification in randomized studies, assist quality assurance, and predict resource utilization. The STATA 18 Program was used, StataCorp, 4905 Lakeway Drive, College Station, Texas 77845 USA

A. DESCRIPTIVE ANALYSIS

DESCRIPTIVE ANALYSIS: GENERAL DATA



PRESENTATION 1

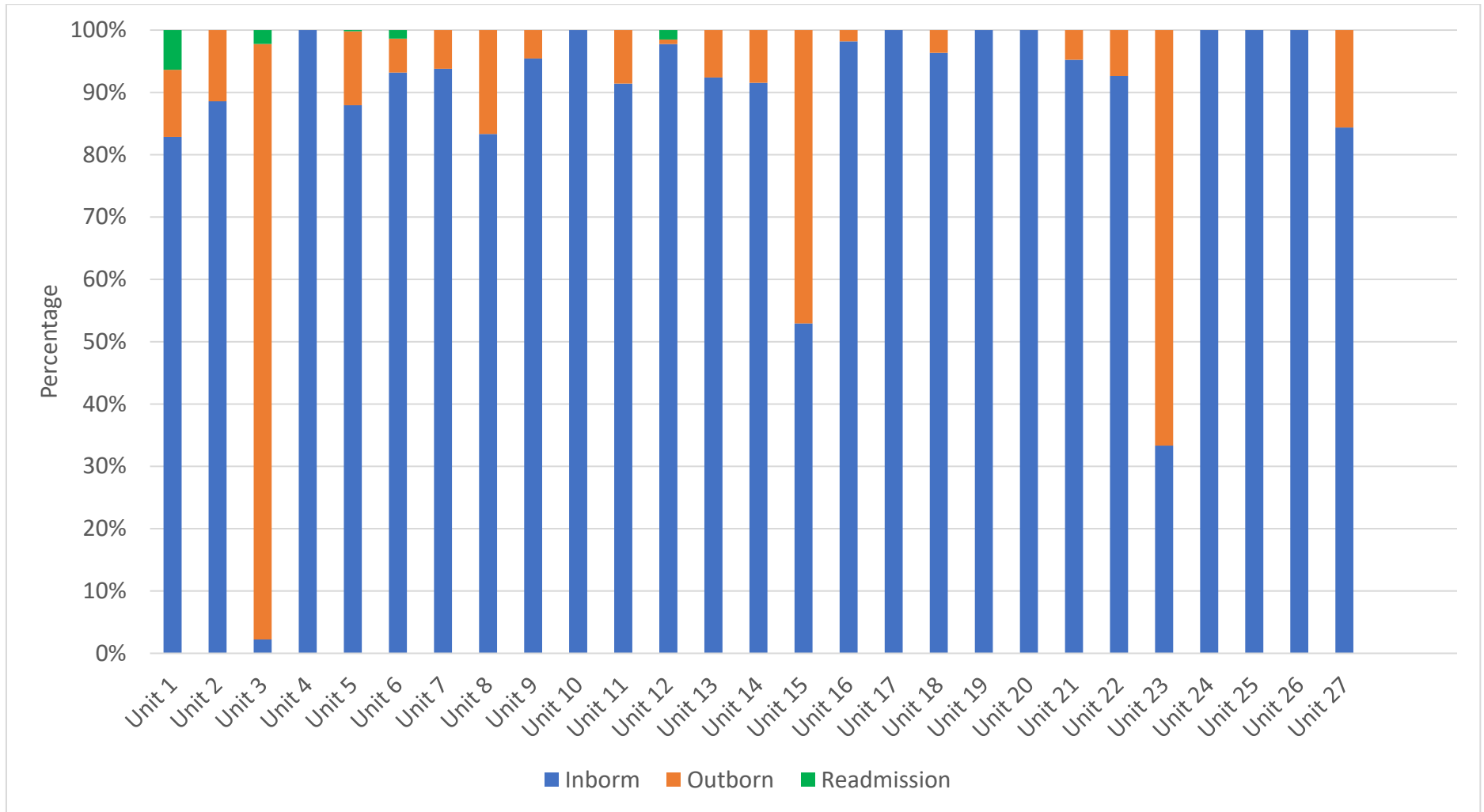
Number of Admissions in the Participating Centers (Table)

NICUs		Inborn*	Outborn*	Readmissions	Total cases including readmissions
Unit 1	N	600	78	46	678
	%	88%	12%	7%	
Unit 2	N	31	4	0	35
	%	89%	11%	0%	
Unit 3	N	3	129	3	132
	%	2%	98%	2%	
Unit 4	N	20	0	0	20
	%	100%	0%	0%	
Unit 5	N	948	128	2	1076
	%	88%	12%	0%	
Unit 6	N	205	12	3	217
	%	94%	6%	1%	
Unit 7	N	121	8	0	129
	%	94%	6%	0%	
Unit 8	N	10	2	0	12
	%	83%	17%	0%	
Unit 9	N	21	1	0	22
	%	95%	5%	0%	
Unit 10	N	16	0	0	16
	%	100%	0%	0%	
Unit 11	N	96	9	0	105
	%	91%	9%	0%	
Unit 12	N	392	3	6	395
	%	99%	1%	2%	
Unit 13	N	170	14	0	184
	%	92%	8%	0%	
Unit 14	N	65	6	0	71

NICUs		Inborn*	Outborn*	Readmissions	Total cases including readmissions
	%	92%	8%	0%	
Unit 15	N	18	16	0	34
	%	53%	47%	0%	
Unit 16	N	271	5	0	276
	%	98%	2%	0%	
Unit 17	N	44	0	0	44
	%	100%	0%	0%	
Unit 18	N	53	2	0	55
	%	96%	4%	0%	
Unit 19	N	5	0	0	5
	%	100%	0%	0%	
Unit 20	N	11	0	0	11
	%	100%	0%	0%	
Unit 21	N	80	4	0	84
	%	95%	5%	0%	
Unit 22	N	63	5	0	68
	%	93%	7%	0%	
Unit 23	N	3	6	0	9
	%	33%	67%	0%	
Unit 24	N	29	0	0	29
	%	100%	0%	0%	
Unit 25	N	97	0	0	97
	%	100%	0%	0%	
Unit 26	N	3	0	0	3
	%	100%	0%	0%	
Unit 27	N	108	20	0	128
	%	84%	16%	0%	
Total	N	3483	452	60	3935
	%	89%	11%	1.5%	

*May be duplicated in readmissions

Number of Admissions in the Participating Centers (Graph)



Comment: This analysis includes 3935 admissions to the participating NICUs during 1 of January 2023 to 31 of December 2023, with 61 readmissions in 58 patients. * may be duplicated by readmissions.

PRESENTATION 2

Score severity (SNAP II Y SNAPPE II) by NICUs (table)

NICU	Admissions With information	Without Information	Mean	
			SNAPPE Score	SNAPPE II Score
Unit 1	627	5	0.8	1.4
Unit 2	34	1	11.4	17.9
Unit 3	129		3.3	6.4
Unit 4	20		15.2	19.0
Unit 5	1056	18	1.5	2.5
Unit 6	214		4.3	2.5
Unit 7	128	1	1.1	8.1
Unit 8	12		7.8	2.0
Unit 9	22		7.0	11.4
Unit 10	15	1	5.4	8.8
Unit 11	104	1	6.2	5.4
Unit 12	389		2.7	12.0
Unit 13	184		5.0	4.3
Unit 14	69	2	19.3	6.6
Unit 15	32	2	13.4	29.6
Unit 16	157	119	0.6	16.5
Unit 17	41	2	12.8	1.4
Unit 18	55		3.9	21.5
Unit 19	5		24.4	5.0
Unit 20	10	1	25.4	30.0
Unit 21	82	2	8.9	30.1
Unit 22	68		5.2	9.8
Unit 23	2	7	0.0	8.0
Unit 24	29		7.4	0.0
Unit 25	95	2	14.1	17.3
Unit 26	3		2.7	16.7
Unit 27	126	2	2.8	2.7
General/average	3708	166	7.9	11.0

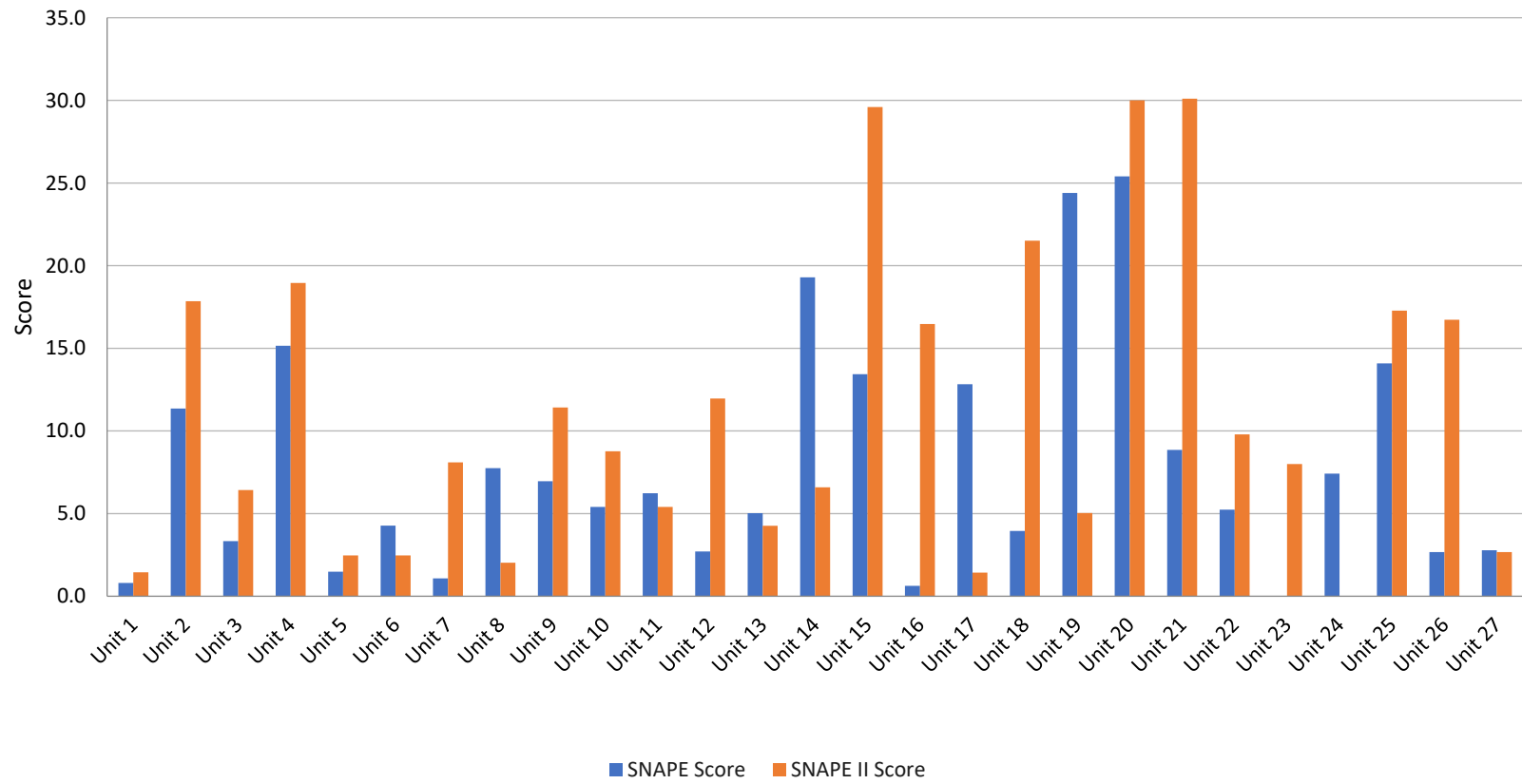
Comment: This analysis of Disease severity scores (SNAPPE AND SNAPPE II) includes 3708 admissions without readmissions (who had complete data). No information 166. Comparison of the severity score between NICUs may show large variations due to the different patient inclusion criteria of each NICU.

The SNAPPE calculation includes the following variables:

- Average arterial pressure (mm Hg)
- Lower temperature
- PO₂ (mm Hg) / FiO₂)
- Lower serum pH
- Multiple seizures
- Diuresis (ml/k/h)

For the calculation of SNAPPE II the following variables are added:

- Apgar at 5 minutes
- Birthweight (gr)
- Small for Gestational Age (less than 3rd percentile)



ANALYSIS BASED ON THE NUMBER OF ELIGIBLE NEWBORNS ADMITTED
TO PARTICIPATING UNITS

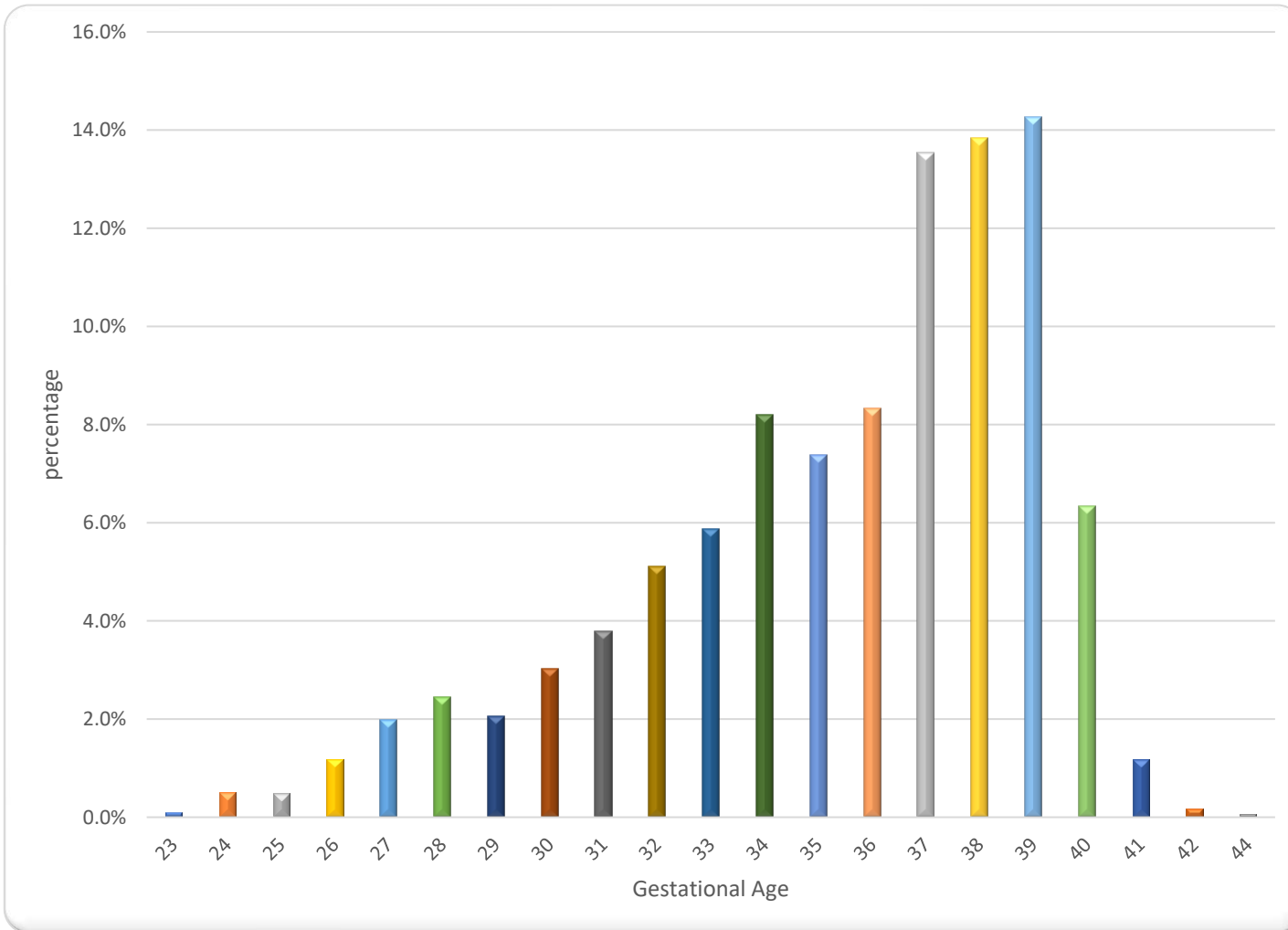
PRESENTATION 3

Distribution of Patients by Gestational Age (Gestational Age) (Table)

Gestational Age weeks*	n	Percentage	Cumulative Percentage
23	4	0.10%	0.10%
24	20	0.52%	0.62%
25	19	0.49%	1.11%
26	46	1.19%	2.30%
27	77	1.99%	4.28%
28	95	2.45%	6.74%
29	80	2.07%	8.80%
30	117	3.02%	11.82%
31	147	3.79%	15.62%
32	198	5.11%	20.73%
33	228	5.89%	26.61%
34	318	8.21%	34.82%
35	286	7.38%	42.20%
36	323	8.34%	50.54%
37	525	13.55%	64.09%
38	536	13.84%	77.93%
39	553	14.27%	92.20%
40	246	6.35%	98.55%
41	46	1.19%	99.74%
42	7	0.18%	99.92%
44	3	0.08%	100.00%
Total	3,874		

Comment: The distribution of patients by Gestational Age. Readmissions were excluded.

Distribution of Patients by Gestational Age at Birth) (Graph)



PRESENTATION 4

NICU Discharge Survival by Gestational Age (Gestational Age) at birth (Table)

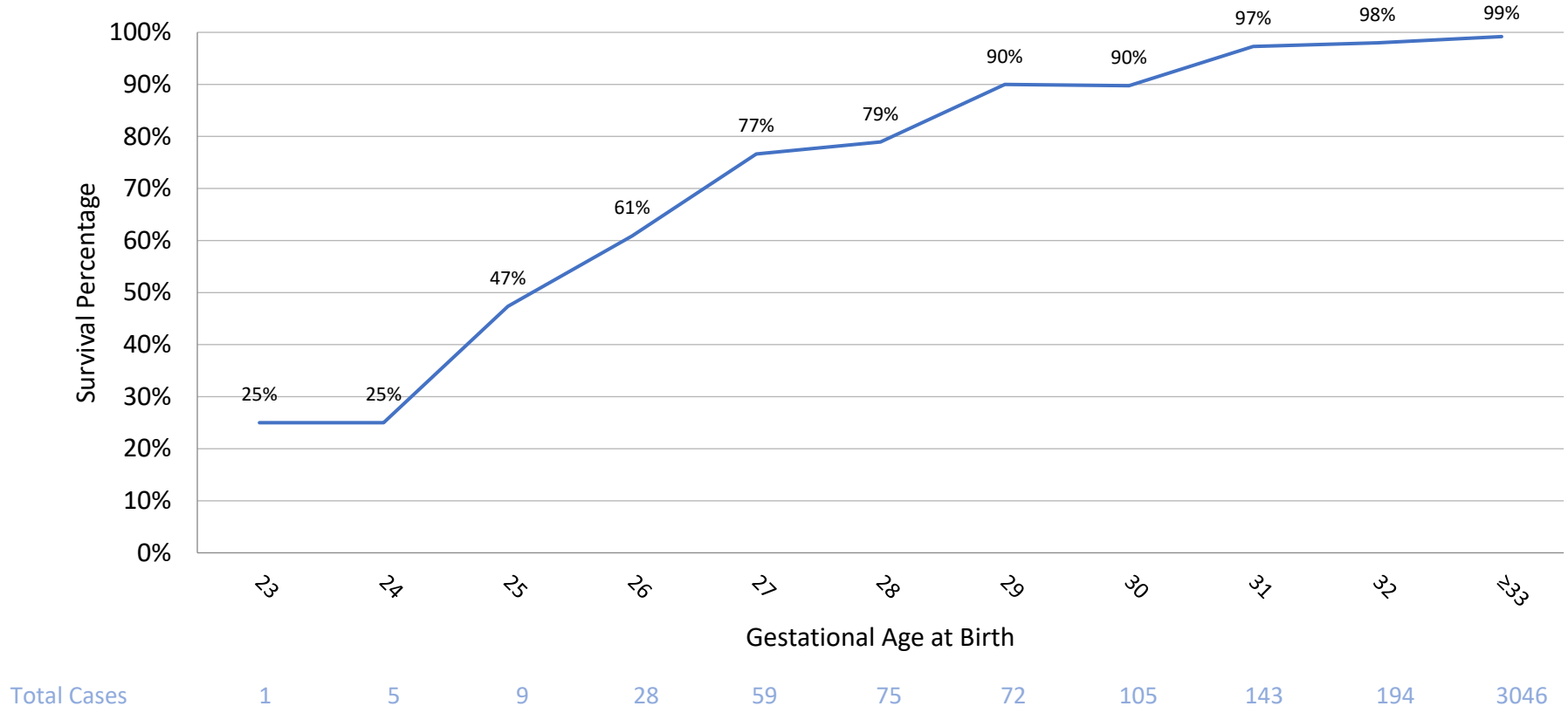
Gestational Age weeks	Survived	Total	Percentage of survival
23	1	4	25%
24	5	20	25%
25	9	19	47%
26	28	46	61%
27	59	77	77%
28	75	95	79%
29	72	80	90%
30	105	117	90%
31	143	147	97%
32	194	198	98%
≥33	3046	3071	99%
Total	3737	3874	

Discharge with palliative care, transferred and referred patients are included.

Comment: For the survival calculation, patients with complete data were included (validated).

Readmissions were excluded. These data should be analyzed with caution because not all NICUs included patients younger than 24 weeks. Another error factor is because many units do not include patients who died in the delivery. The outcome of the transfers is also unknown. Note that only 26 weeks and over survival > 50% is achieved except 24 weeks.

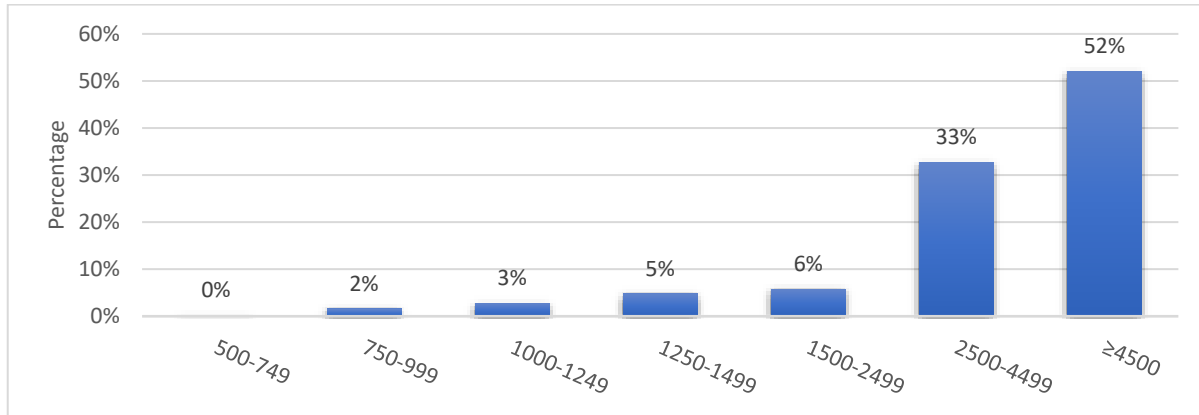
NICU Discharge Survival by Gestational Age at birth (Graph)



Transferred and palliative patients are included as survivors. In general, number of patients is too low is smaller infants to reach adequate conclusions.

PRESENTATION 5

Distribution of Patients by Birth Weight



Birthweight gr	Total admissions n	Percentage	Accumulated percentage
<500	10	0.3%	0.3%
500-749	60	1.5%	1.8%
750-999	108	2.8%	4.6%
1000-1249	184	4.7%	9.3%
1250-1499	224	5.8%	15.1%
1500-2499	1,267	32.7%	47.8%
2500-4499	2,014	52.0%	99.8%
≥4500	7	0.2%	100.0%
Total	3,874		

Comment: This report should be analyzed with caution because not all NICUs included in their database, the admission of patients under 500 grams and deaths in the delivery room are not included and some only report cases ≤ 32 weeks or under 2000 gr. This report includes the data available in the database (validated).

PRESENTATION 6

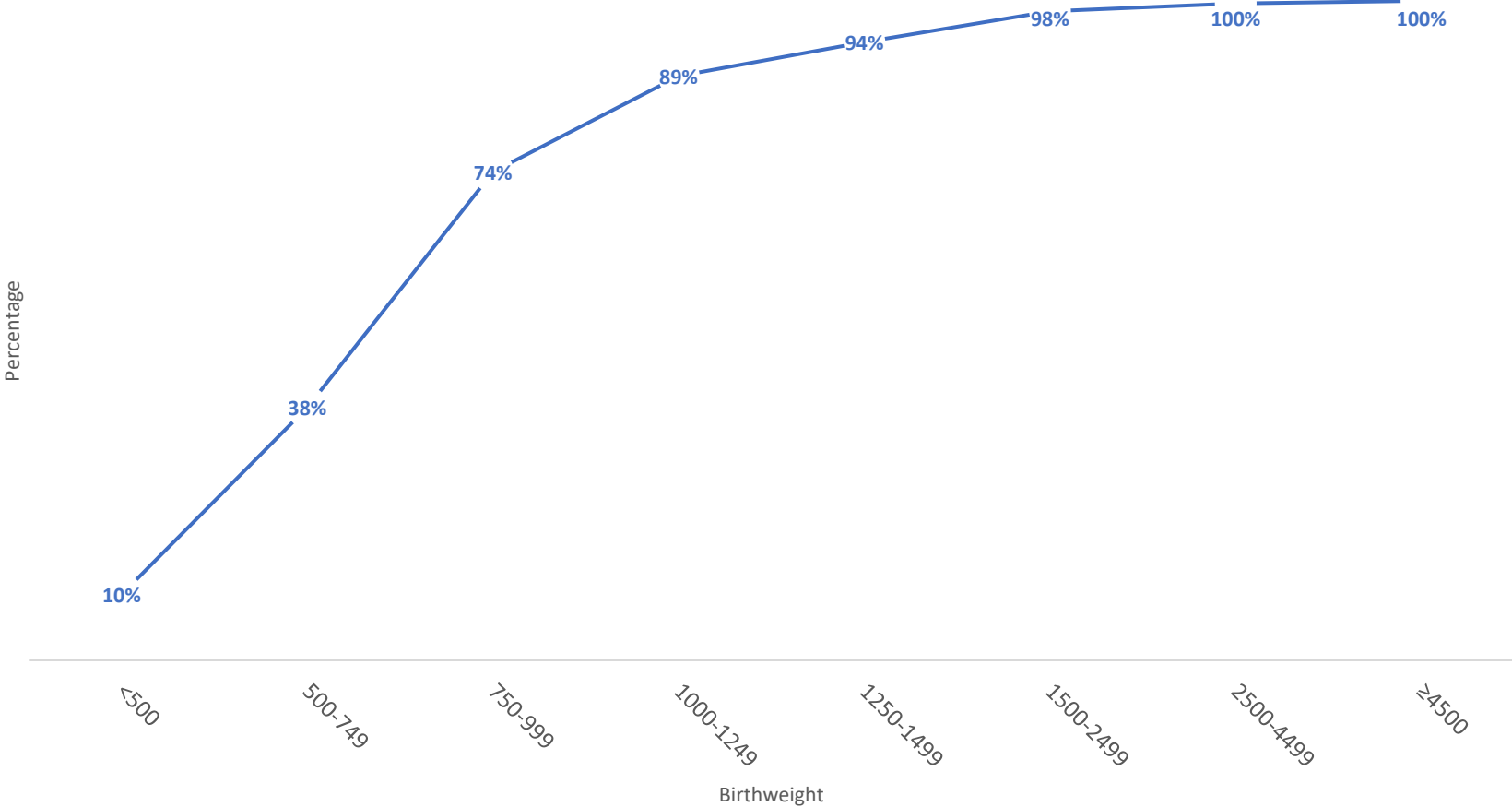
NICU Discharge Survival by Birthweight (Table)

Birthweight (g)	Total number of validated patients without readmissions	Survived infants	Percentage
	n	n	%
<500	10	1	10%
500-749	60	23	38%
750-999	108	80	74%
1000-1249	184	163	89%
1250-1499	224	210	94%
1500-2499	1,267	1,247	98%
2500-4499	2,014	2,006	100%
≥4500	7	7	100%
Total	3,874	3,737	

Transfers and palliative patients are included as survivors; it does not include delivery room deaths. No readmissions.

Comment: This report should be analyzed with caution because not all NICUs included in their database the admission of patients under 500 grams and some only report patients \leq 32 weeks or under 2000 gr. This report includes the data available in the database.

NICU Discharge Survival by Birthweight



PRESENTATION 7

Maternal Characteristics

	Parameters		Gestational Age (weeks)			Total Babies
			≤ 32	33-36	≥37	
Prenatal Control	No	N	715	1,106	1,815	3636
		%	89%	96%	95%	80%
	Yes	N%	44	38	67	149
		%	5%	3%	3%	18%
	Unknown	N	45	12	34	91
		%	6%	1%	2%	2%
Drugs	No	N	7	17	23	47
		%	1%	1%	1%	1%
	Yes	N	796	1,138	1,893	3827
		%	99%	99%	99%	99%
Smoking	No	N	8	8	24	40
		%	1.0%	0.7%	1.3%	1.0%
	Yes	N	795	1,147	1,892	3834
		%	99%	99%	99%	99%
Hypertension/ Preeclampsia	Yes	N	244	273	109	626
		%	30%	24%	6%	16%
	No	N	541	872	1,764	3177
		%	67%	75%	92%	82%
	Unknown	N	18	10	43	71
		%	2%	1%	2%	2%
Diabetes	Yes	N	67	106	115	288
		%	8%	9%	6%	7%
	No	N	715	1041	1,759	3515
		%	89%	90%	92%	91%
	Unknown	N	21	8	42	71
		%	3%	1%	2%	2%

Parameters			Gestational Age (weeks)			Total infants
			≤ 32	33-36	≥37	
Magnesium Sulphate	Yes	N	324	156	30	510
		%	40%	14%	2%	13%
	No	N	440	974	1,835	3249
		%	55%	84%	96%	84%
	Unknown	N	39	25	51	115
		%	5%	2%	3%	3%
Antenatal Steroids	YES	N	608	512	24	1144
		%	76%	44%	1%	30%
	No	N	171	607	1,860	2638
		%	21%	53%	97%	68%
	Unknown	N	24	36	32	92
		%	3%	3%	2%	2%
	Completed course within last week prior to birth	N	273	195	9	477
		%	45%	38%	38%	42%
	Completed course prior to 1 week before birth	N	139	175	9	323
		%	23%	34%	38%	28%
	Completed course but timing unknown	N	26	32	1	59
		%	4%	6%	4%	5%
	Partial within last 24 hours	N	120	68	2	190
		%	20%	13%	8%	17%
	Partial > 24 hours ago	N	30	28	1	59
%		5%	5%	4%	5%	
Partial course but timing unknown	N	20	14	2	36	
	%	3%	3%	8%	3%	
Delivery Type	Vaginal	N	183	252	669	1104
		%	23%	22%	35%	28%
	Cesarean	N	615	902	1241	2758
		%	77%	78%	65%	71%
	Unknown	N	5	1	6	12
		%	1%	0%	0%	0%

Parameters	Frequency	Gestational Age (weeks)			Total Infants	
			≤ 32	33-36		≥37
PRESENTATION	Vertex	n	553	680	1077	2310
		%	69%	59%	56%	60%
	Breech	n	84	100	83	267
		%	10%	9%	4%	7%
	Other	n	117	309	658	1084
		%	15%	27%	34%	28%
	Unknown	n	49	66	98	213
		%	6%	6%	5%	5%
PRM	<24 Hours	n	598	964	1,694	3256
		%	74%	83%	88%	84%
	24 Hours-1 Week	n	65	59	18	142
		%	8%	5%	1%	4%
	>1 Week	n	40	5	1	46
		%	5%	0%	0%	1%
	Unknown	n	100	127	203	430
		%	12%	11%	11%	11%
Chorioamnionitis*	Yes	n	50	11	20	81
		%	6%	1%	1%	2%
	No	n	495	685	1073	2253
		%	62%	59%	56%	58%
	Unknown	n	258	459	823	1540
		%	32%	40%	43%	40%
	Total	n	803	1155	1916	3874
		%				

Comments: Babies are counted, not mothers. Only patients with complete data were included for the analysis (validated). PRM: Premature rupture of membranes.

* Chorioamnionitis is defined as suspected or confirmed documented in the medical record or the presence of maternal fever and leukocytosis or uterine tenderness.

PRESENTATION 8

Resuscitation (Gestational Age < 31 weeks) (Table)

Characteristics		Gestational Age (weeks)								
		23	24	25	26	27	28	29	30	
Number of Patients	n	4	20	19	46	77	95	80	117	
Palliative Care in the delivery room	n	0	2	2	0	0	0	0	0	
	%	0%	0%	0%	0%	0%	0%	0%	0%	
No Active Resuscitation Needed/Given*	n	0	1	1	1	7	6	5	17	
	%	0.0%	5.0%	5.3%	2.2%	9.1%	6.3%	6.3%	14.5%	
Only CPAP	n	1	3	4	7	21	26	24	45	
	%	25.0%	15.0%	21.1%	15.2%	27.3%	27.4%	30.0%	38.5%	
PPV and Bag Mask	n	2	10	8	27	23	40	44	40	
	%	50.0%	50.0%	42.1%	58.7%	29.9%	42.1%	55.0%	34.2%	
PPV with ET Tube	n	3	13	8	30	37	51	30	35	
	%	75.0%	65.0%	42.1%	65.2%	48.1%	53.7%	37.5%	29.9%	
Chest Compressions	n	1	5	0	3	6	5	5	3	
	%	25.0%	25.0%	0.0%	6.5%	7.8%	5.3%	6.3%	2.6%	
Epinephrine	n	1	1	0	1	2	1	0	1	
	%	25.0%	5.0%	0.0%	2.2%	2.6%	1.1%	0.0%	0.9%	
Unknown specified	n	0	1	1	2	5	5	4	4	
	%	0.0%	5.0%	5.3%	4.3%	6.5%	5.3%	5.0%	3.4%	
Initial FIO₂	21%	n	0	0	1	0	1	1	0	2
		%	0.0%	0.0%	5.3%	0.0%	1.3%	1.1%	0.0%	1.7%
	>21%	n	1	7	9	21	32	48	45	57
		%	25.0%	35.0%	47.4%	45.7%	41.6%	50.5%	56.3%	48.7%
	100%	n	0	8	6	11	15	18	9	18
		%	0.0%	40.0%	31.6%	23.9%	19.5%	18.9%	11.3%	15.4%
	Unknown	n	3	5	3	14	29	28	26	40
		%	75.0%	25.0%	15.8%	30.4%	37.7%	29.5%	32.5%	34.2%

Characteristics		Gestational Age (weeks)								
		23	24	25	26	27	28	29	30	
Number of Patients	n	4	20	19	46	77	95	80	117	
Maximum FiO ₂ Used	21%	n	0	0	0	0	2	1	0	1
		%	0.0%	0.0%	0.0%	0.0%	2.6%	1.1%	0.0%	0.9%
	22%-40%	n	1	3	4	11	19	27	31	35
		%	25.0%	15.0%	21.1%	23.9%	24.7%	28.4%	38.8%	29.9%
	41%-70%	n	0	1	2	3	6	11	13	12
		%	0.0%	5.0%	10.5%	6.5%	7.8%	11.6%	16.3%	10.3%
	>70%	n	0	11	8	17	21	25	9	24
		%	0.0%	55.0%	42.1%	37.0%	27.3%	26.3%	11.3%	20.5%
	Without information	n	3	5	5	15	29	31	27	45
		%	75.0%	25.0%	26.3%	32.6%	37.7%	32.6%	33.8%	38.5%

* Interpretation may mean not required or not offered.

Comment: only patients with complete information for analysis were included. The resuscitation time was defined as the first 30 minutes of life, any subsequent resuscitation is not present in these tables. Note that the sum of the percentages may be different from 100% because some patients could have received more than one procedure and some patients do not have information, but the percentage was calculated for each procedure separately.

PRESENTATION 8A

Reanimation (Gestational Age ≥ 31 weeks) (table)

Characteristics		Gestational Age (weeks)							
		31	32	33	34	35	36	≥ 37	
Number of Patients	n	147	198	228	318	286	323	1916	
Palliative Care in the delivery room	n	0	0	0	0	1	0	0	
	%	0%	0%	0%	0%	0%	0%	0%	
No Active Resuscitation Needed/Given*	n	25	55	84	141	164	191	1362	
	%	17%	28%	37%	44%	57%	59%	71%	
Only CPAP	n	65	85	97	126	60	54	126	
	%	44%	43%	43%	40%	21%	17%	7%	
PPV and Bag Mask	n	56	45	24	37	31	31	122	
	%	38%	23%	11%	12%	11%	10%	6%	
PPV with ET Tube	N	24	22	19	14	8	7	34	
	%	16%	11%	8%	4%	3%	2%	2%	
Chest Compressions	n	1	1	1	2	0	1	8	
	%	1%	1%	0%	1%	0%	0%	0%	
Epinephrine	n	1	0	0	1	0	0	4	
	%	1%	0%	0%	0%	0%	0%	0%	
Unknown	n	1	0	0	2	8	9	60	
	%	1%	0%	0%	1%	3%	3%	3%	
Initial FiO₂	21%	n	7	8	3	11	9	12	48
		%	5%	4%	1%	3%	3%	4%	3%
	22-99 %	n	85	84	96	102	66	57	273
		%	58%	42%	42%	32%	23%	18%	14%
	100%	n	7	23	17	24	15	13	41
		%	5%	12%	7%	8%	5%	4%	2%
	Unknown	n	9	11	6	7	13	14	31
		%	6%	6%	3%	2%	5%	4%	2%

Characteristics		Gestational Age (weeks)							
		31	32	33	34	35	36	≥37	
Number of Patients	n	147	198	228	318	286	323	1916	
Maximum FiO ₂ Used	21%	n	2	2	4	6	12	15	111
		%	1%	1%	2%	2%	4%	5%	6%
	22%-40%	n	54	51	69	72	43	37	136
		%	37%	26%	30%	23%	15%	11%	7%
	41%-70%	n	24	14	12	12	9	6	23
		%	16%	7%	5%	4%	3%	2%	1%
	>70%	n	11	31	20	26	17	17	49
		%	7%	16%	9%	8%	6%	5%	3%
	No information	n	56	100	123	202	205	248	1588
		%	38%	51%	54%	64%	72%	77%	83%

* Interpretation may mean not required or not offered.

Comment: only patients with complete information for analysis were included. The resuscitation time was defined as the first 30 minutes of life, any subsequent resuscitation is not present in these tables. Note that the sum of the percentages may be different from 100% because some patients could have received more than one procedure and some patients do not have information, but the percentage was calculated for each procedure separately.

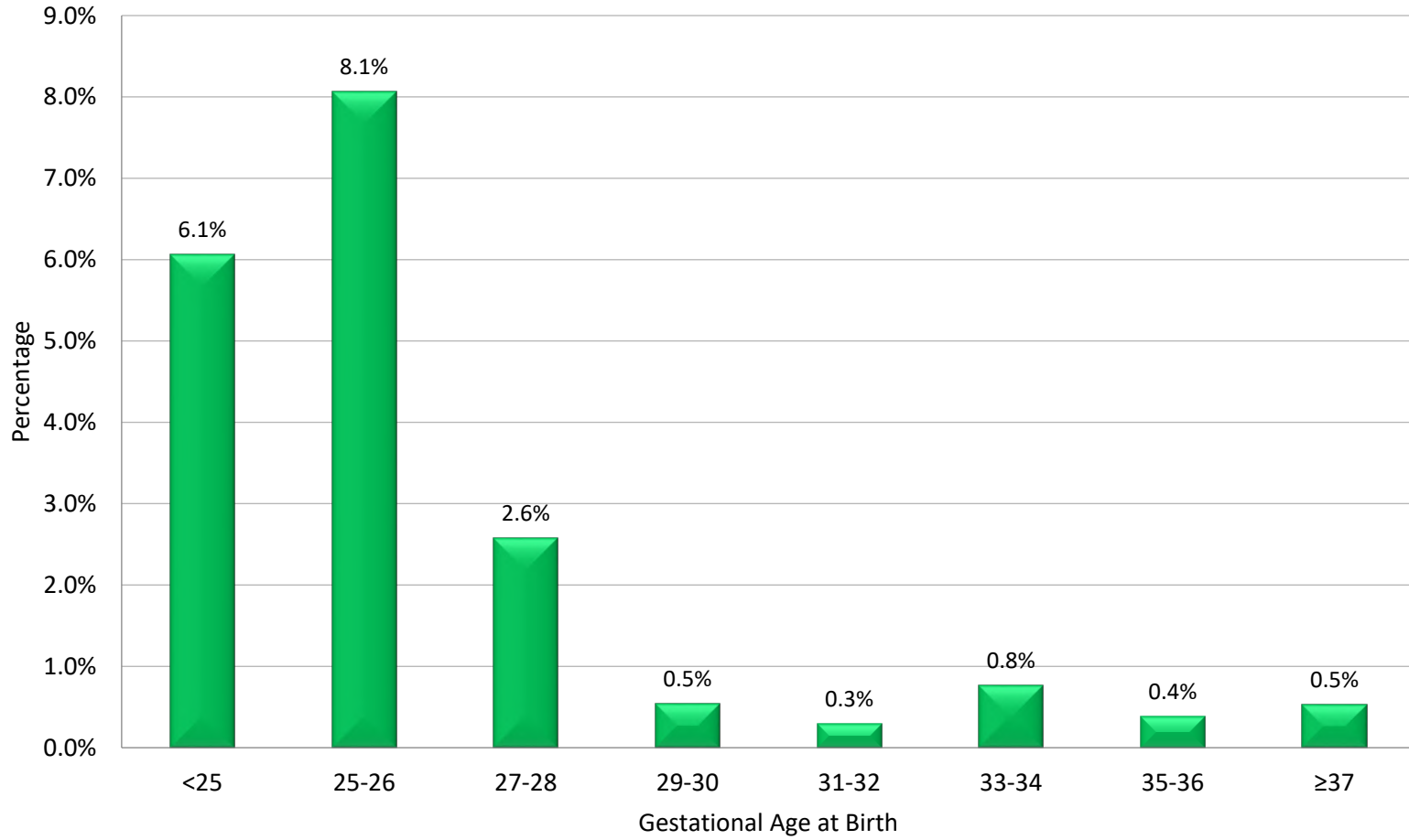
PRESENTATION 9

Early Sepsis (by Gestational Age) in < 3 days of birth (table)

Gestational Age (weeks)	Total number of Infants <3 days of life	Total number of Infected Infants < 3 days of life	Percentage of Infected Infants	Total number of Microorganisms	Microorganisms							
					ConS	E coli	<i>Staph. aureus</i>	GBS	Listeria	Other Germs	Other gram -	StrepPneum
<25	33	2	6.1%	2	0	1	1	0	0	0	0	0
25-26	62	5	8.1%	5	0	1	0	1	1	1	1	1
27-28	194	5	2.6%	6	1	1	1	0	1	2	0	0
29-30	184	1	0.5%	2	0	1	0	0	0	1	0	0
31-32	339	1	0.3%	1	1	0	0	0	0	0	0	0
33-34	522	4	0.8%	4	0	1	0	0	2	0	1	1
35-36	516	2	0.4%	2	0	1	0	0	0	1	0	0
≥37	1,307	7	0.5%	8	0	0	0	0	7	1	0	0
Total	3157	27	0.9%	30	2	6	2	0	1	11	6	2

Comment: Early sepsis is considered when there is a blood culture and/or culture of the spinal fluid with bacteria or fungi in the first two days of life. For the analysis of early infection, patients with complete data by Gestational Age at birth were included. Among the other gram-negative germs are *Klebsiella*, *Pseudomona*, *Serratia* etc. Infections in blood and CSF are counted separately. ConS: Coagulase negative staphylococcus. GBS: Group B Strep. StrepPneum: Streptococcus Pneumonie

Early Sepsis (by Gestational Age) in < 3 days of birth (graph)



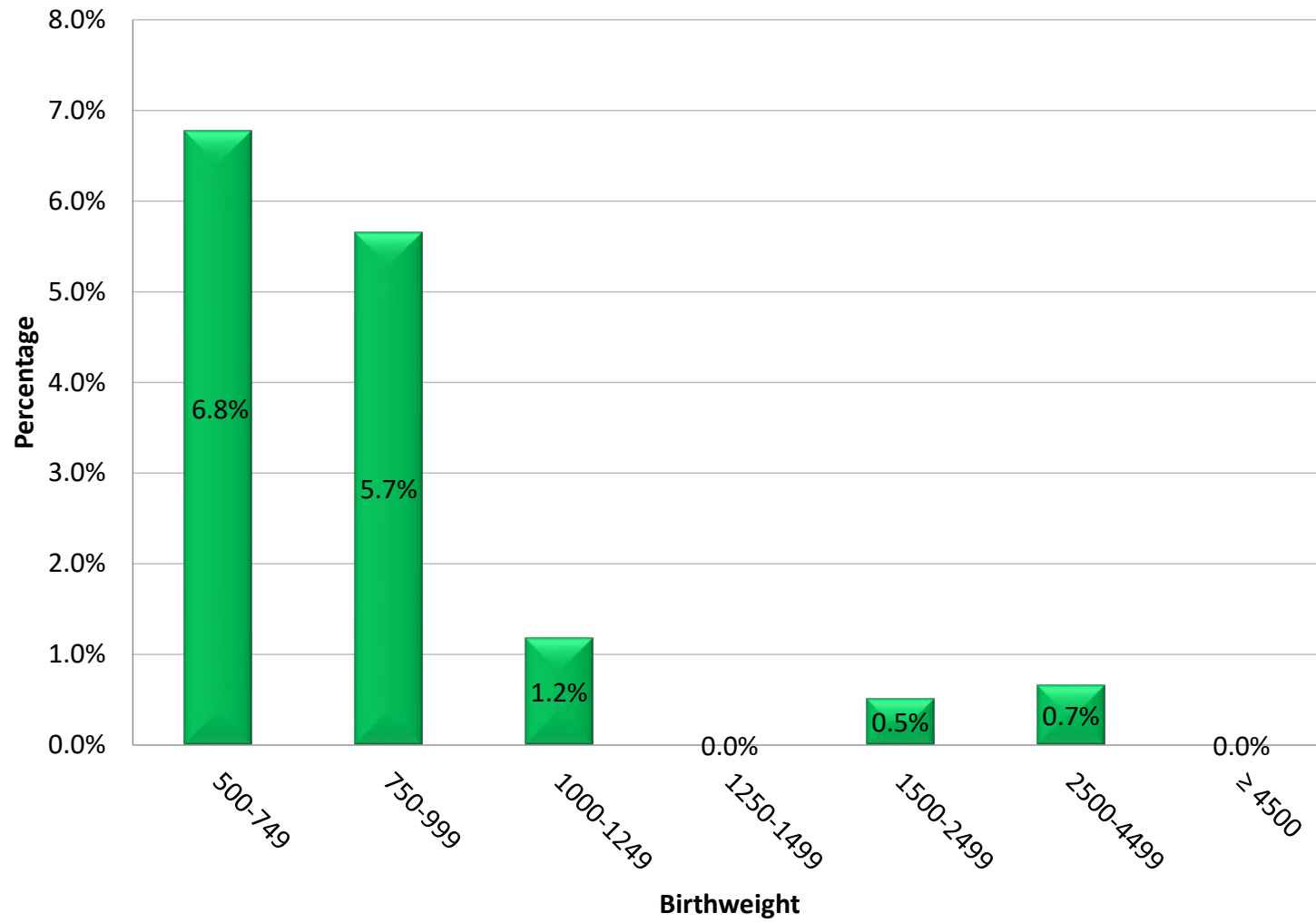
PRESENTATION 9A

Early Sepsis (< 3 days of birth/Admission) by Birthweight (table)

Birthweight (g)	Total number of Infants	Total number of Infected Infants < 3 days of stay	Percentage of Infected Infants	Total number of Microorganisms	Microorganisms								
					Cons	E coli	<i>Staph. aureus</i>	GBS	Listeria	Other Germs	Other Gram -	StrepPneum	
<500	9	0	0.0%										
500-749	59	4	6.8%	4	0	1	1	0	0	1	0		1
750-999	106	6	5.7%	5	1	1	1	0	1	1	0		0
1000-1249	170	2	1.2%	4	0	2	0	0	0	0	1		1
1250-1499	205	0	0.0%	1	0	0	0	0	0	0	1		0
1500-2499	1,176	6	0.5%	6	1	2	0	0	0	1	2		0
2500-4499	1,371	9	0.7%	10	0	0	0	0	0	8	2		0
≥4500	4	0	0.0%					0					
Total	3087	27	0.9%	30	2	6	2	0	1	11	6		2

Comment: only patients with complete information were included. Early sepsis is considered when there is a blood culture and/or positive culture of the spinal fluid for bacteria or fungi in the first two days of birth or admission. Low birthweight mortality may explain the low number of cases. Low number of cases in statistics should be with regarded with caution. CONS: Coagulase Negative Staph. GBS: Group B Strep. StrepPneum: Streptococcus Pneumonia. Infections in blood and CSF are counted separately.

Early Sepsis (< 3 days of birth/Admission) by Birthweight (graph)



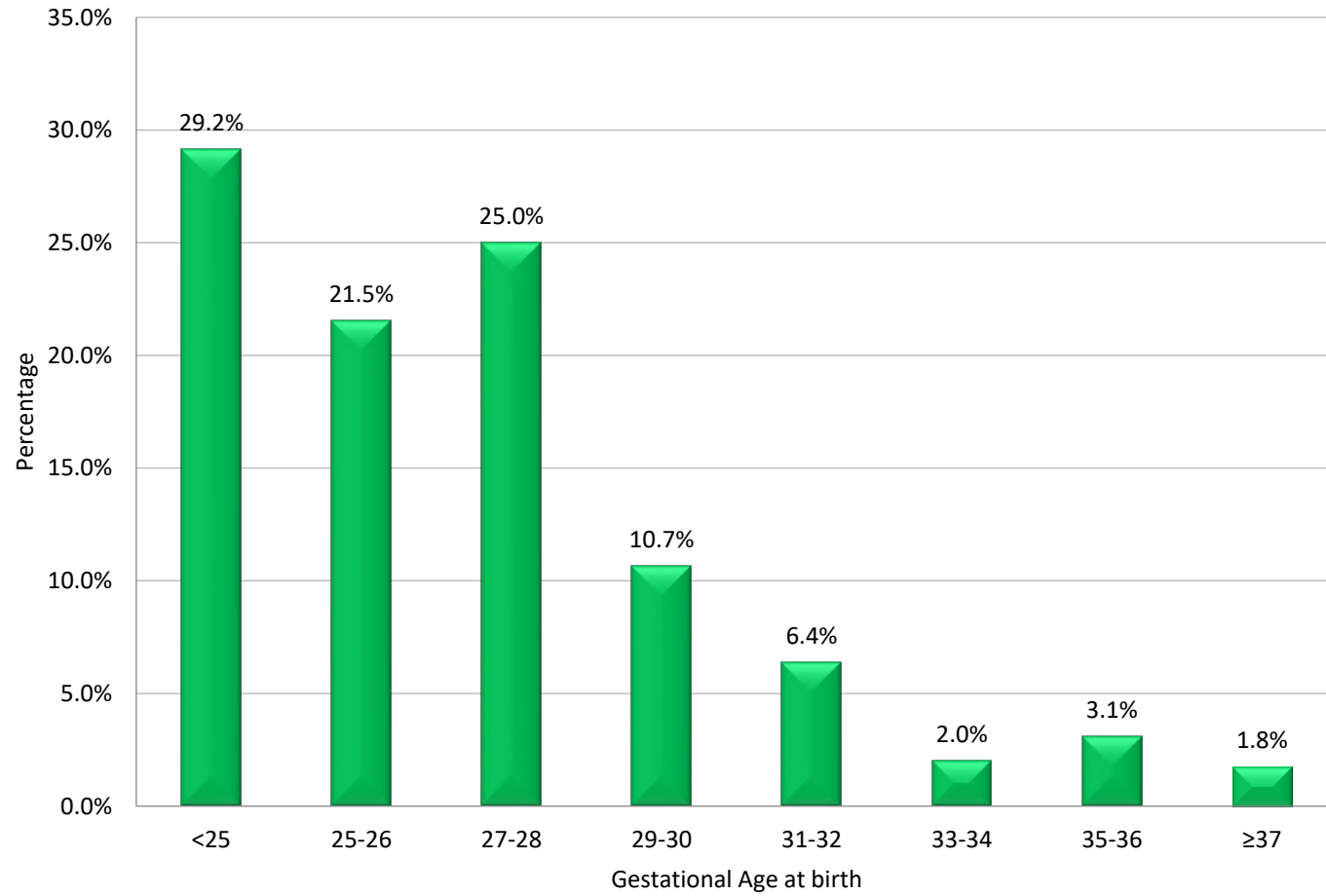
PRESENTATION 10

Late Onset Sepsis or Associated with Health Care (by Gestational Age) (table)

Gestational Age (weeks)	Total number of Infants > 2 days	Total number of Infected Infants >2 days of stay	Percentage of Infected Infants	Total number of Microorganisms	Microorganisms					
					CONS	<i>E. Coli</i>	<i>Staph. aureus</i>	Fungi	Other Gram -	Other Organism
<25	24	7	29.2%	16	2	1	5	1	3	4
25-26	65	14	21.5%	18	6	1	6	1	3	1
27-28	172	43	25.0%	73	14	5	23	1	20	10
29-30	197	21	10.7%	22	10	3	3	0	4	2
31-32	345	22	6.4%	31	12	1	1	1	10	6
33-34	546	11	2.0%	12	4	1	1	0	6	0
35-36	609	19	3.1%	18	2	1	6	0	6	3
≥37	1916	34	1.8%	42	12	5	8	0	11	6
Total	3874	171	4.4%	232	62	18	53	4	63	32

Comment: only patients with complete information were included. Late sepsis or associated with health care is considered when there is a positive blood culture or culture of spinal fluid for bacteria or fungi after the second day of life. Infants who died or left in the first two days of birth were excluded. Other Gram-negative bacteria correspond to: *Klebsiella*, *Serratia*, *Pseudomona*, etc. The incidence may be underestimated due to high mortality in the lower gestational ages. Infections in blood and CSF are counted separately.

Late Sepsis or Associated with Health Care (by Gestational Age) (graph)



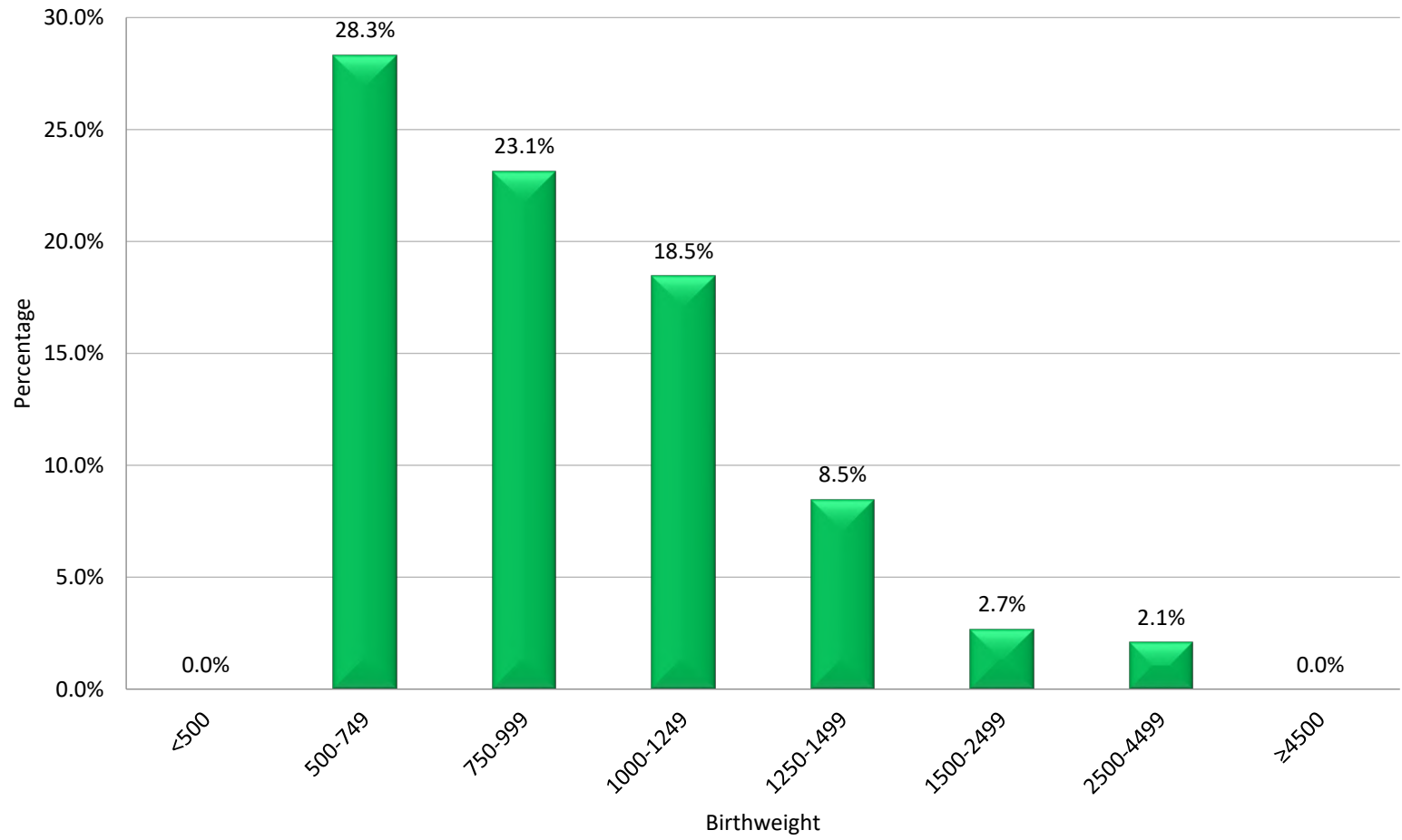
PRESENTATION 11

Late Onset Sepsis or Associated with Health Care (by Birthweight)* (Table)

Birthweight	Total number of Infants >2 days	Total number of Infected Infants >2 days of stay/birth	Percentage of Infected Infants	Total number of Microorganisms	Microorganisms					
					CONS	<i>E coli</i>	<i>Other Gram -</i>	<i>Staph. aureus</i>	Fungi	Other Germs
<500	10	0	0.0%	0						
500-749	60	17	28.3%	37	4	3	12	12	1	5
750-999	108	25	23.1%	42	13	2	9	10	0	8
1000-1249	184	34	18.5%	45	12	2	11	13	2	5
1250-1499	224	19	8.5%	22	6	3	6	3	0	4
1500-2499	1267	34	2.7%	37	15	1	12	5	1	3
2500-4499	2014	42	2.1%	49	12	7	13	10	0	7
≥4500	7	0	0.0%	0	0	0	0	0	0	0
Total	3874	171	4.4%	232	62	18	63	53	4	32

Comment: only patients with complete information were included. Late sepsis or associated with health care is considered when there is a positive blood culture or culture of spinal fluid for bacteria or fungi after the second day of life. Infants who died or left in the first two days of birth were excluded. Other Gram-negative bacteria correspond to: *Klebsiella*, *Serratia*, *Pseudomona*, etc. The incidence may be underestimated due to high mortality in the lower gestational ages. Infections in blood and CSF are counted separately.

Late Sepsis or Associated with Health Care (by Birthweight) (Graph)



PRESENTATION 12

Other Diagnosis / Interventions / Procedures by Gestational Age groups (table)

Characteristics		Gestational Age at Birth								Total	
		<25	25-26	27-28	29-30	31-32	33-34	35-36	≥37		
Total	n	24	65	172	197	345	546	609	1,916	3,874	
Prophylactic	Indomethacin	n	1	0	0	0	0	0	0	0	1
		%	4%	0%	0%	0%	0%	0%	0%	0%	0%
	Probiotics	n	2	5	16	15	39	22	23	74	196
		%	8%	8%	9%	8%	11%	4%	4%	4%	5%
RDS	No	n	3	8	46	82	173	376	490	1822	3,000
		%	13%	12%	27%	42%	50%	69%	80%	95%	77%
	Definite	n	19	50	113	91	141	118	82	68	682
		%	79%	77%	66%	46%	41%	22%	13%	4%	18%
	Uncertain	n	2	6	13	24	30	50	36	21	182
		%	8%	9%	8%	12%	9%	9%	6%	1%	5%
	NA / Unknown	n	0	1	0	0	1	2	1	5	10
		%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Surfactant	n	20	51	131	107	122	83	27	18	559	
	%	83%	78%	76%	54%	35%	15%	4%	1%	14%	
Pneumothorax^s	Diagnostic	n	2	1	13	8	7	6	7	24	68
		%	8%	2%	8%	4%	2%	1%	1%	1%	2%
	Observation	n	0	0	1	0	1	3	6	11	0
		%	0%	0%	13%	0%	17%	43%	25%	0%	0%
	Needle/Paracentesis/ Chest tube	n	1	3	0	1	0	1	0	6	1
		%	50%	23%	0%	14%	0%	14%	0%	0.2%	50%

Characteristics		Gestational Age at Birth								Total
		<25	25-26	27-28	29-30	31-32	33-34	35-36	≥37	
Total	n	24	65	172	197	345	546	609	1,916	3,874
Seizures Suspected/ definite	n	4	5	13	5	9	5	4	32	77
	%	17%	8%	8%	3%	3%	1%	1%	2%	2%

Comment: Only patients with complete validated data without readmissions were included for this analysis. Percentages < 0.5% appear as 0% by approximation. The percentage of each procedure was calculated on the total number of patients. Some patients received more than one procedure. In pneumothorax treatment, patients with complete data were included, the difference in percentages not reported corresponds to patients without treatment data

PRESENTATION 12A

Other Diagnosis / Interventions / Procedures by Gestational Age Groups Continuation

Characteristics		Gestational Age at Birth								Total	
		<25	25-26	27-28	29-30	31-32	33-34	35-36	≥37		
		n	24	65	172	197	345	546	609	1,916	3,874
Surgery	Laparotomy	n	2	4	3	4	4	3	8	6	34
		%	8.3%	6.2%	1.7%	2.0%	1.2%	0.5%	1.3%	0.3%	0.9%
	Thoracotomy	n	0	1	6	1	1	0	1	6	16
		%	0.0%	1.5%	3.5%	0.5%	0.3%	0.0%	0.2%	0.3%	0.4%
Shunt VP	n	0	0	1	0	0	0	0	0	0	1
	%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gastrointestinal Perforation	Spontaneous	n	0	0	1	1	2	0	3	2	9
		%	0.0%	0.0%	0.6%	0.5%	0.6%	0.0%	0.5%	0.1%	0.2%
	Related to NEC	n	4	5	5	4	2	2	3	2	27
		%	16.7%	7.7%	2.9%	2.0%	0.6%	0.4%	0.5%	0.1%	0.7%
	Unknown	n	1	0	0	0	1	0	3	3	8
		%	4.2%	0.0%	0.0%	0.0%	0.3%	0.0%	0.5%	0.2%	0.2%
Stenosis Acquired		n	0	0	1	2	2	1	0	2	8
		%	0.0%	0.0%	0.6%	1.0%	0.6%	0.2%	0.0%	0.1%	0.2%
Exchange Transfusion		n	0	0	0	0	1	1	0	4	6
		%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.0%	0.2%	0.2%
Congenital Anomalies*	Major	N total	0	1	6	6	11	32	46	116	218
		N single	0	1	5	4	10	29	40	95	184
		%	0.0%	1.5%	2.9%	2.0%	2.9%	5.3%	6.6%	5.0%	4.7%
	Minor	N total	0	5	3	2	8	12	17	47	94
		N single	0	4	3	2	8	12	15	41	85
		%	0.0%	6.2%	1.7%	1.0%	2.3%	2.2%	2.5%	2.1%	2.2%

Comment: only patients with complete information were included. The percentage of each procedure was calculated over the total number of patients in each group. Some patients received more than one procedure. In treatment of pneumothorax, the difference in percentages not reported corresponds to patients without information of the treatment. *Congenital Anomalies are defined as major and minor according to CNN report 2013 modified, link: <http://www.canadianneonatalnetwork.org> Report 2013, Appendix p. 124. Patients may have more than one malformation which is why there is total N and single N to calculate the percentage.

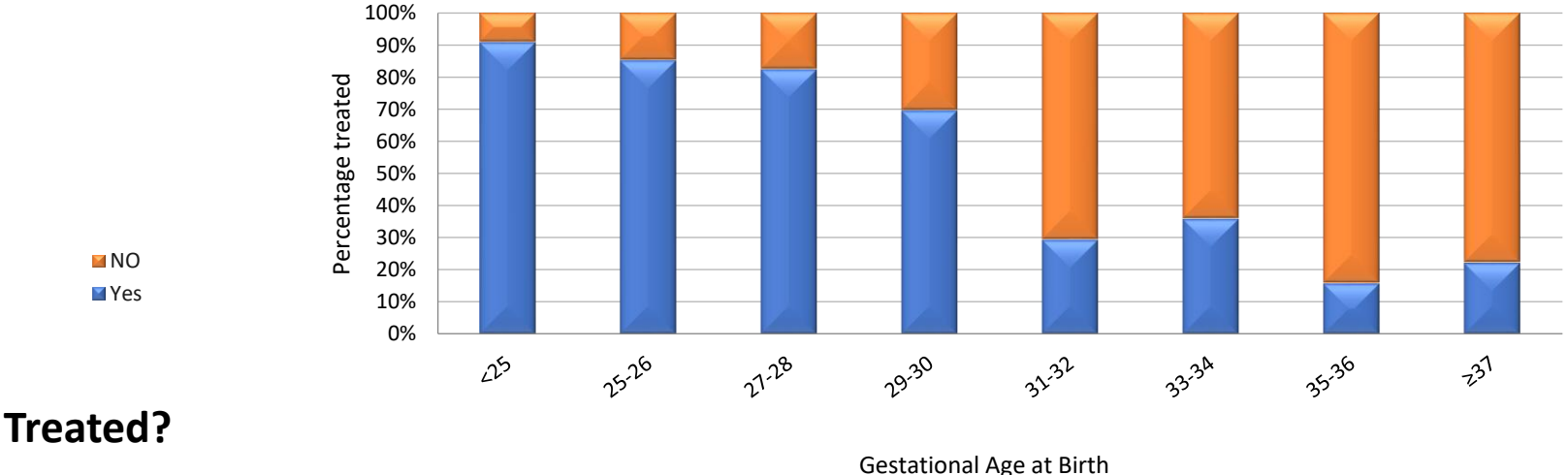
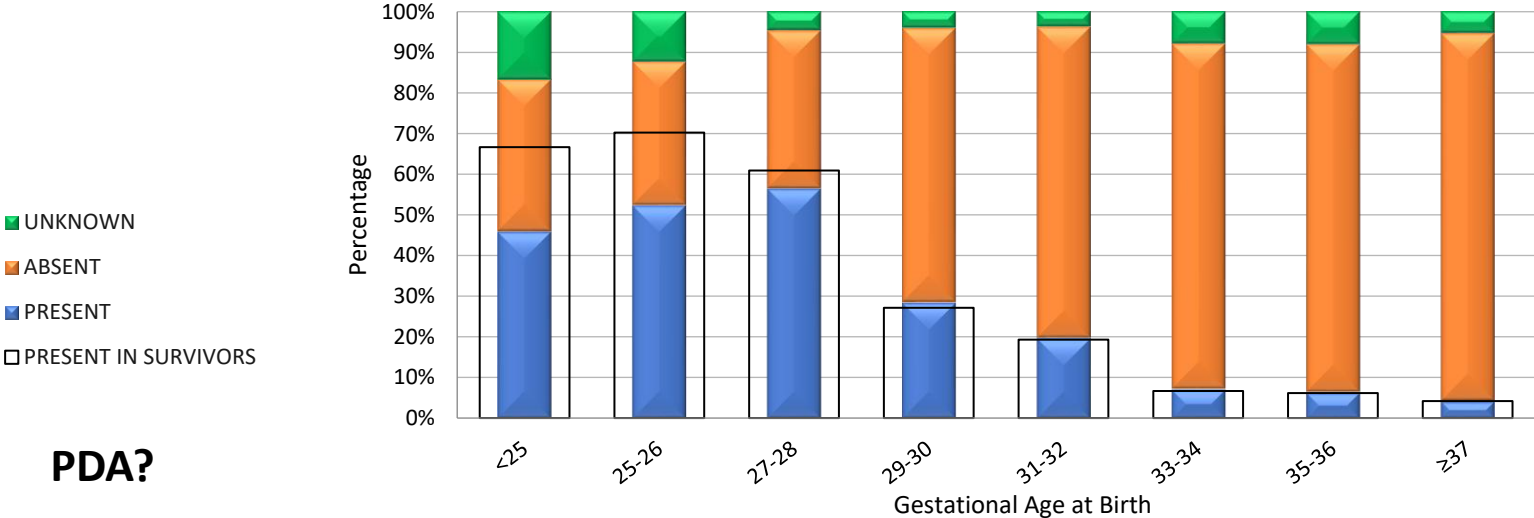
PRESENTATION 13

Presence and treatment for Patent Ductus Arteriosus (by Gestational Age at birth)

Gestational Age (weeks)	n		PDA*				PDA Treated	
			Present	Present in survivors	Absent	Unknown/Without information	Yes	No
<25	n	24	11	4	9	4	10	1
	%		46%	67%	38%	17%	91%	9%
25-26	n	65	34	26	23	8	29	5
	%		52%	70%	35%	12%	85%	15%
27-28	n	172	97	26	67	8	80	17
	%		56%	61%	39%	5%	82%	18%
29-30	n	197	56	48	133	8	39	17
	%		28%	27%	68%	4%	70%	30%
31-32	n	345	68	65	264	13	20	48
	%		20%	19%	77%	4%	29%	71%
33-34	n	546	39	36	464	43	14	25
	%		7%	7%	85%	8%	36%	64%
35-36	n	609	39	37	521	49	6	32
	%		6%	6%	86%	8%	16%	84%
≥37	n	1916	81	80	1733	102	18	63
	%		4%	4%	90%	5%	22%	78%
Total	n	3874	425	377	3,214	235	216	208
	%		11%	10%	83%	6%	51%	49%

*One case is missing data. It is possible that some cases reported as unknown are due to the lack of taking an echocardiogram, although most units report cases without symptoms as without ductus arteriosus.

Presence and treatment for Patent Ductus Arteriosus (by Gestational Age at Birth)

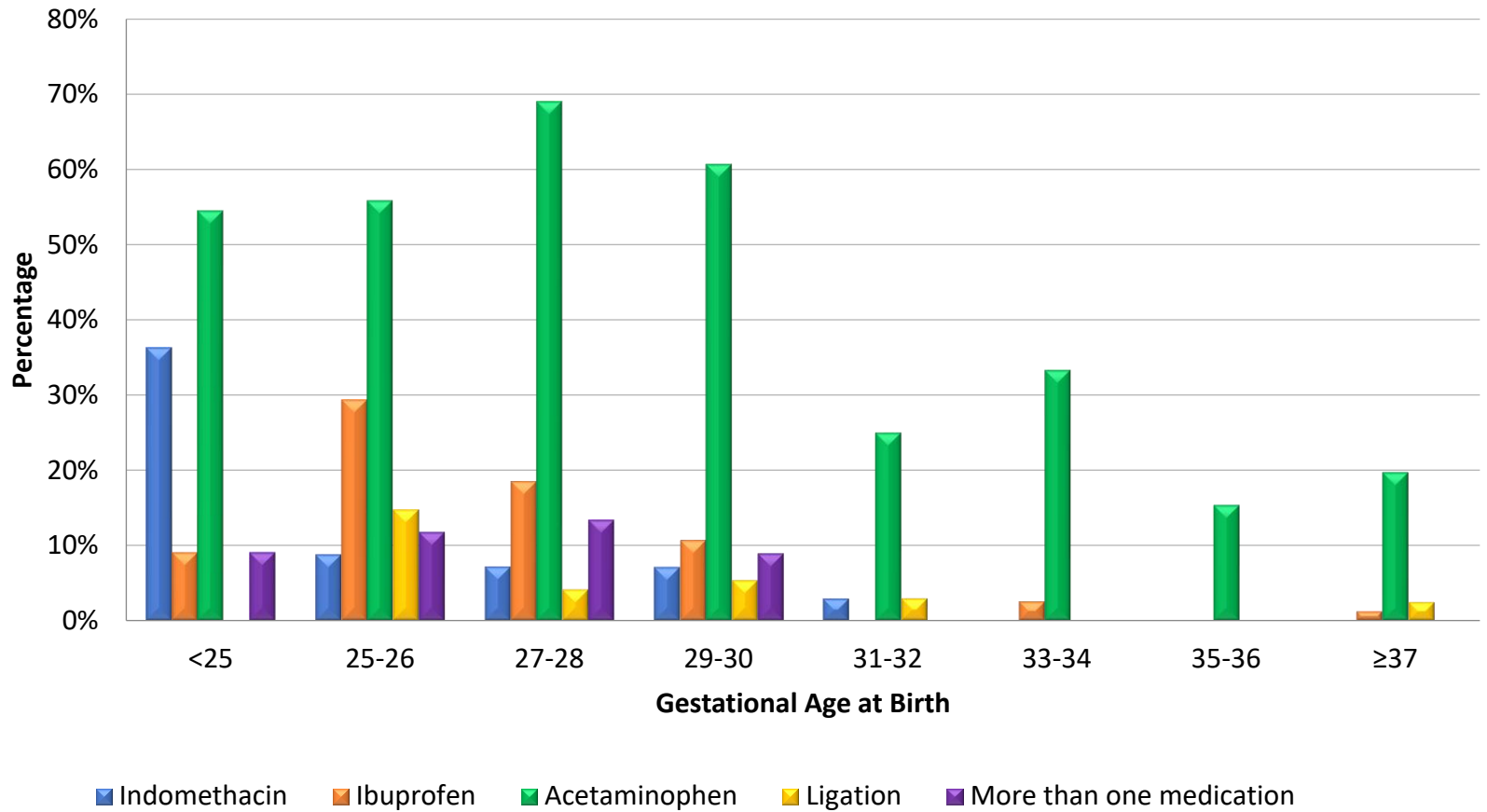


PRESENTATION 13A

Patent Ductus Arteriosus Treatment (by Gestational Age at birth) Continuation.

Gestational Age (weeks)	Total number of Patients with PDA	Treatment				
		Indomethacin	Ibuprofen	Acetaminophen	Ligation	More than one medication
<25	11	4	1	6	0	1
		36%	9%	55%	0%	9%
25-26	34	3	10	19	5	4
		9%	29%	56%	15%	12%
27-28	97	7	18	67	4	13
		7%	19%	69%	4%	13%
29-30	56	4	6	34	3	5
		7%	11%	61%	5%	9%
31-32	68	2	0	17	2	0
		3%	0%	25%	3%	0%
33-34	39	0	1	13	0	0
		0%	3%	33%	0%	0%
35-36	39	0	0	6	0	0
		0%	0%	15%	0%	0%
≥37	81	0	1	16	2	0
		0%	1%	20%	2%	0%
Total	425	20	37	178	16	23
		5%	9%	42%	4%	5%

Patent Ductus Arteriosus Type of Treatment (by Gestational Age at birth) (graph).



Comment: For the PDA analysis, only the patients with complete data were included. The calculation for the PDA treatment was made over the total number the patients with PDA diagnosis in each gestational age group.

PRESENTATION 14

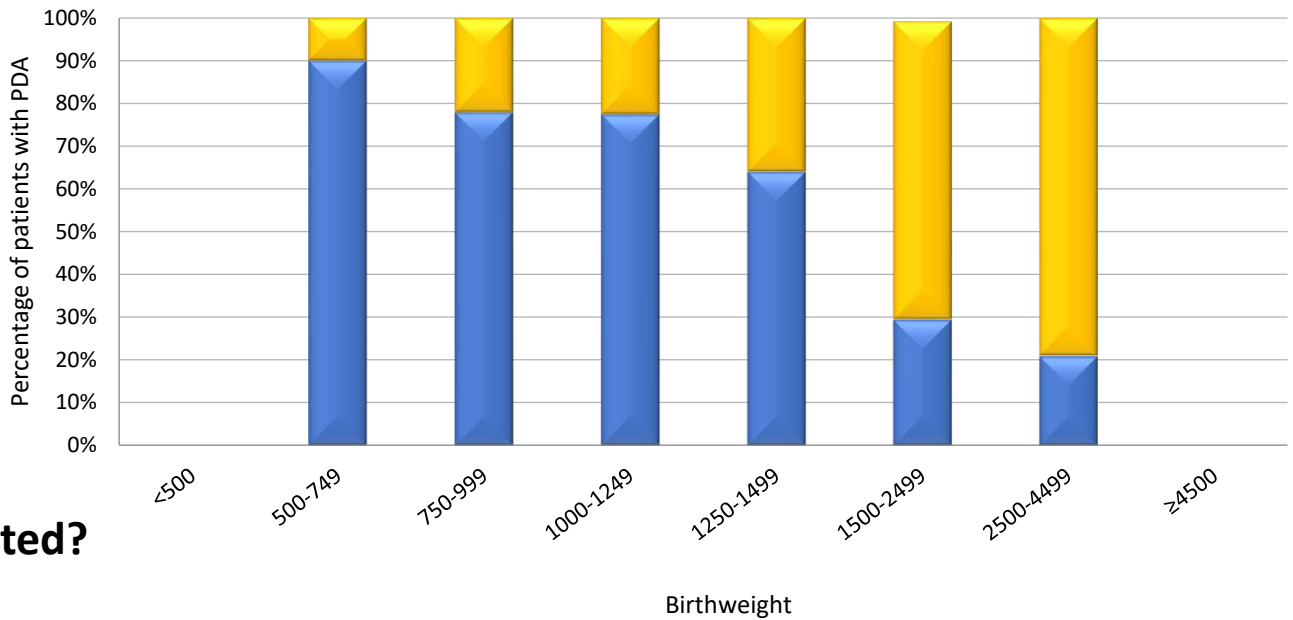
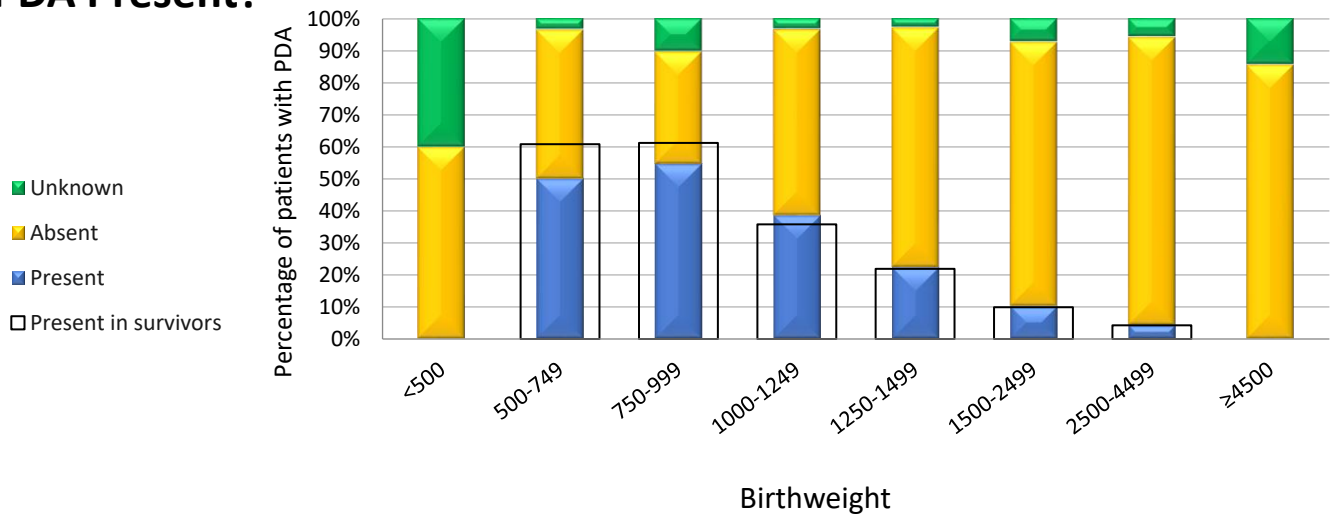
Presence and treatment for Patent Ductus Arteriosus (by Birthweight) (table)

Birthweight (grs)	Total Number of Patients		PDA				Treatment*	
			Present	Present in survivors	Absent	Unknown	Yes	No
< 500	n	10	0	0	6	4	0	0
	%		0%	0%	60%	40%		
500-749	n	60	30	14	28	2	27	3
	%		50%	61%	47%	3%	90%	10%
750-999	n	108	59	49	38	11	46	13
	%		55%	61%	35%	10%	78%	22%
1000-1249	n	184	71	58	107	6	55	16
	%		39%	36%	58%	3%	77%	23%
1250-1499	n	224	50	46	168	6	32	18
	%		22%	22%	75%	3%	64%	36%
1500-2499	n	1,267	129	124	1047	91	38	90
	%		10%	10%	83%	7%	29%	70%
2500-4499	n	2,014	86	86	1814	114	18	68
	%		4%	4%	90%	6%	21%	79%
≥4500	n	7	0	0	6	1	0	0
	%		0%	0%	86%	14%		
Total	n	3874	425	377	3,214	235	216	208
	%		11%	10%	83%	6%	51%	49%

*One case without information

Presence and treatment for Patent Ductus Arteriosus (by Birthweight) (graph)

PDA Present?



PRESENTATION 14A

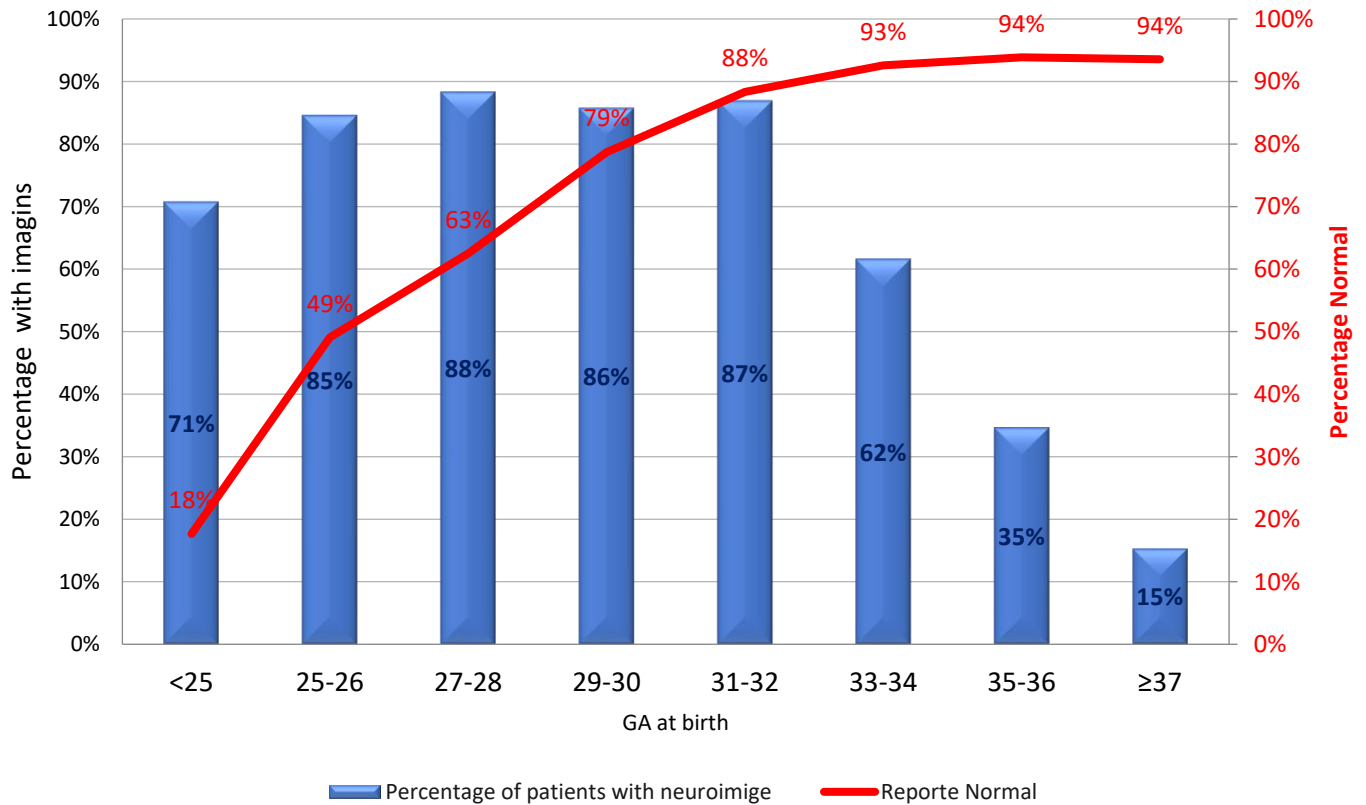
Type of Treatment for Patent Ductus Arteriosus (by Birthweight) (table)

Birthweight (gr)	Total number of Patients with PDA	Treatment				
		Indomethacin	Ibuprofen	Acetaminophen	Ligation	More than one medication
<500	0	0	0	0	0	0
500-749	30	4	5	20	0	2
		13%	17%	67%	0%	7%
750-999	59	6	15	31	7	8
		10%	25%	53%	12%	14%
1000-1249	71	4	11	48	5	8
		6%	15%	68%	7%	11%
1250-1499	50	3	4	30	0	5
		6%	8%	60%	0%	10%
1500-2499	129	3	1	33	2	0
		2%	1%	26%	2%	0%
2500-4499	86	0	1	16	2	0
		0%	1%	19%	2%	0%
≥4500	0	0	0	0	0	
Total	425	20	37	178	16	23
		5%	9%	42%	4%	5%

PRESENTATION 15

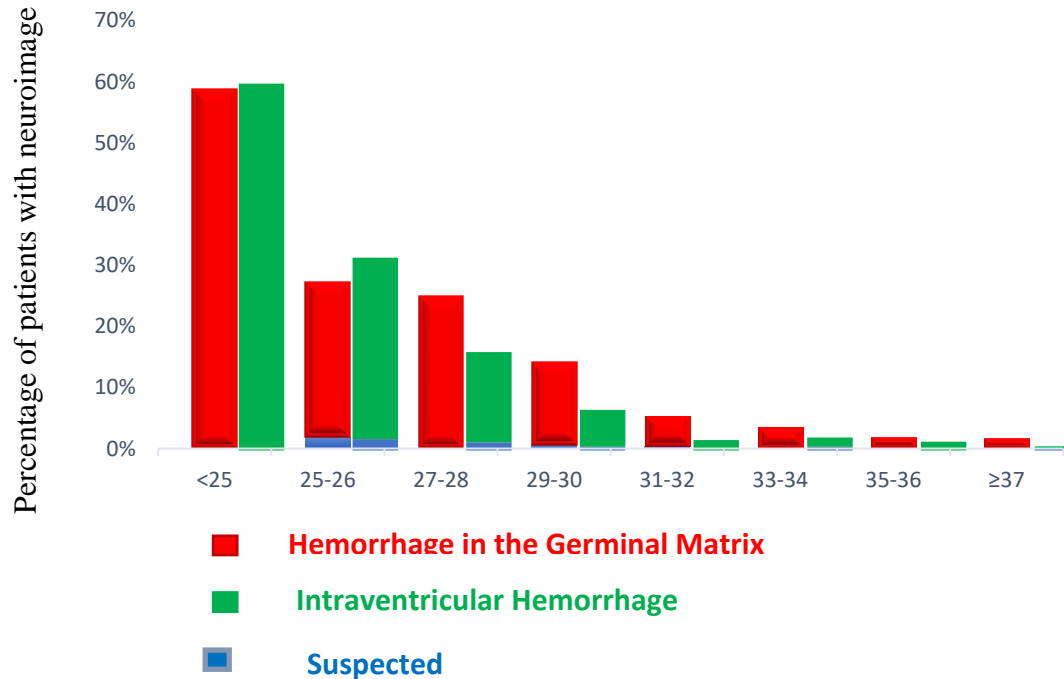
Findings in Neuroimaging in ≤ 32 weeks (by Gestational Age at birth) (table and graph)

Gestational Age (weeks)			Total patients	Total Patients with Neuroimaging		Reported Normal in the database	
<25	n	%	24	17	71%	3	18%
25-26	n	%	65	55	85%	27	49%
27-28	n	%	172	152	88%	95	63%
29-30	n	%	197	169	86%	133	79%
31-32	n	%	345	300	87%	265	88%
33-34	n	%	546	337	62%	312	93%
35-36	n	%	609	212	35%	199	94%
≥37	n	%	1916	295	15%	276	94%
Total	n	%	3874	1537	40%	1310	85%



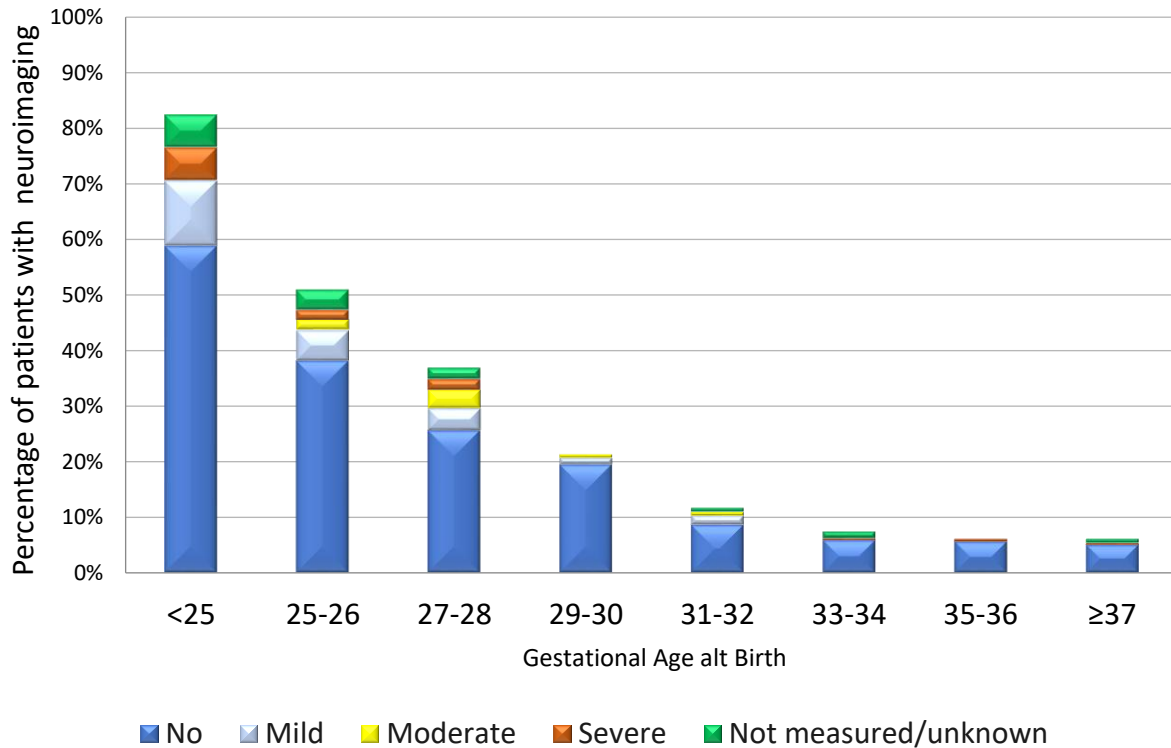
Hemorrhage Findings in Germinal Matrix and Ventricles in ≤ 32 weeks (by Gestational Age at birth)

Gestational Age (weeks)	Patients with Neuroimaging			Hemorrhage in the Germinal Matrix				Intraventricular Hemorrhage			
				Suspected		Present		Suspected		Present	
<25	n	%	17	0	0%	10	59%	0	0%	10	59%
25-26	n	%	55	1	2%	14	25%	1	2%	16	29%
27-28	n	%	152	0	0%	38	25%	2	1%	22	14%
29-30	n	%	169	1	1%	23	14%	1	1%	10	6%
31-32	n	%	300	1	0%	15	5%	0	0%	5	2%
33-34	n	%	337	0	0%	12	4%	2	1%	5	1%
35-36	n	%	212	0	0%	4	2%	0	0%	3	1%
≥37	n	%	295	0	0%	5	2%	1	0%	1	0%
Total	n	%	1537	3	3%	121	8%	7	0.5%	72	5%



Ventriculomegaly Findings in Patients with Neuroimaging in ≤ 32 weeks (by Gestational Age at birth) (table/graphic)

Gestational Age (weeks)			Patients with Neuroimaging	Ventriculomegaly									
				None		Mild		Moderate		Severe		Not measured/unknown	
<25	n	%	17	10	59%	2	12%	0	0%	1	6%	1	6%
25-26	n	%	55	21	38%	3	5%	1	2%	1	2%	2	4%
27-28	n	%	152	39	26%	6	4%	5	3%	3	2%	3	2%
29-30	n	%	169	33	20%	2	1%	1	1%	0	0%	0	0%
31-32	n	%	300	26	9%	5	2%	2	1%	0	0%	2	1%
33-34	n	%	337	20	6%	0	0%	0	0%	1	0%	4	1%
35-36	n	%	212	12	6%	0	0%	0	0%	1	0%	0	0%
≥37	n	%	295	15	5%	0	0%	0	0%	1	0%	2	1%
Total	n	%	1537	176	11%	18	1%	9	1%	8	1%	14	1%

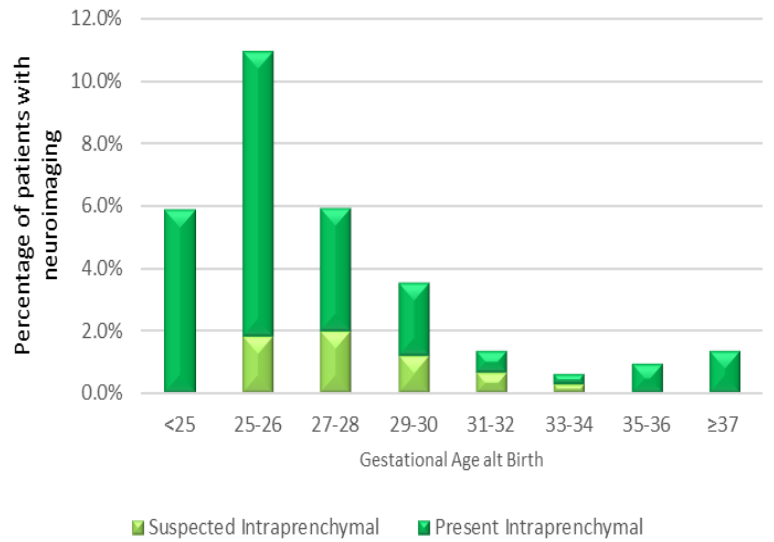
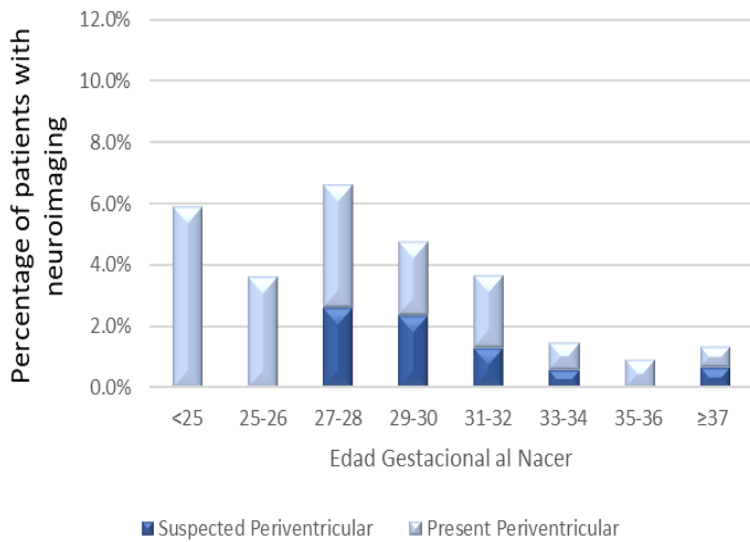


Comment: only patients with complete information were included. Low gestational age deaths affect statistics.

PRESENTATION 16

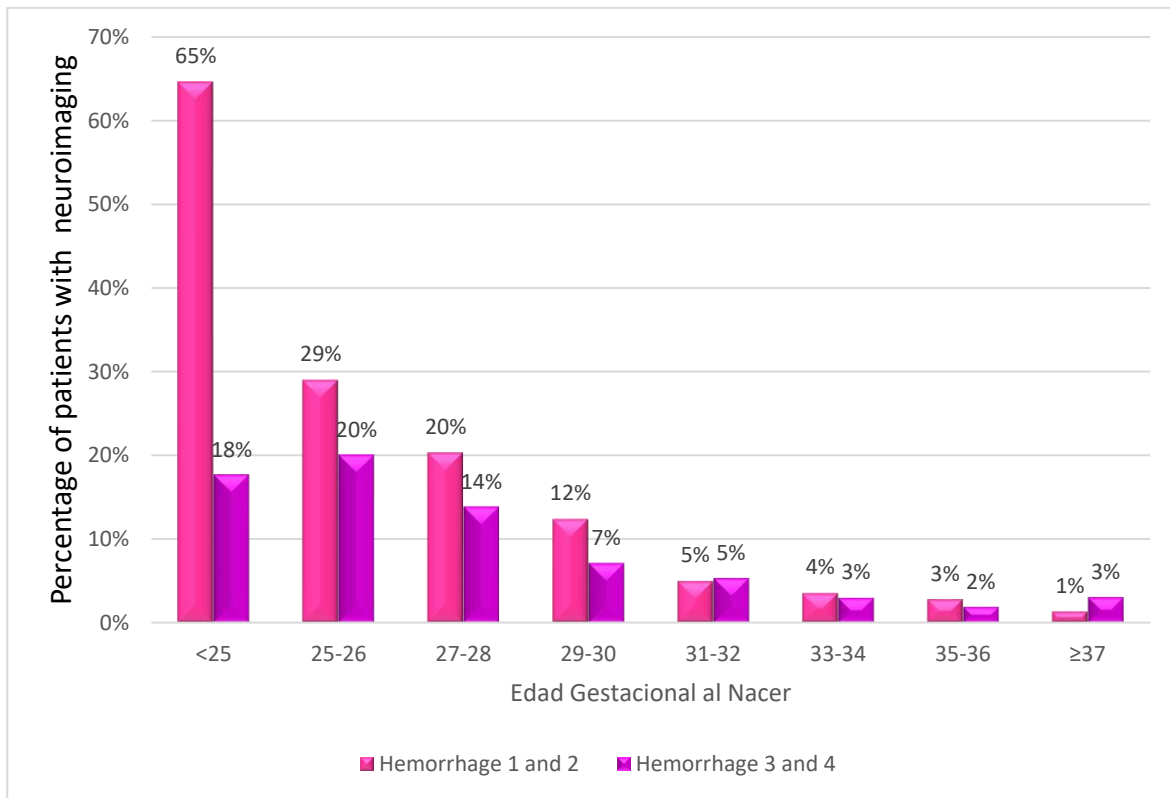
Findings: periventricular and Intraparenchymal Hemorrhage in ≤ 32 weeks (by Gestational Age at birth) (table and graphic)

Gestational Age (weeks)			Patients with Neuroimaging		Periventricular Hemorrhage				Intraparenchymal Hemorrhage			
					Suspected		Present		Suspected		Present	
<25	n	%	17	0	0.0%	1	5.9%	0	0.0%	1	5.9%	
25-26	n	%	55	0	0.0%	2	3.6%	1	1.8%	5	9.1%	
27-28	n	%	152	4	2.6%	6	3.9%	3	2.0%	6	3.9%	
29-30	n	%	169	4	2.4%	4	2.4%	2	1.2%	4	2.4%	
31-32	n	%	300	4	1.3%	7	2.3%	2	0.7%	2	0.7%	
33-34	n	%	337	2	0.6%	3	0.9%	1	0.3%	1	0.3%	
35-36	n	%	212	0	0.0%	2	0.9%	0	0.0%	2	0.9%	
≥37	n	%	295	2	0.7%	2	0.7%	0	0.0%	4	1.4%	
Total	n	%	1537	16	1.0%	27	1.8%	9	0.6%	25	1.6%	



Hemorrhage Findings Grade 1 and 2 versus 3 and 4 in ≤ 32 weeks (by Gestational Age at birth)

Gestational Age (weeks)		Patients With Neuroimaging	Hemorrhage 1 and 2		Hemorrhage 3 and 4	
<25	n %	17	11	65%	3	18%
25-26	n %	55	16	29%	11	20%
27-28	n %	152	31	20%	21	14%
29-30	n %	169	21	12%	12	7%
31-32	n %	300	15	5%	16	5%
33-34	n %	337	12	4%	10	3%
35-36	n %	212	6	3%	4	2%
≥37	n %	295	4	1%	9	3%
Total	n %	1537	116	8%	86	6%



Comment: only patients with complete information to whom image was taken were included. Grade 1 and 2 is defined when there is hemorrhage in the germinal matrix and/or ventricles, without intra or periventricular dilation or hemorrhage. Grade 3 and 4 when there were ventricular dilation or hemorrhage outside the ventricles.

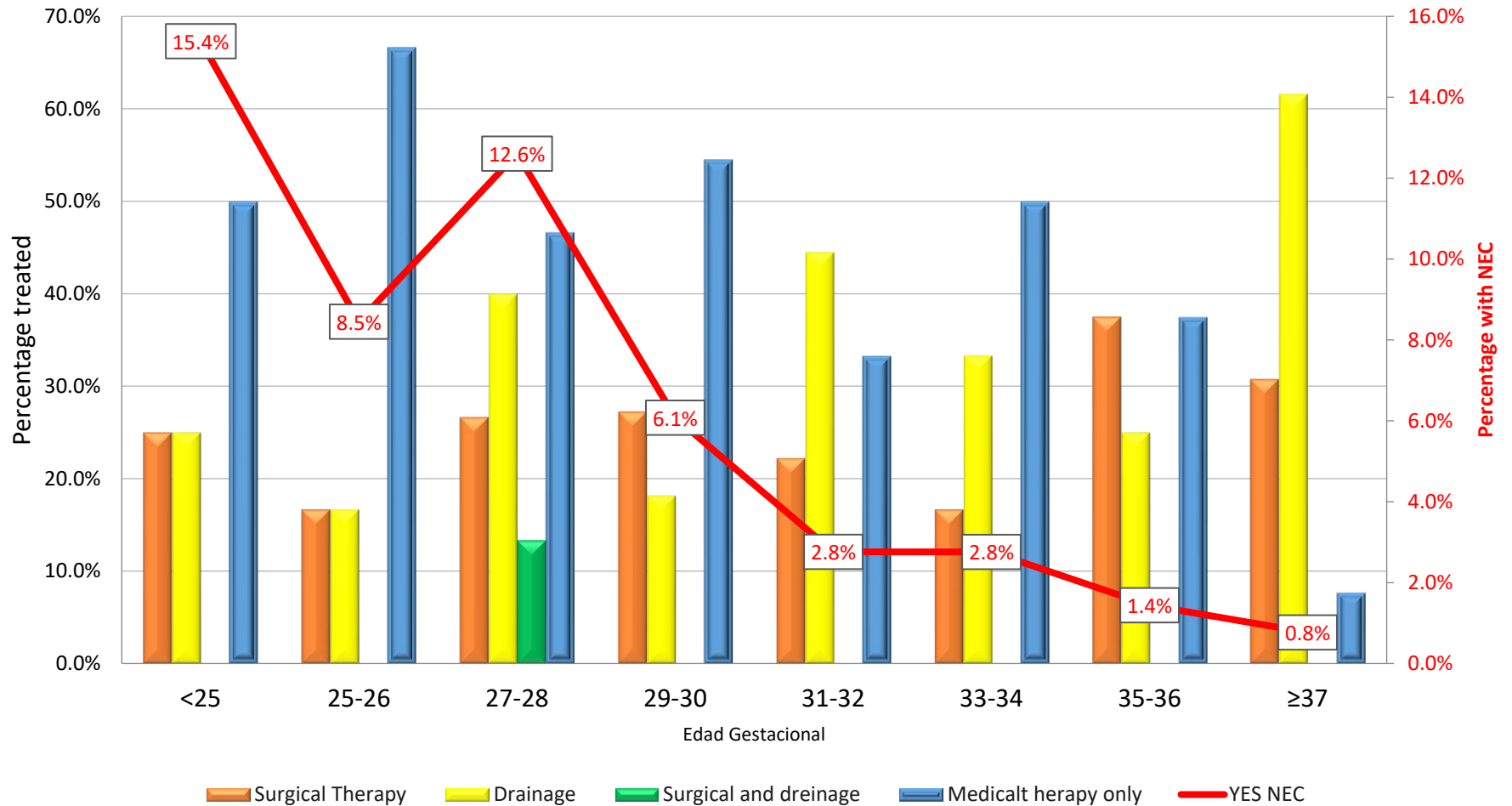
PRESENTATION 17

Necrotizing Enterocolitis and Treatment Modalities (by Gestational Age at Birth) (table)

Gestational Age (weeks)	Total Number of Cases		Yes NEC*		Treatment								
					Medical only		Surgical		Drainage		Drainage and Surgical		
<25	n	%	24	3	12.5%	1	33.3%	1	33.3%	3	100.0%	1	33%
25-26	n	%	65	7	10.8%	0	0.0%	5	71.4%	3	42.9%	3	43%
27-28	n	%	172	19	11.0%	16	84.2%	3	15.8%	2	10.5%	0	0%
29-30	n	%	197	9	4.6%	0	0.0%	6	66.7%	4	44.4%	3	33%
31-32	n	%	345	12	3.5%	6	50.0%	4	33.3%	3	25.0%	2	17%
33-34	n	%	546	9	1.6%	5	55.6%	3	33.3%	3	33.3%	1	11%
35-36	n	%	609	4	0.7%	2	50.0%	2	50.0%	0	0.0%	0	0%
≥37	n	%	1916	4	0.2%	0	0.0%	3	75.0%	1	25.0%	1	25%
Total	n	%	3874	67	2%	30	45%	27	40%	19	28%	11	16%

* two missing data. All validated patients from the database of all gestational ages are included and for this reason caution should be exercised in interpreting those > 32 weeks because not all units admit these patients of these ages.

Necrotizing Enterocolitis (NEC) and Treatment Modalities (by Gestational Age at Birth) (graph)



Comment: For the Necrotizing Enterocolitis (NEC) analysis, only patients with complete data were included. The definition of NEC was used according to the following criteria: a) Pneumatosis (air within the intestinal wall) or portal/hepatic air diagnosed by radiographs or b) diagnosis of NEC during surgery or autopsy. Diagnosis of "suspected NEC" was not classified as NEC. The treatment percentages were calculated on infants diagnosed with NEC, it may be underestimated at low gestational age due to mortality.

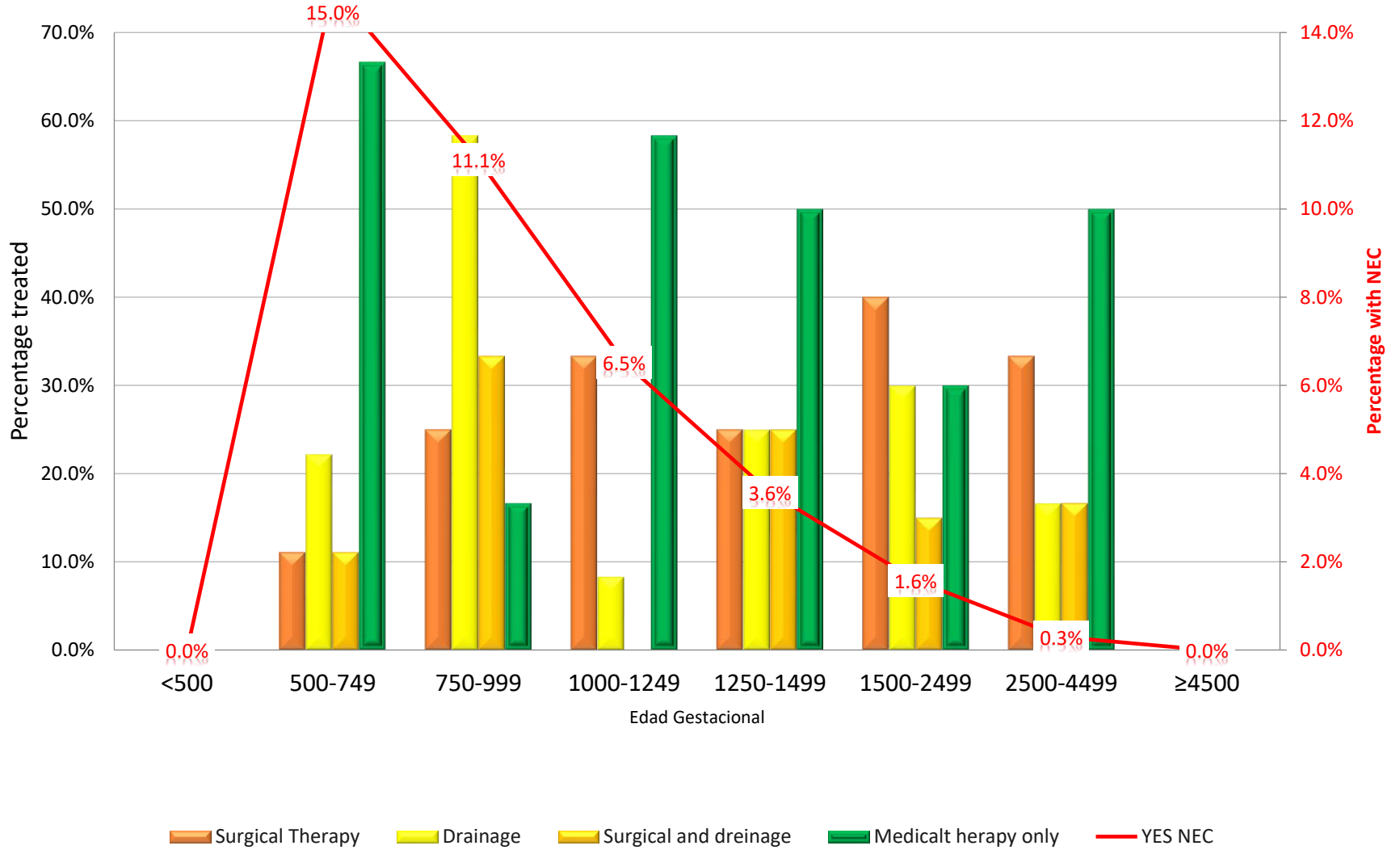
PRESENTATION 18

Necrotizing Enterocolitis and Treatment Modalities (by Birthweight) (table)

Birthweight (g)			Total No of Cases	Yes NEC*		Treatment								
						Medical only		Surgical		Drainage		Drainage and Surgical		
<500	n	%	10	0	0.0%									
500-749	n	%	60	9	15.0%	3	33.3%	4	44.4%	2	22.2%	1	11.1%	
750-999	n	%	108	12	11.1%	0	0.0%	6	50.0%	7	58.3%	4	33.3%	
1000-1249	n	%	184	12	6.5%	8	66.7%	3	25.0%	1	8.3%	0	0.0%	
1250-1499	n	%	224	8	3.6%	3	37.5%	3	37.5%	2	25.0%	2	25.0%	
1500-2499	n	%	1267	20	1.6%	8	40.0%	6	30.0%	6	30.0%	3	15.0%	
2500-4499	n	%	2014	6	0.3%	0	0.0%	5	83.3%	1	16.7%	1	16.7%	
≥4500	n	%	7	0	0.0%									
Total	n	%	3874	67	1.7%	22	32.8%	27	40.3%	19	28.4%	11	16.4%	

Comment: * two missing data. For the Necrotizing Enterocolitis (NEC) analysis, only patients with complete data were included. The definition of NEC was used according to the following criteria: a) Pneumatosis (air within the intestinal wall) or portal/hepatic air diagnosed by radiographs or b) diagnosis of NEC during surgery or autopsy. Diagnosis of "suspected NEC" was not classified as NEC. The treatment percentages were calculated on infants diagnosed with NEC, that may be underestimated at low weights due to mortality. NEC in larger infants may be a different pathology.

Necrotizing Enterocolitis and Treatment Modalities (by Birthweight) (graph)



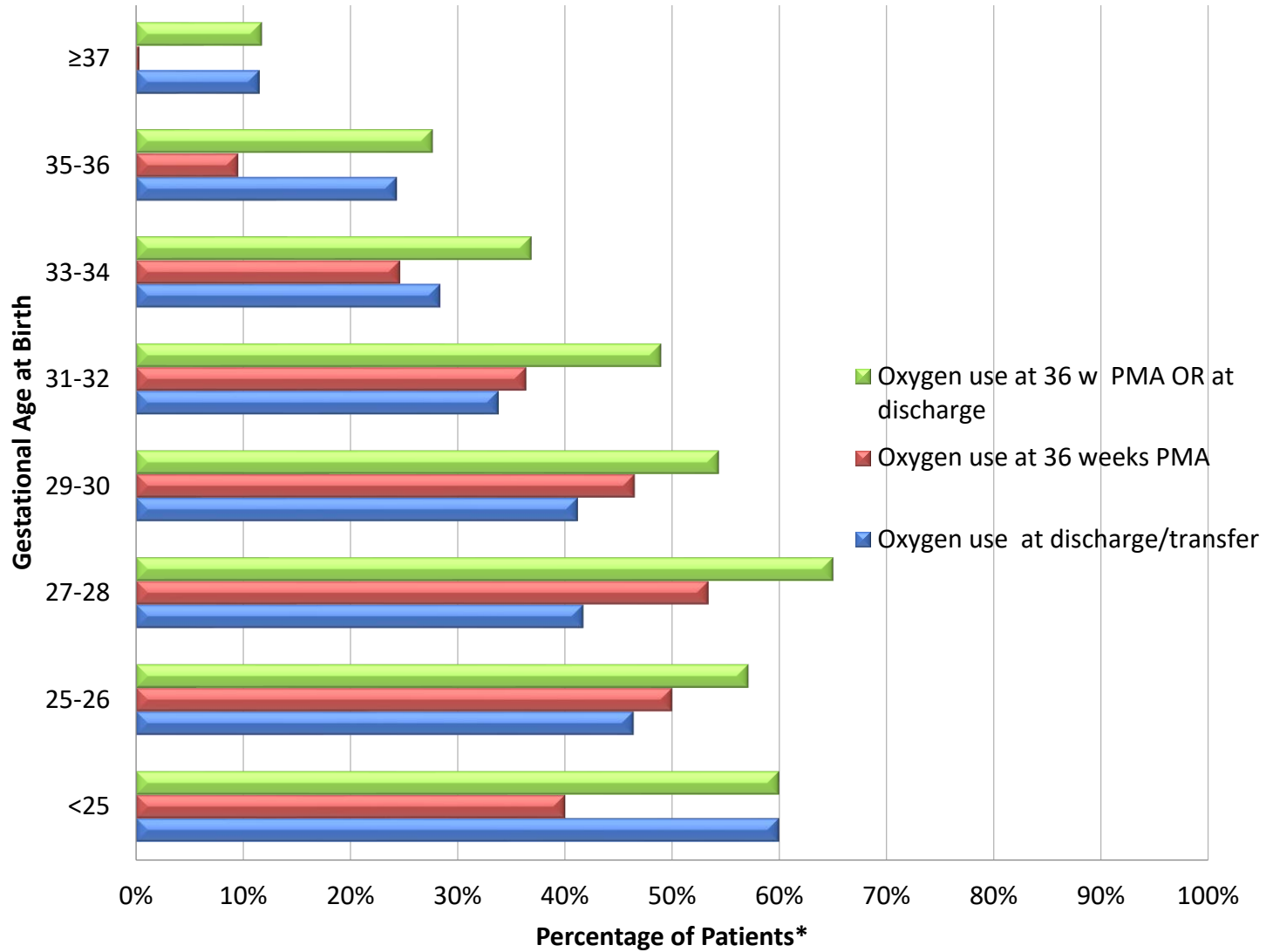
PRESENTATION 19

Supplemental Oxygen Requirement (table)

Gestational Age (weeks)			Total Number of Patients	Patients < 36 weeks PMA at discharge	Number of Patients ≥ 36 weeks PMA at discharge/transfer	Oxygen use in ≥ 36 weeks PMA at discharge/transfer		Oxygen use at 36 weeks PMA in ≥ 36 weeks		Oxygen use at 36 weeks PMA OR at discharge/transfer	
<25	n	%	24	19	5	3	60%	2	40%	3	60%
25-26	n	%	65	37	28	13	46%	14	50%	16	57%
27-28	n	%	172	69	103	43	42%	55	53%	67	65%
29-30	n	%	197	83	114	47	41%	53	46%	62	54%
31-32	n	%	345	147	198	67	34%	72	36%	97	49%
33-34	n	%	546	229	317	90	28%	78	25%	117	37%
35-36	n	%	609	42	567	138	24%	54	10%	157	28%
≥37	n	%	1916		1916	221	12%	6	0%	225	12%
Total	n	%	3874	626	3248	622	19%	334	10%	744	23%

Comment: only patients with complete information were included. w: weeks. PMA: postmenstrual age. The percentage was calculated excluding the total number of patients that were deceased or remitted before 36 weeks at discharge.

Supplemental Oxygen Requirement (graph)



Remember the different above the sea level of some of the units. w: weeks. PMA: postmenstrual age.

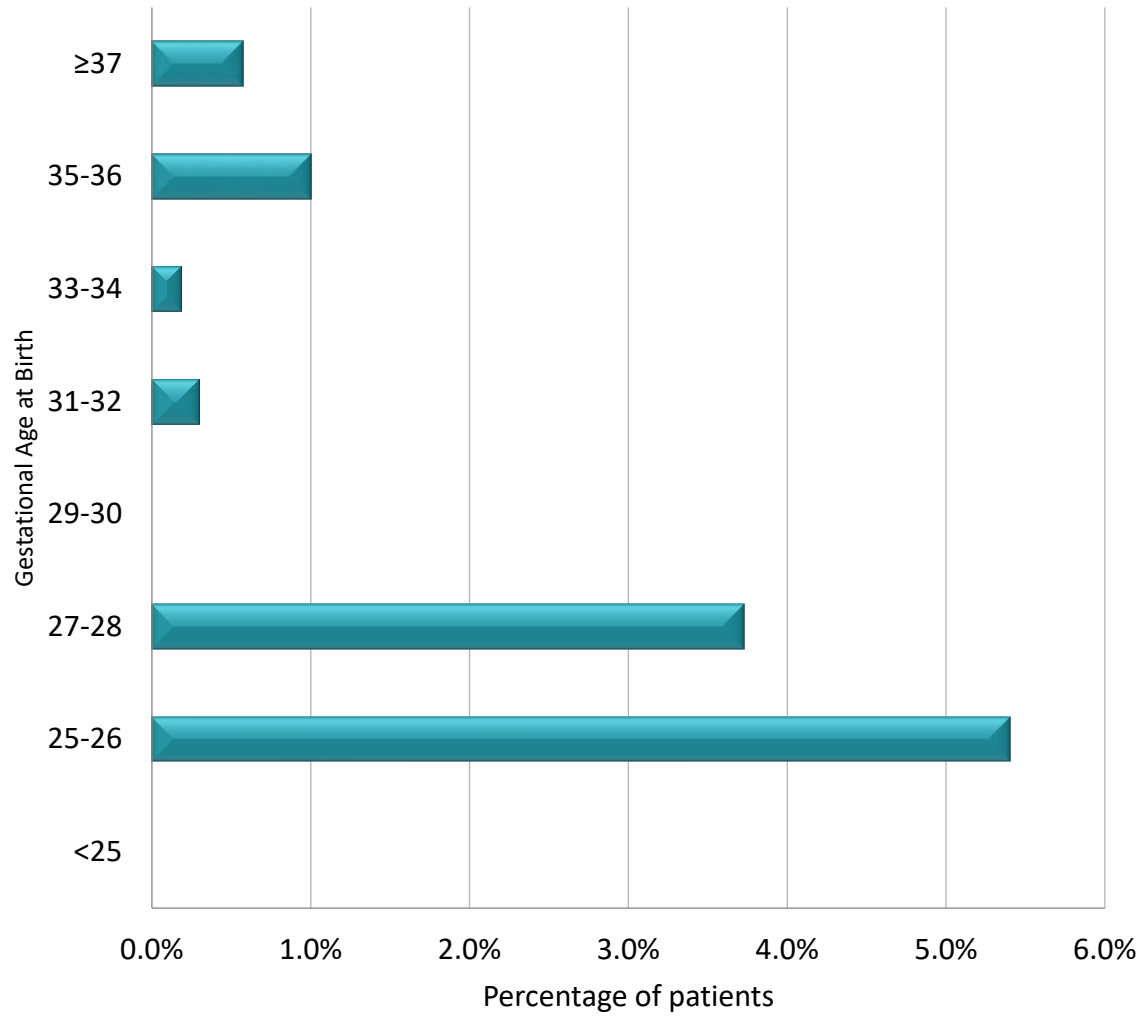
PRESENTATION 20

Any Respiratory Support (by Gestational Age) in infants that did not die (table)

Gestational Age (weeks)			Total Number of Patients that did not die	Respiratory support at discharge	
<25	n	%	6	0	0.0%
25-26	n	%	37	2	5.4%
27-28	n	%	134	5	3.7%
29-30	n	%	177	0	0.0%
31-32	n	%	337	1	0.3%
33-34	n	%	539	1	0.2%
35-36	n	%	600	6	1.0%
≥37	n	%	1907	11	0.6%
Total	n	%	3737	26	0.7%

Comment: For the analysis of respiratory support received at discharge, only patients who had complete data were included. Respiratory support is defined as CPAP, noninvasive ventilation or assisted ventilation, it does not include only oxygen or low flow nasal cannula for its administration. Estimates of the percentages of respiratory support received at discharge over the number of infants with known results that did not die.

Any Respiratory Support Requirement (by Gestational Age) in infants at discharge/transfer in patients that did not die. (graph)



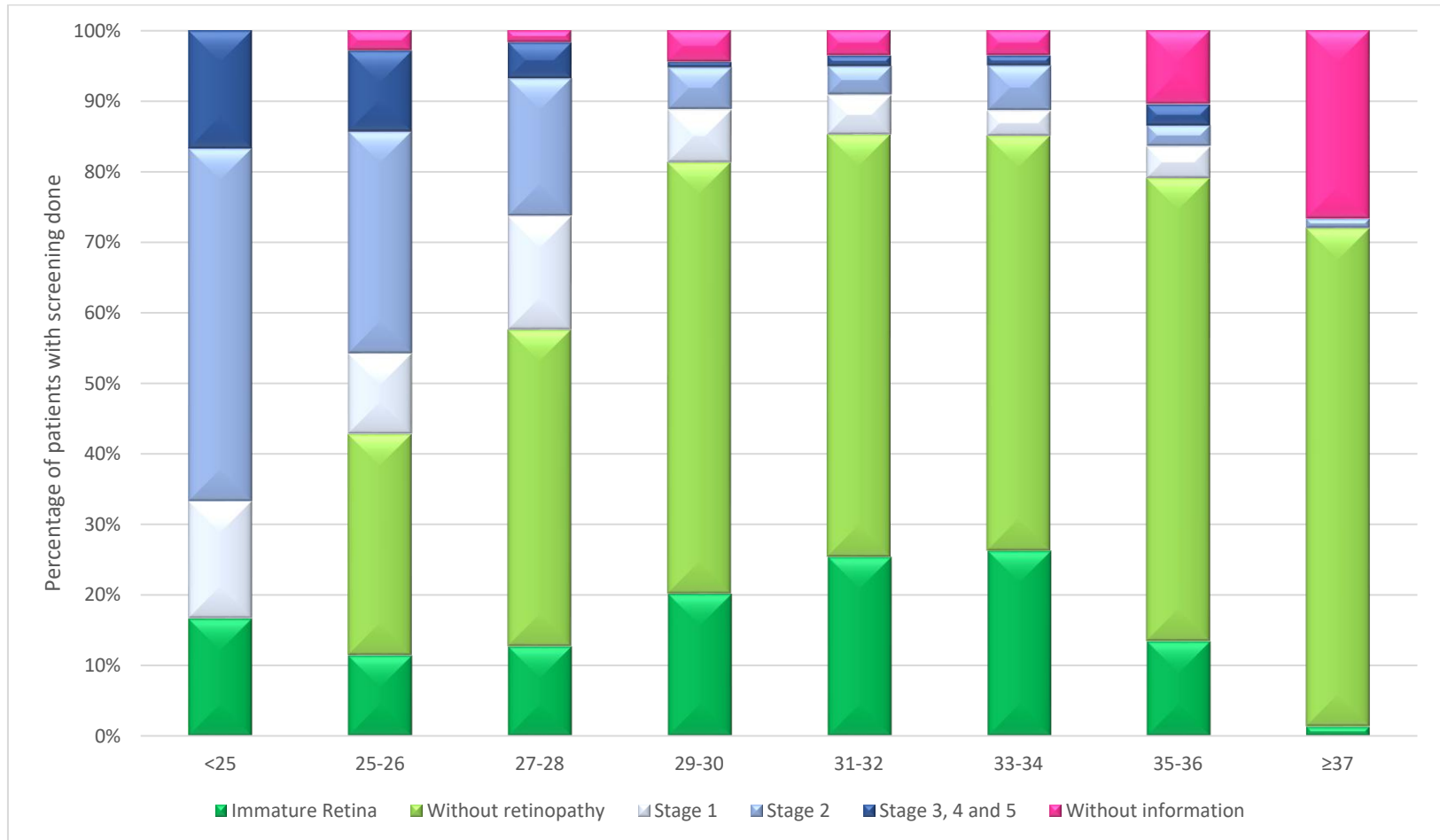
PRESENTATION 21

Incidence of Retinopathy of Prematurity (by Gestational Age) (table)

Gestational Age weeks	Number of Patients	Number of infants with Screening Done		Immature Retina		Retinopathy of Prematurity									
						No		Stage 1		Stage 2		Stage 3, 4 and 5		Without information	
<25	n %	24	6 25%	1 17%	0 0%	1 17%	3 50%	1 17%	0 0.0%						
25-26	n %	65	35 54%	4 11%	11 31%	4 11%	11 31%	4 11%	1 2.9%						
27-28	n %	172	118 69%	15 13%	53 45%	19 16%	23 19%	6 5%	2 1.7%						
29-30	n %	197	134 68%	27 20%	82 61%	10 7%	8 6%	1 1%	6 4.5%						
31-32	n %	345	197 57%	50 25%	118 60%	11 6%	8 4%	3 2%	7 3.6%						
33-34	n %	546	141 26%	37 26%	83 59%	5 4%	9 6%	2 1%	5 3.5%						
35-36	n %	609	67 11%	9 13%	44 66%	3 4%	2 3%	2 3%	7 10.4%						
≥37	n %	1916	75 4%	1 1%	53 71%	0 0%	1 1%	0 0%	20 26.7%						
Total	n %	3874	773 20%	144 19%	444 57%	53 7%	65 8%	19 2%	48 6.2%						

Comment: For the Retinopathy of Prematurity (ROP) analysis, only patients who had complete data were included. The calculation of ROP percentages was made over the number of infants with screening done. The difference between immature retina and no retinopathy is only definition. It is possible that the retinopathies reported in older children are due to another pathology.

Incidence of Retinopathy of Prematurity (by Gestational Age) (graph)



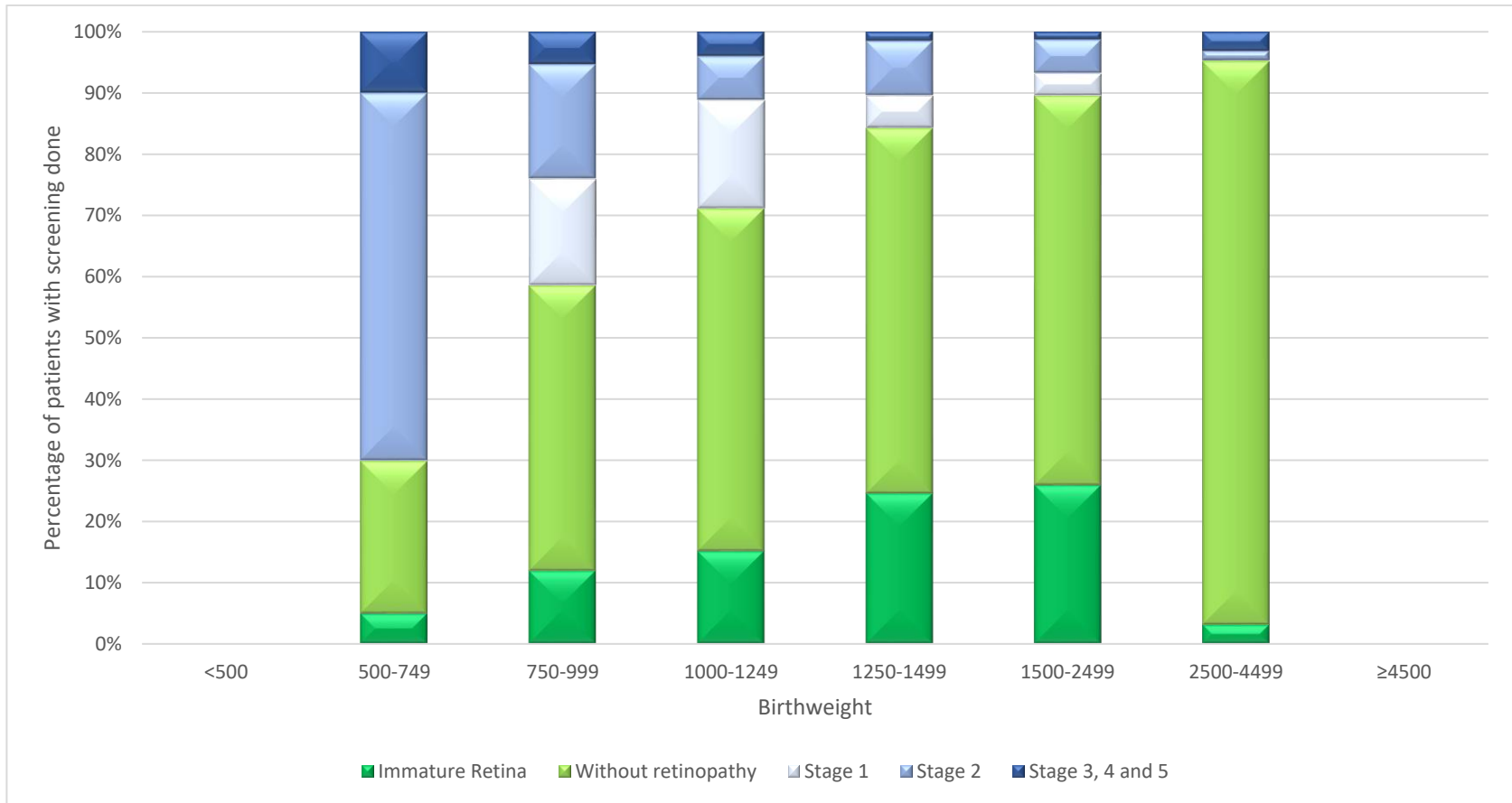
PRESENTATION 22

Retinopathy of Prematurity by Birthweight (table)

Birthweight (g)	Number of Patients	Number of infants with Screening Done	Immature Retina	Retinopathy of Prematurity												
				No		Stage 1		Stage 2		Stage 3, 4 and 5		Without information				
<500	n %	10	0	0%												
500-749	n %	60	20	33%	1	5%	5	25.0%	0	0.0%	12	60.0%	2	10.0%	0	0.0%
750-999	n %	108	76	70%	9	12%	35	46.1%	13	17.1%	14	18.4%	4	5.3%	1	1.3%
1000-1249	n %	184	130	71%	19	15%	70	53.8%	22	16.9%	9	6.9%	5	3.8%	5	3.8%
1250-1499	n %	224	140	63%	33	24%	80	57.1%	7	5.0%	12	8.6%	2	1.4%	6	4.3%
1500-2499	n %	1267	327	26%	80	24%	196	59.9%	11	3.4%	17	5.2%	4	1.2%	19	5.8%
2500-4499	n %	2014	80	4%	2	3%	58	72.5%	0	0.0%	1	1.3%	2	2.5%	17	21.3%
≥4500	n %	7	0	0%												
Total	n %	3874	773	20%	144	19%	444	57.4%	53	6.9%	65	8.4%	19	2.5%	48	6.2%

Comment: For the Retinopathy of Prematurity (ROP) analysis, only patients who had complete data were included. The calculation of ROP percentages was made over the number of infants with screening done. The difference between immature retina and no retinopathy is only definition. It is possible that the retinopathies reported in older children are due to another pathology.

Incidence of Retinopathy of Prematurity by Birthweight (graph)



PRESENTATION 23

Therapy Cryo/Laser /Anti-VEGF in infants with Retinopathy of Prematurity (by Gestational Age) (table)

Gestational Age (weeks)	Number of Admissions	Number of infants with Screening Done		ROP Therapy		ROP Therapy							
						Cryo		Laser		Anti- VEGF		Both laser and Anti-VEGF	
<25 n %	24	6	25%	2	33%	1	50%	0		1	50%	1	50%
25-26 n %	65	35	54%	8	23%	0		8	100%	0		0	
27-28 n %	172	118	69%	13	11%	0		7	54%	6	46%	2	15%
29-30 n %	197	134	68%	2	1%	0		1	50%	1	50%	0	
31-32 n %	345	197	57%	3	2%	0		1	33%	2	67%	0	
33-34 n %	546	141	26%	3	2%	0		1	33%	2	67%	0	
35-36 n %	609	67	11%	0		0		0		0		0	
≥37 n %	1916	75	4%	0		0		0		0		0	
Total n %	3874	773	20%	31	4%	1	3%	18	58%	12	39%	3	10%

Comment: For the analysis of ROP therapy, only patients who had screening done were included and percentage was calculated over the total number of patients treated. Due to the low number of patients, caution is required interpret the percentages.

PRESENTATION 24

Therapy Cryo/Laser/Anti-VEGF in infants with Retinopathy of Prematurity (by Birthweight) (table)

BIRTHWEIGHT (gr)	Number of Admissions	Number of infants with Screening Done	ROP Therapy	ROP Therapy								
				Cryo		Laser		Anti- VEGF		Both laser and Anti-VEGF		
<500 n %	10	0 0%	0	0	0	0	0	0	0	0	0	0
500-749 n %	60	20 33%	5 25.0%	0	3 60%	2 40%	0	0	0	0	0	0
750-999 n %	108	76 70%	10 13.2%	1 10.0%	7 70%	2 20%	1	10%	1	10%	1	10%
1000-1249 n %	184	130 71%	8 6.2%	0	4 50%	4 50%	1	13%	1	13%	1	13%
1250-1499 n %	224	140 63%	5 3.6%	0	2 40%	3 60%	1	20%	1	20%	1	20%
1500-2499 n %	1267	327 26%	2 0.6%	0	1 50%	1 50%	0	0	0	0	0	0
2500-4499 n %	2014	80 4%	1 1.3%	0	1 100%	0 0%	0	0	0	0	0	0
≥4500 n %	7	0 0%	0	0	0	0	0	0	0	0	0	0
Total n %	3874	773 20%	31 4%	1 3%	18 58%	12 39%	3	10%	3	10%	3	10%

Comment: For the analysis of ROP therapy, only patients who had screening done were included and percentage was calculated over the total number of patients treated. Due to the low number of patients in some groups, caution is required interpret the percentages.

PRESENTATION 25

Number of Significant Morbidities by Gestational Age in Patients that did not Die (Six Morbidities) (table)

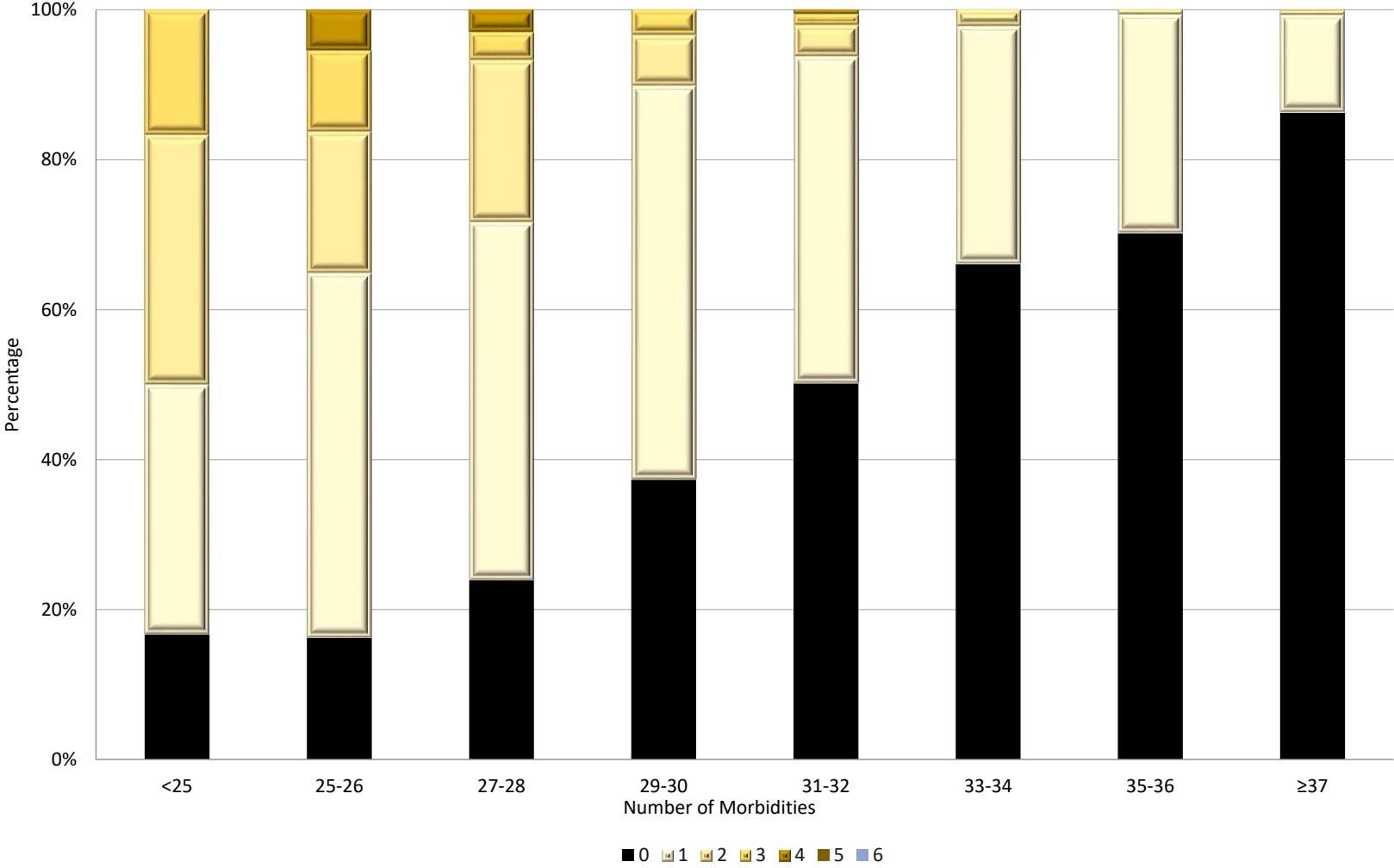
Gestational Age (weeks)	Number de Patients that did not Die	Number of Morbidities											
		0		1		2		3		4		5	
<25	n %	6	1 16.7%	2 33.3%	2 33.3%	1 16.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
25-26	n %	37	6 16.2%	18 48.6%	7 18.9%	4 10.8%	2 5.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
27-28	n %	134	32 23.9%	64 47.8%	29 21.6%	5 3.7%	4 3.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
29-30	n %	177	66 37.3%	93 52.5%	12 6.8%	6 3.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
31-32	n %	337	169 50.1%	147 43.6%	14 4.2%	5 1.5%	2 0.6%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
33-34	n %	539	356 66.0%	171 31.7%	12 2.2%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
35-36	n %	600	421 70.2%	175 29.2%	4 0.7%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
≥37	n %	1907	1645 86.3%	248 13.0%	11 0.6%	3 0.2%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
Total	n %	3737	2696 73.5%	918 19.2%	91 3.2%	24 1.0%	8 0.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%

The six morbidities included in the analysis are:

- A.** Ventriculomegaly or Periventricular Leukomalacia or Intraparenchymal Hemorrhage
- B.** ROP ≥ grade 3
- C.** O₂ use at 36 weeks PMA or at discharge.
- D.** Early or late infection confirmed by the presence of Bacteria or Fungi in Blood or CSF.
- E.** NEC grade II or III
- F.** PDA that required ligation.

Comment: Patients with complete data were included for the analysis. The calculation of the frequency of morbidities was made on the Number of Infants without Dead.

Number of Significant Morbidities by Gestational Age (Six Morbidities) (graph)



COMPARISON BETWEEN SITES: POPULATION

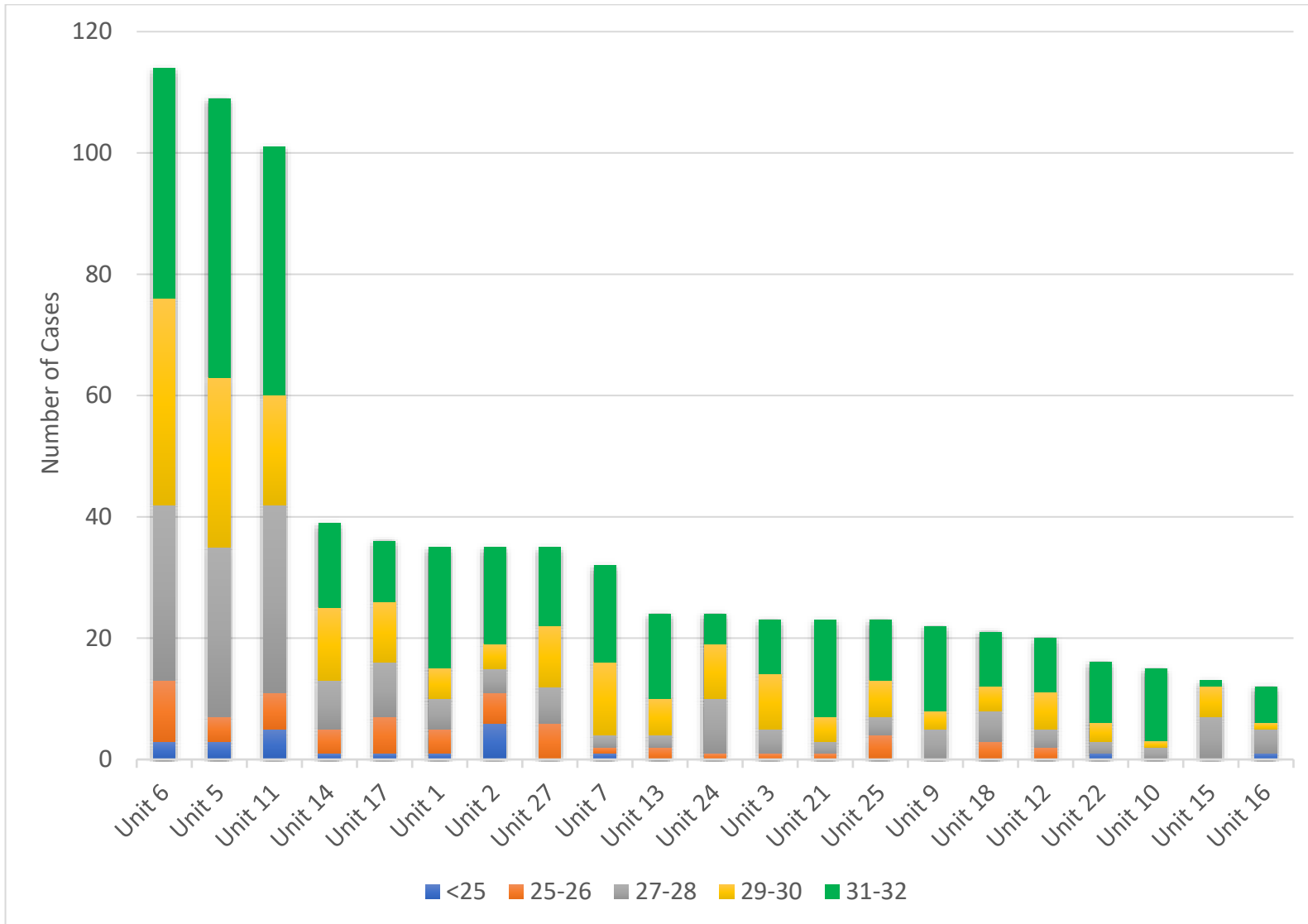
PRESENTATION 26

Number of Patients \leq 32 weeks at birth by Gestational Age and Specific Unit. (Table)

UNITS	Gestational Age at Birth					
	<25	25-26	27-28	29-30	31-32	Total
Unidad 6	3	10	29	34	38	114
Unidad 5	3	4	28	28	46	109
Unidad 11	5	6	31	18	41	101
Unidad 14	1	4	8	12	14	39
Unidad 17	1	6	9	10	10	36
Unidad 1	1	4	5	5	20	35
Unidad 2	6	5	4	4	16	35
Unidad 27	0	6	6	10	13	35
Unidad 7	1	1	2	12	16	32
Unidad 13	0	2	2	6	14	24
Unidad 24	0	1	9	9	5	24
Unidad 3	0	1	4	9	9	23
Unidad 21	0	1	2	4	16	23
Unidad 25	0	4	3	6	10	23
Unidad 9	0	0	5	3	14	22
Unidad 18	0	3	5	4	9	21
Unidad 12	0	2	3	6	9	20
Unidad 22	1	0	2	3	10	16
Unidad 10	0	0	2	1	12	15
Unidad 15	0	0	7	5	1	13
Unidad 16	1	0	4	1	6	12
Total	23	60	170	190	329	772

Comment: The number of patients by Gestational Age at birth \leq 32 weeks gestational age at birth. Units with \leq 10 cases were excluded. It is also only units with complete data and without readmissions.

Number of Patients ≤ 32 weeks at birth by Gestational Age and Specific Unit ((graph arranged in descending order)



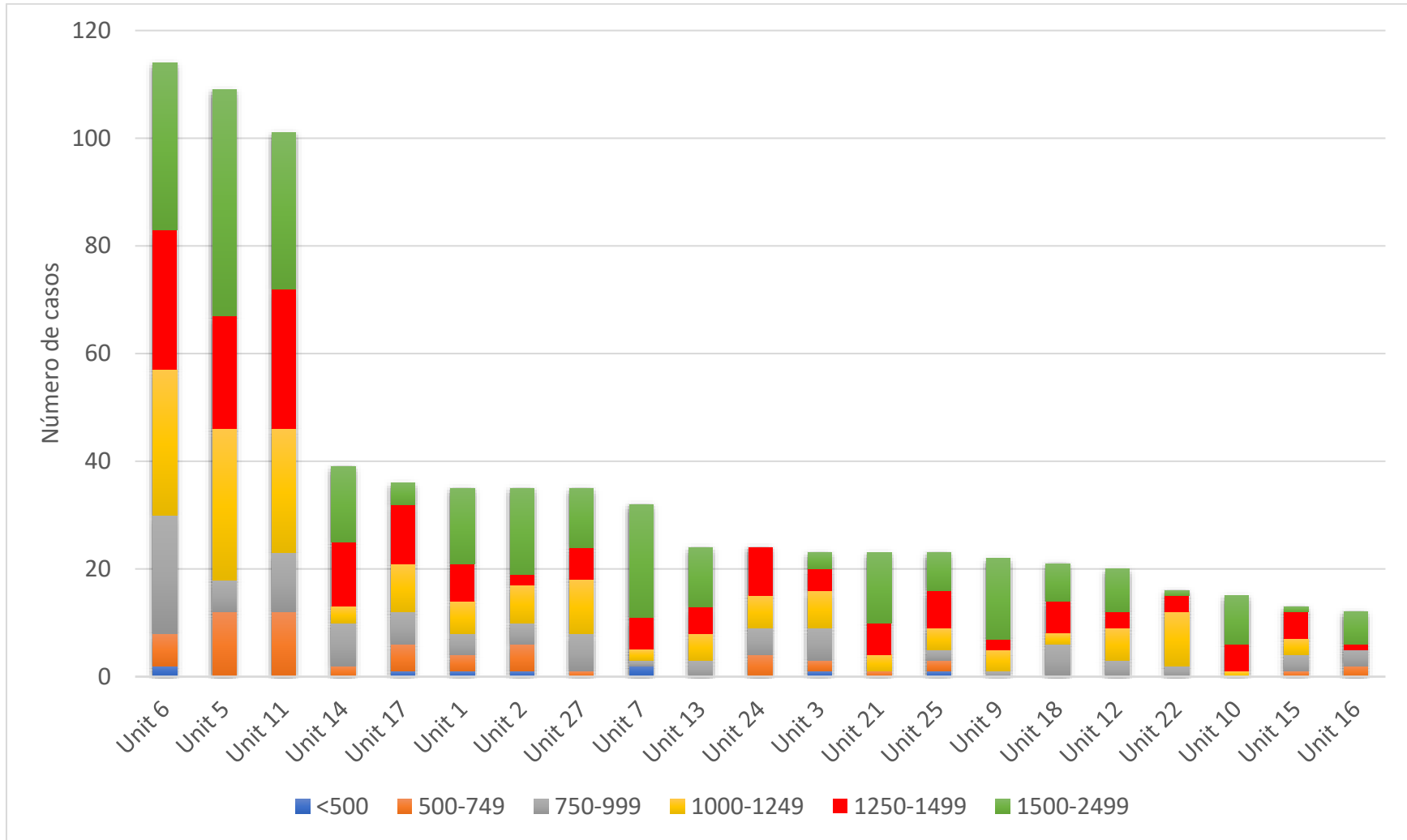
PRESENTATION 27

Number of Patients by Birthweight and Specific Unit (graph arranged in descending order) (table)

UNITS	BIRTHWEIGHT GROUPS						Total
	<500	500-749	750-999	1000-1249	1250-1499	1500-2499	
Unidad 6	2	6	22	27	26	31	114
Unidad 5	0	12	6	28	21	42	109
Unidad 11	0	12	11	23	26	29	101
Unidad 14	0	2	8	3	12	14	39
Unidad 17	1	5	6	9	11	4	36
Unidad 1	1	3	4	6	7	14	35
Unidad 2	1	5	4	7	2	16	35
Unidad 27	0	1	7	10	6	11	35
Unidad 7	2	0	1	2	6	21	32
Unidad 13	0	0	3	5	5	11	24
Unidad 24	0	4	5	6	9	0	24
Unidad 3	1	2	6	7	4	3	23
Unidad 21	0	1	0	3	6	13	23
Unidad 25	1	2	2	4	7	7	23
Unidad 9	0	0	1	4	2	15	22
Unidad 18	0	0	6	2	6	7	21
Unidad 12	0	0	3	6	3	8	20
Unidad 22	0	0	2	10	3	1	16
Unidad 10	0	0	0	1	5	9	15
Unidad 15	0	1	3	3	5	1	13
Unidad 16	0	2	3	0	1	6	12
Total	9	58	103	166	173	263	772

Comment: The number of patients by birthweight excluding patients ≤ 32 weeks at birth in units with ≤ 10 cases. No readmissions were included.

Number of Patients by Birthweight and Specific Unit (graph arranged in descending order) (Graph)



COMPARISONS BETWEEN UNITS - SURVIVAL/MORTALITY

PRESENTATION 28

CRUDE Frequency of Survival by Gestational Age and Unit in ≤ 32 weeks at Birth (Table).

UNITS			<25	25-26	27-28	29-30	31-32	Total
Unit 1	Number of Survivors	n	0	1	3	5	20	29
	Number of deaths	n	1	3	2	0	0	6
	Total	n	1	4	5	5	20	35
	% de Survival	%	0%	25%	60%	100%	100%	83%
Unit 2	Number of Survivors	n	2	3	3	4	16	28
	Number of deaths	n	4	2	1	0	0	7
	Total	n	6	5	4	4	16	35
	% de Survival	%	33%	60%	75%	100%	100%	80%
Unit 3	Number of Survivors	n	0	0	3	8	8	19
	Number of deaths	n	0	1	1	1	1	4
	Total	n	0	1	4	9	9	23
	% de Survival	%		0%	75%	89%	89%	83%
Unit 4	Number of Survivors	n	0	0	0	3	5	8
	Number of deaths	n	1	1	0	0	0	2
	Total	n	1	1	0	3	5	10
	% de Survival	%	0%	0%		100%	100%	80%
Unit 5	Number of Survivors	n	1	2	24	24	43	94
	Number of deaths	n	2	2	4	4	3	15
	Total	n	3	4	28	28	46	109
	% de Survival	%	33%	50%	86%	86%	93%	86%
Unit 6	Number of Survivors	n	0	4	22	31	37	94
	Number of deaths	n	3	6	7	3	1	20
	Total	n	3	10	29	34	38	114
	% de Survival	%	0%	40%	76%	91%	97%	82%
Unit 7	Number of Survivors	n	0	0	1	12	16	29
	Number of deaths	n	1	1	1	0	0	3
	Total	n	1	1	2	12	16	32
	% de Survival	%	0%	0%	50%	100%	100%	91%

UNITS			<25	25-26	27-28	29-30	31-32	Total
Unit 9	Number of Survivors	n	0	0	4	3	14	21
	Number of deaths	n	0	0	1	0	0	1
	Total	n	0	0	5	3	14	22
	% de Survival	%			80%	100%	100%	95%
Unit 10	Number of Survivors	n	0	0	2	1	12	15
	Number of deaths	n	0	0	0	0	0	0
	Total	n	0	0	2	1	12	15
	% de Survival	%			100%	100%	100%	100%
Unit 11	Number of Survivors	n	0	5	21	16	40	82
	Number of deaths	n	5	1	10	2	1	19
	Total	n	5	6	31	18	41	101
	% de Survival	%	0%	83%	68%	89%	98%	81%
Unit 12	Number of Survivors	n	0	2	3	6	9	20
	Number of deaths	n	0	0	0	0	0	0
	Total	n	0	2	3	6	9	20
	% de Survival	%		100%	100%	100%	100%	100%
Unit 13	Number of Survivors	n	0	1	2	6	14	23
	Number of deaths	n	0	1	0	0	0	1
	Total	n	0	2	2	6	14	24
	% de Survival	%		50%	100%	100%	100%	96%
Unit 14	Number of Survivors	n	1	1	6	9	14	31
	Number of deaths	n	0	3	2	3	0	8
	Total	n	1	4	8	12	14	39
	% de Survival	%	100%	25%	75%	75%	100%	79%
Unit 15	Number of Survivors	n	0	0	6	5	1	12
	Number of deaths	n	0	0	1	0	0	1
	Total	n	0	0	7	5	1	13
	% de Survival	%			86%	100%	100%	92%

UNITS			<25	25-26	27-28	29-30	31-32	Total
Unit 16	Number of Survivors	n	1	0	3	1	6	11
	Number of deaths	n	0	0	1	0	0	1
	Total	n	1	0	4	1	6	12
	% de Survival	%	100%		75%	100%	100%	92%
Unit 17	Number of Survivors	n	0	6	9	9	10	34
	Number of deaths	n	1	0	0	1	0	2
	Total	n	1	6	9	10	10	36
	% de Survival	%	0%	100%	100%	90%	100%	94%
Unit 18	Number of Survivors	n	0	2	3	1	9	14
	Number of deaths	n	0	1	2	3	0	7
	Total	n	0	3	5	4	9	21
	% de Survival	%		67%	60%	25%	100%	67%
Unit 21	Number of Survivors	n	0	1	2	3	16	22
	Number of deaths	n	0	0	0	1	0	1
	Total	n	0	1	2	4	16	23
	% de Survival	%		100%	100%	75%	100%	96%
Unit 22	Number of Survivors	n	1	0	2	3	10	16
	Number of deaths	n	0	0	0	0	0	0
	Total	n	1	0	2	3	10	16
	% de Survival	%	100%		100%	100%	100%	100%
Unit 24	Number of Survivors	n	0	0	6	7	4	17
	Number of deaths	n	0	1	3	2	1	7
	Total	n	0	1	9	9	5	24
	% de Survival	%		0%	67%	78%	80%	71%
Unit 25	Number of Survivors	n	0	1	3	6	10	20
	Number of deaths	n	0	3	0	0	0	3
	Total	n	0	4	3	6	10	23
	% de Survival	%		25%	100%	100%	100%	87%

UNITS			<25	25-26	27-28	29-30	31-32	Total
Unit 27	Number of Survivors	n	0	5	6	9	12	32
	Number of deaths	n	0	1	0	1	1	3
	Total	n	0	6	6	10	13	35
	% de Survival	%		83%	100%	90%	92%	91%
TOTAL	Number of Survivors	n	4	33	127	165	294	622
	Number of deaths	n	18	28	36	21	9	113
	Total	n	22	60	162	185	302	731
	% de Survival	%	18%	55%	78%	89%	97%	85%

Comment: For the analysis of survival by Gestational Age, only patients who had complete data were included. Deaths of infants in the delivery room were excluded. Interpretation of these data should be done with caution because the few number of patients at low gestational ages.

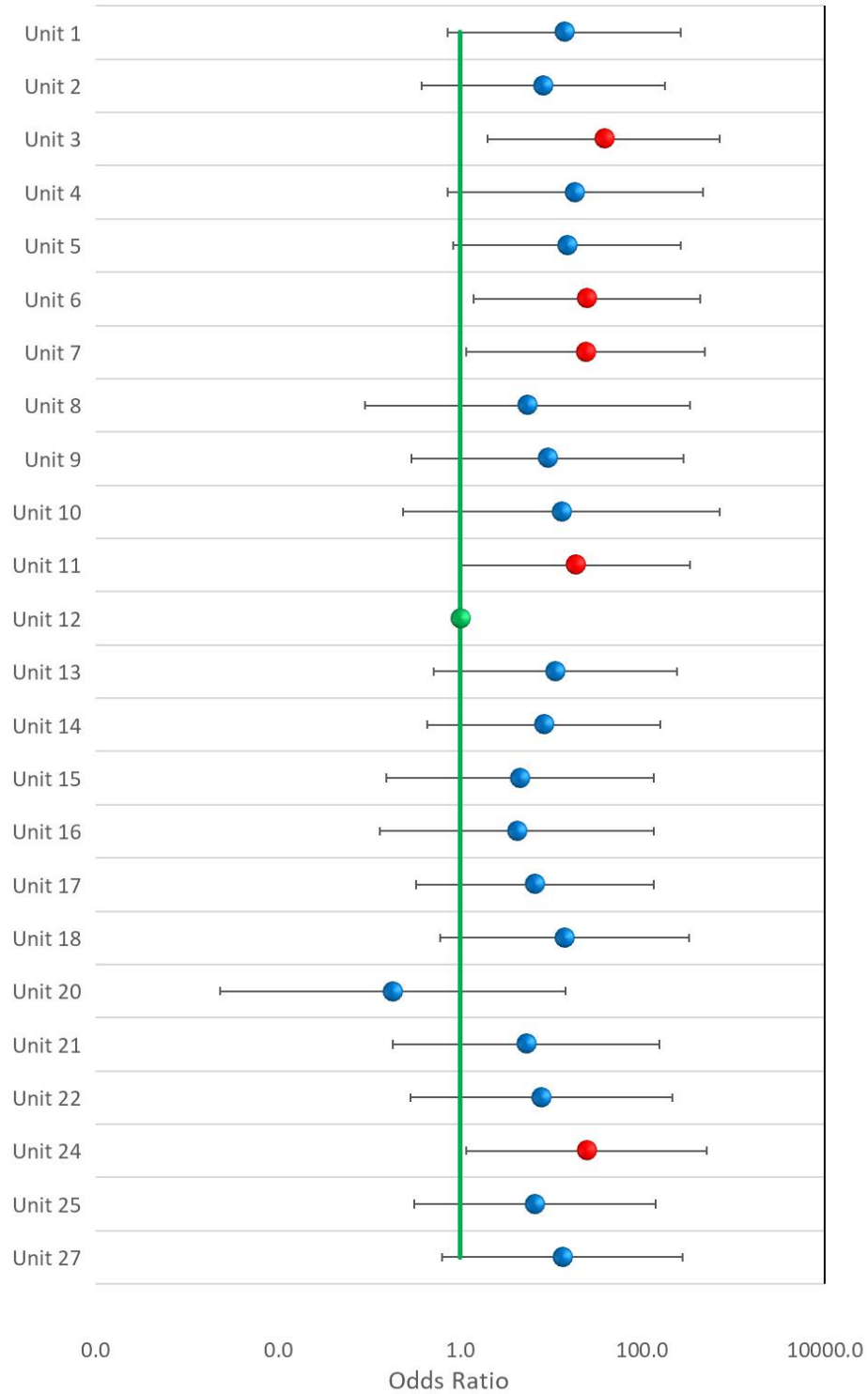
PRESENTATION 29

Odd Ratio (Adjusted by Gestational Age and Snap II) for mortality by unit in all Gestational Ages (table)

UNITS	CASES	OR	p Value	CI 95%
Unit 1	632	13.8	0.081	0.7 - 264.89
Unit 2	35	8.1	0.182	0.4 - 177.07
Unit 3	129	37.7	0.016	2.0 - 714.02
Unit 4	20	18.3	0.078	0.7 - 464.08
Unit 5	1074	15.0	0.065	0.8 - 264.75
Unit 6	214	24.5	0.029	1.4 - 430.04
Unit 7	129	23.9	0.040	1.2 - 489.88
Unit 8	12	5.5	0.418	0.1 - 336.35
Unit 9	22	9.1	0.210	0.3 - 285.56
Unit 10	16	13.0	0.209	0.2 - 708.38
Unit 11	105	18.4	0.048	1.0 - 331.72
Unit 12	389	1.0	ref	
Unit 13	184	11.1	0.125	0.5 - 240.18
Unit 14	71	8.3	0.158	0.4 - 158.65
Unit 15	34	4.5	0.381	0.2 - 133.94
Unit 16	276	4.2	0.414	0.1 - 134.79
Unit 17	43	6.6	0.219	0.3 - 134.20
Unit 18	55	14.0	0.101	0.6 - 324.77
Unit 20	11	0.2	0.445	0.0 - 14.27
Unit 21	84	5.3	0.332	0.2 - 153.99
Unit 22	68	7.9	0.223	0.3 - 216.32
Unit 24	29	24.4	0.040	1.2 - 513.54
Unit 25	97	6.7	0.223	0.3 - 141.70
Unit 27	128	13.3	0.095	0.6 - 274.67
Reference	UNIT 12			

Comment: Mortality is reported at an abnormally low or absent incidence in units with few patients, for this reason we chose the unit 3 with a high incidence and sufficient number of cases. The units with a significant difference actually have lower incidences of mortality. A logistic regression with adjustment by Gestational Age was performed. The maximum likelihood estimation method proposed by David Firth (Firthlogit)¹ for the low frequency of events was used. Additionally, the value of p was calculated to assess the statistical significance of the results of 0.05. Those who were transferred were included. No readmissions were included.

Odd Ratio (Adjusted by Gestational Age) for mortality by unit in all Gestational Age and SnapII (graph with log scale)



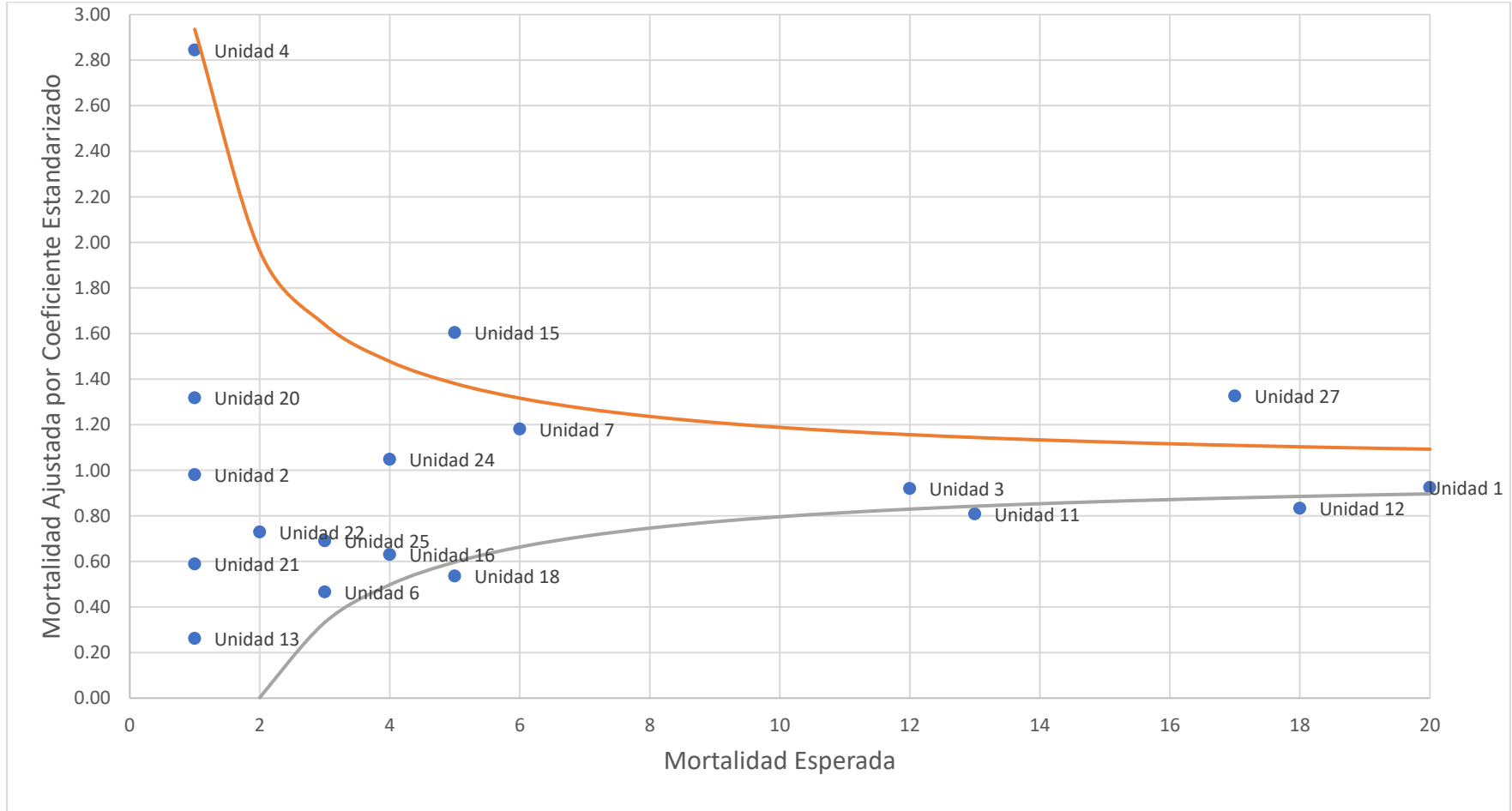
Unit 12 reference in green chosen due adequate number of infants and low mortality. Interpret with caution the units with few infants and large intervals. Statistically significant difference was found in units in red.

Mortality: All Infants: Adjusted standardized ratios by site

Site	Number of Neonates	Adjusted # of expected deaths	Number of deaths	Standardized mortality ratio	95% confidence interval (CI) for adjusted standardized ratio	
Unit 1	632	21.6	20	0.92	1.5	0.32
Unit 2	35	1.0	1	0.98	3.7	0
Unit 3	129	13.0	12	0.92	1.7	0.14
Unit 4	20	0.4	1	2.84	6.7	0
Unit 5	1074	39.8	34	0.85	1.3	0.40
Unit 6	214	6.4	3	0.47	1.8	0
Unit 7	129	5.1	6	1.18	2.4	0.00
Unit 11	105	16.1	13	0.81	1.5	0.08
Unit 12	389	21.6	18	0.83	1.5	0.21
Unit 13	184	3.8	1	0.26	2.5	0
Unit 15	34	3.1	5	1.60	3.0	0.19
Unit 16	276	6.3	4	0.63	1.9	0
Unit 18	55	9.3	5	0.54	1.6	0
Unit 20	11	0.8	1	1.32	4.3	0
Unit 21	84	1.7	1	0.59	3.1	0
Unit 22	68	2.7	2	0.73	2.6	0
Unit 24	29	3.8	4	1.05	2.5	0
Unit 25	97	4.3	3	0.69	2.2	0
Unit 27	128	12.8	17	1.33	2.1	0.60

Adjusted standardized ratio was calculated based on observed deaths/expected deaths (see next)

Mortality: All Infants: Adjusted standardized ratios by site (graph)



Mortality adjusted by standardization model. On the X axis expected mortality and on the Y axis the mortality adjusted by the standardization model (based on the risk of the previous 5 years (2018-2022)). The prediction model was created with the variables GA, SGA, sex, and SNAPE II > 20 (Canadian model). Units with few patients (< 11) or no mortality are not in the graph because adjusted mortality cannot be calculated for them. Red/gray funnel shaped lines: 95% confidence limits based on entire network information. Sites outside of red/gray lines represent higher or lower (depending upon position in graph) adjusted standardized ratio. However, for determining whether site is statistically different from others, one should also assess 95% CI and check whether both upper and lower boundaries are also outside of the funnel area or not. Numbers represent each unit.

COMPARISON BY LOCATIONS, MORBIDITIES AND ADJUSTED RISK ANALYSIS

PRESENTATION 30

Odds Ratio in Early and Late Onset Sepsis in less \leq 32 w Gestational Age Adjusted by SNAPE II and Gestational Age (Comparison by UNITS) (table)

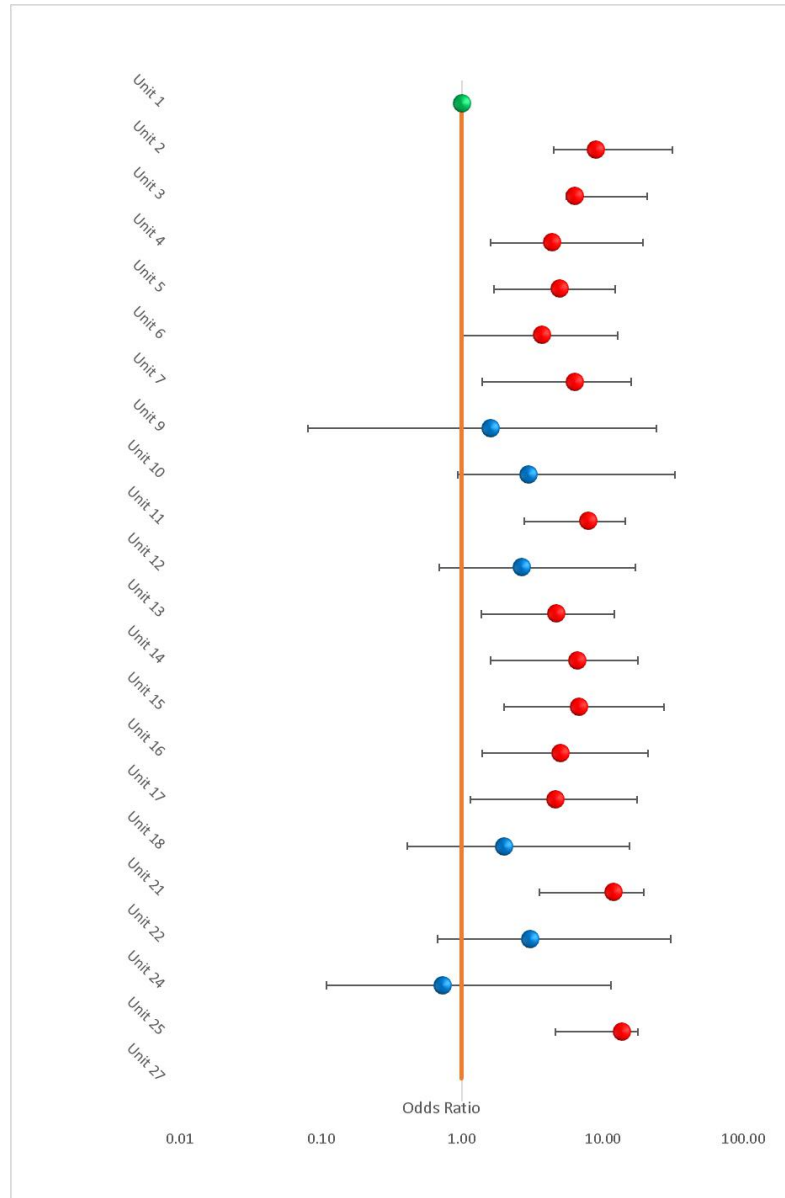
UNITS	CASES	OR	p Value	CI 95%
Unit 1	35	1.00	Ref	
Unit 2	35	8.89	0.001	2.5 - 31.4
Unit 3	23	6.30	0.002	1.9 - 20.7
Unit 4	10	0.78	0.870	0.0 - 15.9
Unit 5	109	4.37	0.004	1.6 - 11.8
Unit 6	114	4.90	0.003	1.7 - 14.1
Unit 7	32	3.67	0.048	1.0 - 13.3
Unit 9	22	6.35	0.017	1.4 - 28.8
Unit 10	15	1.59	0.759	0.1 - 31.3
Unit 11	101	2.98	0.066	0.9 - 9.5
Unit 12	20	7.90	0.000	2.8 - 22.5
Unit 13	24	2.64	0.155	0.7 - 10.1
Unit 14	39	4.68	0.013	1.4 - 15.8
Unit 15	13	6.62	0.009	1.6 - 27.3
Unit 16	12	6.73	0.002	2.0 - 22.7
Unit 17	36	5.01	0.013	1.4 - 17.9
Unit 18	21	4.58	0.030	1.2 - 18.1
Unit 21	23	2.00	0.392	0.4 - 9.7
Unit 22	16	11.81	0.000	3.5 - 39.4
Unit 24	24	3.04	0.149	0.7 - 13.8
Unit 25	23	0.73	0.747	0.1 - 4.9
Unit 27	35	13.63	0.000	4.6 - 40.2
GA			0.000	
Snappe II			0.001	
Referencia UNIT 1				

Odd Ratio: (OR) Reference Unit 1 was chosen for the number of infants and low incidence of infections. A logistic regression with adjustment by SNAPE II and Gestational Age was performed. The maximum likelihood estimation method proposed by David Firth (Firthlogit) for the low frequency of events was used. The low frequency may explain the imprecision of the estimates for some of the units. Statistically significant p values are marked in bold.

Additionally, the value of p was calculated to assess the statistical significance of the results of 0.05.

Comment: Sepsis or infection associated with health care is considered when there is a positive blood culture or cerebrospinal fluid (CSF) for bacteria or fungi. Only patients with complete data were included for the analysis. All readmissions were included. Infections in blood and CSF are counted separately. Units were excluded if they had \leq 10 patients \leq 32 weeks GA at birth during the year.

Odds Ratio in Late Onset Sepsis in ≤ 32 w Gestational Age Adjusted by SNAPE II and Gestational Age (Comparison by UNITS) (graph with log scale)



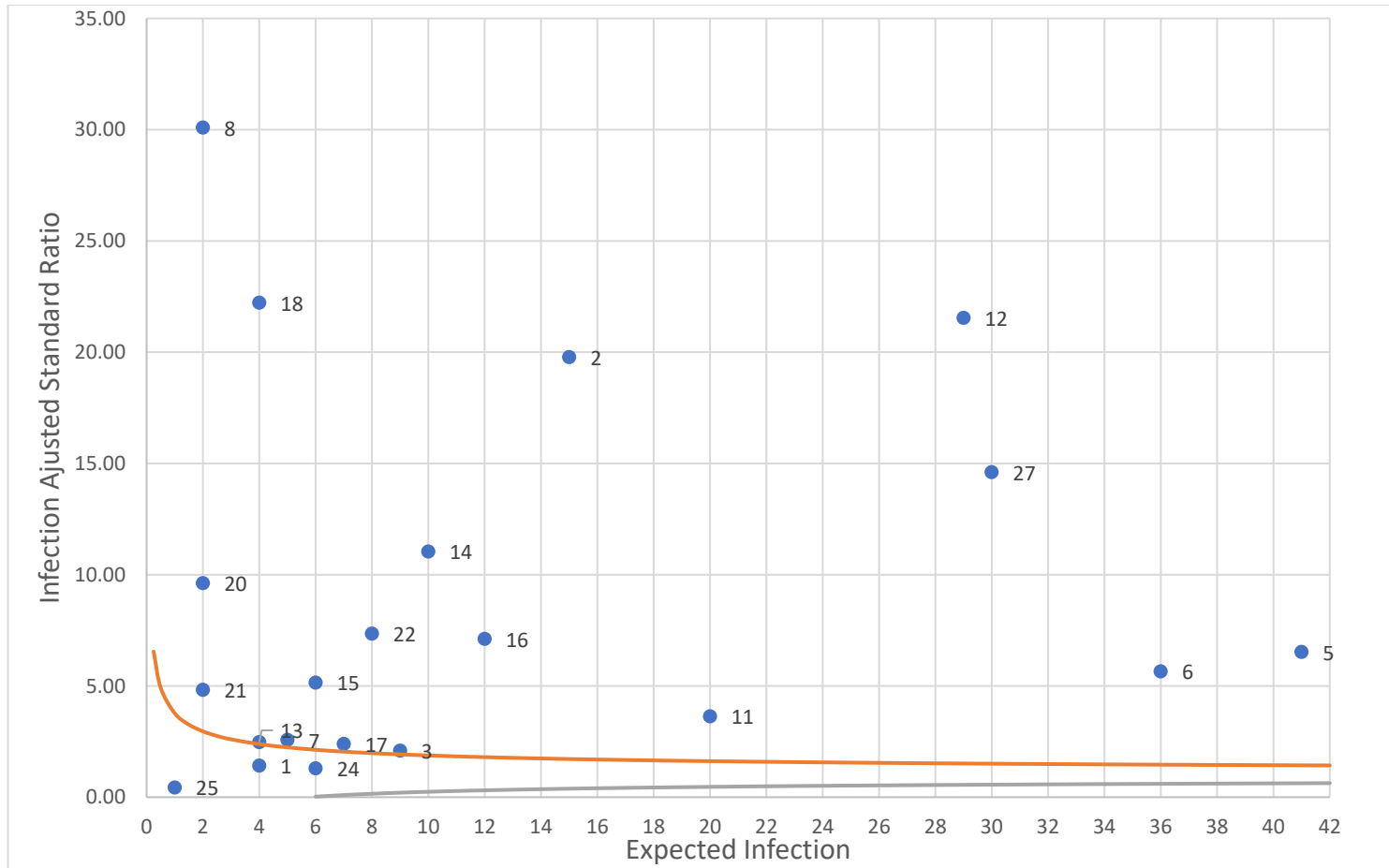
In red the units with significant difference, in green the referent unit 1 chosen for the acceptable number of cases and lowest infection. Interpretation of some of the data should be done with caution because CI are large.

Infections in all newborns: Standardized ratio adjusted by site

Site	Number of Neonates	Adjusted # of expected infections	Number of infections	Standardized infections ratio	95% confidence interval (CI) for adjusted standardized ratio	
Unit 1	632	4	2.8	1.4	2.9	0
Unit 2	40	15	0.8	19.8	22.1	0
Unit 3	130	9	4.3	2.1	3.2	0
Unit 5	1078	41	6.3	6.5	7.4	0
Unit 6	227	36	6.4	5.7	6.5	0
Unit 7	129	5	1.9	2.6	4.2	0
Unit 8	12	2	0.1	30.1	37.8	0
Unit 9	23	4	0.1	65.3	73.2	0
Unit 11	114	20	5.5	3.6	4.6	0
Unit 12	398	29	1.3	21.5	23.3	0
Unit 13	184	4	1.6	2.5	4.3	0
Unit 14	72	10	0.9	11.0	13.2	0
Unit 15	36	6	1.2	5.1	7.1	0
Unit 16	278	12	1.7	7.1	8.7	0
Unit 17	43	7	2.9	2.4	3.8	0
Unit 18	55	4	0.2	22.2	26.9	0
Unit 20	11	2	0.2	14.1	14.1	5.10
Unit 21	84	2	0.4	8.2	8.2	1.48
Unit 22	68	8	1.1	9.4	9.4	5.35
Unit 24	32	6	4.6	2.5	2.5	0.08
Unit 25	97	1	2.3	2.8	2.8	0.00
Unit 27	139	30	2.1	16.0	16.0	13.19

Adjusted standardized ratio was calculated based on observed infections/expected infections adjusted by standardization model. On the X axis expected infections and on the Y axis the infection adjusted by the standardization model (based on the risk of the previous 5 years (2018-2022)). The prediction model was created with the variables GA, SGA, sex, and SNAPE II > 20 (Canadian model). Units with no infections or no history were excluded.

Infections in all newborns: Canadian Model of Standardized Ratio Adjusted by Site



Since the expected sepsis risk cannot be <0 , the plot with its lower 95% confidence interval is cut by 6. Infection Adjusted Standard Ratio (X axis) is cut at 35 for visual effect, it excludes Unit 9. Each number represent a unit (see table above)

PRESENTATION 31

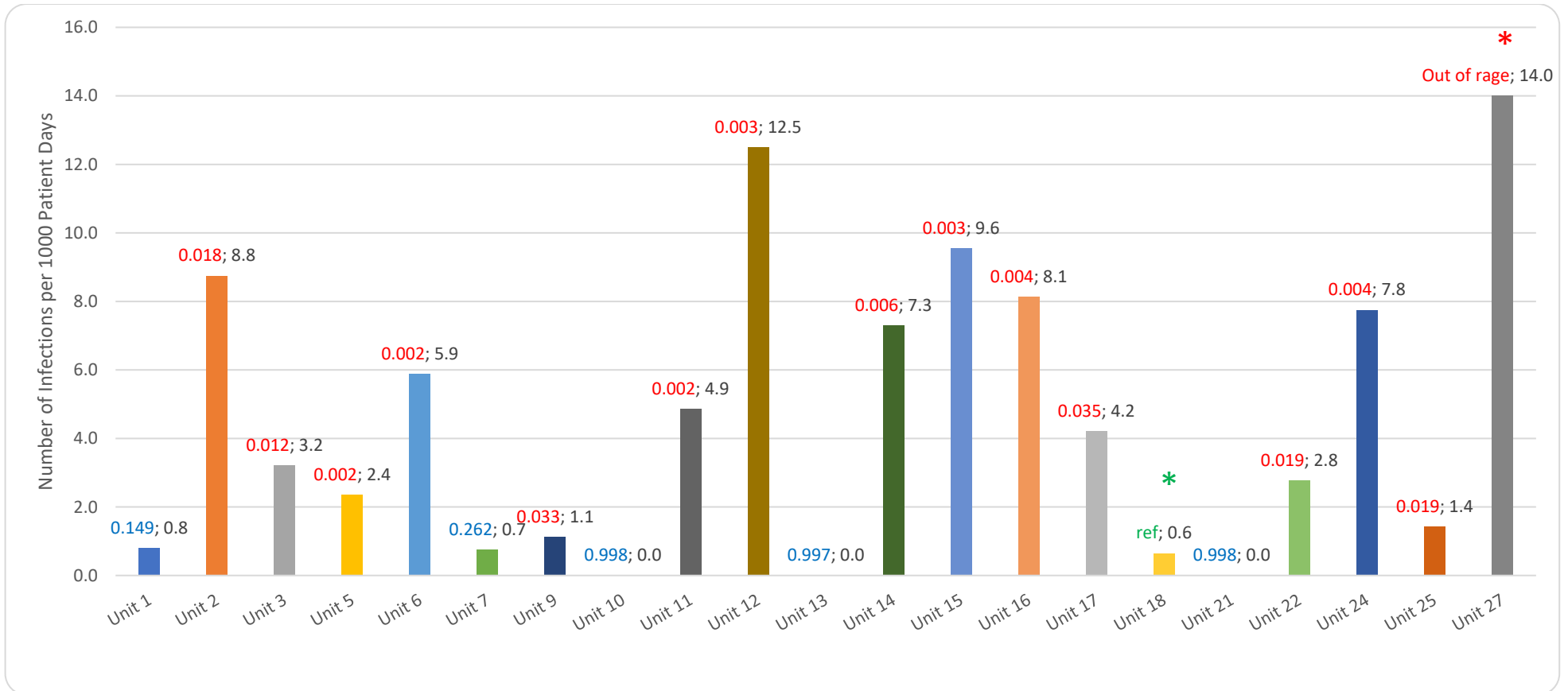
**Late Onset Infections per 1000 Patient Days in infants \leq 32 weeks Gestational Age (table).
Comparison with IRR (Incidence-Rate-Ratio) to find the significant difference between units.**

UNITS	Number de Patients*	Late Onset Infections* per 1000 Patient Days in \leq 32 weeks GA	Total Days of Stay*	p
Unit 1	35	0.8	1239	0.149
Unit 2	34	8.8	1600	0.018
Unit 3	23	3.2	933	0.012
Unit 5	108	2.4	5101	0.002
Unit 6	112	5.9	5267	0.002
Unit 7	32	0.7	1335	0.262
Unit 9	20	1.1	889	0.033
Unit 10	15	0.0	673	0.998
Unit 11	100	4.9	3907	0.002
Unit 12	20	12.5	640	0.003
Unit 13	23	0.0	831	0.997
Unit 14	37	7.3	1096	0.006
Unit 15	13	9.6	628	0.003
Unit 16	12	8.1	738	0.004
Unit 17	35	4.2	1424	0.035
Unit 18	20	0.6	1543	ref
Unit 21	23	0.0	617	0.998
Unit 22	16	2.8	1081	0.019
Unit 24	24	7.8	774	0.004
Unit 25	23	1.4	701	0.019
Unit 27	34	14.0	1857	Out of rage
Total/average	759	4.6	32874	

* For the number of infections, the number of patients and for the number of days of stay.

Comment: Late-onset infection is defined when there is a positive blood culture or CSF for bacteria or fungi after the second day of life. Only patients with complete data \leq 32 weeks Gestational Age at birth were included. It is possible that sites with a high transfer rate to a lower level may report a high incidence since they are more stable and with less risk of infection. Readmissions were not included. Infections in blood and CSF are counted separately. Units were excluded if they had \leq 10 patients \leq 32 weeks GA at birth during the year. A comparison with IRR (incidence-rate-ratio) was used to see the differences in incidence of late onset infection using the unit with the lowest incidence with sufficient number of cases (Unit 18). In red the units with a significant difference.

Number of late Onset Infections per 1000 Patient Days in infants ≤ 32 weeks Gestational Age (graph)



A comparison among UCINs using IRR (incidence-rate-ratio) was used to find the differences in incidence of late onset infection using the unit with the lowest incidence with sufficient number of cases (Unit 18). In red the units with a significant difference. The first number is p (<0.05) and the second is infections x 1000 patient days (stay).

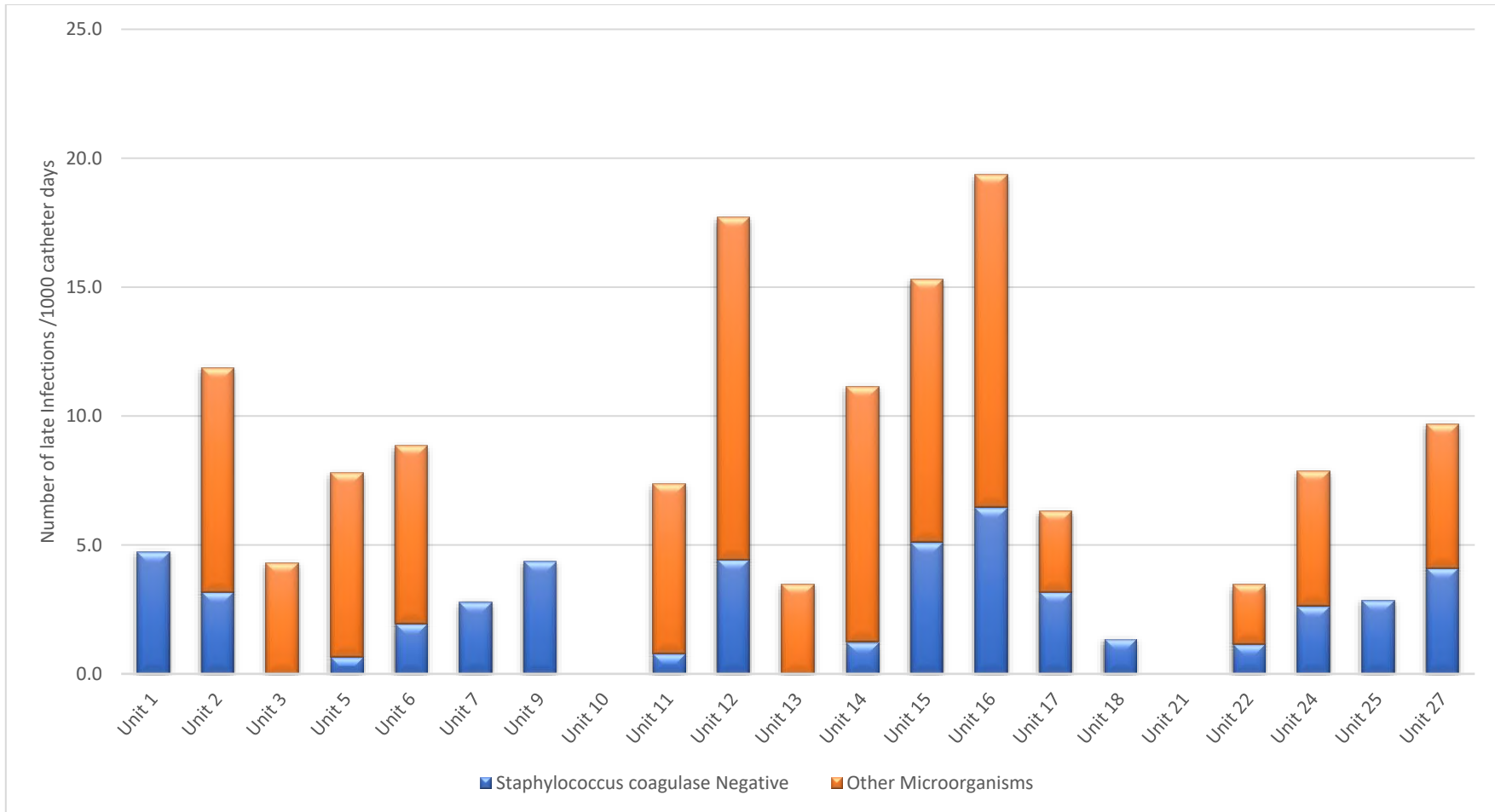
PRESENTATION 32

**Number of late Sepsis per 1000 Catheter Days in infants ≤ 32 weeks Gestational Age
(table)**

UNITS	Patients using Central catheter in ≤ 32 weeks	Number of late Infections in ≤ 32 weeks	Total Number of catheter days	<i>Staphylococcus coagulase</i> Negative		Other Microorganisms	
				Number of Infections	Number of Infections /1000 catheter days	Number of Infections	Number of Infections /1000 catheter days
Unidad 1	18	4.7	211	1	4.7	0	0.0
Unidad 2	32	11.9	1265	4	3.2	11	8.7
Unidad 3	21	4.3	697	0	0.0	3	4.3
Unidad 5	82	7.8	1542	1	0.6	11	7.1
Unidad 6	112	8.8	3619	7	1.9	25	6.9
Unidad 7	32	2.8	361	1	2.8	0	0.0
Unidad 9	21	4.3	230	1	4.3	0	0.0
Unidad 10	15	0.0	184	0	0.0	0	0.0
Unidad 11	98	7.4	2583	2	0.8	17	6.6
Unidad 12	18	17.7	452	2	4.4	6	13.3
Unidad 13	21	3.5	287	0	0.0	1	3.5
Unidad 14	37	11.2	807	1	1.2	8	9.9
Unidad 15	13	15.3	392	2	5.1	4	10.2
Unidad 16	12	19.4	310	2	6.5	4	12.9
Unidad 17	34	6.3	949	3	3.2	3	3.2
Unidad 18	21	1.3	749	1	1.3	0	0.0
Unidad 21	22	0.0	168	0	0.0	0	0.0
Unidad 22	16	3.5	869	1	1.2	2	2.3
Unidad 24	19	7.9	764	2	2.6	4	5.2
Unidad 25	23	2.8	351	1	2.8	0	0.0
Unidad 27	34	9.7	2682	11	4.1	15	5.6
Total/Average	701	7.2	19472	43	2.4	114	4.7

Comment: A patient with late-onset infection is defined when there is a positive blood culture or CSF for bacteria or fungi after the second day of life. Only patients with complete data ≤ 32 weeks birth Gestational Age were included. If a baby had more than one episode of infection, each was counted separate. Other Microorganisms include *Enterobacter cloacae*, *Enterococcus* sp, *Streptococcus* group B, *Chlamydia trachomatis*, *Citrobacter diversus*, *Bifidobacteria* species, *Citrobacter freundii*, *Klbesiella oxytoca*, *Serratia marcenses* and other gram-positive cocci. Consider the difference in the number of central catheter days in the different units when analyzing the data. Infections in blood and CSF are counted separately. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year or less than 11 patients using central catheter in ≤ 32 weeks.

Number of late Sepsis per 1000 Catheter Days in infants \leq 32 weeks Gestational Age (graph)



Two units didn't report any infection in \leq 32 weeks (positive blood culture or CSF) in the year.

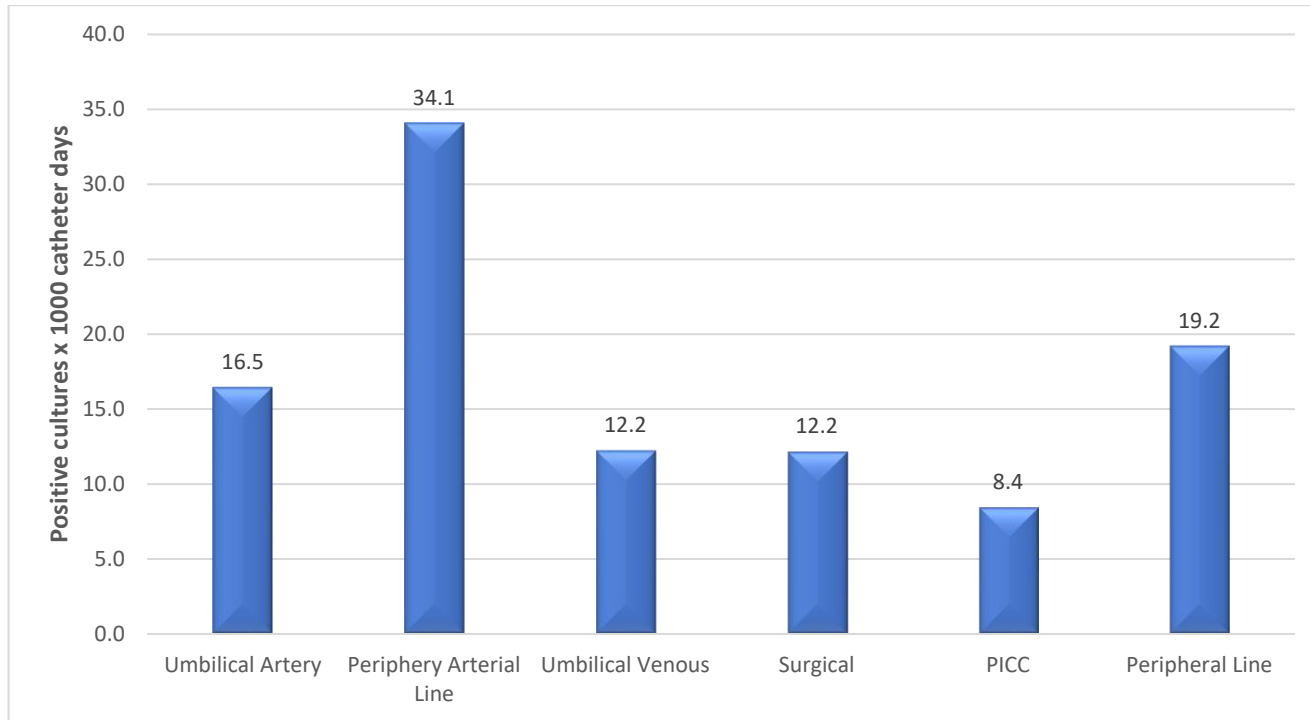
PRESENTATION 33

All positive cultures during catheter use per 1000 catheter days in infants ≤ 32 weeks Gestational Age according to catheter type (table)

Catheter Type	Number of positive cultures during catheter use	Total number of days with each type of catheter	Positive cultures x 1000 catheter days
Umbilical Artery	17	1,579	16.5
Periphery Arterial Line	8	323	34.1
Umbilical Venous	23	2,370	12.2
Surgical	5	329	12.2
PICC	111	12,318	8.4
Peripheral Line	45	3,226	19.2

Positive culture using catheter was defined when the date of positive culture coincided with the catheter being used. When more than one catheter is used at the same time, each was counted separately. Infections in blood and CSF are counted separately. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year. Interpretation of some of the data should be done with caution, specially surgical because of only two positive cultures. Surgical catheter data are unreliable as there are only two positive cultures.

Positive Cultures during catheter use per 1000 Catheter Days in Infants \leq 32 weeks Gestational Age according to catheter type (graph)



Comment: An infection was counted if the blood or spinal fluid cultures were positive when one of the catheters was being used; if there were more than one catheter, it was accounted separately. The number of total days with the respective catheter per 1000 days was used as the denominator. There is no information on what number of catheter changes were made or days between use. Infections in blood and CSF are counted separately. Peripheral lines refer to lines used to administer fluids, not plugs to administer medications.

PRESENTATION 34

**Neuroimaging Anomalies in infants ≤ 32 weeks Gestational Age by UNIT.
Intraventricular Hemorrhage I and II (table)**

UNITS	Gestational Age (weeks)	<25	25-26	27-28	29-30	31-32	Total
Unit 1	Patients with imagen	0	4	4	5	19	32
	# Patients with IVH I and II	0	0	0	0	2	2
	Percentage		0%	0%	0%	11%	6%
Unit 2	Patients with imagen	5	5	4	4	16	34
	# Patients with IVH I and II	4	4	0	0	1	9
	Percentage	80%	80%	0%	0%	6%	26%
Unit 3	Patients with imagen	0	1	3	8	6	18
	# Patients with IVH I and II	0	1	0	3	1	5
	Percentage		100%	0%	38%	17%	28%
Unit 5	Patients with imagen	2	3	23	19	31	78
	# Patients with IVH I and II	1	0	1	1	0	3
	Percentage	50%	0%	4%	5%	0%	4%
Unit 6	Patients with imagen	2	8	28	33	38	109
	# Patients with IVH I and II	2	4	7	5	2	20
	Percentage	100%	50%	25%	15%	5%	18%
Unit 7	Patients with imagen	1	1	0	11	11	24
	# Patients with IVH I and II	1	0	0	0	0	1
	Percentage	100%	0%		0%	0%	4%
Unit 9	Patients with imagen	0	0	5	3	14	22
	# Patients with IVH I and II	0	0	0	0	3	3
	Percentage			0%	0%	21%	14%
Unit 10	Patients with imagen	0	0	2	1	12	15
	# Patients with IVH I and II	0	0	0	0	0	0
	Percentage			0%	0%	0%	0%
Unit 11	Patients with imagen	4	5	29	17	41	96
	# Patients with IVH I and II	2	2	6	1	2	13
	Percentage	50%	40%	21%	6%	5%	14%
Unit 12	Patients with imagen	0	0	2	4	6	12
	# Patients with IVH I and II	0	0	0	0	0	0
	Percentage			0%	0%	0%	0%
Unit 14	Patients with imagen	0	3	7	11	12	33
	# Patients with IVH I and II	0	1	3	4	0	8
	Percentage		33%	43%	36%	0%	24%
Unit 15	Patients with imagen	0	0	7	5	1	13
	# Patients with IVH I and II	0	0	3	3	0	6
	Percentage			43%	60%	0%	46%

UNITS	Gestational Age (weeks)	<25	25-26	27-28	29-30	31-32	Total
Unit 16	Patients with imagen	1	0	3	1	6	11
	# Patients with IVH I and II	0	0	1	0	0	1
	Percentage	0%		33%	0%	0%	9%
Unit 17	Patients with imagen	0	5	9	10	10	34
	# Patients with IVH I and II	0	2	3	1	0	6
	Percentage		40%		10%	0%	18%
Unit 18	Patients with imagen	0	3	5	4	9	21
	# Patients with IVH I and II	0	0	1	0	0	1
	Percentage		0%	20%	0%	0%	5%
Unit 21	Patients with imagen	0	1	0	2	14	17
	# Patients with IVH I and II	0	0	0	1	1	2
	Percentage		0%		50%	7%	12%
Unit 22	Patients with imagen	1	0	2	3	7	13
	# Patients with IVH I and II	1	0	1	0	1	3
	Percentage	100%		50%	0%	14%	23%
Unit 24	Patients with imagen	0	0	7	7	5	19
	# Patients with IVH I and II	0	0	2	0	0	2
	Percentage			29%	0%	0%	11%
Unit 25	Patients with imagen	0	4	3	6	10	23
	# Patients with IVH I and II	0	0	1	1	1	3
	Percentage		0%	33%	17%	10%	13%
Unit 27	Patients with imagen	0	6	6	9	12	33
	# Patients with IVH I and II	0	0	0	0	0	0
	Percentage		0%	0%	0%	0%	0%

Comment: Patients with complete data with neuroimaging were included and at least 11 total cases and more than 10 neuroimages in the year. Germinal matrix hemorrhage and/or intraventricular hemorrhage without ventricular enlargement are included in grade I or II intraventricular hemorrhage (IVH). The low number of infants makes interpretation difficult. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year and more than 10 neuroimages in one year.

PRESENTATION 35

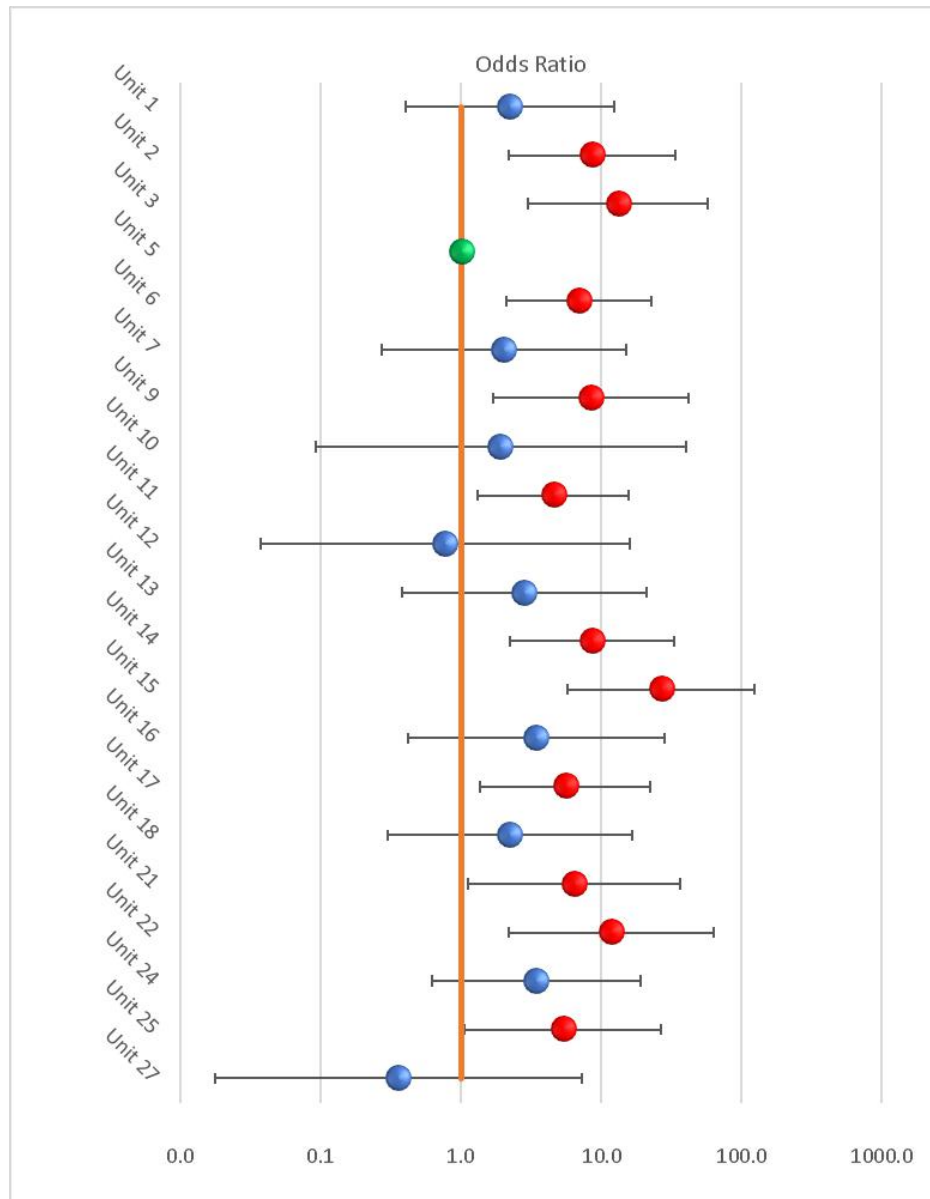
ODDS RATIO Neuroimaging Anomalies in infants ≤ 32 weeks Gestational Age by UNIT. Intraventricular Hemorrhage I and II (table)

UNITS	N	OR	P values	CI 95%
Unit 1	35	2.2	0.358	0.4 - 12.4
Unit 2	35	8.6	0.002	2.2 - 33.8
Unit 3	23	13.2	0.001	3.0 - 57.8
Unit 5	109	1.0	Ref	
Unit 6	114	6.9	0.001	2.1 - 22.9
Unit 7	32	2.0	0.495	0.3 - 15.0
Unit 9	22	8.4	0.009	1.7 - 42.1
Unit 10	15	1.9	0.673	0.1 - 40.3
Unit 11	101	4.5	0.017	1.3 - 15.6
Unit 12	20	0.8	0.869	0.0 - 16.1
Unit 13	24	2.8	0.311	0.4 - 21.1
Unit 14	39	8.6	0.002	2.2 - 33.0
Unit 15	13	26.8	0.000	5.8 - 124.4
Unit 16	12	3.4	0.248	0.4 - 28.0
Unit 17	36	5.5	0.016	1.4 - 22.4
Unit 18	21	2.2	0.431	0.3 - 16.7
Unit 21	23	6.4	0.037	1.1 - 36.7
Unit 22	16	11.8	0.004	2.2 - 63.3
Unit 24	24	3.4	0.160	0.6 - 18.9
Unit 25	23	5.3	0.042	1.1 - 26.5
Unit 27	35	0.4	0.500	0.0 - 7.2
Reference		Unidad 5		

Comment: patients with complete data with neuroimaging were included. Some Units did not report any hemorrhage. The risk of patients with hemorrhage I and II was calculated against all patients with neuroimaging. Germinal matrix hemorrhage and/or intraventricular hemorrhage without ventricular enlargement are included in grade I or II intraventricular hemorrhage (IVH). Statistically significant p values are marked in bold.

Odd Ratio: (OR) Reference Unit 6 was chosen for the number of infants and lowest incidence values. A logistic regression with adjustment by Gestational Age was performed. The maximum likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. The low frequency may explain the imprecision of the estimates for some of the units. Additionally, the value of p was calculated to assess the statistical significance of the results of 0.05. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

**ODDS RATIO Neuroimaging Anomalies in infants ≤ 32 weeks Gestational Age by UNIT.
(Graph with log scale) Intraventricular Hemorrhage I and II**



In red the units with significant difference and in green referent unit. Interpretation of some of the data should be done with caution because some CI are large.

PRESENTATION 36

Anomalies in Neuroimaging (Intraventricular Hemorrhage III and IV) in infants ≤ 32 weeks Gestational Age by unit (table)

UNITS	Gestational Age (weeks)	<25	25-26	27-28	29-30	31-32	Total
Unidad 1	Patients with imagen	0	4	4	5	19	32
	# Patients with IVH III and IV	0	2	0	1	0	3
	Percentage		50%	0%	20%	0%	9%
Unidad 2	Patients with imagen	5	5	4	4	16	34
	# Patients with IVH III and IV	0	1	0	0	1	2
	Percentage	0%	20%	0%	0%	6%	6%
Unidad 3	Patients with imagen	0	1	3	8	6	18
	# Patients with IVH III and IV	0	0	2	3	1	6
	Percentage		0%	67%	38%	17%	33%
Unidad 5	Patients with imagen	2	3	23	19	31	78
	# Patients with IVH III and IV	0	0	1	1	0	2
	Percentage	0%	0%	4%	5%	0%	3%
Unidad 6	Patients with imagen	2	8	28	33	38	109
	# Patients with IVH III and IV	0	1	1	0	0	2
	Percentage	0%	13%	4%	0%	0%	2%
Unidad 7	Patients with imagen	1	1	0	11	11	24
	# Patients with IVH III and IV	0	0	0	0	0	0
	Percentage	0%	0%		0%	0%	0%
Unidad 9	Patients with imagen	0	0	5	3	14	22
	# Patients with IVH III and IV	0	0	1	0	0	1
	Percentage			20%	0%	0%	5%
Unidad 10	Patients with imagen	0	0	2	1	12	15
	# Patients with IVH III and IV	0	0	0	0	1	1
	Percentage			0%	0%	8%	7%
Unidad 11	Patients with imagen	4	5	29	17	41	96
	# Patients with IVH III and IV	2	1	6	0	1	10
	Percentage	50%	20%	21%	0%	2%	10%
Unidad 12	Patients with imagen	0	0	2	4	6	12
	# Patients with IVH III and IV	0	0	2	1	0	3
	Percentage			100%	25%	0%	25%
Unidad 14	Patients with imagen	0	0	7	5	1	13
	# Patients with IVH III and IV	0	1	0	1	1	3
	Percentage			0%	20%	100%	23%
Unidad 15	Patients with imagen	0	0	7	5	1	13
	# Patients with IVH III and IV	0	0	2	1	0	3
	Percentage			29%	20%	0%	23%

UNITS	Gestational Age (weeks)	<25	25-26	27-28	29-30	31-32	Total
Unidad 16	Patients with imagen	1	0	3	1	6	11
	# Patients with IVH III and IV	0	0	1	0	0	1
	Percentage	0%		33%	0%	0%	9%
Unidad 17	Patients with imagen	0	5	9	10	10	34
	# Patients with IVH III and IV	0	0	1	0	0	1
	Percentage		0%	11%	0%	0%	3%
Unidad 18	Patients with imagen	0	3	5	4	9	21
	# Patients with IVH III and IV	0	0	0	0	0	1
	Percentage		0%	0%	0%	0%	5%
Unidad 21	Patients with imagen	0	1	0	2	14	17
	# Patients with IVH III and IV	0	0	0	1	0	1
	Percentage		0%		50%	0%	6%
Unidad 22	Patients with imagen	1	0	2	3	7	13
	# Patients with IVH III and IV	0	0	1	2	4	7
	Percentage	0%		50%	67%	57%	54%
Unidad 24	Patients with imagen	0	0	7	7	5	19
	# Patients with IVH III and IV	0	0	1	0	1	2
	Percentage			14%	0%	20%	11%
Unidad 25	Patients with imagen	0	4	3	6	10	18
	# Patients with IVH III and IV	0	2	0	0	0	2
	Percentage		50%	0%	0%	0%	11%
Unidad 27	Patients with imagen	0	6	6	9	12	33
	# Patients with IVH III and IV	0	0	1	1	1	3
	Percentage		0%	17%	11%	8%	9%

Comment: Only patients with central nervous system images were included. Empty boxes mean no patients or information in that group. Intraventricular hemorrhage with ventricular enlargement or parenchymal echogenicity or periventricular leukomalacia are considered grade III or IV IVH (intraventricular hemorrhage). Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year or less than 11 Imagin taken.

PRESENTATION 37

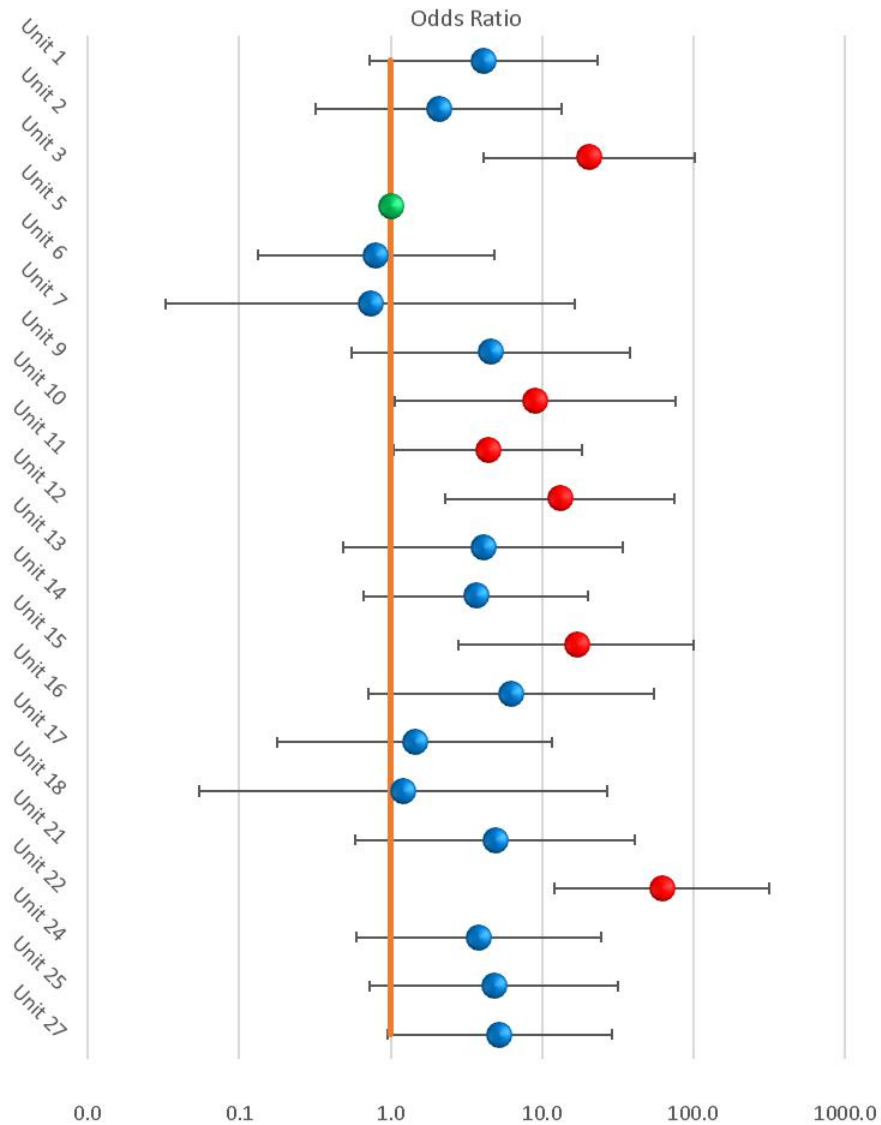
Odds Ratio of Anomalies in Neuroimaging (Hemorrhage Intraventricular III and IV) in infants ≤ 32 weeks Gestational Age by unit (table)

UNITS	N	OR	P values	CI 95%
Unidad 1	35	4.1	0.109	0.7 - 23.3
Unidad 2	35	2.1	0.446	0.3 - 13.5
Unidad 3	23	20.5	0.000	4.1 - 101.7
Unidad 5	109	1.0	ref	
Unidad 6	114	0.8	0.811	0.1 - 4.9
Unidad 7	32	0.7	0.843	0.0 - 16.4
Unidad 9	22	4.6	0.160	0.5 - 38.1
Unidad 10	15	9.0	0.044	1.1 - 76.5
Unidad 11	101	4.4	0.043	1.0 - 18.5
Unidad 12	20	13.1	0.004	2.3 - 74.8
Unidad 13	24	4.1	0.197	0.5 - 34.3
Unidad 14	39	3.6	0.138	0.7 - 20.0
Unidad 15	13	16.8	0.002	2.8 - 100.7
Unidad 16	12	6.2	0.098	0.7 - 54.7
Unidad 17	36	1.4	0.732	0.2 - 11.7
Unidad 18	21	1.2	0.903	0.1 - 27.0
Unidad 21	23	4.9	0.142	0.6 - 40.8
Unidad 22	16	61.7	0.000	12.0 - 317.1
Unidad 24	24	3.8	0.157	0.6 - 24.5
Unidad 25	23	4.8	0.105	0.7 - 31.7
Unidad 27	35	5.2	0.057	1.0 - 29.0
Reference		UNIT 5		

Intraventricular hemorrhage with ventricular enlargement or parenchymal echogenicity or periventricular leukomalacia are considered grade III or IV IVH (intraventricular hemorrhage). Reference unit 7 was chosen for the adequate number of infants and low incidence. A logistic regression was performed with adjustment for Gestational Age. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. The low frequency in some units also explains the imprecision of the estimates. The low number of infants underestimates the difference.

Statistically significant p values are marked in bold. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

ODDS RATIO of Anomalies in Neuroimaging (Intraventricular Hemorrhage III and IV) in infants ≤ 32 weeks Gestational Age by unit (graph with log scale)



In red the units with significant difference and in green referent unit. Interpretation of some of the data should be done with caution because some units have large CI.

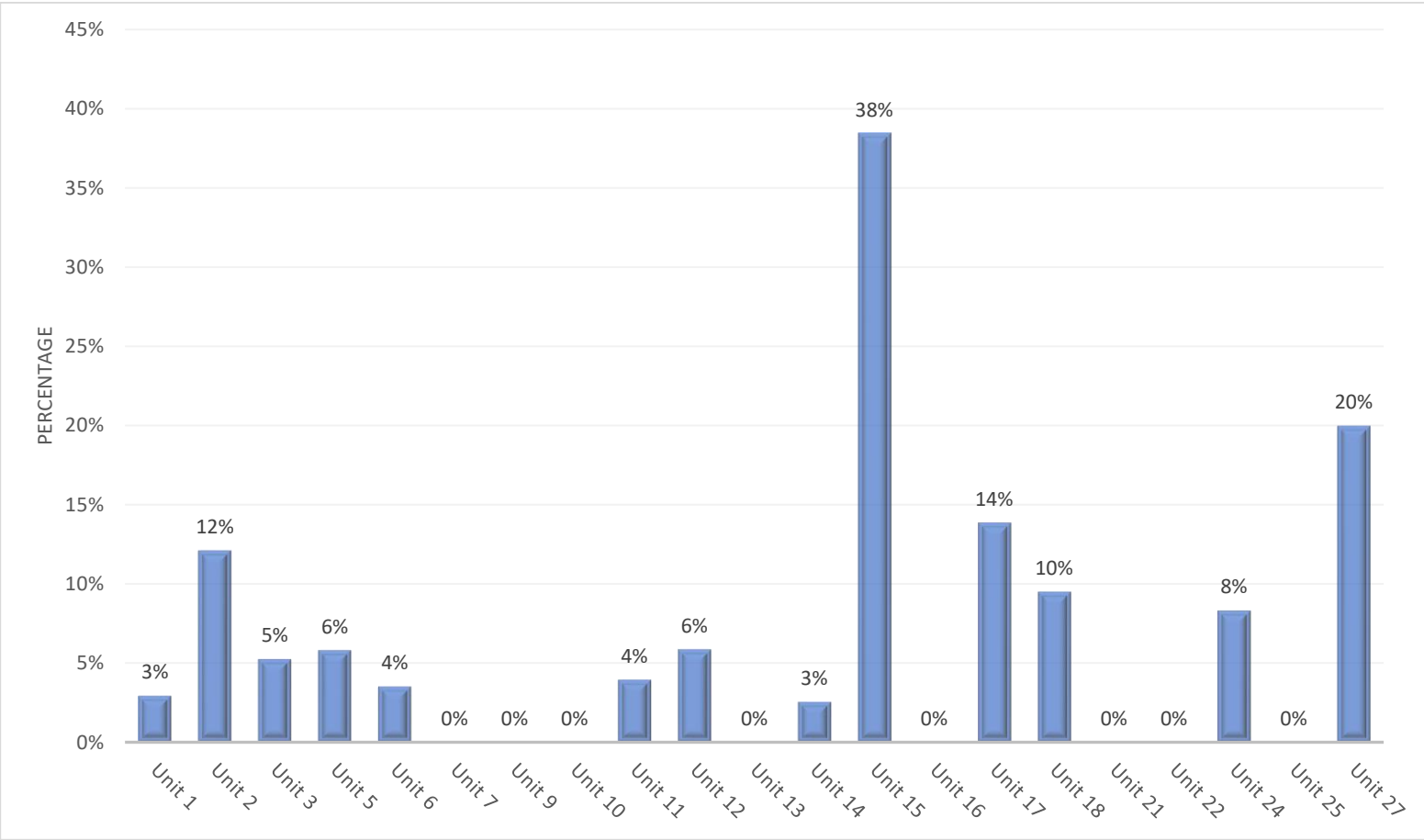
PRESENTATION 38

NEC (Stage ≥ 2) in Infants ≤ 32 weeks Gestational Age and ≤ 20 days at admission (Frequency and treatment by UNIT)

UNITS	Number of Patients		NEC		Treatment				
					Surgical		Drainage		
Unit 1	n	%	34	1	3%	1	100%	0	0%
Unit 2	n	%	33	4	12%	3	75%	4	100%
Unit 3	n	%	19	1	5%	1	100%	0	0%
Unit 4	n	%	10	1	10%	0	0%	1	100%
Unit 5	n	%	103	6	6%	3	50%	4	67%
Unit 6	n	%	113	4	4%	0	0%	0	0%
Unit 7	n	%	32	0	0%	0		0	
Unit 9	n	%	22	0	0%	0		0	
Unit 10	n	%	15	0	0%	0		0	
Unit 11	n	%	101	4	4%	2	50%	1	25%
Unit 12	n	%	17	1	6%	0	0%	0	0%
Unit 13	n	%	24	0	0%	0		0	
Unit 14	n	%	39	1	3%	1	100%	1	100%
Unit 15	n	%	13	5	38%	0	0%	0	0%
Unit 16	n	%	12	0	0%	0		0	
Unit 17	n	%	36	5	14%	1	20%	1	20%
Unit 18	n	%	21	2	10%	1	50%	1	50%
Unit 21	n	%	22	0	0%	0		0	
Unit 22	n	%	16	0	0%	0		0	
Unit 24	n	%	24	2	8%	0	0%	0	0%
Unit 25	n	%	23	0	0%	0		0	
Unit 27	n	%	35	7	20%	2	29%	0	0%
Total	n	%	754	43	6%	15	35%	12	28%

Comment: NEC: Necrotizing Enterocolitis. Patients ≤ 32 weeks Gestational Age at Birth who had complete data were included. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year and more than 20 days at admission. Empty cells, no patient/information. There is no information on only medical treatment or if this type of treatment was received for some time before the interventions. Note that 8 units didn't report cases of NEC.

NEC (Stage ≥ 2) in Infants ≤ 32 weeks Gestational Age (Frequency and treatment by UNIT) (graph)



Note that some units reported 0 NEC.

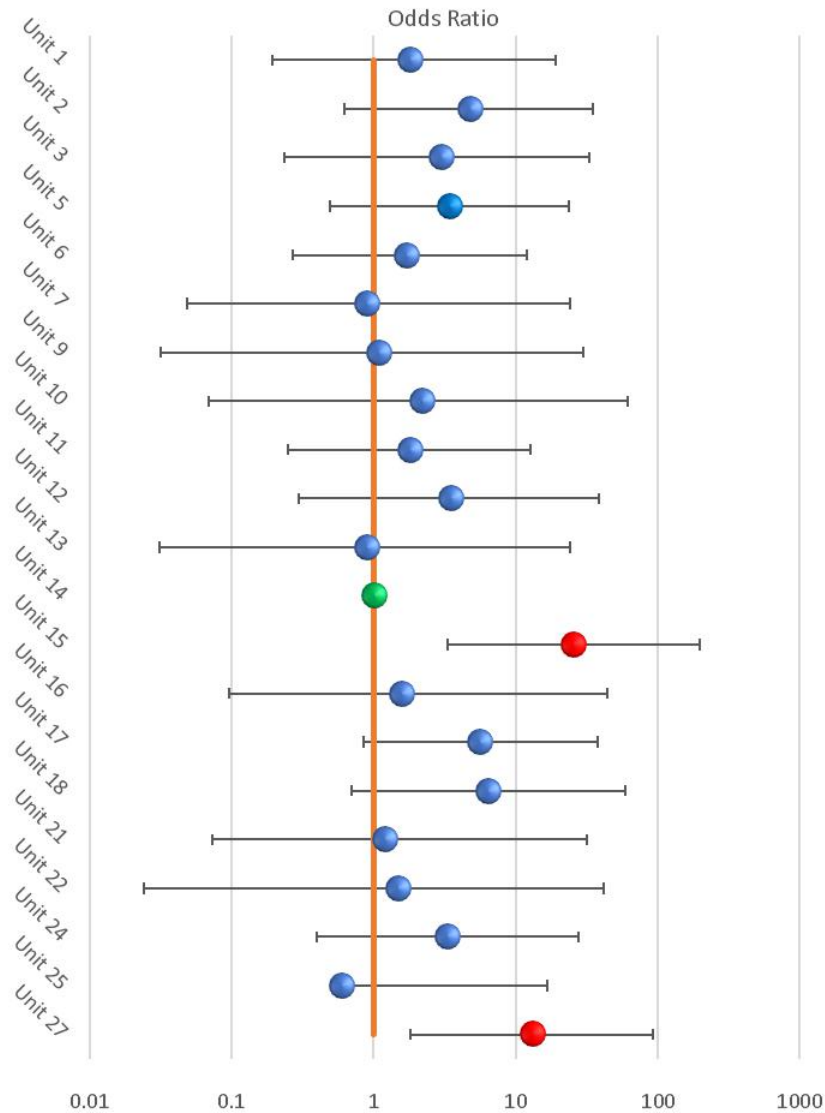
PRESENTATION 39

**Odds Ratio in NEC (Stage ≥ 2) in ≤ 32 weeks Gestational Age and ≤ 10 days at admission
Adjusted by Gestational Age (By UNITS) (table)**

UNITS	N	OR	P values	CI 95%
Unit 1	34	1.8	0.639	0.2 - 19.2
Unit 2	33	4.8	0.120	0.7 - 35.4
Unit 3	19	3.0	0.358	0.3 - 32.8
Unit 5	103	3.4	0.217	0.5 - 23.6
Unit 6	113	1.7	0.612	0.2 - 11.9
Unit 7	32	0.9	0.942	0.0 - 24.3
Unit 9	22	1.1	0.951	0.0 - 30.0
Unit 10	15	2.2	0.640	0.1 - 61.6
Unit 11	101	1.8	0.557	0.3 - 12.8
Unit 12	17	3.5	0.304	0.3 - 38.9
Unit 13	24	0.9	0.951	0.0 - 24.1
Unit 14	39	0.0	Ref	
Unit 15	13	25.6	0.002	3.3 - 198.2
Unit 16	12	1.6	0.794	0.1 - 44.0
Unit 17	36	5.6	0.078	0.8 - 37.6
Unit 18	21	6.4	0.102	0.7 - 58.9
Unit 21	22	1.2	0.925	0.0 - 31.6
Unit 22	16	1.5	0.801	0.1 - 41.9
Unit 24	24	3.3	0.273	0.4 - 27.8
Unit 25	23	0.6	0.785	0.0 - 16.8
Unit 27	35	13.0	0.010	1.8 - 92.6
Reference		14		

Odd Ratio. Reference unit 6 was chosen at it has a highest incidence with a large number of infants. A logistic regression with adjustment by SNAPE II and Gestational Age was done. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. The statistics should be interpreted with caution due to the small number of infants and large intervals. No statistically significant values were found. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Odds Ratio in NEC (Stage ≥ 2) in ≤ 32 weeks Gestational Age Adjusted by Gestational Age (By UNITS) (graphic with log scale)

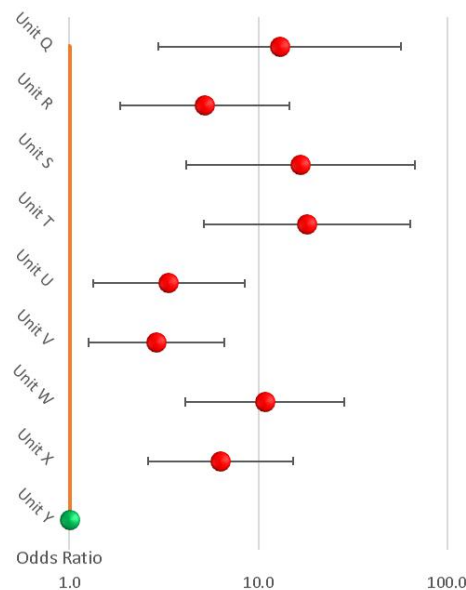


Significant difference in red. In green referent unit chosen for low incidence with enough number of cases. Interpretation of some of the data should be done with caution because some CI are large. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

PRESENTATION 40

OXYGEN supplement Odds Ratio at 36 weeks (By UNITS) at ≥ 2000 meters over sea level, Adjusted by Gestational Age in ≤ 32 weeks Gestational Age at birth (Graph [with log scale]/Table)

UNITS	N	OR	p value	CI 95%
Unidad Q	13.0	0.001	2.97	- 57.0 13.0
Unidad R	5.2	0.002	1.85	- 14.7 5.2
Unidad S	16.7	0.000	4.13	- 67.6 16.7
Unidad T	18.2	0.000	5.18	- 64.1 18.2
Unidad U	3.4	0.010	1.33	- 8.5 3.4
Unidad V	2.9	0.012	1.27	- 6.6 2.9
Unidad W	10.9	0.000	4.13	- 28.7 10.9
Unidad X	6.3	0.000	2.62	- 15.4 6.3
Unidad Y	1.0	Ref		1.0
Reference		Y		



In green referent unit, in red units statistically significantly different

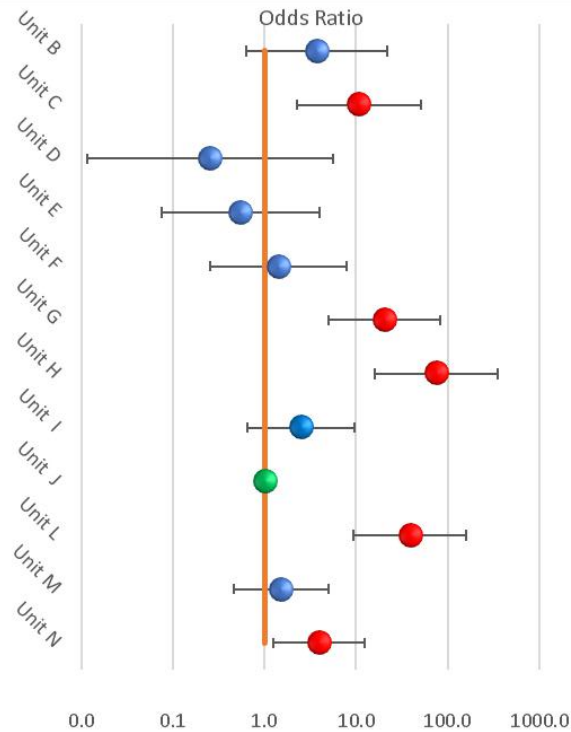
Reference unit Y was chosen for the lowest incidence and adequate number of infants. A logistic regression with adjustment by Gestational Age was performed. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. Statistically significant p values are marked in bold.

Comment: For the analysis of the variables of units above sea level, due to the small number of units in each group it was decided to assign letters for confidentiality. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

PRESENTATION 41

ODDS RATIO of supplemental OXYGEN at 36w PMA or discharge in UNITS < 2000 meters over sea level Adjusted by SNAPE II and Gestational Age in ≤ 32 w Gestational Age at Birth (graph)

UNITES		OR	Valor de p	CI 95%
Unit B	12	3.7	0.145	0.6 - 22.1
Unit C	15	10.7	0.003	2.3 - 50.5
Unit D	16	0.3	0.386	0.0 - 5.6
Unit E	21	0.6	0.556	0.1 - 4.0
Unit F	22	1.4	0.686	0.3 - 7.9
Unit G	23	20.2	0.000	5.0 - 81.7
Unit H	24	75.8	0.000	16.2 - 355.3
Unit I	35	2.5	0.183	0.6 - 9.6
Unit J	35	1.0	Ref	
Unit L	36	38.6	0.000	9.5 - 157.6
Unit M	101	1.5	0.491	0.5 - 5.0
Unit N	109	3.9	0.018	1.3 - 12.3
Referencia		J		



In green referent unit, in red units statistically significantly different. PMA postmenstrual age.

Odd Ratio. Reference unit L was chosen for the low value with an adequate number of infants. A logistic regression with adjustment by SNAPE II and Gestational Age was performed. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. Statistically significant p values are marked in bold.

Comment: For the analysis of the variables of units above sea level, due to the small number of units in each group it was decided to assign letters for confidentiality. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

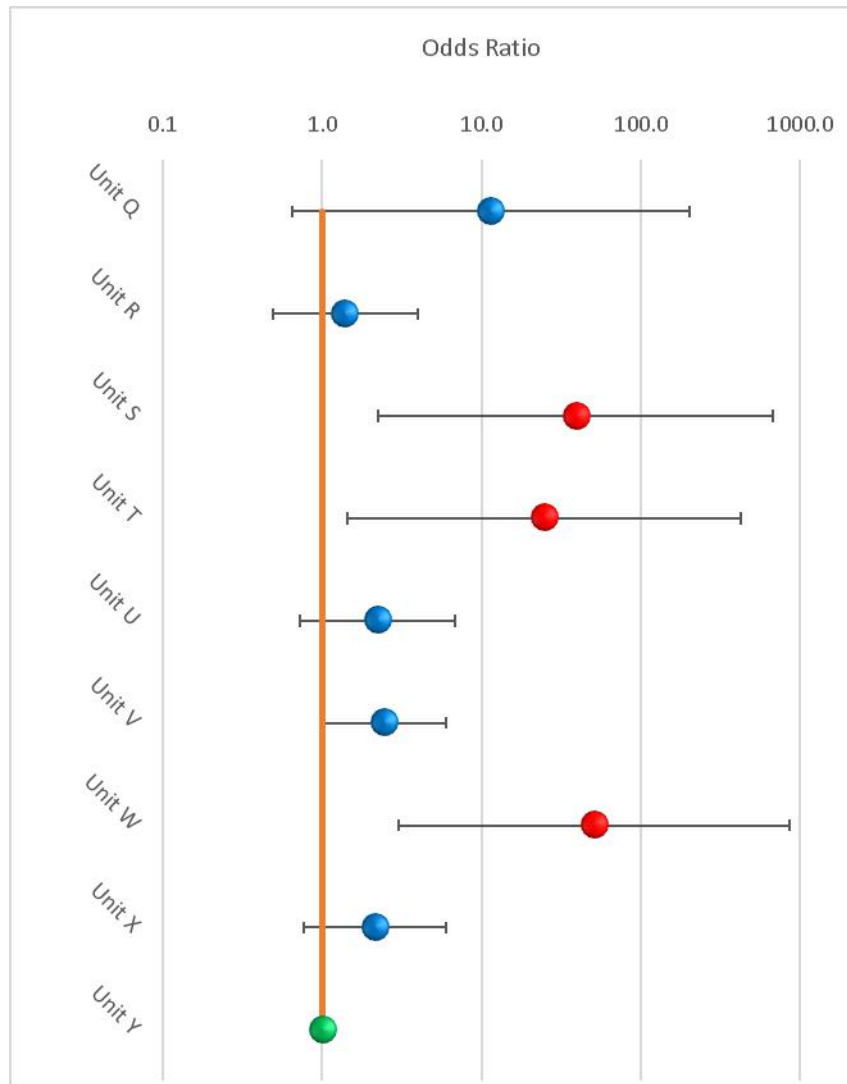
PRESENTATION 42

OXYGEN supplement Odds Ratio at 36 weeks PMA, at discharge or DEATH in UNITS \geq 2000 meters over sea level, Adjusted by Gestational Age (By UNITS) in \leq 32 w Gestational Age

UNITES	N	OR	p value	CI 95%
Unidad Q	13	11.5	0.095	0.7 - 203.0
Unidad R	20	1.4	0.537	0.5 - 4.0
Unidad S	23	39.0	0.012	2.3 - 675.8
Unidad T	23	24.6	0.028	1.4 - 425.1
Unidad U	24	2.2	0.163	0.7 - 6.9
Unidad V	32	2.4	0.055	1.0 - 6.0
Unidad W	35	50.8	0.007	3.0 - 861.1
Unidad X	39	2.1	0.144	0.8 - 6.0
Unidad Y	114	1.0	Ref	
Reference		Unit Y		

Reference unit Y was chosen for the large number of infants with low median values. A logistic regression with adjustment by Gestational Age was performed. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. For the analysis of the variables of units above sea level, due to the small number of cases in each group it was decided to assign letters for confidentiality. The statistics should be interpreted with caution due to the small number of infants in some units. Death, 36w PMA and oxygen at discharge was define in previous presentations. Statistically significant p values are marked in bold. Units were excluded if they had \leq 10 patients \leq 32 weeks GA at birth during the year.

OXYGEN supplement Odds Ratio at 36 weeks PMA, at discharge or DEATH in UNITS \geq 2000 meters over sea level, Adjusted by Gestational Age (By UNITS) in \leq 32 w Gestational Age (Graph with log scale)



In green referent unit, in red units statistically significantly different

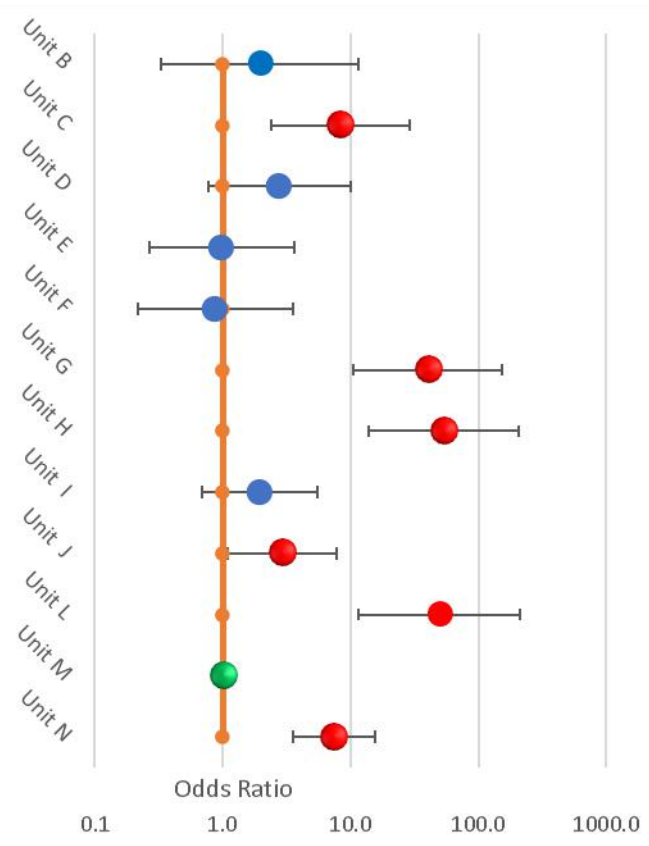
PRESENTATION 43

OXYGEN supplement Odds Ratio at 36 weeks PMA, at discharge or DEATH in UNITS < 2000 meters over sea level, Adjusted by Gestational Age (By UNIT) in ≤ 32 w Gestational Age

UNITS	N	OR	p value	CI 95%
Unit B	12	2.0	0.459	0.3 - 11.4
Unit C	15	8.3	0.001	2.4 - 28.9
Unit D	16	2.8	0.119	0.8 - 9.9
Unit E	21	1.0	0.978	0.3 - 3.6
Unit F	22	0.9	0.855	0.2 - 3.6
Unit G	23	40.1	0.000	10.4 - 154.0
Unit H	24	53.4	0.000	14.0 - 204.1
Unit I	35	2.0	0.209	0.7 - 5.5
Unit J	35	2.9	0.032	1.1 - 7.7
Unit L	36	49.3	0.000	11.5 - 211.9
Unit M	101	1.0	Ref	
Unit N	109	7.4	0.000	3.5 - 15.6
Reference	Unit	M		

Reference unit C was chosen for the large number of infants with the low values. A logistic regression with adjustment by Gestational Age was performed. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. For the analysis of the variables of units above sea level, due to the small number of units in each group it was decided to assign letters for confidentiality. The statistics should be interpreted with caution due to the small number of infants in some units. Death, 36w PMA and oxygen at discharge was define in previous presentations. Statistically significant p values are marked in bold. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

OXYGEN supplement Odds Ratio at 36 weeks PMA, at discharge or DEATH in UNITS < 2000 meters over sea level, Adjusted by SNAPE II and Gestational Age (By UNIT) in ≤ 32 w Gestational Age (graph)



In green referent unit, in red units with statistically significant difference

PRESENTATION 44

Use and Duration of **PRENATAL** Steroids in Mothers of Infants ≤ 34 weeks Gestational Age

UNITS	Received Steroids		Unknown Yes received Steroids		Complete						Partial				TOTAL CASES				
					Last week		Before		Time Unknown		Last week		Before			Unknown			
Unit 1	n	%	68	86%	1	1%	31	46%	13	19%	1	1%	16	24%	7	10%	0	0%	79
Unit 2	n	%	34	97%	0	0%	17	50%	8	24%	0	0%	9	26%	0	0%	0	0%	35
Unit 3	n	%	16	38%	1	2%	11	69%	2	13%	1	6%	0	0%	0	0%	2	13%	42
Unit 4	n	%	13	93%	0	0%	10	77%	1	8%	0	0%	2	15%	0	0%	0	0%	14
Unit 5	n	%	148	60%	14	6%	34	23%	86	58%	20	14%	3	2%	2	1%	3	2%	246
Unit 6	n	%	127	65%	17	9%	49	39%	44	35%	5	4%	26	20%	3	2%	0	0%	194
Unit 7	n	%	58	94%	0	0%	32	55%	19	33%	1	2%	5	9%	1	2%	0	0%	62
Unit 9	n	%	22	100%	0	0%	7	32%	8	36%	0	0%	7	32%	0	0%	0	0%	22
Unit 10	n	%	13	81%	0	0%	6	46%	5	38%	0	0%	2	15%	0	0%	0	0%	16
Unit 11	n	%	80	78%	0	0%	45	56%	0	0%	4	5%	25	31%	0	0%	6	8%	103
Unit 12	n	%	6	11%	2	4%	0	0%	0	0%	0	0%	3	50%	3	50%	0	0%	55
Unit 13	n	%	35	76%	0	0%	2	6%	4	11%	3	9%	9	26%	3	9%	14	40%	46
Unit 14	n	%	47	85%	1	2%	10	21%	7	15%	1	2%	14	30%	15	32%	0	0%	55
Unit 15	n	%	8	36%	4	18%	7	88%	0	0%	0	0%	1	13%	0	0%	0	0%	22
Unit 16	n	%	24	86%	0	0%	16	67%	4	17%	0	0%	4	17%	0	0%	0	0%	28
Unit 17	n	%	34	83%	0	0%	26	76%	1	3%	0	0%	7	21%	0	0%	0	0%	41
Unit 18	n	%	32	78%	0	0%	21	66%	6	19%	0	0%	5	16%	0	0%	0	0%	41
Unit 21	n	%	51	86%	0	0%	25	49%	21	41%	2	4%	2	4%	1	2%	0	0%	59
Unit 22	n	%	11	37%	0	0%	0	0%	0	0%	7	64%	4	36%	0	0%	0	0%	30
Unit 24	n	%	21	72%	1	3%	8	38%	1	5%	0	0%	10	48%	2	10%	0	0%	29
Unit 25	n	%	43	80%	0	0%	29	67%	9	21%	0	0%	2	5%	3	7%	0	0%	54
Unit 27	n	%	45	92%	0	0%	17	38%	19	42%	0	0%	8	18%	1	2%	0	0%	49

Comment: Statistics are based on data entered, and some should be interpreted with caution due to the small number of infants in some units. Readmissions were not included. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

PRESENTATION 45

POSTNATAL Corticosteroids in Infants ≤ 32 weeks Gestational Age, Route and Indication

UNITS	Oral	% of total treated	Intravenous	% of total treated	Inhaled	% of total treated	Total Number of therapies	Total Number of Patients	Percentage treated
Unit 1	0	0%	1	100%	0	0%	1	35	3%
Unit 2	0	0%	5	100%	0	0%	5	35	11%
Unit 3	0	0%	2	67%	1	33%	3	23	9%
Unit 5	2	4%	0	0%	51	96%	53	109	28%
Unit 6	0	0%	7	100%	0	0%	7	114	4%
Unit 7	0	0%	3	100%	0	0%	3	32	9%
Unit 9	0	0%	1	100%	0	0%	1	22	5%
Unit 10	0		0		0		0	15	0%
Unit 11	0	0%	13	100%	0	0%	13	101	13%
Unit 12	0		0		0		0	20	0%
Unit 13	0		0		0		0	24	0%
Unit 14	3	15%	12	60%	5	25%	20	39	31%
Unit 15	0	0%	3	33%	6	67%	9	13	62%
Unit 16	0	0%	2	100%	0	0%	2	12	17%
Unit 17	4	15%	21	78%	2	7%	27	36	47%
Unit 18	0	0%	2	100%	0	0%	2	21	10%
Unit 21	0	0%	1	100%	0	0%	1	23	4%
Unit 22	0	0%	6	35%	11	65%	17	16	56%
Unit 24	0		0		0		0	24	0%
Unit 25	0	0%	4	100%	0	0%	4	23	17%
Unit 27	0	0%	9	100%	0	0%	9	35	26%
TOTAL	9	5%	96	53%	76	42%	181	772	16%

Comment: Only the units with complete data were included for the analysis (validated).
 Readmissions were excluded. Only units with more than 10 patients ≤ 32 weeks Gestational Age. Empty cells indicate absence of cases reported.

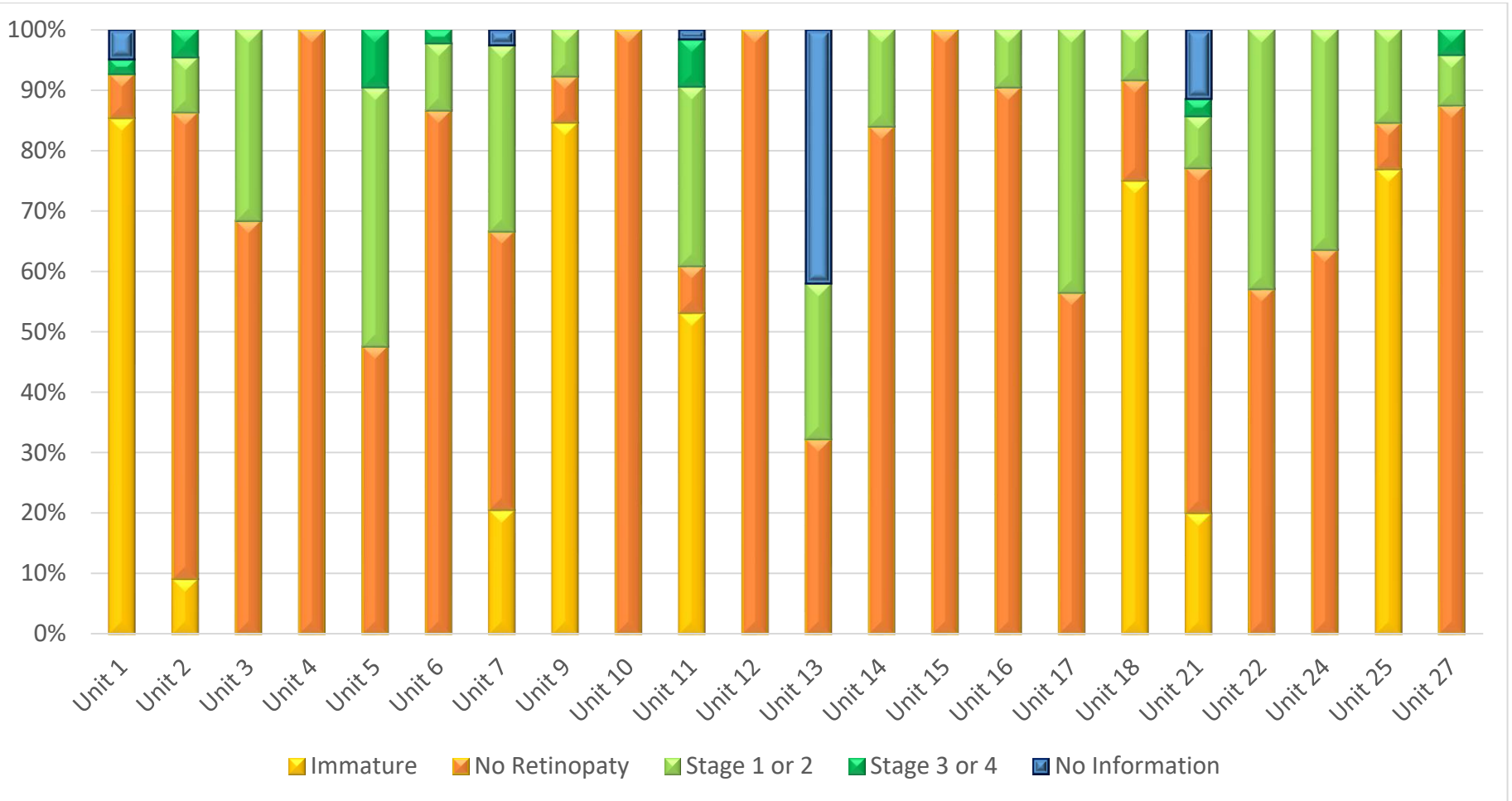
PRESENTATION 46

Stages of Retinopathy of Prematurity in infants ≤ 34 weeks GA with ophthalmological examination (table)

UNITS	Total Number of Neonates	Total Number of patients studied	Stages of Retinopathy of Prematurity									
			Immature		No		Stage 1 or 2		Stage 3 or 4		No Information	
Unit 1	n %	79	41 52%	35 85%	3 7%	0 0%	1 2%	2 5%				
Unit 2	n %	35	22 63%	2 9%	17 77%	2 9%	1 5%	0 0%				
Unit 3	n %	42	19 45%	0 0%	13 68%	6 32%	0 0%	0 0%				
Unit 4	n %	14	7 50%	0 0%	7 100%	0 0%	0 0%	0 0%				
Unit 5	n %	246	42 17%	0 0%	20 48%	18 43%	4 10%	0 0%				
Unit 6	n %	194	90 46%	0 0%	78 87%	10 11%	2 2%	0 0%				
Unit 7	n %	62	39 63%	8 21%	18 46%	12 31%	0 0%	1 3%				
Unit 9	n %	22	13 59%	11 85%	1 8%	1 8%	0 0%	0 0%				
Unit 10	n %	16	11 69%	0 0%	11 100%	0 0%	0 0%	0 0%				
Unit 11	n %	103	64 62%	34 53%	5 8%	19 30%	5 8%	1 2%				
Unit 12	n %	55	27 49%	0 0%	27 100%	0 0%	0 0%	0 0%				
Unit 13	n %	46	31 67%	0 0%	10 32%	8 26%	0 0%	13 42%				
Unit 14	n %	55	25 45%	0 0%	21 84%	4 16%	0 0%	0 0%				
Unit 15	n %	22	13 59%	0 0%	13 100%	0 0%	0 0%	0 0%				
Unit 16	n %	28	21 75%	0 0%	19 90%	2 10%	0 0%	0 0%				
Unit 17	n %	41	23 56%	0 0%	13 57%	10 43%	0 0%	0 0%				
Unit 18	n %	41	36 88%	27 75%	6 17%	3 8%	0 0%	0 0%				
Unit 21	n %	59	35 59%	7 20%	20 57%	3 9%	1 3%	4 11%				
Unit 22	n %	30	14 47%	0 0%	8 57%	6 43%	0 0%	0 0%				
Unit 24	n %	29	11 38%	0 0%	7 64%	4 36%	0 0%	0 0%				
Unit 25	n %	54	13 24%	10 77%	1 8%	2 15%	0 0%	0 0%				
Unit 27	n %	49	24 49%	0 0%	21 88%	2 8%	1 4%	0 0%				
TOTAL	n %	1322	621 47%	134 22%	339 55%	112 18%	15 2%	21 3%				

Comment: The column of those who did not receive corticosteroids due to lack of space was not included, only those who did receive it or it is not known. This table should be analyzed with caution because some cells have a low number of patients. This table and graph were not broken down into birthweight groups because of the low number in some units. Probably some of the infants reported as without retinopathy are immature retina. Note that one unit did not report eye exams. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Stages of Retinopathy of Prematurity in all Patients with ophthalmic examination (graph)



PRESENTATION 47

Therapy for Retinopathy of Prematurity in all patients

UNITS	Patients Treated	Laser		VEGF		Cryo		More than one therapy	
		n	%	n	%	n	%	n	%
Unidad 1	1	1	100%	0	0%			0	0%
Unidad 2	1	0	0%	1	100%	1	100%	0	0%
Unidad 3	3	0	0%	3	100%			0	0%
Unidad 5	5	4	80%	1	20%			0	0%
Unidad 6	2	2	100%	0	0%			0	0%
Unidad 7	1	1	100%	0	0%			0	0%
Unidad 11	10	6	60%	6	60%			2	20%
Unidad 17	1	0	0%	1	100%			0	0%
Unidad 18	2	2	100%	0	0%			0	0%
Total	28	18	64%	12	43%	1	4%	2	7%

Comment: only patients with complete information were included. The statistics should be interpreted with caution due to the small number of infants. Some units without ophthalmologist with experience in these treatments send their patients to other institutions. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

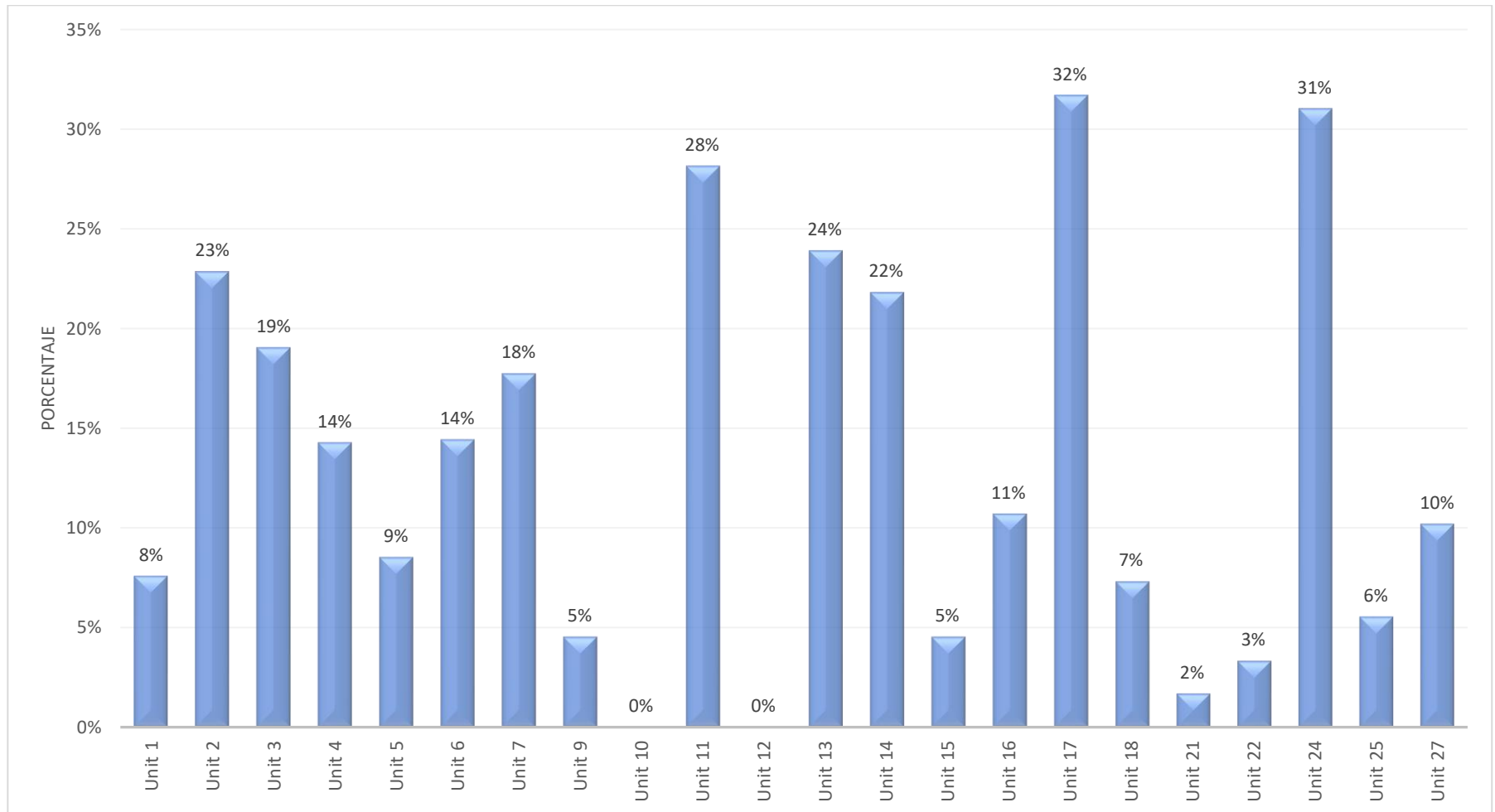
PRESENTATION 48

Stages III of Retinopathy of Prematurity (ROP) or Death in infants ≤ 34 weeks GA (table)

UNITS	Total	Retinopathy III to V	Death	Both	Percentage of Patients with ROP Stage III/IV or Deaths
Unit 1	79	1	6	7	9%
Unit 2	35	1	7	8	23%
Unit 3	42	0	5	5	12%
Unit 4	14	0	2	2	14%
Unit 5	246	4	15	19	8%
Unit 6	194	2	22	24	12%
Unit 7	62	0	3	3	5%
Unit 9	22	0	1	1	5%
Unit 10	16	0	0	0	0%
Unit 11	103	5	19	24	23%
Unit 12	55	0	0	0	0%
Unit 13	46	0	3	3	7%
Unit 14	55	0	8	8	15%
Unit 15	22	0	1	1	5%
Unit 16	28	0	1	1	4%
Unit 17	41	0	7	7	17%
Unit 18	41	0	2	2	5%
Unit 21	59	1	1	2	3%
Unit 22	30	0	0	0	0%
Unit 24	29	0	7	7	24%
Unit 25	54	0	3	3	6%
Unit 27	49	1	4	5	10%
Total	1322	15	117	105	8%

Comment: only patients with complete information were included. For this analysis, only patients < 34 weeks GA with ROP stage III were included, plus all patients younger than 34 weeks GA who died. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Stages III of Retinopathy of Prematurity (ROP) and/or Death in infants ≤ 34 weeks GA (Graph)



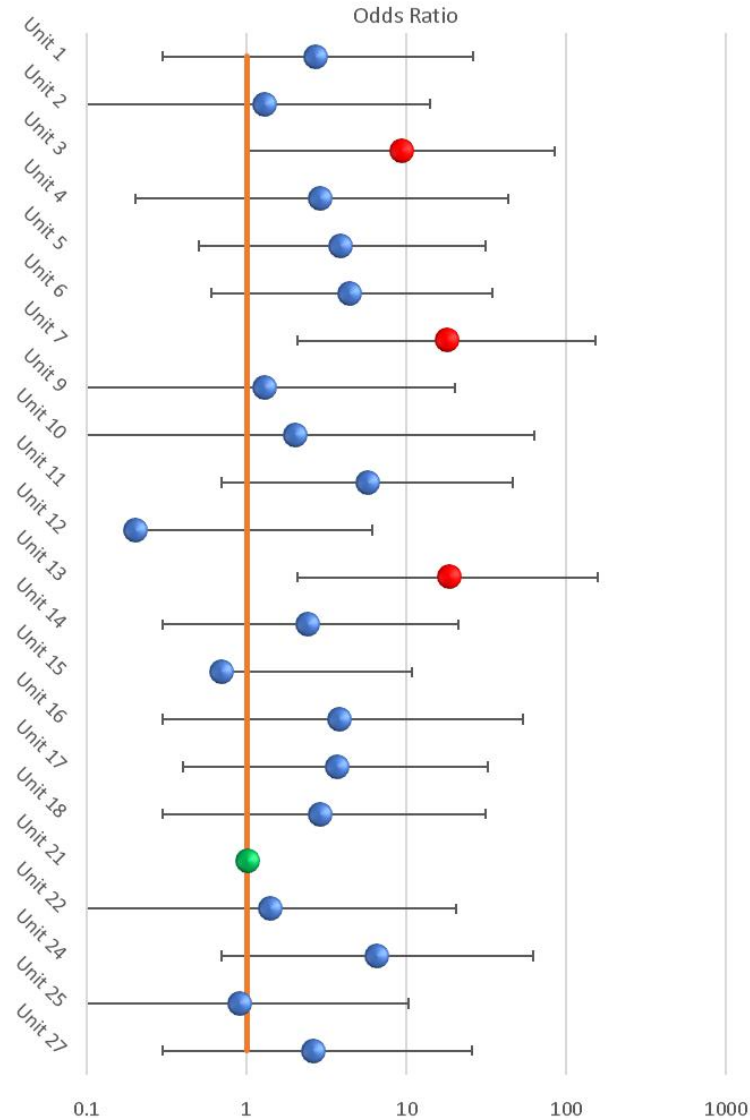
PRESENTATION 49

ODDS RATIO of Retinopathy of Prematurity (ROP) Stages \geq III and/or Death in infants with \leq 34 weeks GA at birth (Table)

UNITS	N	OR	P value	CI 95%
Unit 1	79	2.7	0.399	0.3 - 26.1
Unit 2	35	1.3	0.809	0.1 - 14.0
Unit 3	42	9.29	0.048	1.02 - 84.62
Unit 4	14	2.9	0.450	0.2 - 43.8
Unit 5	246	3.9	0.203	0.5 - 31.2
Unit 6	194	4.4	0.162	0.6 - 34.7
Unit 7	62	18.0	0.008	2.1 - 154.0
Unit 9	22	1.3	0.874	0.1 - 20.1
Unit 10	16	2.0	0.704	0.1 - 63.9
Unit 11	103	5.7	0.102	0.7 - 46.4
Unit 12	55	0.2	0.345	0.0 - 6.1
Unit 13	46	18.5	0.008	2.1 - 159.2
Unit 14	55	2.4	0.434	0.3 - 21.1
Unit 15	22	0.7	0.791	0.0 - 10.9
Unit 16	28	3.8	0.327	0.3 - 53.6
Unit 17	41	3.7	0.244	0.4 - 32.5
Unit 18	41	2.9	0.379	0.3 - 31.6
Unit 21	59	1.0	ref	
Unit 22	30	1.4	0.798	0.1 - 20.4
Unit 24	29	6.5	0.107	0.7 - 62.3
Unit 25	54	0.9	0.910	0.1 - 10.4
Unit 27	49	2.6	0.414	0.3 - 26.0
Reference		Unit 21		

Statistically significant p values are marked in red. The statistics should be interpreted with caution due to the small number of infants in some units and very large CI.

ODDS RATIO of Retinopathy of Prematurity (ROP) Stages \geq III and/or Death in infants with \leq 34 w GA controlled by SNAPE II and Gestational Age (graph with CI log scale)



In green referent unit, in red units with statistically significant difference.

Reference unit 21 was chosen for an adequate number of infants and low results. A logistic regression with adjustment by Gestational Age was performed. The maximum penalized likelihood estimation method proposed by David Firth (Firthlogit¹) for the low frequency of events was used. The statistics should be interpreted with caution due to the small number of infants in some units and very large CI. Death, and ROP III or more was defined in previous presentations. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

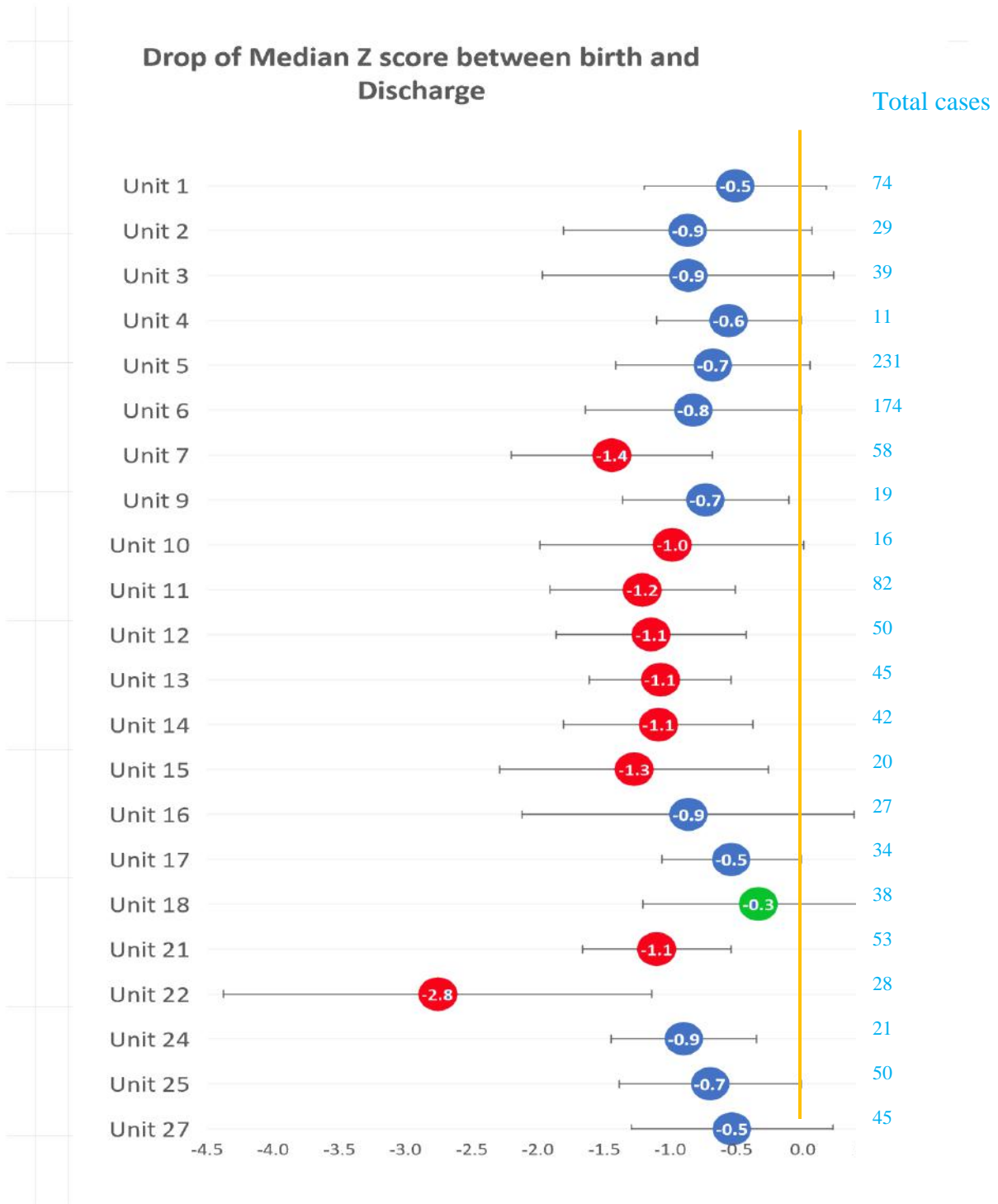
PRESENTATION 50

Median change in Weight Z-SCORE in preterm babies ≤ 34 weeks GA between birthweight and weight at discharge, using Fenton 2013 curves

UNITS	Patients discharged < 34w GA	Median change in Z-score	Median Z-score at Birth	Median Z-score at discharge	p*
Unit 1	74	-0.5	-0.3	-0.8	0.283
Unit 2	29	-0.9	0.6	-0.6	0.101
Unit 3	39	-0.9	-1.2	-2.0	0.008
Unit 4	11	-0.6	0.1	-0.5	0.949
Unit 5	231	-0.7	-0.1	-0.8	0.043
Unit 6	174	-0.8	-0.5	-1.3	0.013
Unit 7	58	-1.4	-0.1	-1.5	0.000
Unit 9	19	-0.7	0.3	-0.5	0.485
Unit 10	16	-1.0	0.1	-1.0	0.030
Unit 11	82	-1.2	-0.3	-1.7	0.000
Unit 12	50	-1.1	-0.2	-1.6	0.000
Unit 13	45	-1.1	-0.6	-1.6	0.000
Unit 14	42	-1.1	-0.3	-1.4	0.035
Unit 15	20	-1.3	-0.3	-1.4	0.001
Unit 16	27	-0.9	-0.2	-1.3	0.113
Unit 17	34	-0.5	-0.6	-1.1	0.671
Unit 18	38	-0.3	-0.5	-1.0	ref
Unit 21	53	-1.1	-0.2	-1.5	0.000
Unit 22	28	-2.8	-1.0	-3.6	0.000
Unit 24	21	-0.9	-0.8	-1.5	0.249
Unit 25	50	-0.7	-0.3	-1.1	0.215
Unit 27	45	-0.5	0.0	-0.7	0.910

Comment: only patients with complete information discharged home were included. The Z-score at birth and at discharge was calculated and the median difference for each NICU was determined. The units were compared using a median regression controlled by Gestational Age. The statistics should be interpreted with caution due to the small number of infants in some units. Statistically significant p values are marked in bold.

Median (IQR) change in Weight Z-SCORE in preterm babies ≤ 32 weeks GA between birthweight and weight at discharge, using Fenton 2013 curves.



Interquartile ranges (IQR). The median weight Z-score change is the difference between birthweight Z-score and weight Z-score at discharge. The further from "0" (orange line, regain birthweight) the greater the fall. The units were compared by median nonparametric regression adjusted for gestational age at birth. In green referent unit with the lowest change and in red units statistically significantly different. The ranges have wide variability. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

B. CONDITIONS AND DISCHARGE DESTINATION

PRESENTATION 51

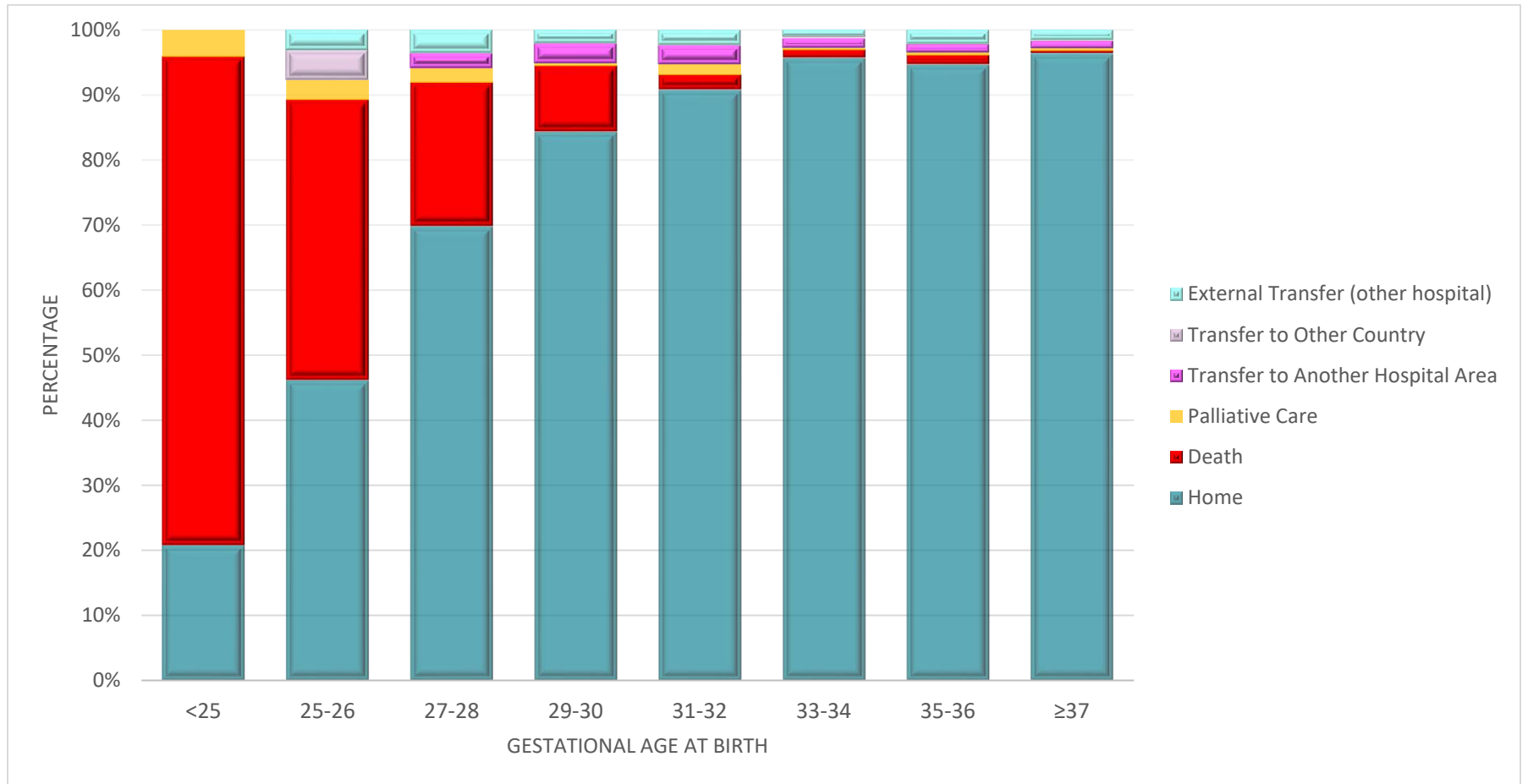
Destination at discharge (All Patients) (table)

Gestational Age (weeks)	Home		Death		Palliative Care		Transfer to Another Hospital Area		Transfer to Other Country		External Transfer (other hospital)		Total
	n	%	n	%	n	%	n	%	n	%	n	%	
<25	n	5	18	1	0	0	0	0	0	0	0	0	24
	%	21%	75%	4%	0%	0%	0%	0%	0%	0%	0%	0%	
25-26	n	30	28	2	0	3	2	0	3	2	2	2	65
	%	46%	43%	3%	0%	5%	3%	0%	5%	3%	3%	3%	
27-28	n	120	38	4	4	0	4	4	0	6	6	6	172
	%	70%	22%	2%	2%	0%	2%	2%	0%	3%	3%	3%	
29-30	n	166	20	1	6	0	6	6	0	4	4	4	197
	%	84%	10%	1%	3%	0%	3%	3%	0%	2%	2%	2%	
31-32	n	313	8	6	10	0	10	10	0	8	8	8	345
	%	91%	2%	2%	3%	0%	3%	3%	0%	2%	2%	2%	
33-34	n	522	7	2	8	2	8	8	2	5	5	5	546
	%	96%	1%	0%	1%	0%	1%	1%	0%	1%	1%	1%	
35-36	n	576	9	3	8	0	8	8	0	13	13	13	609
	%	95%	1%	0%	1%	0%	1%	1%	0%	2%	2%	2%	
≥37	n	1,845	9	8	23	1	23	23	1	30	30	30	1,916
	%	96%	0%	0%	1%	0%	1%	1%	0%	2%	2%	2%	
Total	n	3,577	137	27	59	6	59	59	6	68	68	68	3,874
	%	92%	4%	1%	2%	0%	2%	2%	0%	2%	2%	2%	

Readmissions are excluded.

Comment: only patients with complete information are included (validated). The statistics should be interpreted with caution due to the small number of infants in some units.

Destination at discharge (All Patients) (graph)



PRESENTATION 52

Support at discharge in survivors (table)

Total Patients		<25	25-26	27-28	29-30	31-32	33-34	35-36	≥37	Total
Survivors	n	6	37	134	177	337	539	600	1907	3737
Oxygen	n	4	24	79	95	131	153	156	261	910
	%	67%	65%	59%	54%	39%	28%	26%	14%	24%
Gastrostomy	n	0	0	0	0	0	0	1	2	3
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Monitor	n	2	3	9	3	9	4	13	22	65
	%	33%	8%	7%	2%	3%	1%	2%	1%	2%
Gavage	n	1	1	5	1	6	2	3	6	25
	%	17%	3%	4%	1%	2%	0%	1%	0%	1%
Ostomies	n	0	1	0	0	0	1	1	0	3
	%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Ventilation	n	0	1	3	0	1	1	5	7	18
	%	0%	3%	2%	0%	0%	0%	1%	0%	0%
CPAP	n	0	1	2	0	0	0	1	4	8
	%	0%	3%	1%	0%	0%	0%	0%	0%	0%
Human Milk	n	4	32	108	159	295	492	561	1820	3471
	%	67%	86%	81%	90%	88%	91%	94%	95%	93%
Formula	n	3	32	102	123	224	294	281	548	1607
	%	50%	86%	76%	69%	66%	55%	47%	29%	43%

Survivors include transfers in and out. No readmissions were included. Statistics should be interpreted with caution due to the small number of infants in some units. Patients could receive more than one therapy.

Comment: only patients with complete information for analysis were included (validated). Patients who died were excluded.

c. SUPPORT AND HOSPITALIZATION DURATION

It is based on the number of infants ≤ 32 weeks at birth and discharged from the network units (data on infants is not available after being transferred to other institutions).

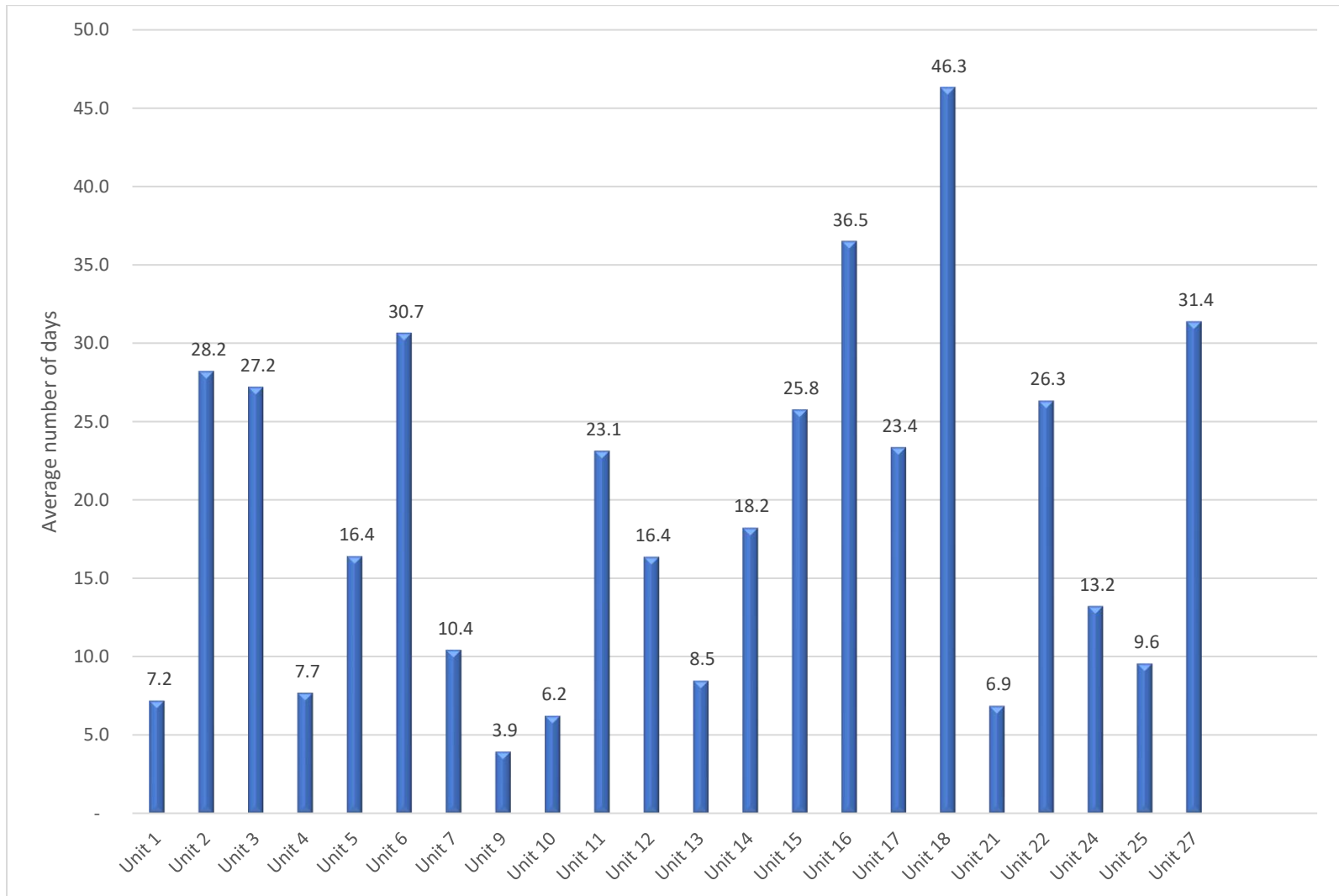
PRESENTATION 53

Invasive mechanical ventilation days (in infants Gestational Age ≤ 32 weeks)

UNITS	Patients		Invasive Ventilation (days)				
	Ventilated Patients n	Average number of days	Total Days n	HFOV		Conventional	
				n	%	n	%
Unit 1	30	7.2	216	18	8%	198	92%
Unit 2	32	28.2	903	56	6%	847	94%
Unit 3	19	27.2	517	16	3%	501	97%
Unit 4	10	7.7	77	12	16%	65	84%
Unit 5	96	16.4	1576	385	24%	1191	76%
Unit 6	105	30.7	3219	90	3%	3129	97%
Unit 7	32	10.4	334	1	0%	333	100%
Unit 9	18	3.9	71	9	13%	62	87%
Unit 10	13	6.2	81	12	15%	69	85%
Unit 11	97	23.1	2245	64	3%	2181	97%
Unit 12	16	16.4	262	18	7%	244	93%
Unit 13	15	8.5	127	0	0%	127	100%
Unit 14	39	18.2	711	39	5%	672	95%
Unit 15	13	25.8	335	4	1%	331	99%
Unit 16	12	36.5	438	1	0%	437	100%
Unit 17	35	23.4	818	135	17%	683	83%
Unit 18	20	46.3	926	137	15%	789	85%
Unit 21	22	6.9	151	17	11%	134	89%
Unit 22	15	26.3	395	0	0%	395	100%
Unit 24	22	13.2	291	45	15%	246	85%
Unit 25	23	9.6	220	7	3%	213	97%
Unit 27	31	31.4	973	0	0%	973	100%
Total	715	13.4	14886	1066	7%	13820	93%

Comment: only patients with complete information were included. Invasive mechanical ventilation includes patients with High Frequency Ventilation (HFOV) and intermittent positive pressure ventilation (IPPV). Mortality significantly affects the groups with low gestational age. Only patients with invasive mechanical ventilation were included. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Invasive mechanical ventilation days (in infants Gestational Age ≤ 32 weeks)



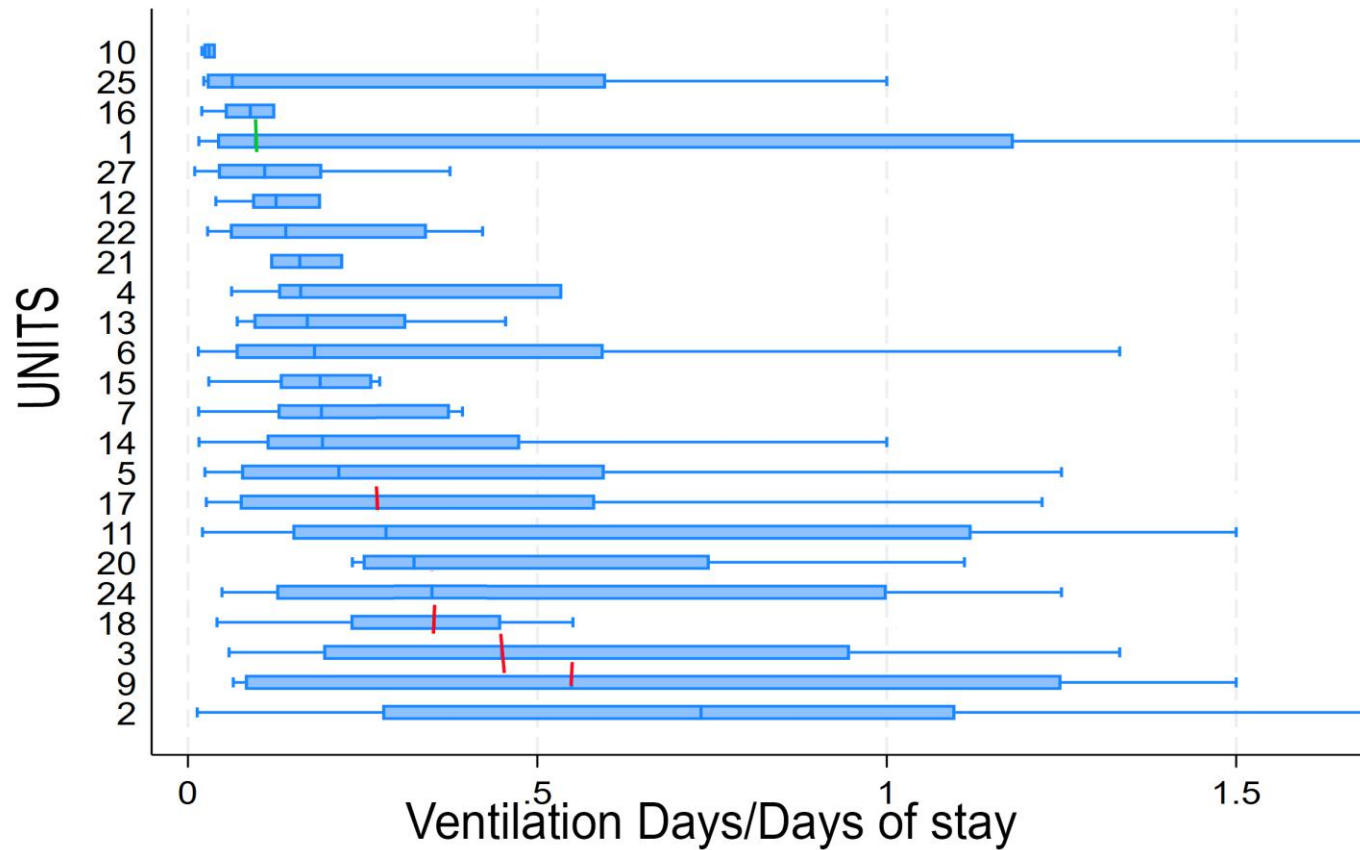
PRESENTATION 54

Median Days in Invasive Mechanical Ventilation/days of stay. Regression analysis (in infants Gestational Age \leq 32 weeks) Adjusted by Gestational Age at birth and mortality. Comparison by Units.

UNITS	N	p50	P75	P25	p
Unit 1	12	0.10	1.18	0.04	ref
Unit 2	12	0.73	1.10	0.28	0.600
Unit 3	13	0.45	0.95	0.19	0.018
Unit 4	6	0.16	0.54	0.13	0.622
Unit 5	31	0.22	0.60	0.08	0.991
Unit 6	83	0.18	0.59	0.07	0.371
Unit 7	15	0.19	0.38	0.13	0.064
Unit 9	4	0.55	1.25	0.08	0.000
Unit 10	7	0.03	0.04	0.02	0.884
Unit 11	49	0.28	1.12	0.15	0.096
Unit 12	8	0.13	0.19	0.09	0.543
Unit 13	10	0.17	0.31	0.09	0.159
Unit 14	30	0.19	0.48	0.11	0.302
Unit 15	9	0.19	0.26	0.13	0.423
Unit 16	6	0.09	0.13	0.05	0.613
Unit 17	26	0.27	0.58	0.07	0.027
Unit 18	14	0.35	0.45	0.23	0.006
Unit 21	7	0.16	0.22	0.12	0.253
Unit 22	13	0.14	0.34	0.06	0.189
Unit 24	17	0.35	1.00	0.13	0.449
Unit 25	8	0.06	0.60	0.03	0.537
Unit 27	12	0.11	0.19	0.04	0.868

Statistically significant p values are marked in bold.

Median days in **Invasive Mechanical Ventilation/days of stay in increasing order**. Regression analysis (in infants Gestational Age ≤ 32 weeks) Adjusted by Gestational Age at birth and Snape II, by Unit



Box plot of median days of invasive ventilation/days of stay and interquartile ranges (IQR) comparing between units in patients who received ventilation in increasing order. The units were compared by median nonparametric regression adjusted for gestational age at birth and Snape II. In red band the unit with statistically significant difference and in green band the reference unit (Unit 2) for having a low median in the group with enough patients. The statistics should be interpreted with caution due to the small number of infants in some units and large intervals. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

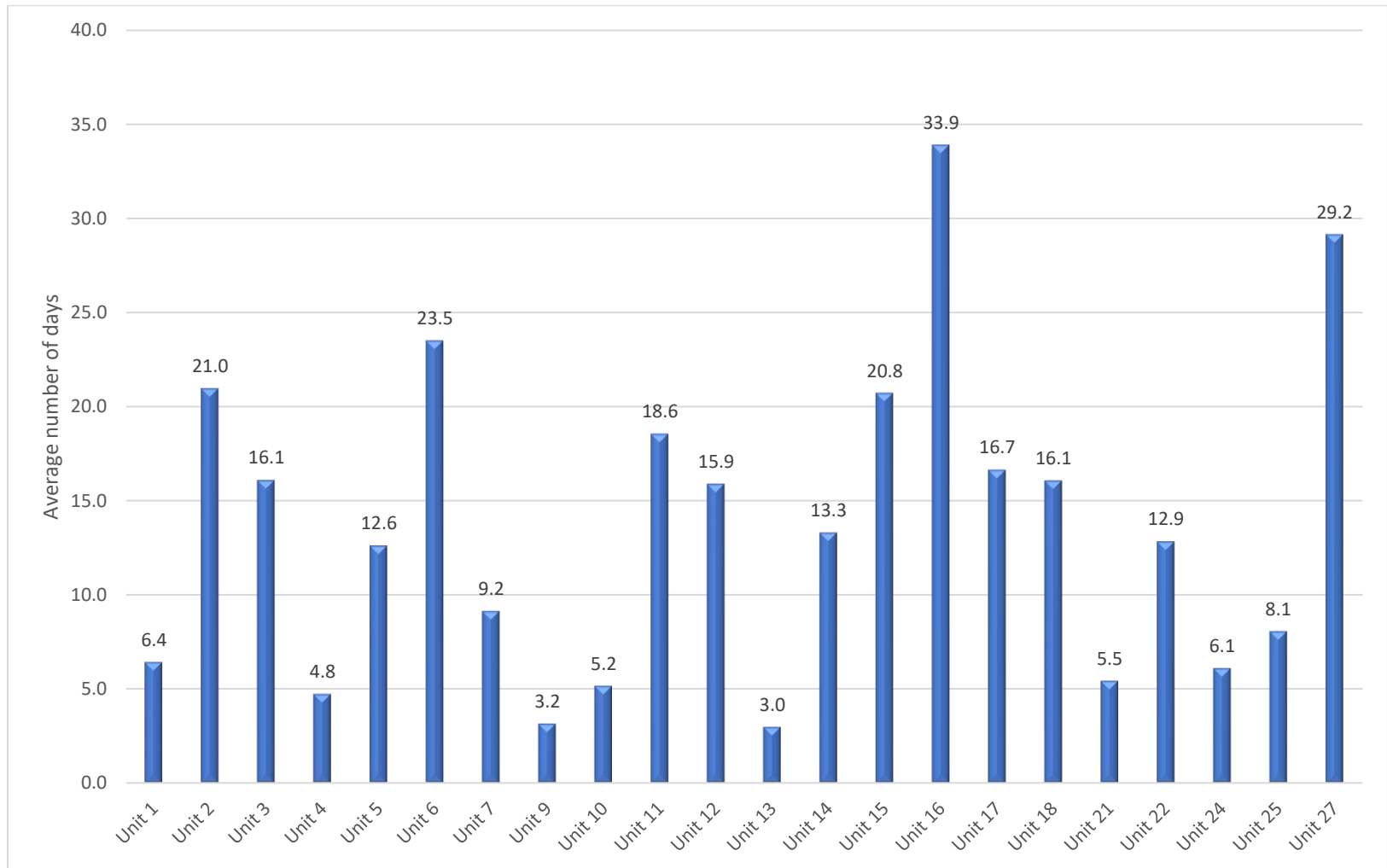
PRESENTATION 55

Average NON-Invasive Ventilation Days by Unit in ≤ 32 weeks Gestational Age (table)

UNITS	Patients		NON-Invasive Ventilation (days)						
	Ventilated Patients n	Average number of days	Total Days n	VNI (with Frequency)		CPAP		High Flow nasal canula	
				n	%	n	%	n	%
Unit 1	27	6.4	174	4	2%	67	39%	103	59%
Unit 2	32	21.0	672	2	0%	186	28%	484	72%
Unit 3	16	16.1	258	45	17%	82	32%	131	51%
Unit 4	8	4.8	38	14	37%	13	34%	11	29%
Unit 5	91	12.6	1151	20	2%	638	55%	493	43%
Unit 6	88	23.5	2071	1143	55%	127	6%	801	39%
Unit 7	25	9.2	229	226	99%	1	0%	2	1%
Unit 9	17	3.2	54	4	7%	50	93%	0	0%
Unit 10	11	5.2	57	5	9%	33	58%	19	33%
Unit 11	84	18.6	1561	542	35%	372	24%	647	41%
Unit 12	14	15.9	223	48	22%	52	23%	123	55%
Unit 13	15	3.0	45	0	0%	42	93%	3	7%
Unit 14	36	13.3	480	168	35%	199	41%	113	24%
Unit 15	12	20.8	249	108	43%	90	36%	51	20%
Unit 16	11	33.9	373	0	0%	225	60%	148	40%
Unit 17	31	16.7	517	216	42%	239	46%	62	12%
Unit 18	20	16.1	322	195	61%	127	39%	0	0%
Unit 21	20	5.5	109	38	35%	34	31%	37	34%
Unit 22	15	12.9	193	21	11%	158	82%	14	7%
Unit 24	16	6.1	98	81	83%	5	5%	12	12%
Unit 25	23	8.1	186	128	69%	57	31%	1	1%
Unit 27	30	29.2	875	87	10%	320	37%	468	53%
Total	642	13.7	9935	3095	31%	3117	31%	3723	37%

Comment: only patients with complete information were included. NON-Invasive Ventilation includes CPAP, non-invasive ventilation with frequency and high flow nasal cannula. Patients with only oxygen or low-flow cannula were excluded. The statistics should be interpreted with caution due to the small number of infants in some units. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Average **NON**-Invasive Ventilation Days by Unit in ≤ 32 weeks Gestational Age



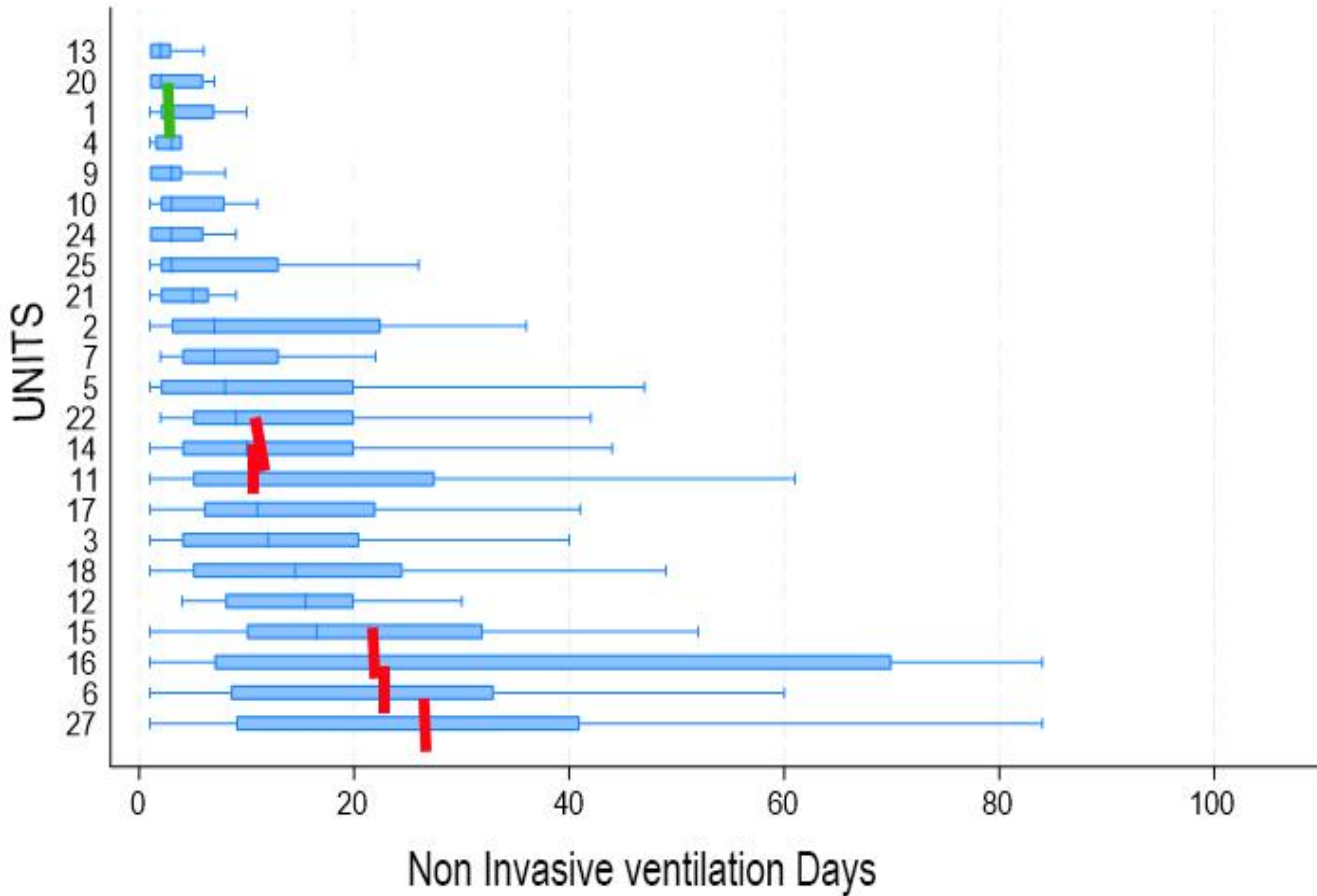
PRESENTATION 56

Regression and Median Days of NON-Invasive Ventilation by unit in ≤ 32 weeks Gestational Age, (table)

UNITS	N	p50	P75	P25	p
Unit 1	27	3.0	7.0	2.0	ref
Unit 2	32	7.0	22.5	3.0	0.319
Unit 3	16	12.0	20.5	4.0	0.096
Unit 4	8	3.0	4.0	1.5	0.721
Unit 5	91	8.0	20.0	2.0	0.127
Unit 6	88	23.0	33.0	8.5	0.000
Unit 7	25	7.0	13.0	4.0	0.303
Unit 9	17	3.0	4.0	1.0	0.817
Unit 10	11	3.0	8.0	2.0	0.593
Unit 11	84	11.0	27.5	5.0	0.010
Unit 12	14	15.5	20.0	8.0	0.096
Unit 13	15	2.0	3.0	1.0	0.941
Unit 14	36	10.0	20.0	4.0	0.026
Unit 15	12	16.5	32.0	10.0	0.086
Unit 16	11	22.0	70.0	7.0	0.000
Unit 17	31	11.0	22.0	6.0	0.242
Unit 18	20	14.5	24.5	5.0	0.105
Unit 21	20	5.0	6.5	2.0	0.374
Unit 22	15	9.0	20.0	5.0	0.414
Unit 24	16	3.0	6.0	1.0	0.820
Unit 25	23	3.0	13.0	2.0	0.800
Unit 27	30	26.5	41.0	9.0	0.000

Statistically significant p values are marked in bold. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year. Regression analysis as in previous presentations.

Median Days in NON-Invasive Ventilation in increasing order and Regression analysis adjuster by gestational age in units in ≤ 32 weeks Gestational Age infants



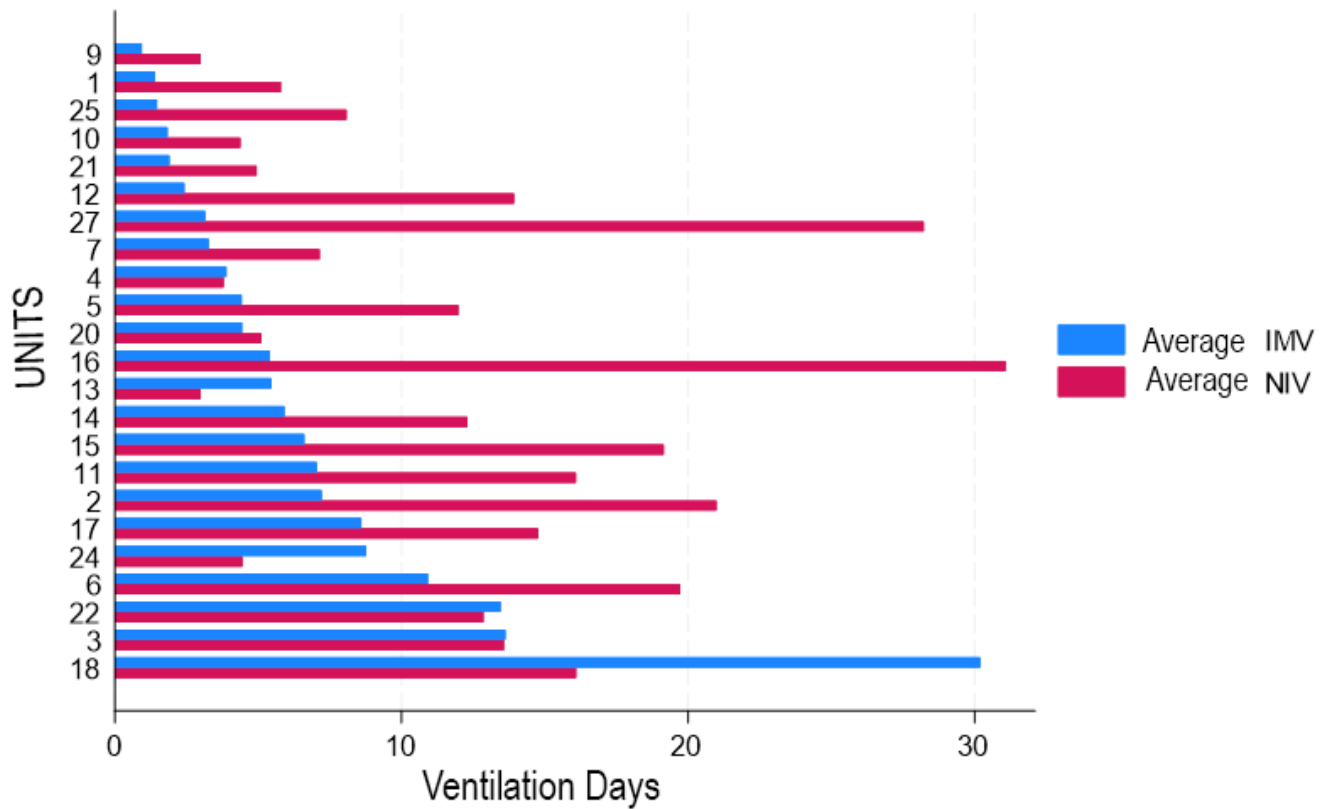
Median ±IQR (interquartile range cut for visualization) days of non-invasive ventilation in increasing order. The units were compared by median nonparametric regression adjusted for gestational age at birth. In red the units with statistically significant difference and in green the reference unit (Unit 10 for having a low median among units with adequate number of patients). Statistics are dependent on the number of patients and should be interpreted with caution due to the small number of infants in some units and large interquartile ranges.

PRESENTATION 57

Median number of Days of Invasive and non-Invasive Ventilation by Unit in infants ≤ 32 weeks Gestational Age

UNITS	NIV days	IMV days	IMV/NIV (%)
Unit 1	174	12	7%
Unit 2	672	12	2%
Unit 3	258	13	5%
Unit 4	38	6	16%
Unit 5	1151	31	3%
Unit 6	2071	83	4%
Unit 7	229	15	7%
Unit 9	54	4	7%
Unit 10	57	7	12%
Unit 11	1561	49	3%
Unit 12	223	8	4%
Unit 13	45	10	22%
Unit 14	480	30	6%
Unit 15	249	9	4%
Unit 16	373	6	2%
Unit 17	517	26	5%
Unit 18	322	14	4%
Unit 21	109	7	6%
Unit 22	193	13	7%
Unit 24	98	17	17%
Unit 25	186	8	4%
Unit 27	875	12	1%

**Median of NON-Invasive Ventilation Days and Invasive Ventilation Days in IMV
ascending order by Unit in ≤ 32 weeks Gestational Age**



Median of number of days of non-invasive and invasive mechanical ventilation. Invasive ventilation includes HFOV and IPPV and NON-Invasive ventilation includes CPAP, NIVn (nasal non-invasive ventilation) and high-flow cannulas. The statistics should be interpreted with caution due to the small number of infants in some units.

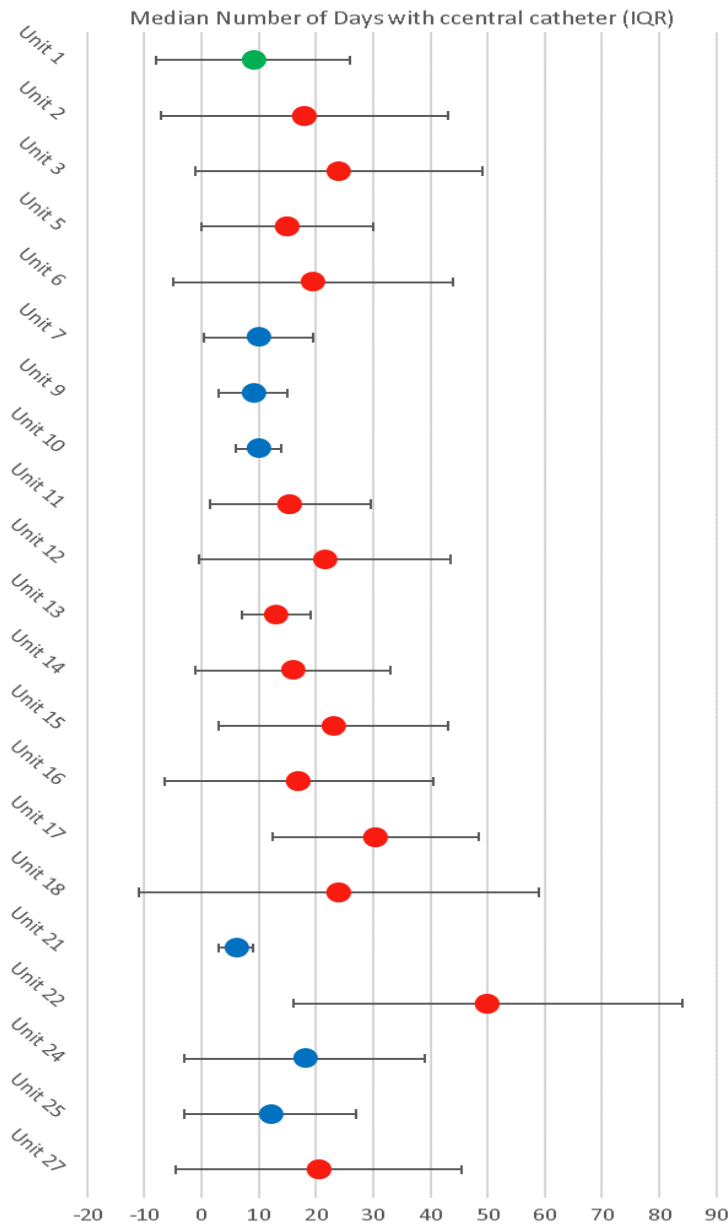
PRESENTATION 58

Median Number of Days with Catheter (in infants Gestational Age ≤ 32 weeks) by Unit. (Table)

UNITS	Number of Patients	Total number of days	Days			
	n		p50	P75	P25	p
Unit 1	211	18	9	19	2	ref
Unit 2	839	32	18	34	9	0.003
Unit 3	672	21	24	44	19	0.000
Unit 5	1525	82	15	25	10	0.030
Unit 6	2803	112	19.5	36.5	12	0.000
Unit 7	361	32	10	15.5	6	0.099
Unit 9	221	21	9	13	7	0.203
Unit 10	184	15	10	13	9	0.063
Unit 11	2005	98	15.5	23	9	0.035
Unit 12	404	18	21.5	32	10	0.004
Unit 13	287	21	13	16	10	0.039
Unit 14	762	37	16	26	9	0.008
Unit 15	327	13	23	34	14	0.012
Unit 16	227	12	17	28.5	5	0.025
Unit 17	949	34	30.5	36	18	0.000
Unit 18	749	21	24	50	15	0.000
Unit 21	168	22	6	8	5	0.399
Unit 22	869	16	50	70	36	0.000
Unit 24	515	19	18	30	9	0.086
Unit 25	351	23	12	22	7	0.092
Unit 27	1098	34	20.5	34	9	0.001

Statistically significant p values are marked in bold.

Median (IQR) Days with Catheter (in infants Gestational Age ≤ 32 weeks) by Unit.



Median \pm IQR (interquartile range) days with catheter. The units were compared by median nonparametric regression adjusted for gestational age at birth. In red the units with statistically significant difference. Only babies with at least 1 day of catheter were included. Unit 1 was chosen as the reference for low median and adequate number of infants in green. Includes arterial and venous umbilical catheters, PICC catheters, arterial lines, surgical lines, and peripheral lines. Statistics are dependent on the number of patients and should be interpreted with caution due to the small number of infants in some units and large interquartile ranges. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

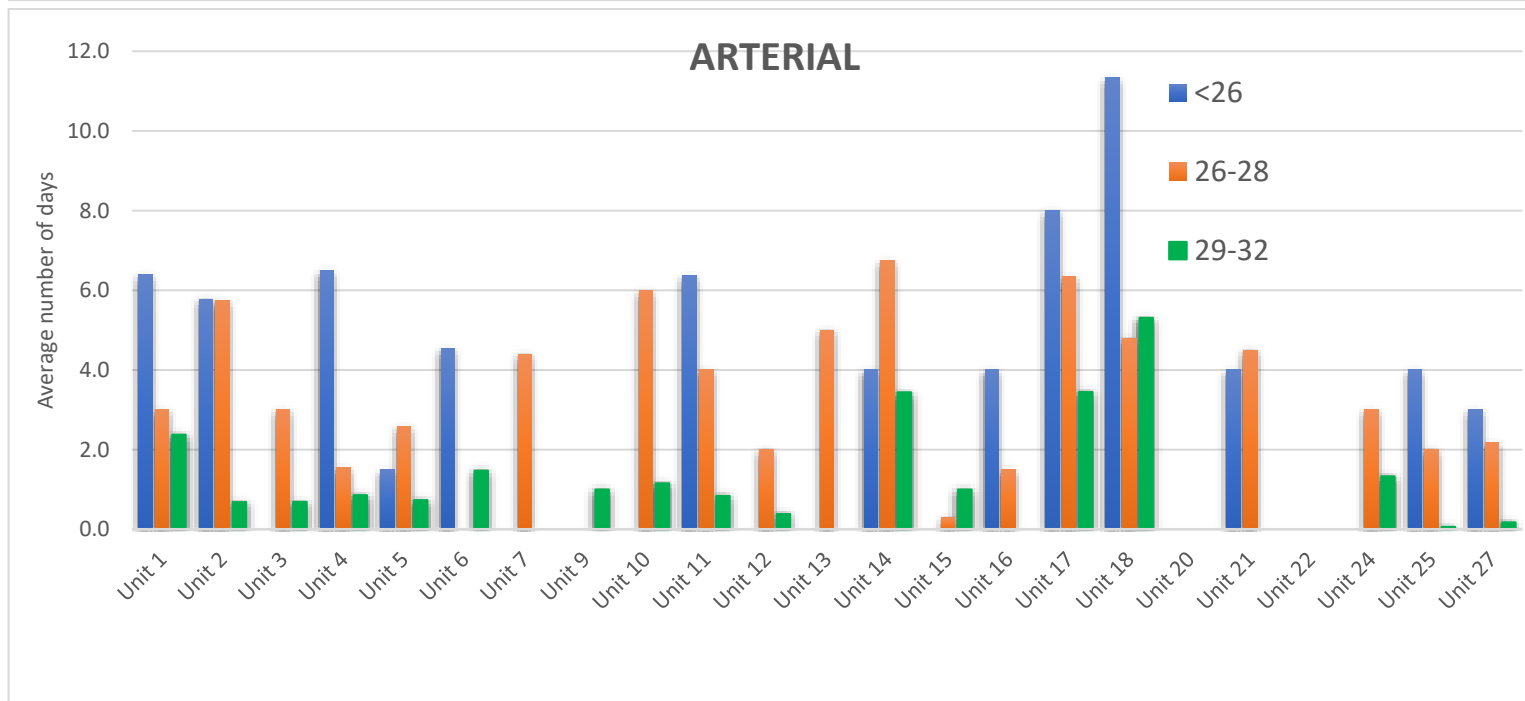
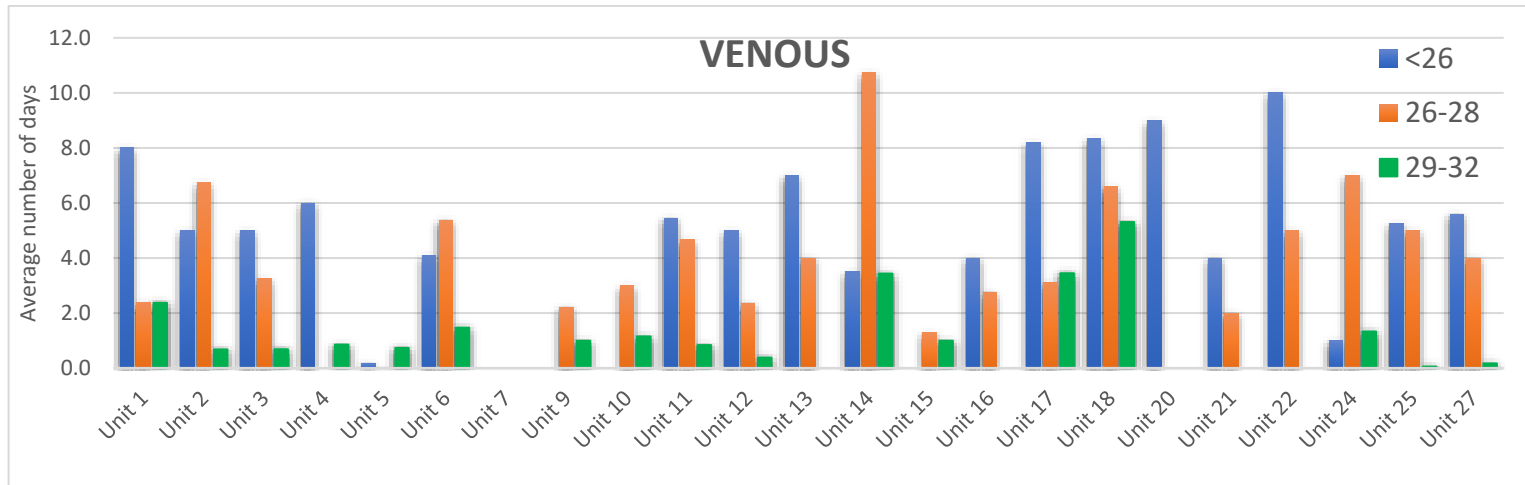
PRESENTATION 59

Average Number of Days with Arterial and Venous Umbilical Catheter (in Children with Gestational Age \leq 32 Weeks) by gestational age groups and units (TABLE)

UNITS	AVERAGE NUMBER OF DAYS WITH CATHETER											
	VENOUS CATHETER						ARTERIAL CATHETER					
	<26		26-28		29-32		<26		26-28		29-32	
	n	average	n	average	n	average	n	average	n	average	n	average
Unit 1	5	8.0	5	2.4	8	2.4	5	6.4	5	3.0	8	2.4
Unit 2	9	5.0	4	6.8	19	0.7	9	5.8	4	5.8	19	0.7
Unit 3	1	5.0	4	3.3	16	0.7	1	0.0	4	3.0	16	0.7
Unit 4	2	6.0	0	0.0	7	0.9	2	6.5	27	1.6	7	0.9
Unit 5	6	0.2	27	0.0	49	0.7	6	1.5	29	2.6	49	0.7
Unit 6	13	4.1	29	5.4	70	1.5	13	4.5	2	0.0	70	1.5
Unit 7	2	0.0	2	0.0	28	0.0	2	0.0	5	4.4	28	0.0
Unit 9	0	0.0	5	2.2	16	1.0	0	0.0	0	0.0	16	1.0
Unit 10	0	0.0	2	3.0	13	1.2	0	0.0	2	6.0	13	1.2
Unit 11	11	5.5	31	4.7	56	0.8	11	6.4	31	4.0	56	0.8
Unit 12	2	5.0	3	2.3	13	0.4	2	0.0	3	2.0	13	0.4
Unit 13	1	7.0	1	4.0	19	0.0	1	0.0	1	5.0	19	0.0
Unit 14	4	3.5	8	10.8	25	3.4	4	4.0	8	6.8	25	3.4
Unit 15	0	0.0	7	1.3	6	1.0	0	0.0	7	0.3	6	1.0
Unit 16	1	4.0	4	2.8	7	0.0	1	4.0	4	1.5	7	0.0
Unit 17	5	8.2	9	3.1	20	3.5	5	8.0	9	6.3	20	3.5
Unit 18	3	8.3	5	6.6	13	5.3	3	11.3	5	4.8	13	5.3
Unit 20	1	9.0	0	0.0	8	0.0	1	0.0	0	0.0	8	0.0
Unit 21	1	4.0	2	2.0	19	0.0	1	4.0	2	4.5	19	0.0
Unit 22	1	10.0	2	5.0	13	0.0	1	0.0	2	0.0	13	0.0
Unit 24	1	1.0	9	7.0	9	1.3	1	0.0	9	3.0	9	1.3
Unit 25	4	5.3	3	5.0	16	0.1	4	4.0	3	2.0	16	0.1
Unit 27	5	5.6	6	4.0	23	0.2	5	3.0	6	2.2	23	0.2
Total/average	78	4.5	168	3.5	473	1.1	78	3.0	168	3.0	473	1.1

Comment: Average number of days with catheter. Only patients with complete data with at least 1 catheter day were included. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Average Number of Days with Arterial and Venous Umbilical Catheter (in Children with Gestational Age ≤ 32 Weeks) by gestational age groups and units



w GA: weeks of gestational age at birth

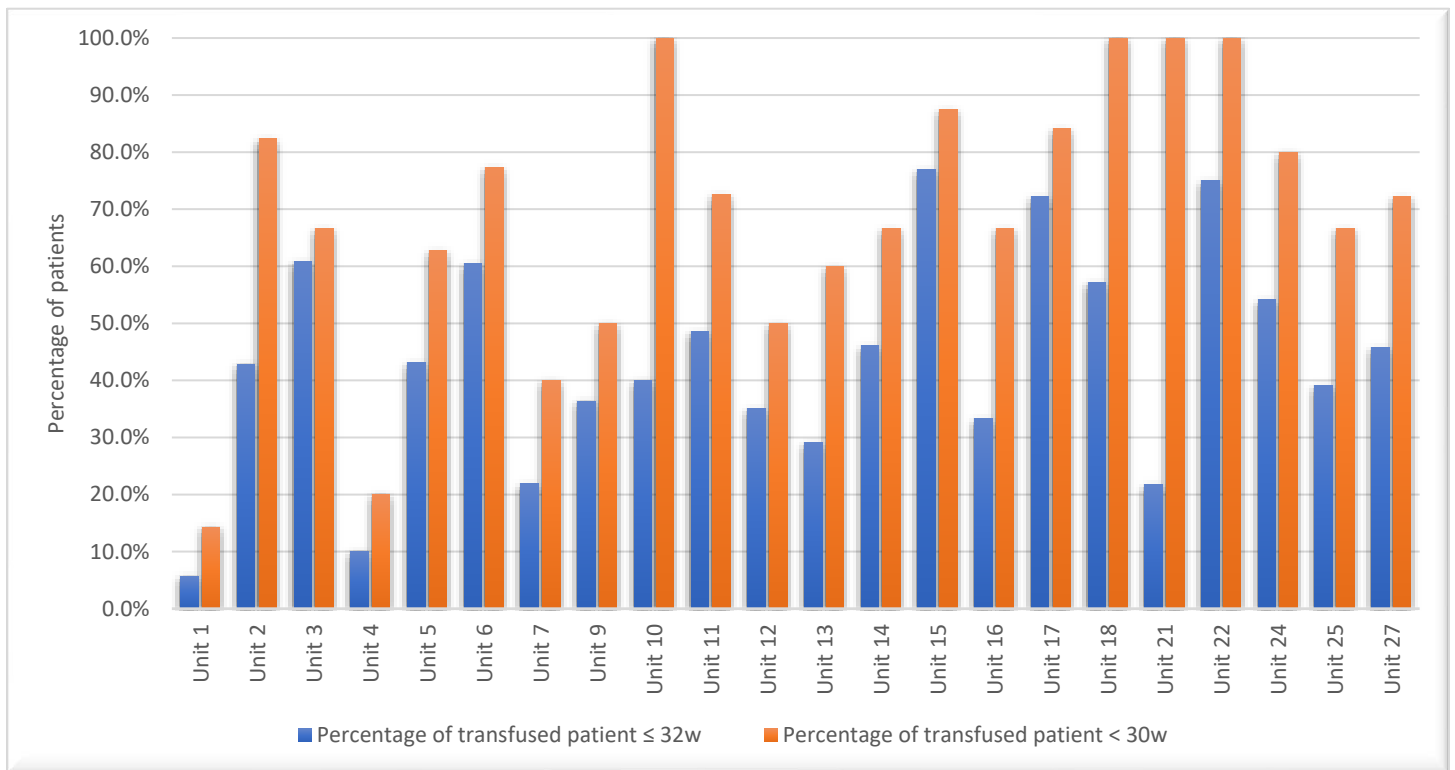
PRESENTATION 60

Transfusions (in Infants with gestational age \leq 32 weeks and $<$ 30 weeks at birth) by Unit (TABLE)

UNITS	Patients \leq 32 weeks Gestational Age	Number of Patient Transfused	Number of transfusions	Percentage of transfused patient \leq 32w	Number or transfusion per patient	Percentage of transfused patient $<$ 30w
Unit 1	35	2	4	5.7%	2.0	14%
Unit 2	35	15	83	42.9%	5.5	82%
Unit 3	23	14	29	60.9%	2.1	67%
Unit 4	10	1	1	10.0%	1.0	20%
Unit 5	109	47	93	43.1%	2.0	63%
Unit 6	114	69	253	60.5%	3.7	77%
Unit 7	32	7	11	21.9%	1.6	40%
Unit 9	22	8	10	36.4%	1.3	50%
Unit 10	15	6	9	40.0%	1.5	100%
Unit 11	101	49	124	48.5%	2.5	73%
Unit 12	20	7	10	35.0%	1.4	50%
Unit 13	24	7	14	29.2%	2.0	60%
Unit 14	39	18	35	46.2%	1.9	67%
Unit 15	13	10	22	76.9%	2.2	88%
Unit 16	12	4	19	33.3%	4.8	67%
Unit 17	36	26	74	72.2%	2.8	84%
Unit 18	21	12	40	57.1%	3.3	100%
Unit 21	23	5	8	21.7%	1.6	100%
Unit 22	16	12	33	75.0%	2.8	100%
Unit 24	24	13	26	54.2%	2.0	80%
Unit 25	23	9	17	39.1%	1.9	67%
Unit 27	35	16	49	45.7%	3.1	72%
Total/average	782	357	964	43.4%	2.40	69.1%

All patients \leq 32 weeks gestational age at birth were included. Number of packed red blood cell (RBC) transfusion as well as number of infants transfused were recorded. Statistics are dependent on the number of patients in a particular age group and should be interpreted with caution due to the small number of infants in some units.

Percentage of Patients who received Packed Red Blood Cells (in infants ≤ 32 weeks and < 30 weeks gestational age at birth) by Unit



All patients ≤ 32 weeks gestational age at birth were included. Number of packed red blood cell (RBC) transfusion as well as number of infants who received transfusions were recorded. Statistics are dependent on the number of patients and should be interpreted with caution due to the small number of infants in some units. Transfusion < 30 weeks was included. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

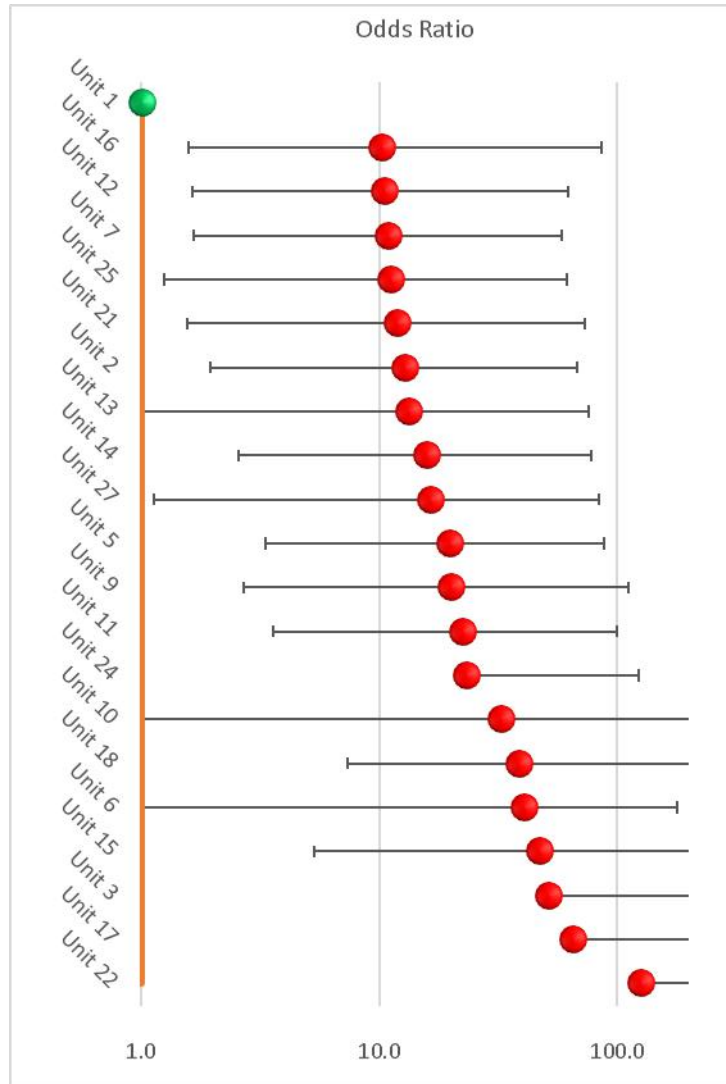
PRESENTATION 61

Odds Ratio of the number of Transfused Infants \leq 32 weeks Gestational Age at Birth in each unit organized ascending, controlled by Gestational Age and SNAPE PEII (incremental table)

UNITS	N	OR	P values	CI 95%	
Unidad 1	35	1.0	ref		
Unidad 16	12	10.3	0.032	1.2	86.2
Unidad 12	20	10.5	0.010	1.8	62.2
Unidad 7	32	10.9	0.005	2.0	58.5
Unidad 25	23	11.3	0.005	2.1	61.5
Unidad 21	23	12.0	0.007	2.0	- 72.9
Unidad 2	35	12.9	0.002	2.5	- 67.5
Unidad 13	24	13.4	0.003	2.4	- 75.6
Unidad 14	39	15.8	0.001	3.2	- 78.1
Unidad 27	35	16.5	0.001	3.2	83.9
Unidad 5	109	19.8	0.000	4.5	- 88.0
Unidad 9	22	20.1	0.001	3.6	- 112.2
Unidad 11	101	22.5	0.000	5.1	- 99.7
Unidad 24	24	23.3	0.000	4.4	- 123.3
Unidad 10	15	32.7	0.000	5.3	- 202.0
Unidad 18	21	38.8	0.000	6.8	222.4
Unidad 6	114	40.7	0.000	9.2	179.8
Unidad 15	13	47.2	0.000	6.8	- 329.0
Unidad 3	23	51.5	0.000	9.5	- 278.2
Unidad 17	36	65.4	0.000	12.5	- 342.6
Unidad 22	16	126.4	0.000	19.9	- 804.2
Reference		Unit 1			

Statistically significant p values are marked in bold.

Odds Ratio \pm CI 95% of the number of Infants \leq 32 weeks Gestational Age at Birth who received transfusions in each unit controlled by SNAPE II and Gestational Age (incremental graph with log scale)



Odd Ratio \pm 95% CI ordered in ascending order. All infants \leq 32 weeks gestational age are included. Unit 1 in green was chosen as reference due to the lower incidence of transfusion with enough infants. The units with statistically significant difference in red. The upper confidence intervals of some units are very large. Statistics are dependent on the number of patients at a particular gestational age group and should be interpreted with caution due to the small number of infants in some units and intervals. Units were excluded if they had \leq 10 patients \leq 32 weeks GA at birth during the year.

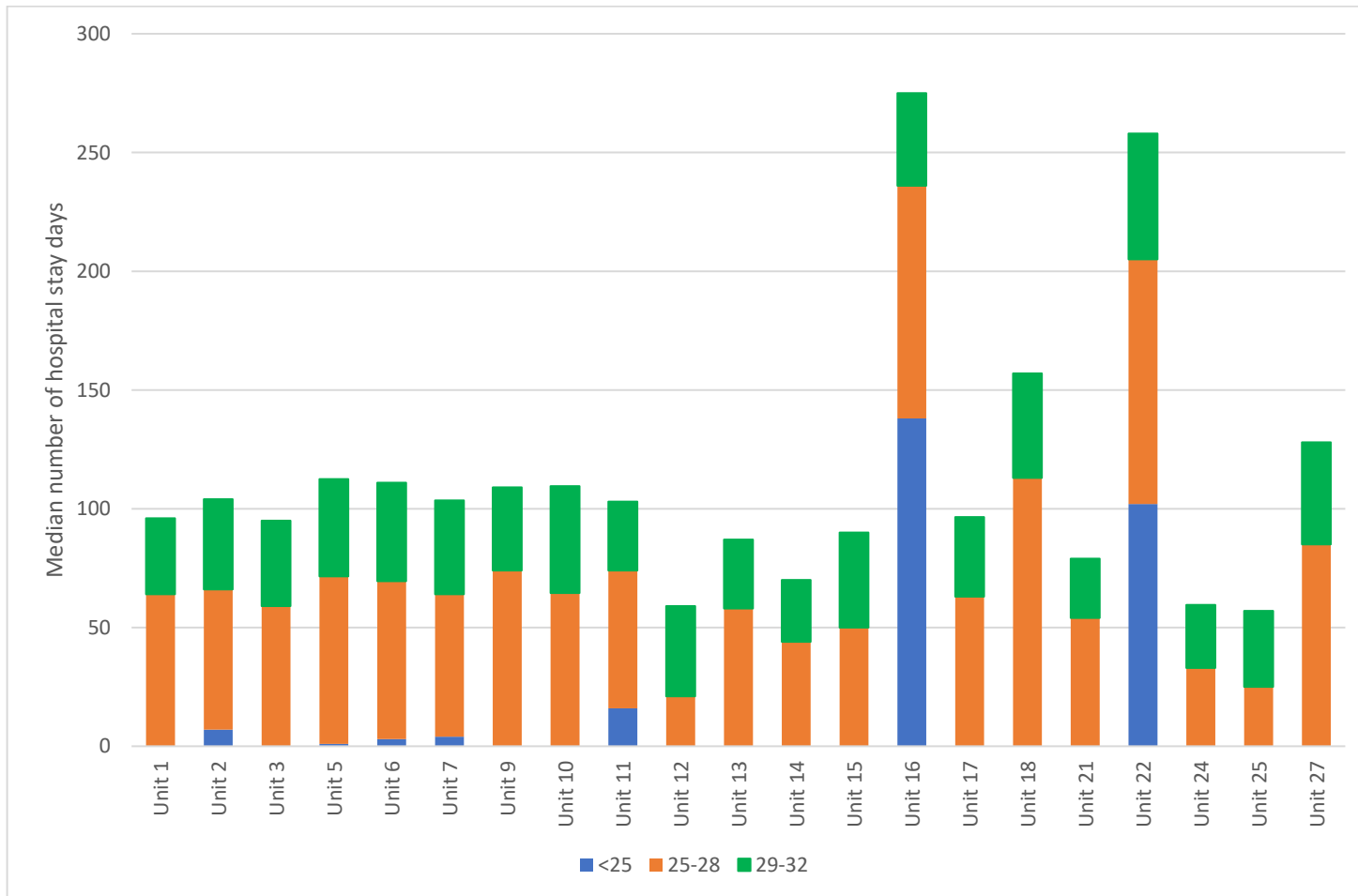
PRESENTATION 62

Days of in hospital Stay by Gestational Age Groups and by Unit (Gestational Age ≤ 32 Weeks)

Unit	Gestational Age at Birth								
	<25 w			25-28 w			29-32 w		
	Patients	Total Days	Median	Patients	Total Days	Median	Patients	Total Days	Median
Unit 1	1	0	0	9	394	64	25	891	32
Unit 2	6	268	7	9	529	59	20	811	38
Unit 3				5	232	59	18	722	36
Unit 5	3	167	1	32	2060	70.5	74	2887	41
Unit 6	3	8	3	39	2231	66.5	72	3151	41.5
Unit 7	1	4	4	3	188	60	28	1143	39.5
Unit 9				5	238	74	17	661	35
Unit 10				2	129	64.5	13	544	45
Unit 11	5	137	16	37	1981	58	59	1805	29
Unit 12				5	138	21	15	502	38
Unit 13				4	203	58	20	630	29
Unit 14	1	0	0	12	404	44	26	718	26
Unit 15				7	397	50	6	231	40
Unit 16	1	138	138	4	308	98	7	292	39
Unit 17	1	0	0	15	903	63	20	700	33.5
Unit 18				8	1007	113	13	605	44
Unit 21				3	160	54	20	457	25
Unit 22	1	102	102	2	206	103	13	773	53
Unit 24				10	387	33	14	387	26.5
Unit 25				7	215	25	16	486	32
Unit 27				12	953	85	23	1024	43
Total/median	23	824	3.5	230	13263	60	519	19420	38

IQR: interquartile Range. Comment: only patients with complete information were included and readmissions were included. Mortality in low gestational ages may modify results.

Median Number of in hospital Days of Stay by Gestational Age Groups and by Unit (Gestational Age ≤ 32 Weeks at Birth)



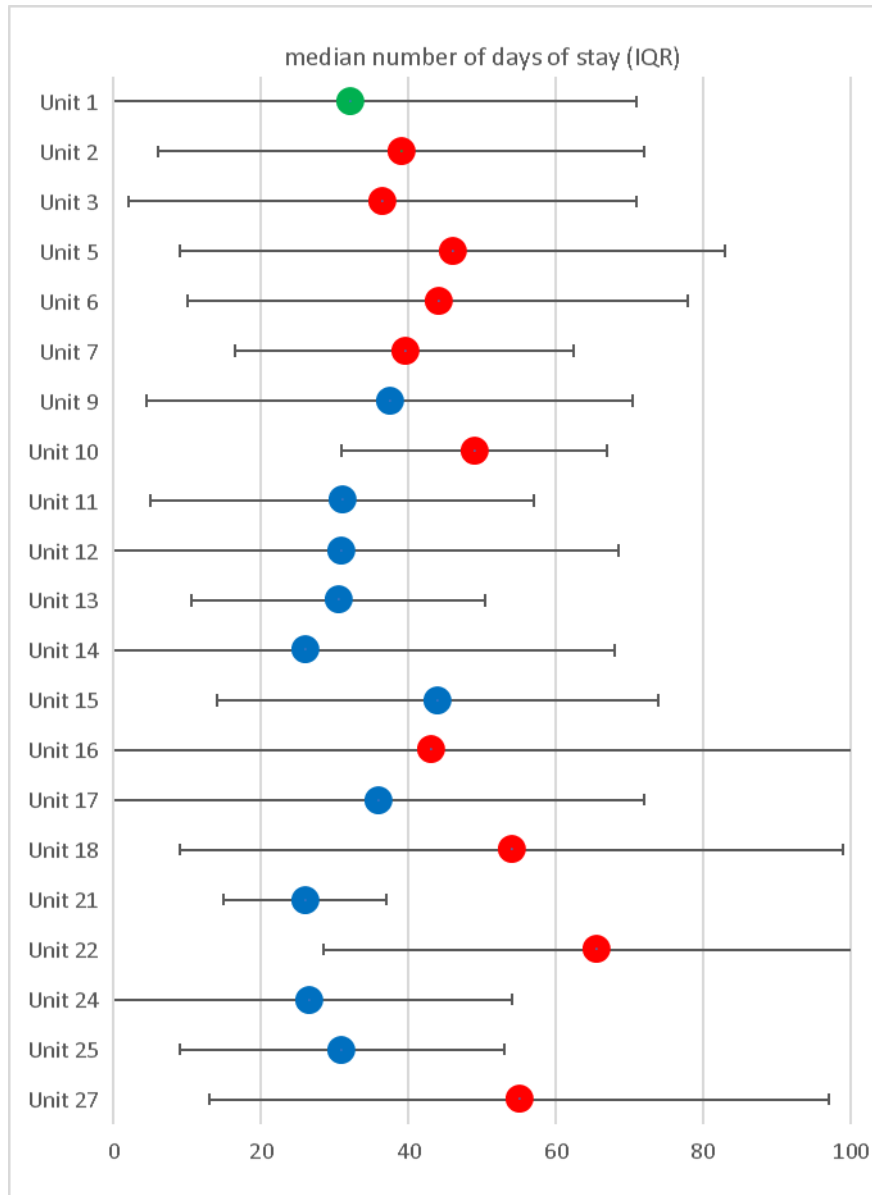
w GA: weeks of gestational age at birth

Median Number of in hospital Days of Stay by Unit Adjusted by Gestational Age at birth, including Readmissions. (Gestational Age ≤ 32 Weeks)

Units	N	p50	p75	p25	p
Unidad 1	40	32	49	10	ref
Unidad 2	35	39	59	26	0.036
Unidad 3	24	36.5	55	20.5	0.029
Unidad 5	109	46	64	27	0.000
Unidad 6	117	44	64	30	0.000
Unidad 7	32	39.5	49	26	0.037
Unidad 9	22	37.5	61	28	0.052
Unidad 10	15	49	51	33	0.009
Unidad 11	101	31	49	23	0.369
Unidad 12	20	31	49	11.5	0.319
Unidad 13	24	30.5	47	27	0.451
Unidad 14	39	26	50	8	0.112
Unidad 15	13	44	67	37	0.436
Unidad 16	12	43	98	38	0.017
Unidad 17	37	36	65	29	0.351
Unidad 18	21	54	86	41	0.000
Unidad 21	23	26	28	17	0.412
Unidad 22	16	65.5	87	50	0.000
Unidad 24	24	26.5	43.5	16	0.775
Unidad 25	23	31	42	20	0.174
Unidad 27	35	55	76	34	0.002

*Units were compared using a regression of medians. The high mortality at low gestational ages distorts the results. There were no significant differences.

Median Number of in hospital Days of Stay by Unit, Adjusted by Gestational Age at birth, mortality and Snape II (Gestational Age ≤ 32 Weeks)



The units were compared by median nonparametric regression adjusted for gestational age at birth. Unit 1 was chosen for the low median days of stay, and with enough cases (in green). Units with a statistically significant difference in red. Interpret data cautiously in units with very wide interquartile (IQR cut for adequate visualization) ranges.

PRESENTATION 63

Total Days of **ANTIBIOTICS** in Infants ≤ 32 weeks Gestational Age at birth, by Unit in 3 Gestational Age Groups

UNITS	Days of Antibiotics									Total antibiotic days
	<25 w			25-28 w			29-32 w			
	Total patients	Total Days	Number of days per patient	Total patients	Total Days	Number of days per patient	Total patients	Total Days	Number of days per patient	
Unit 1	1	1	1	9	32	4	25	42	2	75
Unit 2	6	103	17	9	123	14	20	74	4	300
Unit 3				5	94	19	18	197	11	291
Unit 5	3	113	38	32	826	26	74	840	11	1779
Unit 6	3	6	2	39	462	12	72	329	5	797
Unit 7	1	5	5	3	17	6	28	169	6	191
Unit 9				5	12	2	17	29	2	41
Unit 10				2	16	8	13	23	2	39
Unit 11	5	112	22	37	407	11	59	183	3	702
Unit 12				5	45	9	15	111	7	156
Unit 13				4	36	9	20	149	7	185
Unit 14	1	1	1	12	96	8	26	173	7	270
Unit 15				7	125	18	6	79	13	204
Unit 16	1	37	37	4	55	14	7	47	7	139
Unit 17	1	0	0	15	156	10	20	89	4	245
Unit 18				8	240	30	13	56	4	296
Unit 21				3	8	3	20	42	2	50
Unit 22	1	35	35	2	83	42	13	281	22	399
Unit 24				10	163	16	14	77	6	240
Unit 25				7	53	8	16	69	4	122
Unit 27				12	206	17	23	194	8	400
Total/ average	23	413	16	230	3255	14	519	3253	7	6921

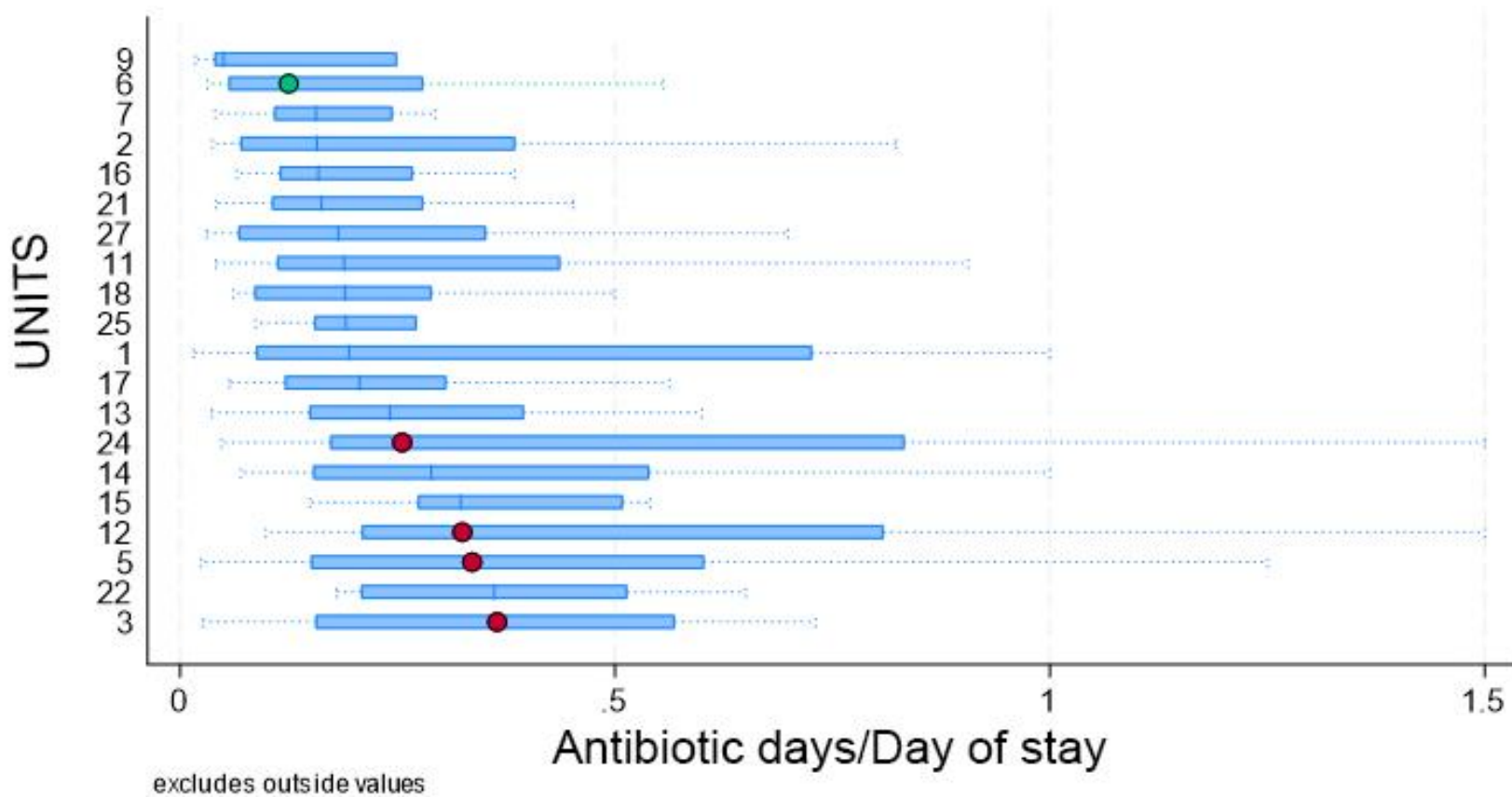
PRESENTATION 64

Median number of days of Antibiotics/days of stay in Infants \leq 32 weeks Gestational Age at Birth, by Unit, Adjusted by gestational age, mortality, days of stay, suspected chorio and Apgar at 5' (Table)

UNITS	N	Statistics of Days with Antibiotics			
		p50	P75	P25	p
Unit 1	11	0.19	0.7	0.1	0.995
Unit 2	26	0.16	0.4	0.1	0.907
Unit 3	20	0.36	0.6	0.2	0.017
Unit 5	94	0.34	0.6	0.2	0.000
Unit 6	95	0.13	0.3	0.1	REF
Unit 7	25	0.16	0.2	0.1	0.511
Unit 9	15	0.05	0.3	0.0	0.501
Unit 11	65	0.19	0.4	0.1	0.788
Unit 12	16	0.32	0.8	0.2	0.002
Unit 13	23	0.24	0.4	0.1	0.276
Unit 14	30	0.29	0.5	0.2	0.246
Unit 15	13	0.32	0.5	0.3	0.071
Unit 17	26	0.21	0.3	0.1	0.683
Unit 18	15	0.19	0.3	0.1	0.987
Unit 22	15	0.36	0.5	0.2	0.077
Unit 24	21	0.26	0.8	0.2	0.033
Unit 25	17	0.19	0.3	0.2	0.764
Unit 27	31	0.18	0.4	0.1	0.540

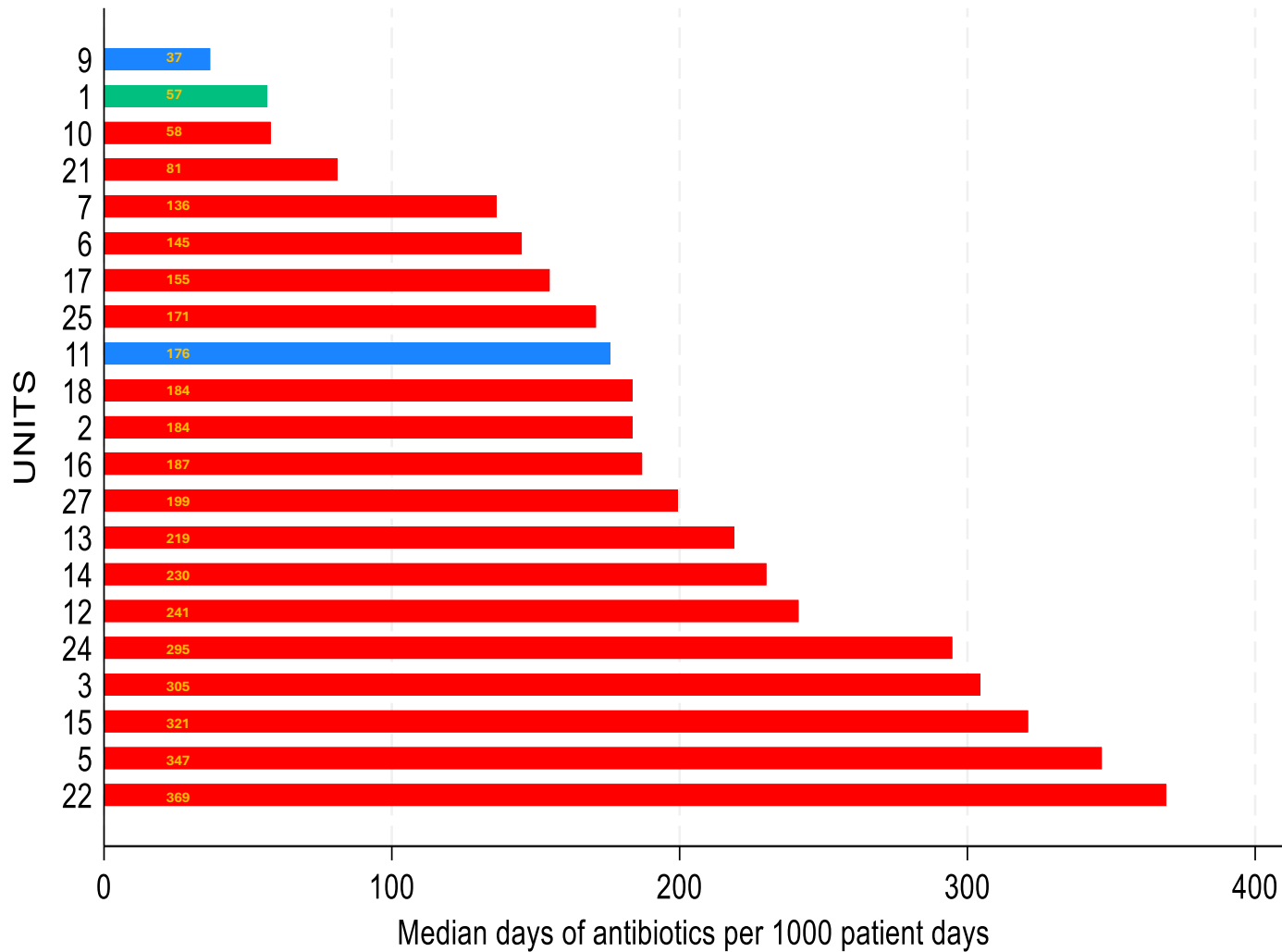
The reference unit 6 was chosen as the lowest median with an adequate number of patients. All patients with complete data were taken with at least 1 day of antibiotics in units with more than 10 cases. Statistically significant p values are marked in bold.

Boxplot of Median and Interquartile range of days of ANTIBIOTIC/Days of stay, in infants ≤ 32 weeks Gestational Age at birth by Unit, adjusted by Gestational Age and Snape II



Box plot of Median days and IQR (interquartile range) of antibiotics days/days of stay. The units were compared by median nonparametric regression adjusted for gestational age at birth, mortality, days of stay, suspected chorio and Apgar at 5'. Reference unit 2 in green chosen for low median and short IQR with adequate number of patients. In red the units with statistically significant difference. Statistics are dependent on the number of patients and should be interpreted with caution due to the small number of infants in some units and large IQR. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

Median number of days of Antibiotics/patient days in Infants \leq 32 weeks Gestational Age at Birth in units with cases that survived more than 6 days. Comparison using Incidence Rate Ratio (IRR)



In green the base unit used due to low IRR and sufficient number of cases, in red the units with a significant difference. Number in orange, days of antibiotics per 1000 patient days.

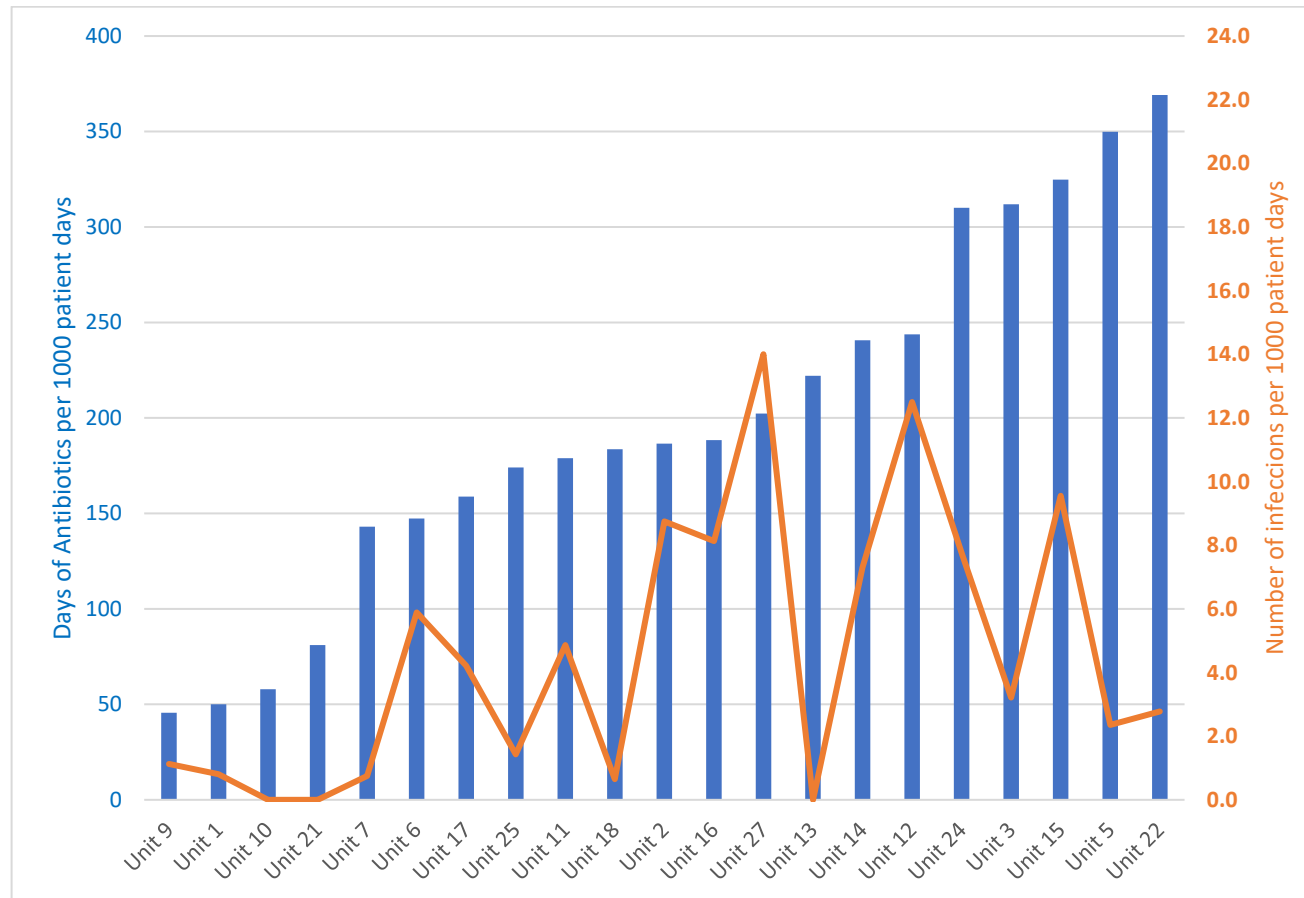
PRESENTATION 65

Days of Antibiotic Use and Total Number of Infections per 1000 Days of stay (patient days) in Infants ≤ 32 weeks Gestational Age at birth by Unit (table)

UNITS	Days of antibiotics per 1000 patient days	Total number of Infections per 1000 patient days
Unit 9	1.1	46
Unit 1	0.8	50
Unit 10	0.0	58
Unit 21	0.0	81
Unit 7	0.7	143
Unit 6	5.9	147
Unit 17	4.2	159
Unit 25	1.4	174
Unit 11	4.9	179
Unit 18	0.6	184
Unit 2	8.8	187
Unit 16	8.1	188
Unit 27	14.0	202
Unit 13	0.0	222
Unit 14	7.3	241
Unit 12	12.5	244
Unit 24	7.8	310
Unit 3	3.2	312
Unit 15	9.6	325
Unit 5	2.4	350
Unit 22	2.8	369

Comment: only patients with complete information, readmissions were excluded. Antibiotics days were taken from the database as administered at any time during the stay. The length of stay was taken from all admissions. Early and late infections were included. It is presented in increment of antibiotic days

Days of ANTIBIOTICS Use and Total Number of Infections per 1000 patient days in Infants ≤ 32 weeks Gestational Age at birth by Unit graphed in increment of antibiotic days



Infections are defined as positive blood or spinal fluid culture. The days of antibiotics were taken from the database as administered at any time during their stay. The stay was taken from all patient admissions. Infections include early and late infections.

The correlation between antibiotics and infection of these units using Spearman's correlation $\rho = 0.37186$, indicating that the use of antibiotic days does increase with a greater number of infections, but not exclusively due to proven infection, since there are units with a low or absent incidence of infection and a high number of antibiotic days. Infections in blood and CSF are counted separately. Units were excluded if they had ≤ 10 patients ≤ 32 weeks GA at birth during the year.

D. Therapeutic Hypothermia

PRESENTATION 67

Units that reported cases with encephalopathy

Unit	Received Hypothermia						Total n
	YES		NO		Unknown/transfer		
	n	%	n	%	n	%	
Unit 1	0	0	2	67	1	33	3
Unit 3	1	8	11	92			12
Unit 5	0	0	1	100			1
Unit 6	0	0	1	100			1
Unit 7	0	0	1	100			1
Unit 11	0	0	5	100			5
Unit 12	0	0	1	100			1
Unit 13	7	64	4	100			11
Unit 14	9	75	3	25			12
Unit 16	1	100	0	0			1
Unit 17	0	0	1	100			1
Unit 19	1	100	0	0			1
Unit 21	1	14	6	86			7
Unit 22	0	0	5	100			5
Unit 25	0	0	0	0	4	100	4
Unit 27	0	0	4	71			4
Total cases/ average	20	28.6%	46	65.7	5	5.7	70

*All cases were transferred, 4 out of 5 cases were transferred for hypothermia within 24 hours, but it is unknown if they received hypothermia.

Therapeutic Hypothermia at Start and Finish

Inical hypothermia Stages	Final hypothermia Stages						Total
	Normal	Stage 1	Stage 2	Stage 3	Death	Unknown	
Stage I	1	1	3	0	0	0	4
Stage II	3	3	5	0	1	1	13
Stage III	0	0	0	2	1	0	3
Total	4	4	8	2	2	1	20

Reasons noted for not receiving hypothermia*		%
Chromosomal Anomalies	1	1.4
<2K or <35 weeks' gestation	10	14.2
Extreme conditions	5	7.1
Mild encephalopathy	11	15.7
Group Decision	2	2.9
Unit Policy	7	10.0
Delayed transfer	5	7.1
Reasons noted as unknown	10	14.3
Referred to tertiary institution within 24 hours	4	5.7
Total cases with encephalopathy	70	

(*Many cases may have more than one reason)

Hypothermia Characteristics			
Method	Selective Head	0	0%
	Whole body cooling	20	100%
Characteristics of neonates who received hypothermia			
Temperatura			
Target temperature	<33°C	0	0%
	33-34°C	12	60%
	33.5-34.5°C	8	40%
	34-35°C	0	0%
	34.5-35.5°C	0	0%
	Unknown	0	0%
Other Characteristics			
Seizures at onset	2/20*		10%
Seizures upon completion	2/20*		10%
Hypotension	8/20*		44.4%
Thrombocytopenia	16/20*		88.9%
Coagulopathy	0/20*		0%
Persistent metabolic acidosis	15/20*		83.3%
Renal failure	3/20*		15%
Perisistent Pulmonary Hypertension	0/20*		0%
Heart dysfunction	1/20*		5%
Hepatic dysfunction	1/20*		5%
Death**	2/20*		10%

*All patients receiving hypothermia.

** Les than 11 days of age (total number of deaths in this court)

E. CONCLUSIONS

The data and the differences found from our units can be used to establish changes in management that will substantially improve the quality of care of newborns. Additionally, research can be carried out to analyze different risk factors and their outcomes. It can also be used by the community as a form of comparison to establish managements.

REFERENCES

1. Firth D. (1993). Bias reduction of maximum likelihood estimates. *Biometrika* 80, 27–38
[10.1093/biomet/80.1.27](https://doi.org/10.1093/biomet/80.1.27).