

*Morbidity and mortality of children
admitted at pediatric department,
Mahosot hospital,
in 2017*

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ພ້ອມທຶມງານ ພະແນກ:

ເດັກ, IDW, ICUP and Nutrition ward

Worldwide Problem

- ~5.6 million children under 5y die each year
 - ~15,000 child deaths each day

WHO, 2016

- >30% of the deaths occur in South Asia
- Nearly 50% of these under-5y deaths are in the neonatal period (≤ 28 days)
- 50% of neonatal deaths are in the first 24 hrs

WHO, 2011

INTRODUCTION

- In Laos: infant mortality $\sim 54/1,000$
under five mortality $\sim 79/1000$
(National Census Survey, 2012)
- Reduction of mortality in newborn and children is one of the priority of the mother and child policy of ministry of health
- This study attempt to describe the etiologies associated with morbidity and mortality of newborn and children less than 15yrs in order to find the solutions to these problems

OBJECTIVE

To describe the etiologies associated with the mortality of newborns and children admitted to the pediatric department, Mahosot Hospital, 2017

Material and Methods

STUDY DESIGN AND SITE

It was a retrospective descriptive cross sectional study by reviewing medical records of the children admitted to pediatric department, Mahosot hospital, 1/01 – 31/2/2017.

STUDY POPULATION

All children less than 15years old who were admitted and died at the pediatric department , Mahosot Hospital.

Results

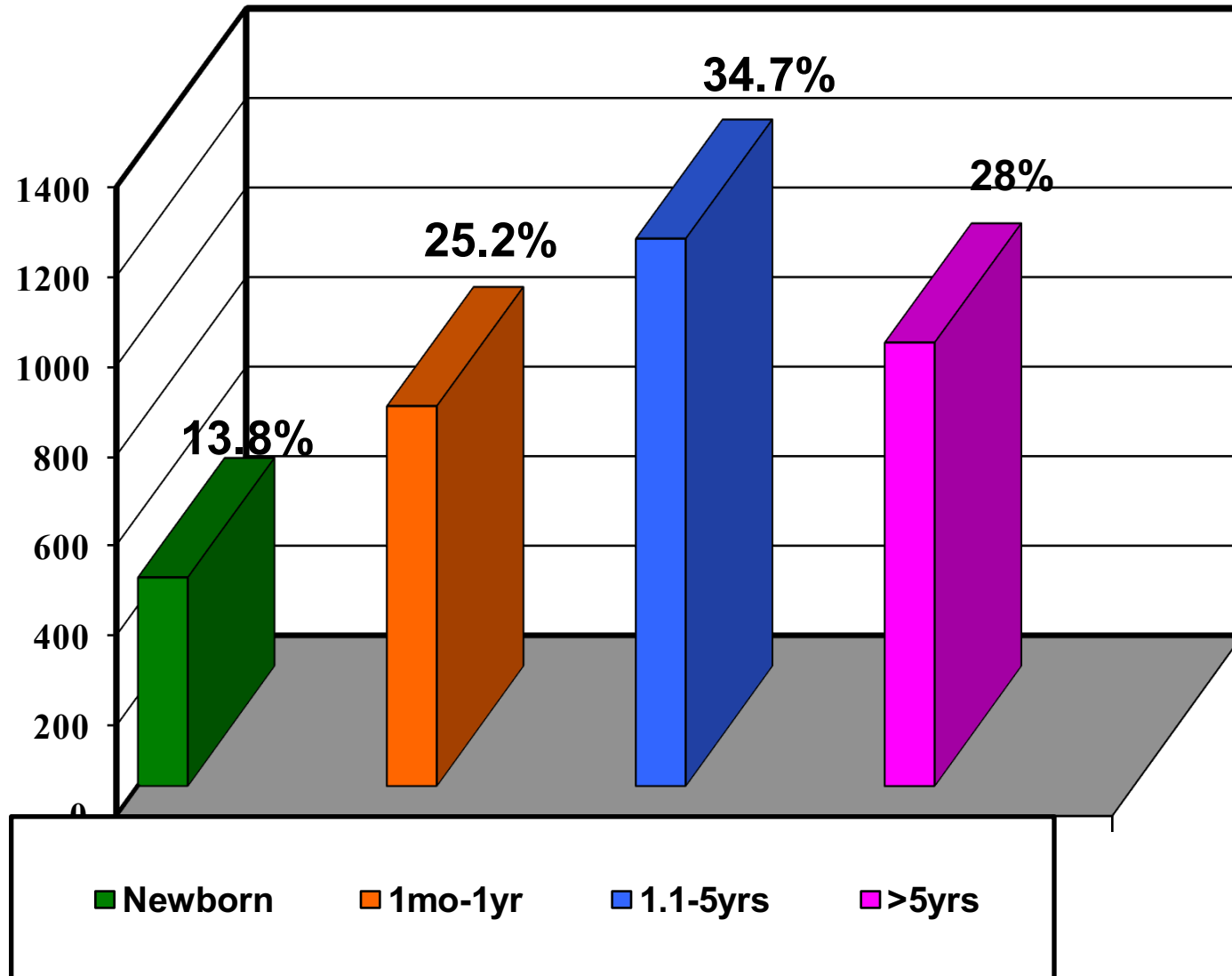
- All admission cases N = 3510
 - Newborn N = 462(13%)
 - Children N = 3048(87%)
 - All death N = 74 (2%)**
 - * Newborn death N = 39cases(1.5%)**
 - * Children death N = 35cases(1%)**
- Age \leq 5yrs N = 2524cases(72%), and **death N = 24cases(0.9%)**

General data of the children N = 3510cases

Variable	PICU/NICU N = 626		GW N = 1954	IDW N = 930	Total N = 3510	ER N = 10.212	OPD N = 12.494
	PICU N = 164	NICU N = 462					
Age:							
- < 1 mo	0	462		-	462(13.8)	-	32(0.3)
- 1mo – 1 yr	79	-	306	459	844(25.2)		3830(30.7)
- 1.1 – 5yrs	36	-	892	290	1218(34.7)		4830(38.7)
- > 5 yrs	49	-	756	181	986(28)		3802(30.5)
Sex:							
- Male	102	274	999			-	6408(51)
- Female	62	188	956				6086(49)

Age distribution of the children in 2017

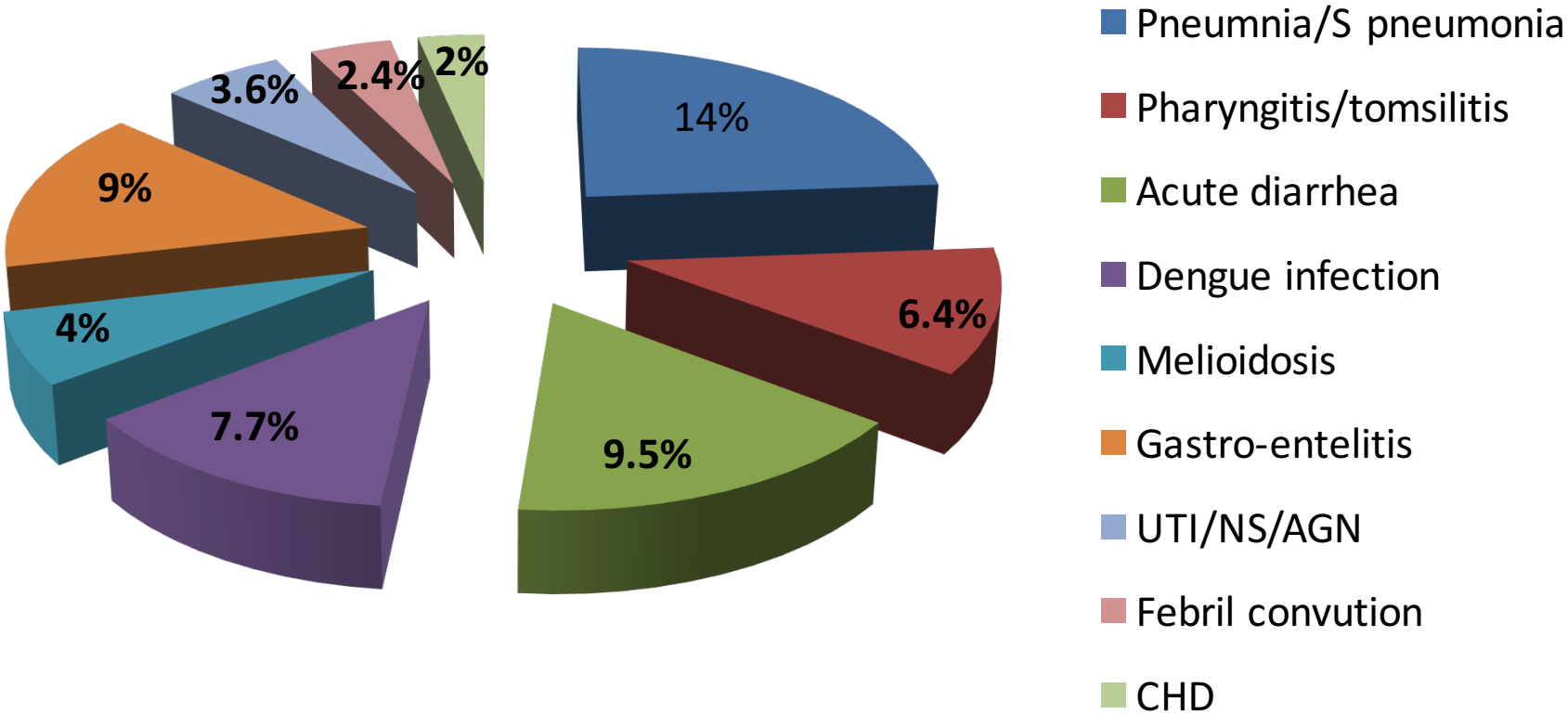
(N = 3510)



Common Diseases of newborn

Disease	Newborn N = 462
Clinical sepsis	140(30)
Preterm and Low birth weight	226(49)
Respiratory distress syndrome (RDS)	46(10)
Birth asphyxia	29(6)

Common disease of children N = 3048



Common diseases of pediatric ward N= 1954

Diseases	N = 1954	(%)
• Severe Pneumonia	351	18.3
• Pharyngitis / Tonsillitis	206	10.5
• Gastroenteritis	193	9.8
• Febrile convulsion (seizure)	74	3.8
• NS/AGN	45	2.3
• CHD + Pneumonia	43	2.2
• UTI	41	2.1
• Thalassemia	619	31.5

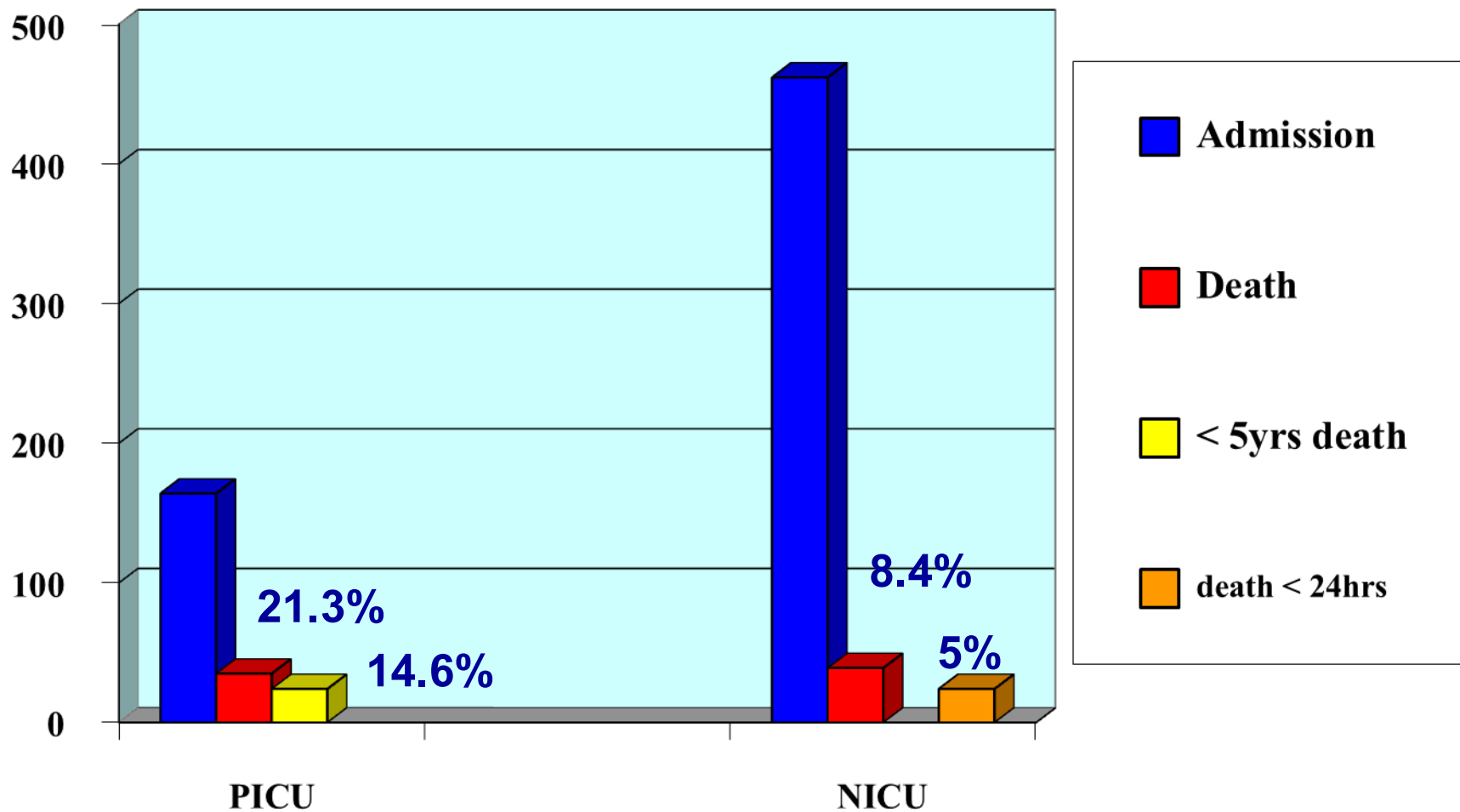
Common disease of infection ward N= 930caese

Diagnosis	Frequency N: 930	Percent(%)
• Diarrhea	281	30.2
• Dengue infection	221	23.7
• Melioidosis	119	12.8
• Gastroenteritis	76	8.1
• Dysenteric	52	5.6
• Typhoid fever	26	2.8
• Rickettsia	26	2.8
• Hepatitis A	24	2.6
• UTI	24	2.6
• Pneumocystis Pneumonia(HIV)	13	1.4
• Pulmonary TB	11	1.2

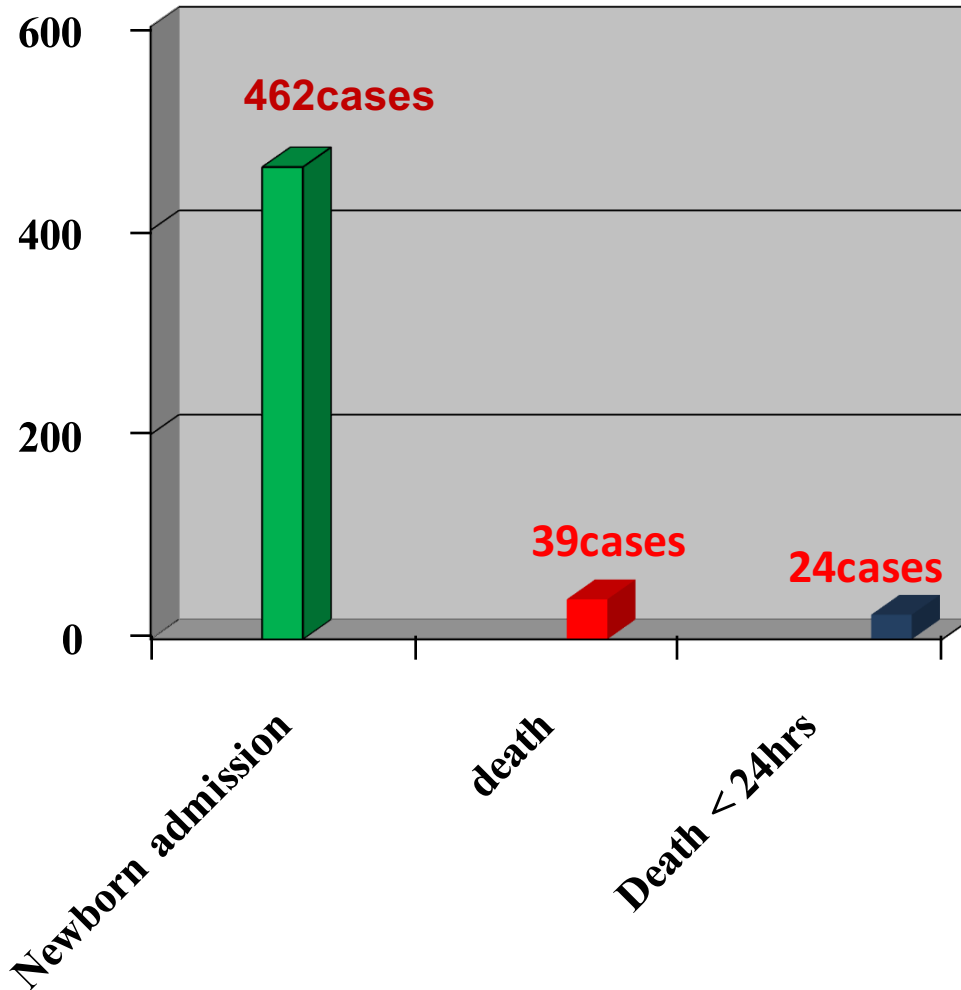
Common diseases at OPD and ER

Disease	OPD N = 10.212	ER N = 12.494
• Common cold	3800	1313
• Pneumonia/S. pneumonia	857	302
• Pharyngitis / tonsillitis	1938	1208
• Acute diarrhea	612	481
• Thalassemia	515	39
• Allergy	335	136
• Dengue fever	306	123
• Parasitose	305	183
• Gastroenteritis	253	270
• Chickenpox	136	3
• Stomatitis	219	1

Admission and Death distribution of the children and newborns in PICU - NICU, Mahosot Hospital. 2017. N=626; (NICU = 462; PICU= 164) , death N = 74 cases (11.5%)



Admission and death of newborns



• Total newborn birth

N = 3424/year

- 11 cases/1000 live births
- Preterm = 262(56.7)
- vLBW (1500g) = 85(18.4)

- Newborn admission = 462 cases (13.4%)
- Death = 39cases
 - M:F = 3:1

Causes of death in newborns N=39/462cases

Diagnosis in death cases	N= 39	(%)
<i>Respiratory:</i>	21	53.8
1. Respiratory Distress Syndrome (RDS)	7	17.9
2. Severe Birth asphyxia	5	12.8
3. Severe b. asphyxia +sepsis	3	7.6
4. Birth asphyxia	3	7.6
5. Respiratory Distress Syndrome + sepsis	3	7.6
<i>Sepsis:</i>	10	25.6
1. Early onset sepsis	4	10.2
2. Late onset sepsis	3	7.6
3. Septic shock	3	7.6
1. Congenital malformation+ Birth asphyxia	2	5.1
2. Congenital heart disease (CHD)	3	7.6
Cerebral hemorrhage + HF+ Severe anemia	3	7.6

Causes of death in newborns N=39/462cases

Diagnosis in death cases	N= 39	Preterm 21(54)	Term 18(46)
<i>Respiratory:</i>			
1. Respiratory Distress Syndrome (RDS)	7	5(33.3)	2(11)
2. Severe Birth asphyxia	5	4(19)	1(5.5)
3. Severe b. asphyxia +sepsis	3	2(9.5)	1(5.5)
4. Birth asphyxia	3	3(14)	0
5. Respiratory Distress Syndrome + sepsis	3	3(14)	0
<i>Sepsis:</i>			
1. Early onset sepsis (EOS)	4	1	3(16.6)
2. Late onset sepsis (LOS)	3	0	3(16.6)
3. Septic shock	3	1(4.7)	2(11)
1. Congenital malformation+ Birth asphyxia	2	1(4.7)	1(5.5)
2. Congenital heart disease (CHD)	3	0	3(16.6)
Cerebral hemorrhage + HF+ Severe anemia	3	1(4.7)	2(11)

Cause of death in children N = 35

<i>Diagnosis</i>	< 1year	1.1 - 5yrs	>5yrs	Total 35
Congenital hearth disease (CHD)	7	5	0	12
Sepsis (septic shock)	0	2	4	6
Meningitis/ encephalitis	1	3	1	5
Leukemia (ALL)	0	0	2	2
Severe malnutrition	0	0	2	2
Severe pneumonia	0	3	1	4
Foreign Body aspiration + apnea + coma	0	1	0	1
Gastro-enteritis + severe dehydration + hypokalemia + arrhythmia	1	0	0	1
Post operation patent dustus arteriocus + HF + severe pneumonia + pulmonary hypertention	0	1	0	1
Gastro intestinal bleeding	0	1	0	1

Conclusion

- Common disease of newborn:
 - Preterm and LBW, RDS, sepsis, and Birth asphyxia
 - Mortality : RDS, S. birth asphyxia and sepsis
 - Death < 24hrs
- Common disease of children:
 - Respiratory infection, GI infection, dengue infection, and Melioidosis
 - Mortality: CHD, septic shock, Severe pneumonia and meningitis/encephalitis

Recommendation

- This study has revealed that high mortality rate occurred in Preterm, LBW, RDS or birth asphyxia cases;
 - to help reduce the mortality we should have a well prepared and equipped resuscitation team.

ຂອບໃຈ



- ຂອບໃຈ ນຳ ກອງປະຊຸມ CME ເດັກ
- ຂອບໃຈ ນຳ ທີ່ມງານ ສາຍເດັກ