

**Treatment Pattern
Before and After
An Asthma-related
Emergency Department
Visit**

**Micro-costing
of
Asthma
Exacerbation**

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PART 1


**Treatment Pattern
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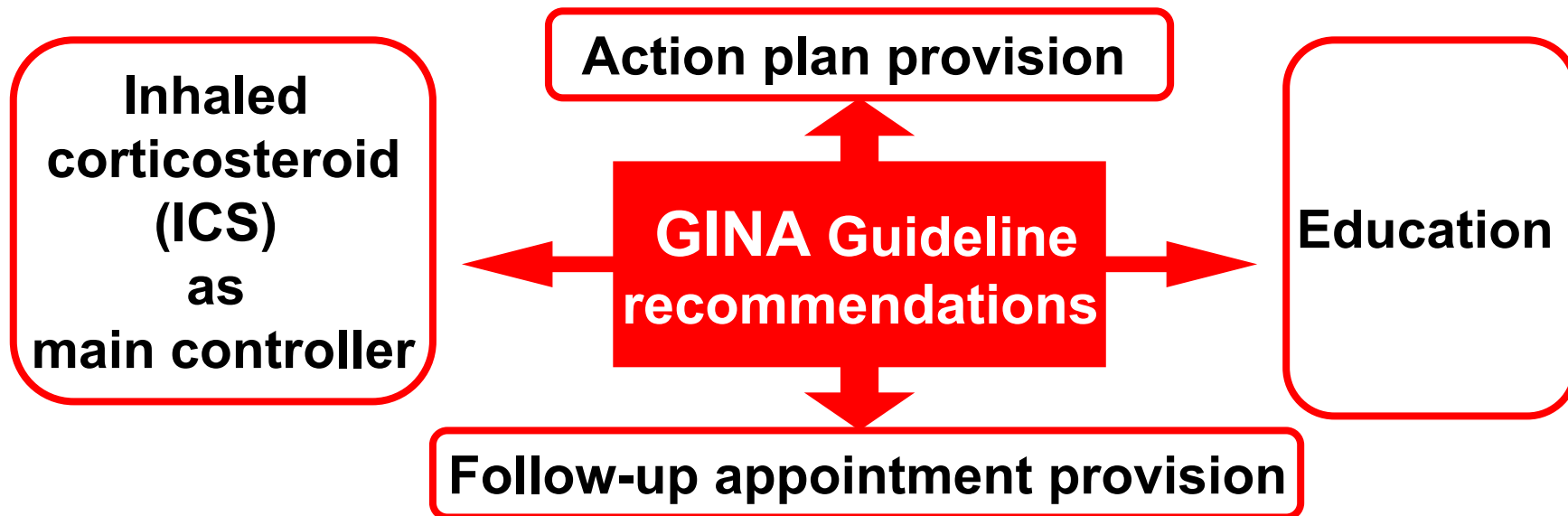
Introduction
Methodology
**Results and
discussions**
**Limitations and
recommendations**
Conclusion

PART 2

**Micro-costing of
Asthma Exacerbation**



Introduction
Methodology
**Results and
discussions**
**Limitations and
recommendations**
Conclusion



- *Stempel DA, Roberts CS and Stanford RH. Treatment patterns in the months prior to and after asthma-related emergency department visit. Chest 2004; vol. 126: pp. 75-80.*
- *Cydulka RK, Tamayo-Sarver JH, Wolf Christine, Herrick E and Gress S. Inadequate follow-up controller medications among patient with asthma who visit the emergency department. Annals of Emergency Medicine 2005; vol. 40: pp. 316-322.*

Treatment pattern below guideline recommendations

PART 1:

TREATMENT PATTERN BEFORE & AFTER AN ASTHMA-RELATED EMERGENCY DEPARTMENT VISIT IN UMMC

PART 1:

METHODOLOGY



Retrospective study

Subjects studied in a previous study were identified (N=178)

- asthmatic patients ICD (International Classification of Disease) 10th version (J45 – J46)
- admitted to UMMC ED and hospitalized (DEC 2004 to NOV 2005)

medical records retrieved and reviewed

Index Date **

The date of the
LAST
ASTHMA-RELATED
UMMC ED visit
(DEC 2004 to NOV 2005)

INDEX DATE

PRE-ED PERIOD

POST-ED PERIOD

12 months
BEFORE
index date

12 months
AFTER
index date

Time

PART 1: Methodology

- Subjects studied in a previous study were identified ¹⁷ (N=178)
- **asthmatic patients according to ICD (International Classification of Disease) 10th version (J45-J46)**
 - **admitted to ED of UMMC and hospitalized during Dec 2004 to Nov 2005**

medical records retrieved and reviewed

Index date **

Study subjects (N=63)

Inclusion criteria

- **readmitted to ED**
- OR
- **re-hospitalized**
- OR
- **follow-up**
- OR
- **unscheduled visit**

in the post-ED period

Treatment pattern in the pre-ED and post-ED

- Dispensing rate of ICS
- Education
- Action plan
- Follow-up appointment

Patient demographics

PART 1:
RESULTS
AND
DISCUSSIONS

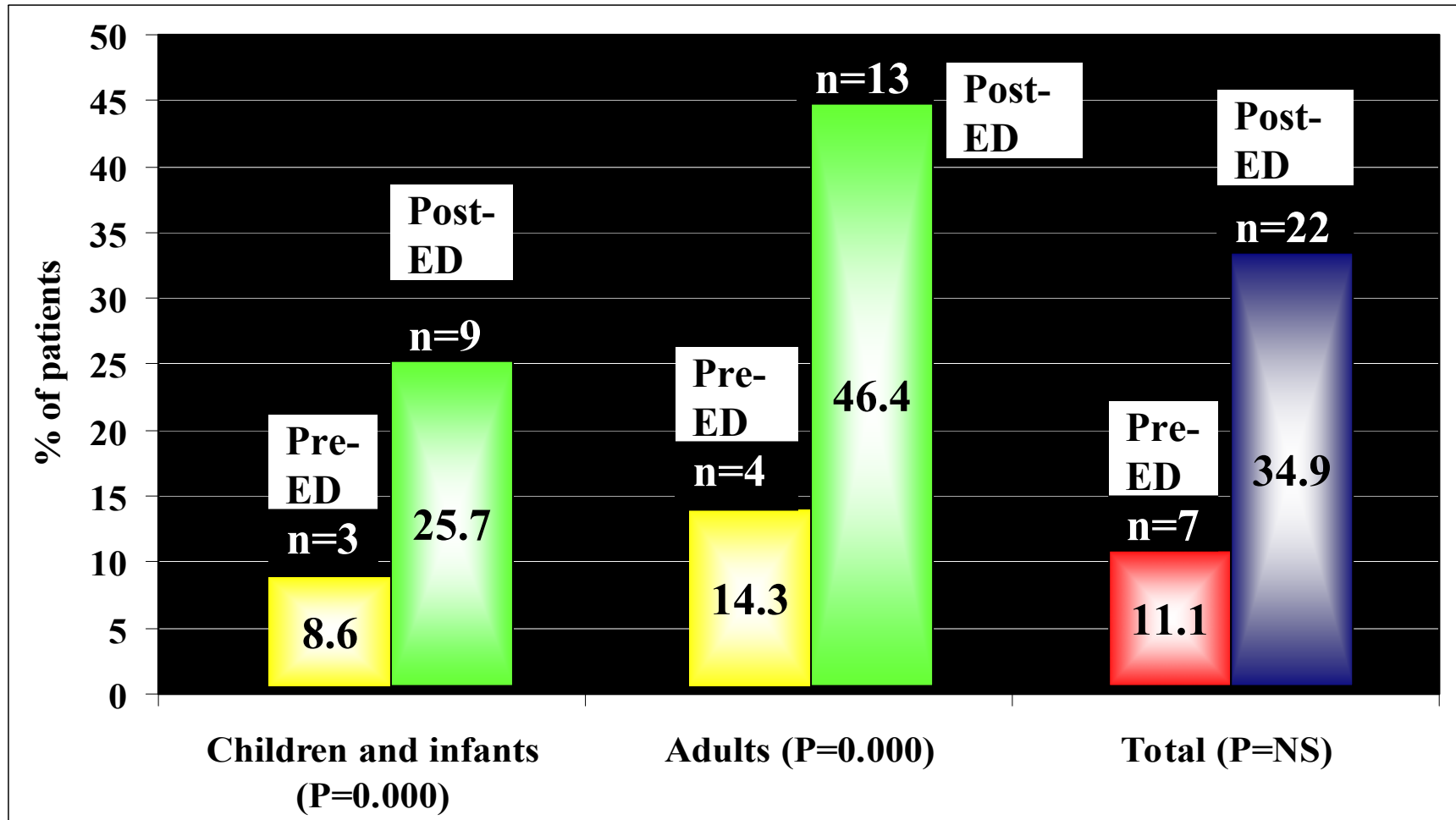


PART 1: Results and discussions

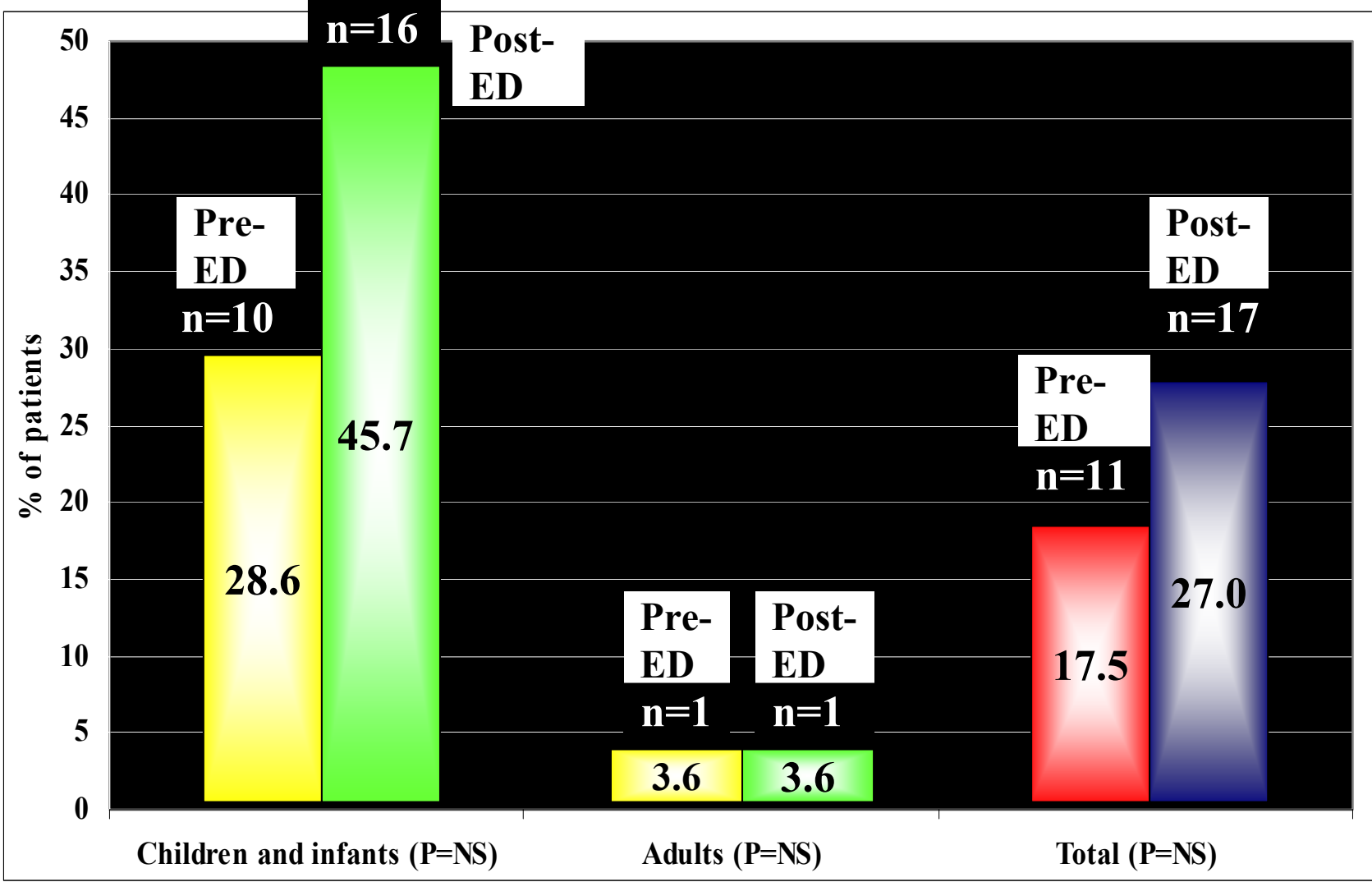
TSH

Demographics	Number of patients (N=63)
Category	
Children and infants (<18 year-old)	35 (55.6%)
Adults (≥ 18 year-old)	28 (44.4%)
Age	
Range	2 – 84 year old
Median (inter-quartile range)	13 year old (5, 50)
Gender	
Female	39 (61.9%)
Male	24 (38.1%)
Severity	
Intermittent	1 (1.6%)
Mild persistent	4 (6.3%)
Moderate persistent	4 (6.3%)
Severe persistent	2 (3.2%)
Not available	52 (82.5%)

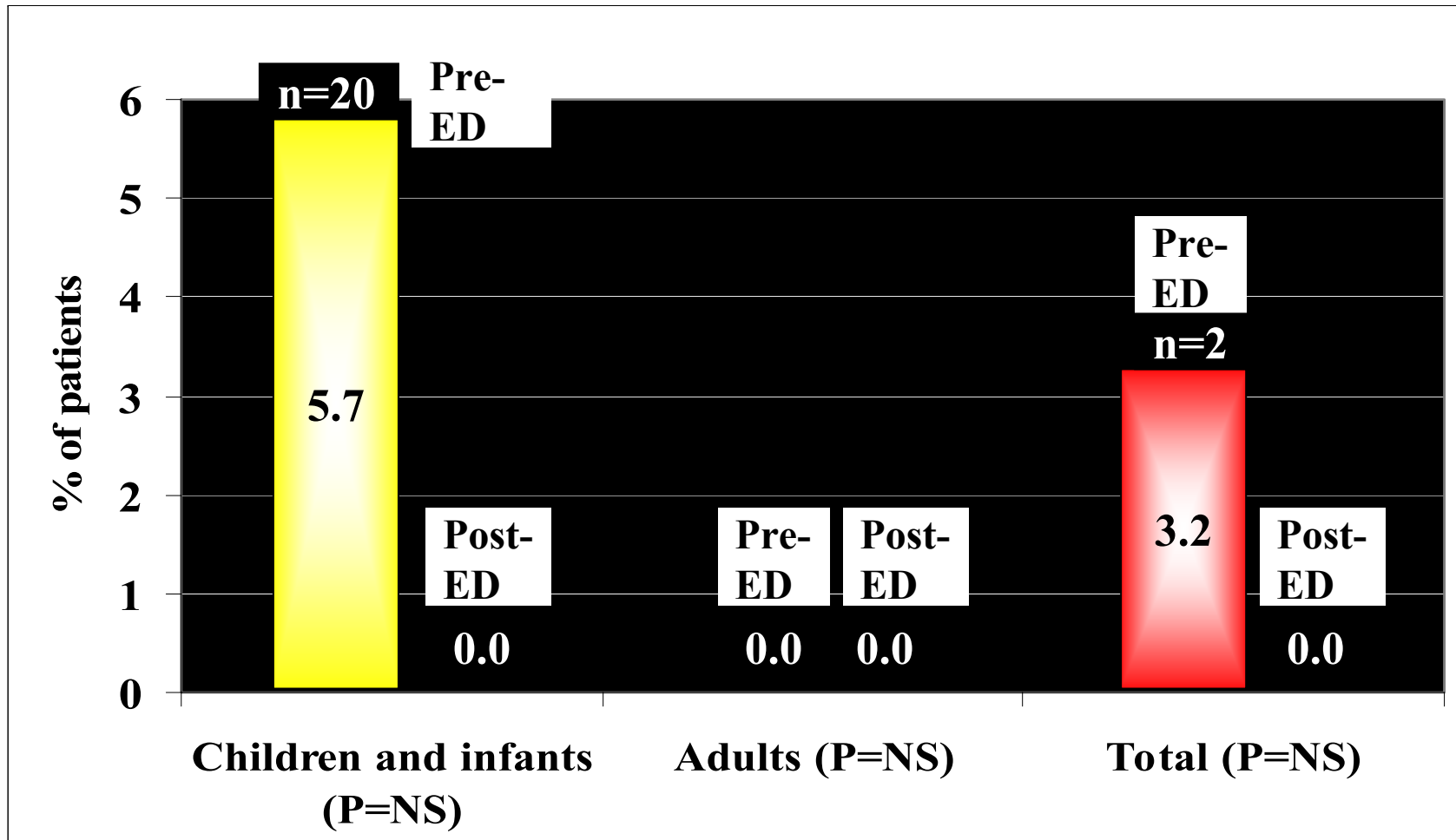
A) Dispensing Rate of ICS (N=63)



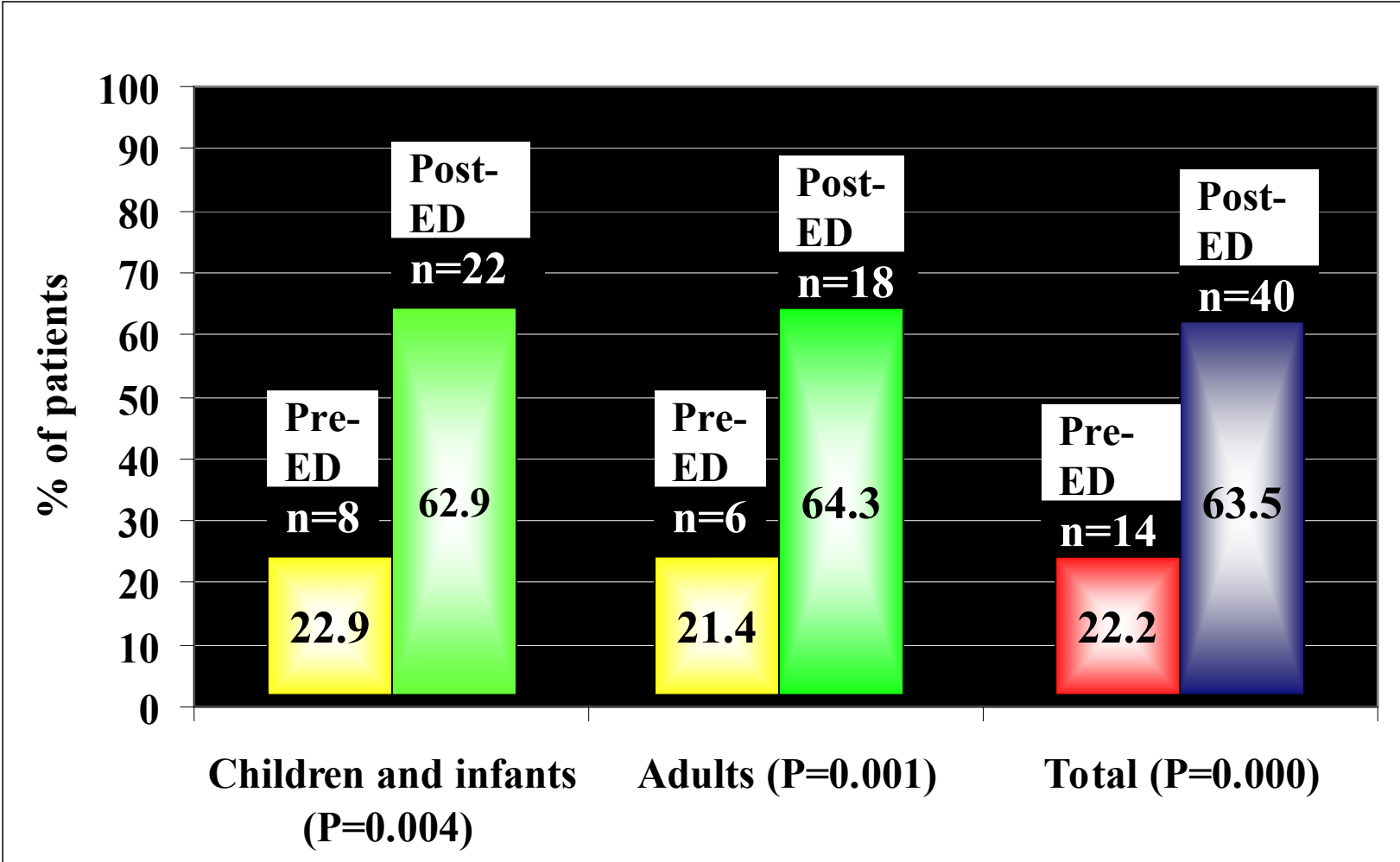
B) Provision of Education (N=63)



C) Provision of Action Plan (N=63)



D) Provision of Follow-up Appointment (N=63)



PART 1:
LIMITATIONS
AND
RECOMMENDATIONS



PART 1: Limitations and recommendations

LIMITATIONS	RECOMMENDATIONS
Retrospective <ul style="list-style-type: none">• Missing data	Prospective
Reason of not dispensing ICS unknown <ul style="list-style-type: none">• Still have medication	Interview

PART 1:

CONCLUSION



PART 1: Conclusion

Deterioration

- provision of action plan
3.2% → nil

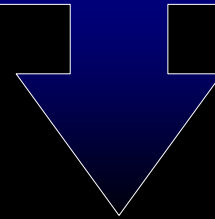
**Treatment Pattern
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Improvement

- dispensing rate of ICS
11.1% → 34.9%
- provision of education
17.5% → 27%
- provision of follow-up appointment
22.2% → 63.5%

Treatment pattern UMMC below the guideline recommendations

**Asthma exacerbation
contributes
significant portion of total asthma cost**



Financial burden



Cost-driver

**Resource
allocation**

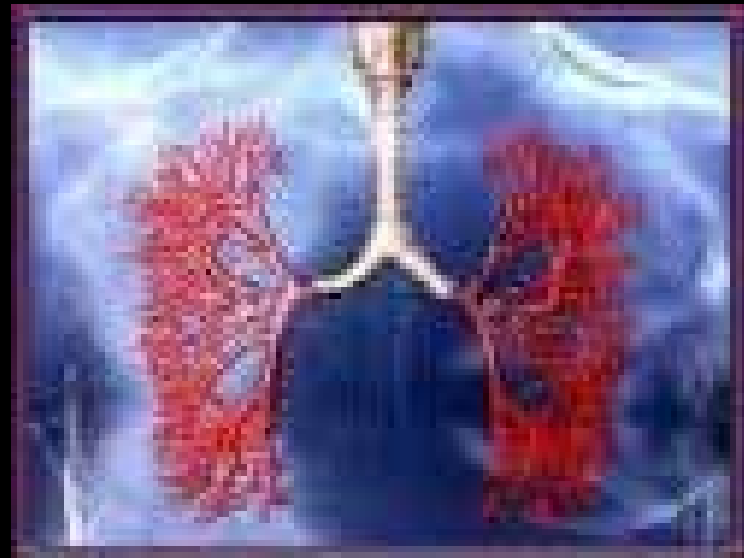


PART 2:

**MICRO-COSTING OF
ASTHMA EXACERBATION
IN UMMC
EMERGENCY DEPARTMENT**

PART 2:

METHODOLOGY



Prospective observational study

Clinical pathway of managing asthma exacerbation in ED of UMMC was determined and verified

A: 12.01am – 6am / B: 6.01am – 12noon / C: 12.01noon – 6pm / D: 6.01pm – 12am

Sampling from 2 sections per day

Inclusion criteria:
1° diagnosis of asthma exacerbation

Procedures (from triage counter to discharge) were observed

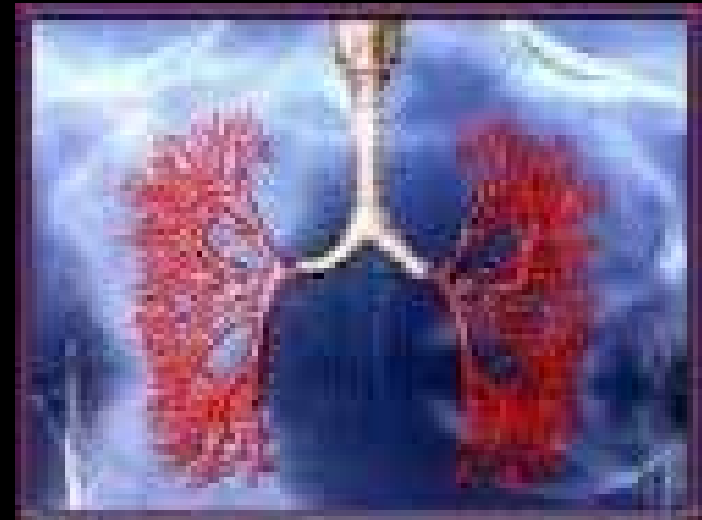
Repeat until 30 asthma exacerbation episodes

determine


Total cost of managing an episode of asthma exacerbation

- Medication cost
- Labour cost
- Material cost
- Equipment cost
- Overhead cost
- Capital cost of building

PART 2:
RESULTS
AND
DISCUSSIONS



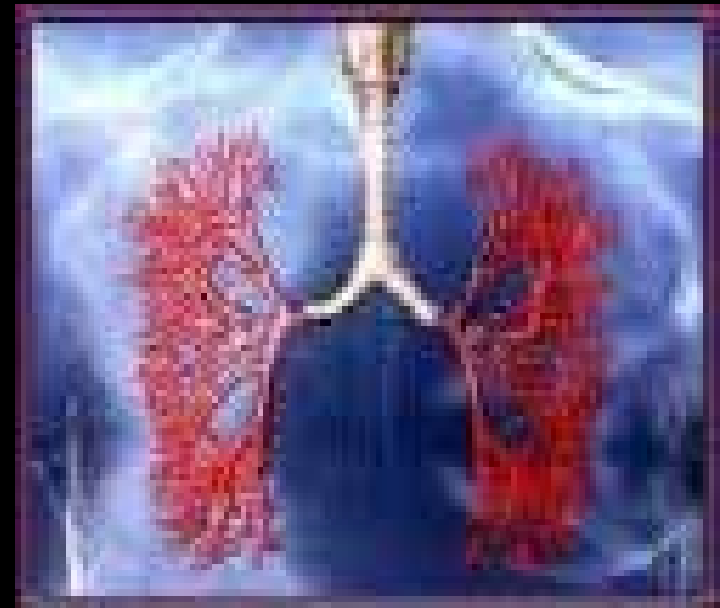
PART 2: Results and discussions

Demographics	Number of episodes (total=30)
Category	
Children and infants (<18 year-old)	6 (20.0%)
Adults (≥ 18 year-old)	24 (80.0%) 
Age	
Range	3 – 81 year old
Median (inter-quartile range)	45 year old (24.75, 62.50)
Gender	
Female	15 (50.0%)
Male	15 (50.0%)

PART 2: Results and discussions

Type of cost	Cost per episode (RM)
Medication cost	52.44 (94.4%)
Labour cost	3.15 (5.6%)
Material cost	Negligible
Overhead cost	Not determined
Equipment cost	Not determined
Capital cost of building	Sunken cost
TOTAL	55.58 (100.0%)

PART 2: **CONCLUSION**



**Cost of managing
an episode of
asthma exacerbation
in ED of UMMC**

**Cost driver
of managing
an episode of
asthma exacerbation
in ED of UMMC**

Underestimation

Medication

Cases studied less severe

Limitation

Recommendation

Increase population



THANK YOU