

# Factors affecting Length of Stay for Children with Gastroenteritis in a Short Stay Unit

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# Background

- Short Stay Unit at RCH from 2004
- Common illnesses requiring brief hospitalization
- Efficiency, patient safety and quality of care related to correct selection
- Gastroenteritis admissions a large cohort of total



# Aim

- To determine factors associated with a length of stay (LOS) of >36 hours for children with acute gastroenteritis admitted to a Short Stay Unit



# Methods

- Retrospective audit
- Final coded diagnosis “gastroenteritis” in SSU  
1 May 2005 – 1 May 2006.
- Comparison of groups :
  - failures (LOS >36 hours)
  - success (LOS ≤ 36 hours)
- Unadjusted and multivariable analysis



# Methods : Variables

- Patient demographics
  - Age, sex
- History and examination findings
  - Day of illness
  - Vomiting and number in prev. 24 hrs
  - Diarrhoea and number in prev. 24 hrs
  - Estimate of dehydration
  - Change in weight



# Methods : Variables

- Concurrent illnesses & preexisting morbidities
  - Current Ear Nose Throat (ENT) infection
- Results of admission investigations and treatment received
  - Nasogastric or intravenous fluids

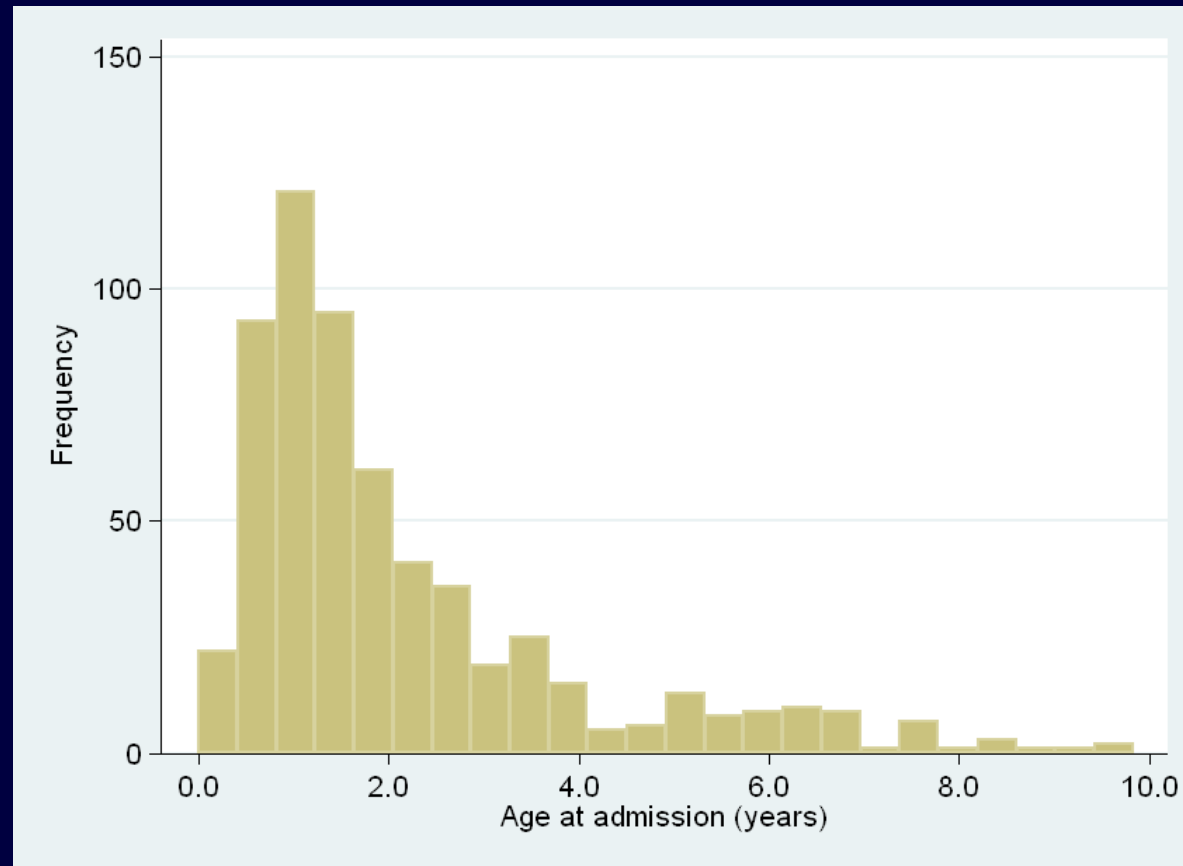


# Results

- 611 admissions of 596 children (15 had 2 admissions)
- 226/611 (37%) LOS >36 hrs “failed”
- 385/611 (63%) LOS ≤ 36 hrs “succeeded”
  
- Mean LOS failures 56.8 hrs
- Median LOS failures 48.0 hrs



# Demographics: Age & Sex



Mean: 2 years  
2 months

Median: 18 months

Range: 3 days –  
9 years  
10 months

Male: 49.4 %

Female: 50.6 %



# Unadjusted Continuous Variables

Predictor	Odds ratio	95% CI of Odds Ratio	P-value
Weight on admission	0.93	0.89-0.97	0.002
Number diarrhoea last 24 hrs	1.02	0.98-1.08	0.29
Day of illness	1.03	0.97-1.09	0.36
Number of vomits last 24 hours	1.01	0.97-1.04	0.72



# Unadjusted Categorical Variables

Predictor	P-value
Age group	0.01
Current ENT infection	0.05
Nasogastric fluids	0.27
Estimate of dehydration	0.44
IV Fluids	0.65



# Multivariable Analysis

Predictor	Odds Ratio	95% CI	p-value
Age Group			<b>0.007</b>
0 - <1 year	-	reference	
1 - < 2 years	<b>0.56</b>	<b>0.36 - 0.87</b>	
2 years and above	<b>0.52</b>	<b>0.34 - 0.81</b>	
Current ENT Infection			<b>0.01</b>
No	-	reference	
Yes	<b>2.01</b>	<b>1.13 - 3.57</b>	
Not Recorded	2.45	0.97- 6.22	



# Limitations of the study

- Retrospective
  - Some relevant data not recorded
  - Interpretation bias
- Selection bias
  - Excluded < 6 months age
- Variable practice in SSU
  - Variable staff threshold to discharge pt
  - Variable parent threshold to take home patient



# Conclusions

- Over 1/3 of gastroenteritis admissions to our SSU result in a length of stay >36 hours
- Failure *is* associated with
  - Younger age at admission
  - Concurrent ENT infections
- Failure *is not* associated with
  - GI losses, length of illness, severity of dehydration, specific investigation results or management



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