

CROUP MANAGEMENT IN AUSTRALIA & NEW ZEALAND: A PREDICT Study

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on behalf of the PREDICT Emergency Departments



PREDICT



- Formed in 2004
- Collaborative Research network
- "Croup" highlighted as an initial project for further investigation

Controversies in Croup

- Established foundation for croup management is steroids and adrenaline
- Steroids
 - Demonstrated benefits since 1989, but...
 - what severity
 - which one
 - what dose
 - how long
- Nebulised adrenaline
 - Proven acute response
 - what severity
 - what solution
- Other therapies
 - mist/steam
 - heliox

Objectives of this study



- Review of PREDICT site's clinical guidelines for CROUP management
- Study individual physician reported management of croup
- Compare reported management to site clinical guidelines

Methods

Written survey

- Part of larger study (GABSC-A)
- distributed via site representatives

Collated centrally

Anonymous but site coded

General questions plus scenario based

Results

- 78/83 (94%) physicians replied
- 40 (51%) FRACP
- 28 (36%) FACEM
- 10 (13%) both FRACP/FACEM

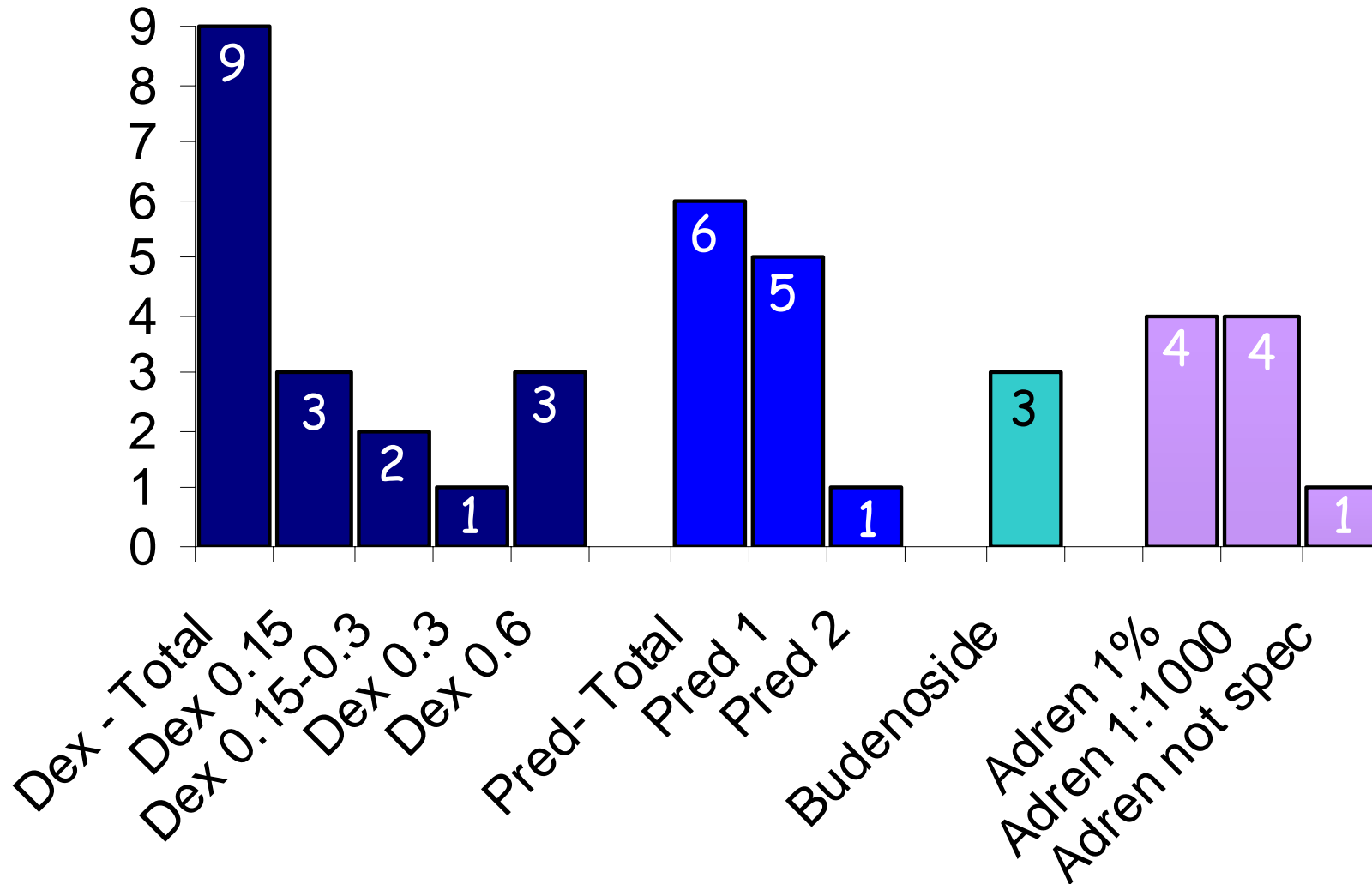
- 39 (50%) male
- 38 (49%) full time
- Mean 6.0 yrs (SD \pm 4.8, range 1-22yrs) as consultant

Results - Clinical Guidelines



- All 11 PREDICT sites participated
- 9 sites use a guideline specific for croup
- All sites use steroids, adrenaline as basis of therapy
- Wide variation in recommended therapies

Clinical Guideline Recommendations for Croup Therapy



Mild Croup

- *“Barking cough only, no stridor/recessions”*
- Respondents
 - 39 (50%) no therapy
 - 35 (45%) used oral steroids
 - 5 (6%) other therapies eg paracetamol
- Clinical Guidelines
 - 2 sites recommend steroids
 - No sites recommend adrenaline
 - 11 (15%) used steroids not recommended by their site

Moderate Croup

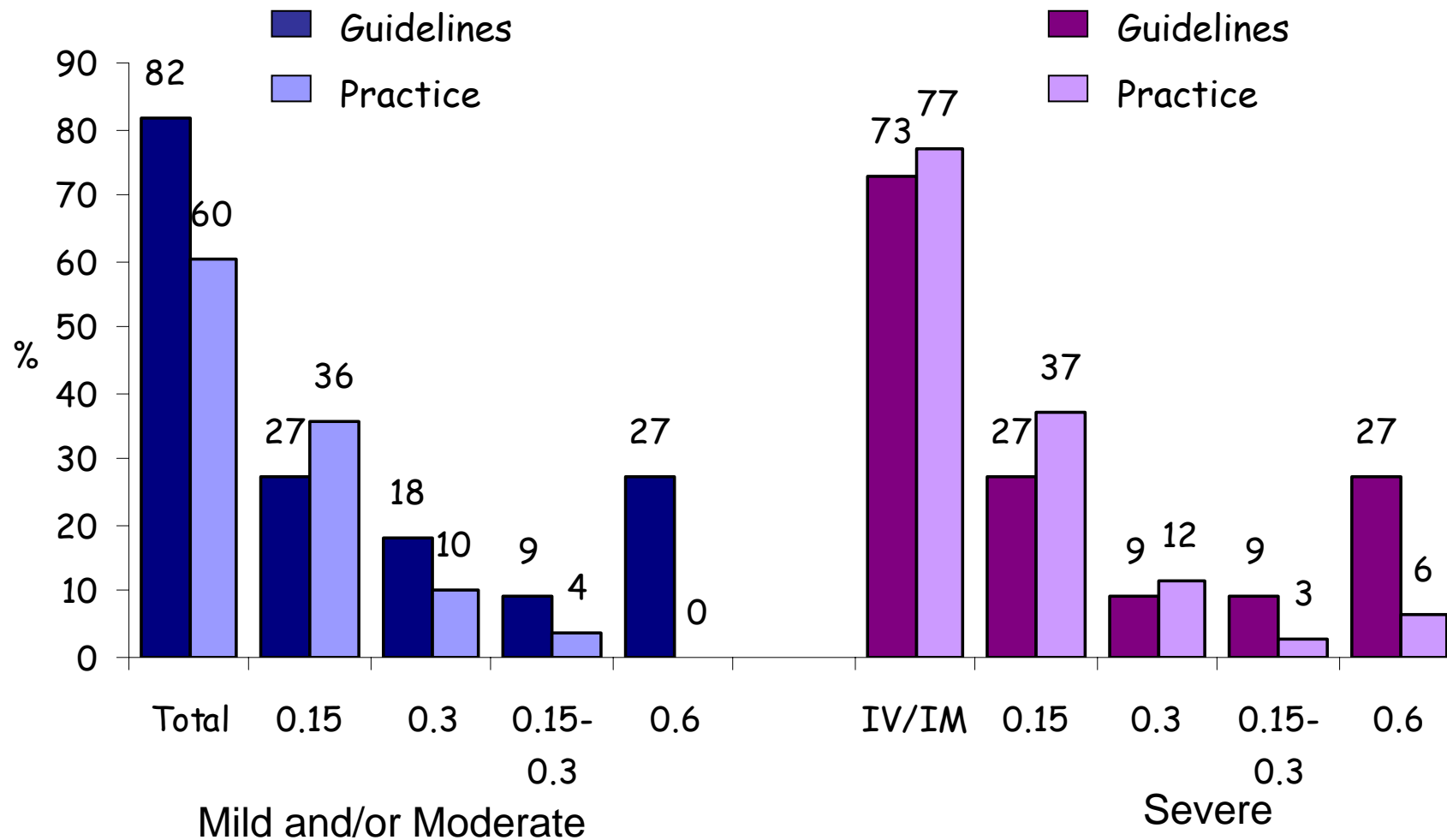
- “*Stridor at rest, little or no recessions*”
- Respondents
 - 76 (97%) used steroids
 - 2 (3%) used adrenaline
 - 4 (5%) used adjuncts
- Clinical Guidelines
 - All recommend oral steroids, 3 inhaled
 - All recommend neb adrenaline

Severe/Life Threatening Croup

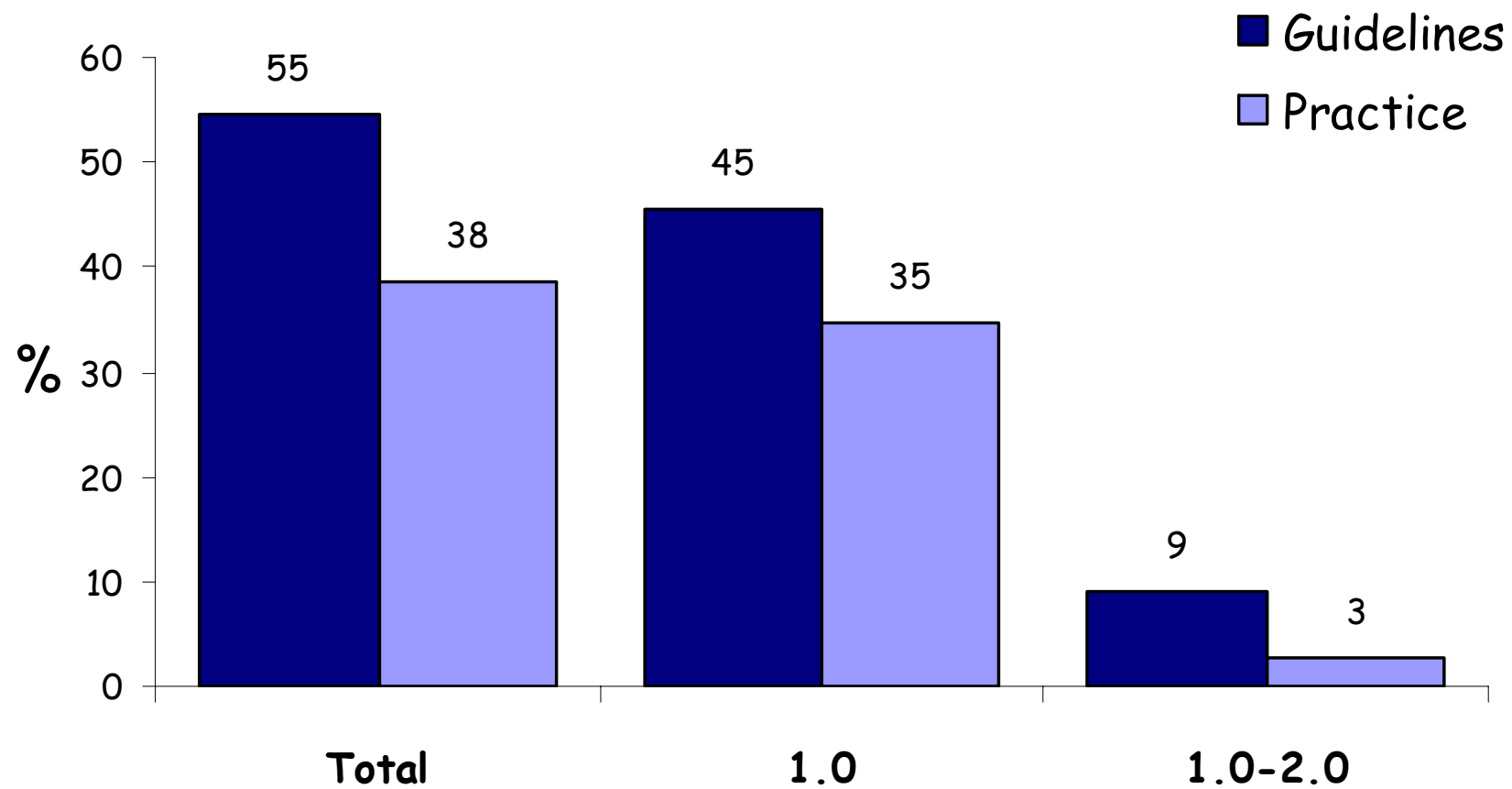


- *“Moderate subcostal recession, impending resp failure” and “evidence of hypoxia or signs of severe obstruction”*
- Respondents
 - 76 (97%) gave steroids
 - 41 (52%) adrenaline in severe
 - 78 (100%) adrenaline for life threatening
- Clinical Guidelines
 - All use steroids incl 5 inhaled
 - All adrenaline
 - 5 weight based
 - 4 standard vol

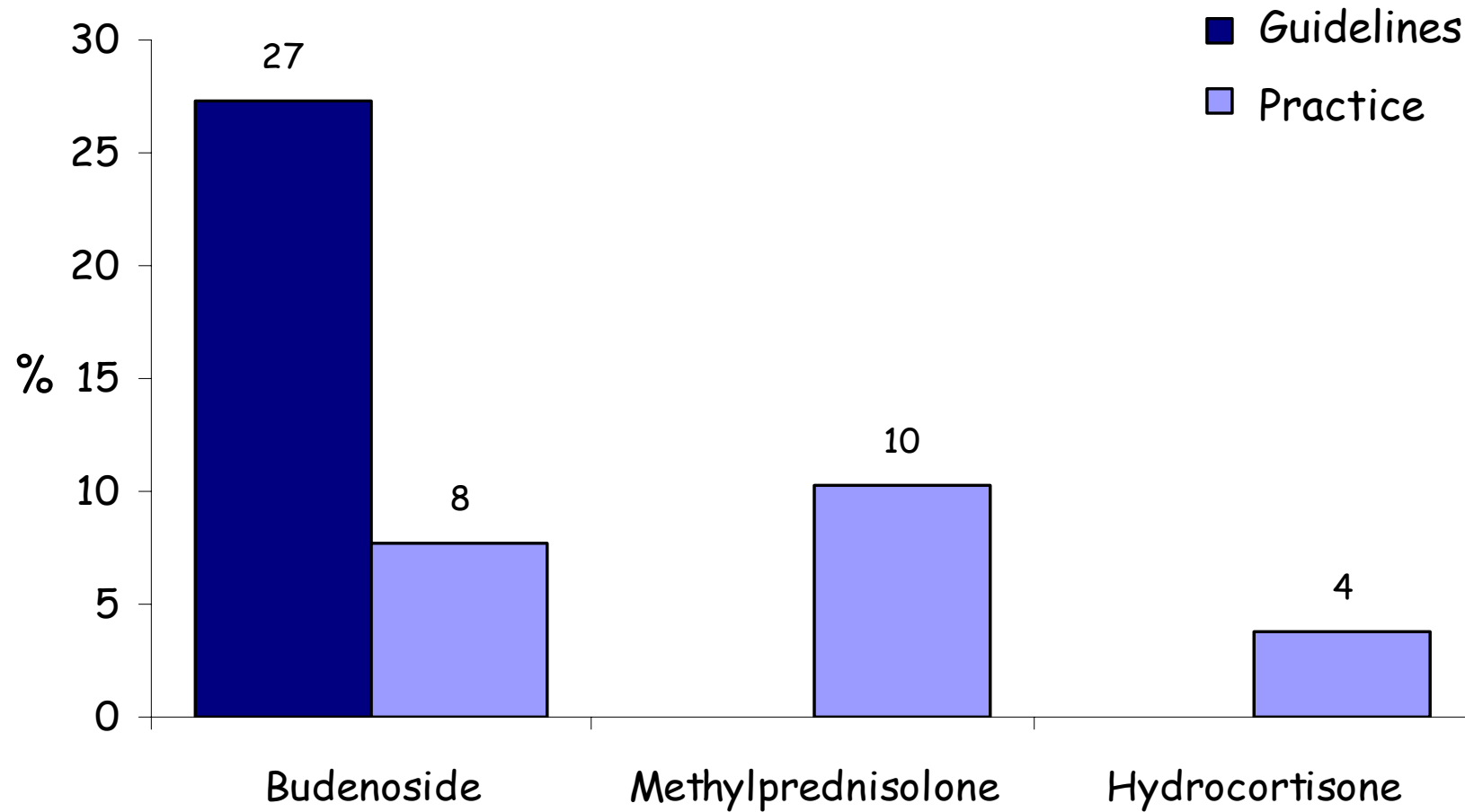
Dexamethasone



Prednisolone



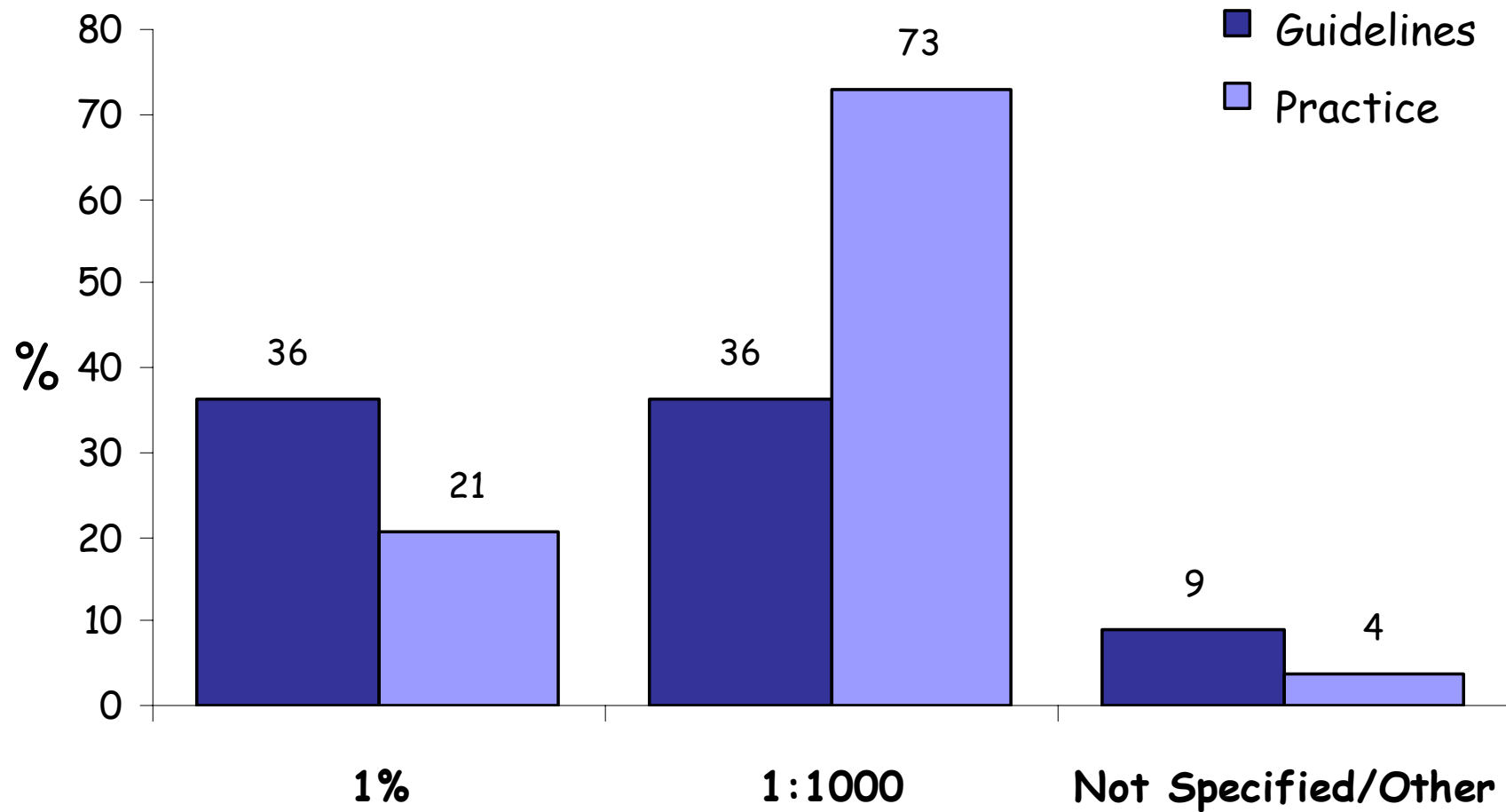
Other Steroids



Adrenaline

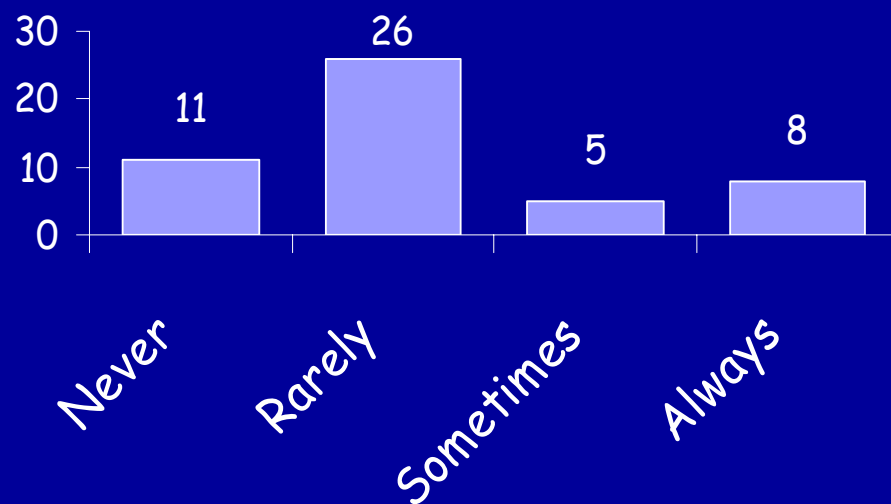
- 77(99%) of respondents use nebulised adrenaline for moderate and/or severe croup
- 42 (55%) use standard volume dosing
 - 13 different schedules for standard volume dosing
- 30 (39%) use weight based dose
 - 12 different formulas for weight based dosing

Adrenaline



Discharge Steroids

Patients being discharged



- Pred 39 (58%)
- Dex 25 (37%)
- 9 different regimes
 - both dex & pred
 - 2-3 days of therapy

Other therapy

- Heliox
 - Available for 9 (11%)
 - Used by 4 respondents
- Mist/Steam
 - Not recommended by any respondents

Conclusions

All guidelines and respondents use steroids and adrenaline for the management of croup

BUT wide range of regimes and practices -from mild to severe croup

Reflects confusion in the available evidence for management of this common childhood disease

Highlights the need for large multi-centred randomised trials esp in mild disease

Opportunity for development of uniform clinical practice guidelines

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