

## An evidence-practice gap in the provision of asthma medication

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## Australia



## Asthma Incidence

- Similar to UK
- 10% to 12% of the Australian population
- 406 deaths in Australia 2006<sup>1</sup>

<sup>1</sup>Australian Bureau of Statistics. Causes of death: Australia 2006, Cat. No. 3303.0. In: Statistics ABo, ed: Commonwealth of Australia; 2008.

## Asthma medication supply in Australia

- Asthma reliever medication (salbutamol & terbutaline) available without prescription
- Over a quarter of salbutamol supplied without prescription<sup>1</sup>
- Potentially **only** health care professional in contact with patient

<sup>1</sup>AIHW Australian Centre for Asthma Monitoring 2005. Asthma in Australia 2005. AIHW Asthma Series 2. AIHW cat. no. ACM 6. Canberra: AIHW.

## Current practice

- No data published
- Reduces proof of pharmacy effectiveness
- Increasing public scrutiny on professions

## Aim

- Primary: Assess current practice when providing asthma reliever medication in the community pharmacy setting
- Secondary: Determine factors that correlate with quality assessment and counselling

## What is 'quality' assessment and counselling?

### Quality Use of Medicines

- Element of National Medicine Policy
- QUM means
  - Using medicines safely and effectively

### General Assessment

- Literature
  - WWHAM protocol
  - Correlates with appropriate medication supply<sup>1</sup>
- Pharmaceutical Society of Australia: Standard for supply
  - Incorporate WWHAM in assessment protocol

<sup>1</sup>Watson M, Bond C, Grimshaw J, Johnston M. Factors predicting the guideline compliant supply (or nonsupply) of non-prescription medicines in the community pharmacy setting. *Quality and Safety in Healthcare*. 2006;15:53-7.

### WWHAM

- W: **Who** is it for?
- W: **What** are the symptoms?
- H: **How long** have the symptoms been present?
- A: **Action** already taken?
- M: **Medication** being taken for other problems?

### Asthma Assessment and Counselling

- Asthma Control
  - Frequency of salbutamol use
  - Frequency of salbutamol supply
  - Increased salbutamol use
- Device technique
  - Poor inhaler technique is common<sup>1</sup>

<sup>1</sup>Fink J, Rubin B. Problems With inhaler use: A call for improved clinician and patient education. *Respiratory Care*. 2005;50(10):1360-1375.

### Methodology

- Simulated patient survey
- Single visit per pharmacy
- Standardized scenario

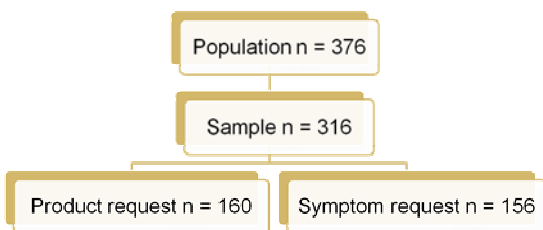
## Ethics

- Ethics approval obtained from UWA Human Research Ethics Committee
- Consent obtained from Pharmaceutical Council of Western Australia

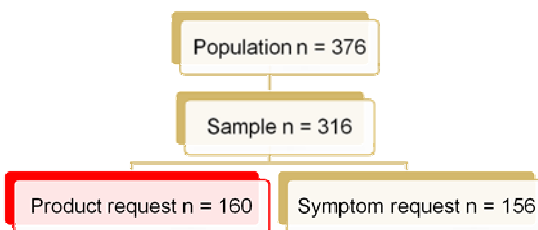
## Study population

- Inclusion Criteria:
  - Community Pharmacies in the Perth metropolitan area (n = 376)
- Exclusion Criteria:
  - Non-provision of salbutamol
  - Prior knowledge of the study
  - Pilot pharmacies

## Study design



## Study design



## Scenario: Product based request

- Request: Could I please buy a Ventolin®?
- Simulated patient information:
  - Simulated patient has controlled mild-moderate asthma
  - On an inhaled corticosteroid
  - Using salbutamol twice a week

## Training

- Phase 1: familiarization with scenario
- Phase 2: familiarization with questionnaire
- Phase 3: pilot study (n=16 pharmacies)

## Data Analysis

- Regression analyses
  - Assessment
    - Salbutamol frequency
  - Counselling
    - Inhaler technique

## Results

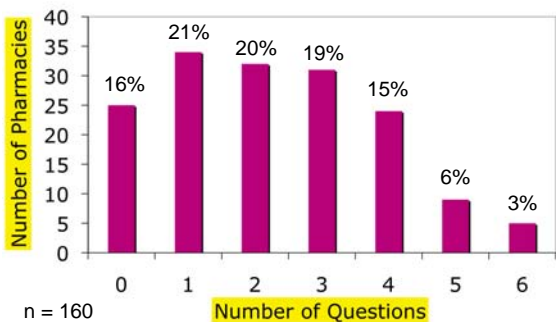
## Pharmacy Demographics

Characteristics of pharmacies	Percentage (n=160)
Pharmacy type:	
Independent	56
Chain	44
Other	0
Pharmacy location:	
Shopping Centre	54
Street	30
Medical Centre	14
Other	2
Pharmacy busyness:	
Staff > Customers	78
Staff < Customers	22

## Counsellor Demographics

Characteristics of counsellors	Percentage (n=160)
Sex of counsellor:	
Female	80
Male	20
Counsellor position:	
Assistant	47
Pharmacist	32
Assistant/Pharmacist	1
Pharmacist Consulted	6
Other	14
Counsellor age (years):	
< 20	4
20 - 29	59
30 - 39	15
40 - 50	15
50 - 60	7
60 +	0
Consultation time (minutes)	
< 1	67
1 - 3	31
> 3	2

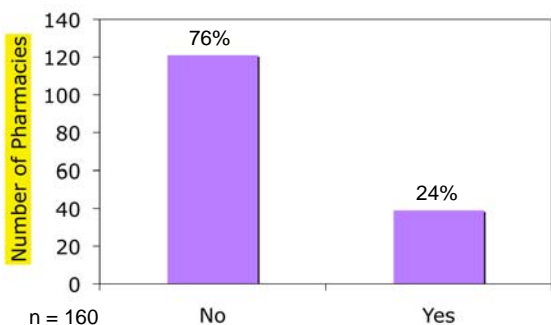
## Assessment Quantity



## Assessment Questions

	Pharmacy % (n=160)
Prior use	58
Patient identity	56
Other medications	28
Medical review	28
Salbutamol frequency	26
Inhaler technique	3

## Counselling provided



## Quality assessment analysis

- Salbutamol frequency
  - Visit time (< 1 min, 1-3 min, > 3 min)  $p < 0.001$
  - Number of questions asked (1 to 6)  $p < 0.001$
  - Identity of simulated patient  $p < 0.02$
- Inhaler technique
  - Unable to be analyzed

## Quality counselling analysis

- Counselling
  - Visit time (< 1 min, 1-3 min, > 3 min)  $p < 0.0001$
  - Number of questions asked (1 to 6)  $p < 0.01$
- Inhaler technique
  - Unable to be analyzed

## Assessment

- 84% provided assessment
- **None** fully compliant with recommended practice
- 26% assessed salbutamol frequency of use
- 3% asked about inhaler technique
  - Not part of routine assessment
- Similar to international research in other therapeutic areas<sup>1,2</sup>

<sup>1</sup>Berger K, Eickhoff C, Schulz M. Counselling quality in community pharmacies: implementation of the pseudo customer methodology in Germany. *Journal of Clinical Pharmacy and Therapeutics*. 2005;30(1):45-57.

<sup>2</sup>Watson M, Bond C, Grimshaw J, Mollison J, Ludbrook A, Walker A. Educational strategies to promote evidenced-based community pharmacy practice: a cluster randomized controlled trial (RCT). *Family Practice*. 2002;19(5):529-36.

## Counselling

- 24% provided any form of counselling
- **No** counselling on inhaler technique
  - Not part of routine counselling
  - Evidence-practice gap
    - There is a clear need
    - Effectiveness of pharmacist counselling demonstrated in literature<sup>1</sup>

<sup>1</sup>Basheti I, Reddel H, Armour C, Bosnich-Anticevich S. Improved asthma outcomes with a simple inhaler technique intervention by community pharmacists. *Journal of Allergy and Clinical Immunology*. [Letter]. 2007 June; 2007;119(6):1537-8.

## Limitations

- Limited to metropolitan pharmacies
  - Western Australia 10 times larger than UK
- Limited to scenario presented
  - First time presentation
  - Controlled asthma
  - On a corticosteroid

## Conclusions

- Assessment and counselling when supplying asthma reliever medication needs to improve to achieve Quality Use of Medicines
- Clear evidence practice gap found regarding inhaler technique assessment and counselling

## Where to now?

- Explore barriers
- Multidisciplinary key stakeholder group
- Guideline development
- Educational campaign

## Acknowledgements

- Asthma Foundation of WA
- University of Western Australia
- Pharmaceutical Council of Western Australia

## Factors associated with salbutamol frequency of use

		OR (95% CI)
<b>Consultation time (min)</b> p < 0.001*	1	1
	1-3	3.3 (1.34, 8.09)
	> 3	2.1 (0.14, 31.84)
<b>Number of assessment questions</b> p < 0.001*	1 - 6	1.92 (1.35, 2.73)
<b>Simulated patient</b> p < 0.02*	Patient 1	1
	Patient 2	1.92 (0.55, 6.64)
	Patient 3	4.44 (1.28, 15.46)
	Patient 4	6.15 (1.82, 20.82)