

Madison, NJ

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Patterns of Use of Inhaled Epinephrine

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PATTERNS OF USE OF INHALED EPINEPHRINE, H.M. Druce MD, SA Furey PhD, MD, MD Kalfus, J Incledon, RA Guido Madison NJ

Inhaled epinephrine has been available without prescription since the mid-1960's for treatment of mild asthma symptoms. To determine demographic patterns and use profiles of a branded epinephrine inhaler, Primatene<sup>®</sup> Mist (PM), we commissioned four independent studies with a sample size of more than 300,000 households. About 4.4% of the US population have asthma (11 million). During the survey period, 1.8-2.9% of asthma sufferers used or had previously used a nonprescription asthma medication; 1.3-2.1% used PM. 35% used PM less than 1 time/month and 35% 1-4 times/month. The demographics of the users paralleled the US population. 36% of PM users had <1 asthma attack/month and 41% had 1-4/month (average 1.2/month). 86% missed no work or school because of asthma and 12% missed 1-5 days/yr. 57% reported sleep interrupted less than 1 night/month and 22% <3/month. 78% required no urgent care in the previous 12 months and 15% 1-3 times. 86% had physician-diagnosed asthma (GP/FP 61%; allergist 13%; others 12%) 52% reported discussing PM with their doctor and 13% stated that their doctor recommended PM. There is a second distinct population of asthmatics that used both prescription and non-prescription products at different times - 37% of all PM users also used a prescription product. Reasons cited for non-prescription use in this second population included need for a bronchodilator when prescription ran out (22%) or was unavailable (11%). These surveys demonstrate that most PM users have mild asthma and do not overuse or misuse PM. As with patients with other recurrent symptomatic conditions, mild asthmatics are able to appropriately self-treat sporadic, well recognized asthmatic symptoms with inhaled epinephrine. We also conclude that household survey data can augment data obtained through more traditional clinical trial or epidemiologic methods.

	Study #1 (August 1994)	Study #2 (August 1994)	Study #3 (November 1993)	Study #4 (May 1993 - June 1994)
Study Population	Asthma sufferers who currently/ever used nonprescription asthma medications (mist and tablets)	Past year users of Primatene (Mist or Tablets)	Households who purchased nonprescription asthma medication (mist or tablets)	Past year asthma sufferers who used nonprescription asthma medications
	Adults ≥ 18 yrs	Adults ≥ 18 yrs		Adults ≥ 18 yrs
Interview/Data Collection Method	Interviews by mail and telephone	Interviews by telephone	Electronic recording of purchases made by all household members using UPC codes	Interviews by mail
No. interviewed	525 past year users 302 lapsed users	123 past year users	575 households	557 past year users
Study Sponsor	National Family Opinion Research, Inc. (NFO)	ICR Survey Group (ICR)	Nielsen	Nielsen

Classification Of Asthma By Severity Of Disease  
1991 National Asthma Expert Panel Guidelines<sup>17</sup>

CHARACTERISTICS	MILD	MODERATE	SEVERE
Frequency of attacks	1-2 per week	>1-2 per week	daily
Urgent care visits per year (i.e., hospital ER, or physician's office)	-	<3	>3
Hospitalizations per year	-	-	>2
Exercise tolerance	Good	Diminished	Vary poor
No. nocturnal events	1-2 per month	2-3 per week	nightly
School/Work attendance	Good/Not affected	Affected	Poor

Symptom Duration and Frequency in Users of OTC Epinephrine Mist

Study	NFO			ICR	Diagnosed Asthma Patient* (N=83)
	Epinephrine Mist (N=373)	Primatene Mist (N=242/373)	Primatene Mist (N=102)		
Average duration of symptoms (yr)	15	16	11	13	
Frequency during past year					
< 1/month	38	38	36	41	
1-4 times a month	39	41	36	38	79
Few times a week	13	14	18	9	
Daily	9	9	9	9	
Average for year	65	65	68	66	

Measure of Physician Involvement with Users of OTC Epinephrine

Study	NFO	
	Epinephrine Mist (N=373)	Primatene Mist (N=242/373)
Doctor diagnosed asthma	% 87	% 86
GP/Family doctor	61	61
Allergist	14	13
Pulmonary/Respiratory Specialist	3	3
Pediatrician	2	1
Internist	3	2
Other	0	0

Reasons for Use of Rx and OTC Medication at Different Times

NFO Study	Epinephrine Mist (N=214)	Primatene Mist (N=139)
Availability	30	32
Prescription gone	22	22
Lack of availability	9	11
Depends on severity	12	11
Efficacy	11	8
Rx more effective/stronger	4	2
Non-Rx ineffective	2	1
Generally use most effective medication	5	5
Doctor recommended	10	8
Use before going to doctor	6	8

Symptom Severity in Users of OTC Epinephrine Mist

Study	NFO		ICR (N=102)	Diagnosed Asthma Patient* (N=83)
	Epinephrine Mist (N=373)	Primatene Mist (N=242/373)		
Severity Measure	%	%	%	%
Times missed school/work in past year				
0	84	86	69	70
1-5	13	12	15	16
6-10	2	1	3	3
11+	1	1	3	3
Average/yr	0.7	0.7	1.3	1.3
Sleep interruption past year				
<1 / month	57	57	NQ	NQ
1 / month	9	10	NQ	NQ
2-3 / month	12	11	NQ	NQ
1 / week	5	4	NQ	NQ
few / week	11	12	NQ	NQ
Daily	6	6	NQ	NQ
Average/yr	55	54	NQ	NQ

Symptom Severity in Users of OTC Epinephrine Mist

Study	NFO		ICR (N=102)	Diagnosed Asthma Patient* (N=83)
	Epinephrine Mist (N=373)	Primatene Mist (N=242/373)		
Severity Measure	%	%	%	%
Degree of exercise tolerance				
Vigorous	14	15	NQ	NQ
Moderate	40	43	NQ	NQ
Mild	34	32	NQ	NQ
Don't exercise	-	-	NQ	NQ
No. of times urgent care required last year				
0	74	78	76	NQ
1-3	16	15	17	NQ
4+	8	7	7	NQ
Average/year	0.8	0.7	1.0	NQ