

Supplementary Data

eTable 1
Hospitalizations for Allergic Reactions Among Children (Age, <18 Years) in the United States From 2006 to 2015

Age group (y)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	P _{trend}
	Weighted admissions (95% CI) per 100,000 visits										
Anaphylaxis											
0-<3	10 (6-13)	10 (7-12)	9 (6-12)	10 (7-13)	13 (8-18)	8 (6-10)	11 (8-14)	12 (9-15)	12 (9-14)	12 (8-15)	.14
3-<6	119 (71-167)	146 (104-187)	105 (72-139)	137 (96-177)	156 (103-209)	140 (103-176)	182 (136-228)	186 (133-238)	192 (150-234)	256 (194-319)	<.001
6-<12	134 (83-185)	118 (80-157)	119 (80-157)	102 (68-136)	144 (112-175)	165 (127-203)	163 (132-195)	174 (139-209)	219 (177-260)	263 (202-325)	<.001
12-<18	102 (69-135)	64 (44-83)	75 (56-94)	100 (73-127)	117 (88-147)	98 (77-118)	138 (114-162)	142 (117-166)	163 (137-189)	163 (135-91)	<.001
Overall AAR											
0-<3	21 (1-26)	20 (16-24)	20 (16-25)	20 (15-24)	25 (18-32)	19 (15-22)	21 (17-25)	21 (17-25)	21 (17-25)	20 (15-24)	.89
3-<6	231 (171-290)	260 (201-318)	204 (154-254)	247 (186-309)	261 (194-327)	287 (231-343)	339 (272-405)	347 (265-429)	329 (273-385)	390 (311-469)	<.001
6-<12	272 (210-335)	222 (173-271)	227 (173-280)	237 (183-290)	279 (212-347)	320 (258-382)	349 (276-422)	311 (256-365)	361 (308-414)	404 (331-476)	<.001
12-<18	188 (140-235)	129 (104-154)	130 (107-153)	180 (147-213)	232 (158-305)	231 (162-299)	260 (213-307)	245 (210-280)	241 (209-274)	236 (203-269)	<.001
FIA											
0-<3	7 (4-11)	7 (5-9)	6 (4-9)	7 (5-10)	9 (5-14)	6 (4-7)	8 (6-10)	9 (7-11)	7 (5-9)	7 (5-9)	.70
3-<6	74 (25-122)	79 (48-110)	66 (36-97)	90 (58-121)	100 (65-135)	88 (56-119)	128 (91-166)	102 (65-138)	100 (68-133)	104 (65-143)	.06
6-<12	74 (33-114)	53 (32-74)	56 (31-80)	51 (30-71)	55 (35-74)	82 (54-110)	87 (65-109)	79 (56-102)	108 (77-139)	134 (95-173)	.001
12-<18	46 (31-62)	24 (14-34)	37 (26-49)	44 (25-62)	50 (33-66)	35 (23-47)	52 (39-66)	47 (34-61)	73 (55-90)	60 (43-77)	<.001
Overall FAAR											
0-<3	13 (9-17)	13 (10-16)	12 (8-15)	12 (9-15)	14 (9-20)	11 (8-13)	13 (10-16)	13 (10-16)	12 (9-14)	11 (8-14)	.49
3-<6	111 (57-166)	100 (65-135)	108 (68-148)	121 (82-159)	124 (87-161)	128 (89-168)	161 (121-201)	134 (91-176)	119 (82-155)	152 (105-200)	.09
6-<12	104 (59-149)	76 (50-102)	81 (50-112)	75 (49-101)	65 (44-87)	111 (77-144)	109 (83-134)	106 (78-133)	136 (101-171)	158 (116-199)	.005
12-<18	60 (43-78)	34 (22-47)	45 (32-58)	53 (35-72)	59 (40-77)	42 (29-55)	61 (46-76)	56 (41-70)	80 (62-99)	69 (51-87)	.01

Abbreviations: ARR, acute allergic reaction; CI, confidence interval; FAAR, food-induced acute allergic reaction; FIA, food-induced anaphylaxis.

NOTE: Overall AAR includes codes for anaphylaxis, FIA, and FAAR. Anaphylaxis includes FIA and non-food-related anaphylaxis. Overall FAAR includes FIA and other food-related codes.

eTable 2

Patient and Hospital Characteristics of Infants and Toddlers (Age, <3 Years) Hospitalized for Anaphylaxis in the United States From 2006 to 2015

Characteristic	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	P _{trend}
	Weighted admissions (95% CI) per 100,000 visits										
Age (<3 y)	10 (6-14)	9 (6-11)	9 (6-12)	9 (6-12)	13 (8-19)	8 (6-10)	11 (8-14)	12 (9-15)	11 (9-14)	11 (8-14)	.12
Sex											
Male	11 (7-15)	12 (8-15)	11 (7-16)	11 (8-15)	14 (8-21)	10 (7-14)	14 (10-18)	14 (10-18)	15 (11-19)	16 (11-20)	.06
Female	8 (4-13)	6 (4-8)	7 (5-9)	7 (4-10)	12 (7-17)	5 (3-7)	8 (5-11)	10 (7-13)	8 (5-11)	6 (4-9)	.72
Race or ethnicity											
Non-Hispanic White	12 (7-18)	11 (8-15)	10 (5-16)	8 (5-11)	13 (8-18)	7 (4-10)	10 (6-13)	10 (7-13)	10 (7-13)	8 (5-12)	.33
Non-Hispanic Black	8 (2-14)	8 (3-13)	11 (4-19)	12 (4-19)	5 (1-10)	6 (2-11)	14 (7-21)	17 (8-26)	19 (10-28)	18 (9-26)	.002
Hispanic	3 (1-6)	4 (1-7)	7 (2-13)	10 (4-16)	16 (7-26)	7 (3-11)	8 (4-13)	10 (4-15)	11 (5-18)	15 (8-22)	<.001
Other	11 (5-17)	9 (4-14)	8 (4-11)	10 (5-15)	15 (7-23)	11 (6-16)	16 (9-22)	14 (8-21)	10 (5-15)	9 (5-14)	.33
Primary health insurance											
Public	6 (4-9)	7 (4-10)	7 (4-10)	7 (5-10)	11 (5-16)	6 (3-8)	12 (8-16)	10 (6-13)	13 (9-17)	9 (6-12)	.003
Private	14 (7-21)	10 (7-14)	12 (6-17)	11 (7-15)	16 (9-23)	11 (7-14)	12 (8-16)	15 (10-19)	11 (7-15)	15 (9-20)	.72
Self-pay	4 (0-10)	6 (0-12)	2 (0-6)	15 (0-30)	10 (0-22)	3 (0-10)	3 (0-10)	6 (0-14)	5 (0-12)	4 (0-11)	.82
Other	3 (0-9)	8 (0-17)	16 (0-33)	4 (0-11)	14 (1-27)	3 (0-10)	0 (0-0)	15 (1-29)	4 (0-12)	5 (0-15)	.68
Median household income quartile ^a											
1 (lowest)	6 (3-8)	6 (2-10)	8 (4-12)	8 (4-12)	9 (5-13)	6 (3-10)	9 (6-13)	12 (7-17)	12 (7-16)	8 (4-12)	.01
2	9 (5-14)	9 (6-13)	7 (3-10)	6 (3-9)	9 (1-17)	7 (3-10)	7 (3-10)	10 (6-14)	11 (6-15)	11 (6-16)	.40
3	9 (2-17)	8 (4-13)	9 (5-13)	11 (6-16)	16 (7-24)	9 (5-13)	11 (6-16)	9 (4-13)	10 (6-14)	10 (5-16)	.76
4 (highest)	17 (9-24)	12 (7-17)	14 (7-22)	12 (7-17)	20 (12-28)	10 (5-14)	19 (11-26)	18 (12-25)	14 (8-20)	17 (10-23)	.53
Discharge quarter											
First quarter (Jan-Mar)	9 (4-15)	7 (4-10)	5 (2-8)	6 (3-9)	13 (7-19)	6 (3-9)	12 (7-16)	9 (5-13)	11 (6-15)	12 (7-16)	.10
Second quarter (Apr-Jun)	15 (9-21)	12 (7-16)	11 (6-16)	11 (6-16)	12 (7-17)	8 (4-13)	10 (5-15)	13 (8-18)	14 (9-20)	14 (8-19)	.78
Third quarter (Jul-Sep)	7 (4-11)	8 (4-11)	10 (6-14)	10 (6-15)	14 (6-21)	8 (4-12)	12 (8-17)	12 (8-17)	11 (6-16)	8 (4-12)	.24
Fourth quarter (Oct-Dec)	8 (3-13)	9 (5-13)	11 (6-15)	9 (4-14)	14 (7-21)	9 (5-13)	11 (6-15)	14 (9-18)	10 (6-14)	—	—
Admission on weekend											
No	9 (5-13)	8 (6-11)	8 (5-11)	8 (5-11)	12 (7-17)	6 (4-8)	9 (6-11)	10 (7-13)	10 (7-12)	10 (7-13)	.42
Yes	14 (8-19)	11 (5-16)	13 (7-19)	15 (9-21)	18 (9-27)	15 (9-21)	21 (14-28)	20 (14-27)	18 (12-24)	16 (9-23)	.03
Hospital region											
Northeast	29 (10-47)	10 (5-15)	25 (12-39)	18 (8-29)	19 (7-31)	16 (9-23)	21 (9-32)	24 (14-34)	16 (8-25)	25 (14-36)	.96
Midwest	7 (0-14)	11 (4-19)	4 (1-7)	5 (1-8)	5 (1-9)	7 (3-10)	9 (4-14)	14 (6-21)	9 (4-13)	4 (1-7)	.70
South	6 (3-9)	9 (6-12)	4 (2-6)	7 (3-11)	9 (4-15)	7 (4-11)	8 (5-11)	8 (5-11)	13 (8-18)	10 (6-14)	.02
West	5 (2-9)	5 (3-8)	10 (5-16)	11 (4-18)	22 (5-39)	4 (1-7)	12 (7-18)	9 (5-13)	9 (4-13)	11 (3-18)	.25
Hospital size ^b											
Small	14 (2-27)	14 (5-22)	7 (1-13)	7 (0-15)	27 (0-74)	4 (0-8)	14 (6-23)	9 (3-14)	9 (3-14)	12 (2-23)	.57
Medium	11 (0-21)	8 (4-12)	10 (5-15)	11 (4-18)	11 (3-19)	7 (3-11)	10 (4-17)	12 (7-16)	7 (4-10)	11 (6-16)	.97
Large	8 (5-12)	8 (5-11)	9 (5-14)	9 (6-12)	12 (8-16)	9 (6-12)	11 (8-14)	13 (9-17)	15 (11-19)	11 (7-14)	.01
Hospital status											
Rural	6 (1-10)	4 (1-8)	4 (1-8)	3 (0-6)	6 (0-11)	3 (0-7)	2 (0-5)	2 (0-5)	5 (0-10)	3 (0-8)	.42
Urban nonteaching	4 (2-7)	5 (3-8)	5 (3-8)	6 (3-9)	5 (2-8)	5 (2-7)	5 (2-7)	4 (2-6)	2 (0-5)	3 (0-6)	.16
Urban teaching	15 (8-22)	13 (9-17)	13 (7-19)	13 (8-19)	21 (11-31)	11 (8-15)	17 (12-22)	19 (14-24)	15 (12-19)	15 (11-19)	.35
Endotracheal intubation or mechanical ventilation											
No	10 (6-14)	9 (6-11)	9 (6-12)	9 (6-12)	13 (7-18)	8 (6-10)	11 (8-14)	11 (9-14)	11 (9-14)	11 (8-14)	.18
Yes	11 (0-22)	14 (1-26)	4 (0-11)	7 (0-18)	24 (7-42)	12 (0-25)	20 (3-37)	28 (8-48)	12 (0-25)	21 (1-42)	.09
Chronic pulmonary disease											
No	9 (5-13)	8 (6-10)	8 (5-10)	8 (5-11)	11 (7-16)	7 (5-10)	10 (7-12)	10 (8-13)	11 (8-13)	10 (7-13)	.16
Yes	78 (27-130)	123 (43-203)	166 (66-266)	138 (61-214)	210 (96-324)	68 (1-135)	191 (75-306)	244 (116-372)	160 (57-262)	239 (92-386)	.02
Hospitalization disposition											
Home	10 (6-14)	9 (6-11)	9 (6-12)	10 (7-13)	14 (8-19)	8 (6-11)	11 (8-14)	12 (9-15)	12 (9-14)	11 (8-15)	.10
Other medical facility	4 (0-12)	4 (0-12)	9 (0-23)	0	4 (0-13)	0	6 (0-17)	0	6 (0-17)	8 (0-23)	NC
Deceased	25 (0-74)	0	0	0	0	0	0	0	0	0	NC
Other	13 (1-24)	16 (2-31)	10 (0-21)	3 (0-8)	0	0	17 (0-33)	9 (0-22)	15 (0-31)	0	NC

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eTable 2 (continued)

Characteristic	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	<i>P</i> _{trend}
	Weighted admissions (95% CI) per 100,000 visits										
Number of procedures on discharge, median (IQR)	0	0	0	0	0	0	0	0	0 (0-0.32)	0 (0-0.31)	.44
Hospitalization length of stay (d), median (IQR)	0.6 (0.2-0.9)	0.7 (0.3-1.4)	0.6 (0.3-0.9)	0.7 (0.3-1.3)	0.7 (0.3-1.3)	0.7 (0.3-1.5)	0.6 (0.1-1.0)	0.7 (0.3-1.2)	0.7 (0.3-1.6)	0.7 (0.2-1.3)	.08

Abbreviations: Apr, April; CI, confidence interval; Dec, December; IQR, interquartile range; Jan, January; Jul, July; Jun, June; Mar, March; NC, noncalculable; Oct, October; Sep, September.

^aMedian household income quartile: (1) 0 to 25th percentile, (2) 26th to 50th percentile, (3) 51st to 75th percentile, and (4) 76th to 100th percentile.

^bHospital size was determined by bed size and classified by the hospital region and teaching status.