

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

Supplemental eTable 1: Trends in office-based visits by children and adolescents by selected mental disorders and psychotropic medications, United States 1995-2010

Characteristic	1995-1998 Visits per 100 Population (95% CI)	1999-2002 Visits per 100 Population (95% CI)	2003-2006 Visits per 100 Population (95% CI)	2007-2010 Visits per 100 Population (95% CI)	OR (95% CI)	Interaction <i>P</i>
Mental Disorders						
Any						0.46
Children	6.84 (5.62, 8.07)	10.32 (8.22, 12.42)	13.41 (10.67, 16.15)	13.52 (10.45, 16.58)	1.95 (1.55, 2.45)	
Adolescents	9.74 (7.81, 11.67)	16.50 (13.17, 19.82)	19.19 (15.40, 22.98)	18.73 (14.67, 22.79)	1.77 (1.38, 2.27)	
Disruptive Behavior Disorders						0.04
Children	4.61 (3.64, 5.58)	6.96 (5.31, 8.60)	9.22 (7.18, 11.26)	9.79 (7.32, 12.25)	2.10 (1.59, 2.78)	
Adolescents	2.96 (2.17, 3.76)	5.14 (3.71, 6.58)	7.54 (5.83, 9.25)	8.38 (6.24, 10.53)	2.96 (2.10, 4.16)	
Mood Disorders						0.62
Children	0.63 (0.34, 0.91)	1.64 (1.13, 2.15)	2.05 (1.46, 2.63)	1.58 (1.03, 2.13)	1.96 (1.28, 3.01)	
Adolescents	3.79 (2.74, 4.84)	8.09 (6.22, 9.95)	9.16 (7.08, 11.23)	8.37 (6.09, 10.64)	1.78 (1.28, 2.48)	
Anxiety Disorders						0.41
Children	0.75 (0.50, 1.00)	1.21 (0.82, 1.61)	1.38 (0.94, 1.83)	1.56 (1.07, 2.06)	1.92 (1.25, 2.97)	
Adolescents	1.85 (1.22, 2.47)	2.63 (1.89, 3.37)	3.35 (2.51, 4.18)	4.49 (3.35, 5.62)	2.43 (1.59, 3.70)	
Psychoses/Dev Disorders						0.03
Children	0.39 (0.16, 0.63)	0.77 (0.39, 1.15)	0.95 (0.64, 1.27)	1.19 (0.74, 1.64)	3.16 (1.68, 5.96)	
Adolescents	0.74 (0.47, 1.01)	1.37 (0.85, 1.88)	1.24 (0.80, 1.68)	1.19 (0.69, 1.69)	1.29 (0.71, 2.35)	
Other Mental Disorders						0.01
Children	1.42 (1.03, 1.82)	1.85 (1.36, 2.35)	2.65 (1.95, 3.35)	2.18 (1.54, 2.82)	1.51 (1.04, 2.20)	
Adolescents	2.85 (1.99, 3.70)	3.22 (2.26, 4.18)	3.63 (2.74, 4.51)	2.66 (1.93, 3.39)	0.78 (0.53, 1.16)	
Psychotropic Medications						
Any						0.14
Children	8.30 (6.94, 9.66)	10.39 (8.25, 12.52)	12.96 (10.33, 15.59)	15.42 (11.99, 18.84)	1.89 (1.48, 2.42)	
Adolescents	8.44 (6.94, 9.94)	15.10 (12.04, 18.15)	17.47 (13.85, 21.09)	20.40 (16.14, 24.67)	2.34 (1.85, 2.96)	
ADHD Medications*						0.0003
Children	3.48 (2.74, 4.22)	4.18 (3.06, 5.30)	5.87 (4.40, 7.34)	9.15 (6.83, 11.15)	3.31 (2.37, 4.61)	
Adolescents	1.90 (1.28, 2.51)	2.94 (1.90, 3.99)	4.59 (3.38, 5.80)	9.16 (6.89, 11.44)	7.31 (4.76, 11.23)	
Antidepressants						0.54
Children	1.21 (0.88, 1.54)	2.24 (1.65, 2.83)	2.57 (1.88, 3.25)	1.95 (1.31, 2.60)	1.42 (0.98, 2.06)	
Adolescents	4.11 (3.22, 5.00)	8.52 (6.57, 10.47)	9.07 (7.04, 11.10)	8.26 (6.18, 10.33)	1.60 (1.19, 2.15)	
Antipsychotics						0.66
Children	0.14 (0.01, 0.23)	0.85 (0.50, 1.21)	1.56 (1.07, 2.05)	1.73 (1.12, 2.34)	6.35 (3.86, 10.44)	
Adolescents	0.76 (0.40, 1.12)	1.61 (0.96, 2.25)	3.02 (1.99, 4.05)	3.81 (2.55, 5.07)	5.45 (3.04, 9.79)	
Mood stabilizers						0.31
Children	0.53 (0.33, 0.73)	0.94 (0.66, 1.21)	1.16 (0.76, 1.55)	1.00 (0.56, 1.45)	1.55 (0.87, 2.78)	
Adolescents	1.16 (0.76, 1.56)	2.24 (1.46, 3.02)	2.87 (2.01, 3.73)	2.71 (1.92, 3.51)	2.14 (1.40, 3.27)	
Anxiolytics						0.07
Children	3.70 (2.75, 4.65)	3.76 (2.57, 4.96)	4.23 (3.19, 5.27)	4.63 (3.51, 5.74)	1.10 (0.73, 1.66)	
Adolescents	1.82 (1.24, 2.40)	3.48 (2.48, 4.47)	3.44 (2.58, 4.31)	4.13 (3.02, 5.23)	1.85 (1.20, 2.86)	

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Data from NAMCS. Children ages 0-13, Adolescents ages 14-20 years *ADHD medications include stimulants, atomoxetine, guanfacine, and clonidine.

Supplemental eTable 2: Trends in office-based visits with mental disorders and psychotropic medications among young people to psychiatrists and non-psychiatrist physicians, United States 1995-2010

Characteristic	1995-1998 Visits per 100 Population (95% CI)	1999-2002 Visits per 100 Population (95% CI)	2003-2006 Visits per 100 Population (95% CI)	2007-2010 Visits per 100 Population (95% CI)	OR (95% CI)	Interaction <i>P</i>
Mental Disorders						
Any						0.003
Psychiatrists	2.72 (2.01, 3.44)	5.44 (3.94, 6.95)	6.38 (4.79, 7.96)	5.51 (3.84, 7.18)	1.62 (0.55, 4.77)	
Non-psychiatrists	5.06 (4.14, 5.98)	6.94 (5.60, 8.28)	8.99 (7.20, 10.79)	9.79 (7.67, 11.92)	1.99 (1.59, 2.50)	
Disruptive Behavior Disorders						0.02
Psychiatrists	1.34 (0.88, 1.80)	2.55 (1.69, 3.40)	3.34 (2.42, 4.26)	2.88 (1.96, 3.81)	1.43 (0.93, 2.21)	
Non-psychiatrists	2.73 (2.14, 3.32)	3.81 (2.89, 4.72)	5.31 (4.12, 6.50)	6.42 (4.75, 8.10)	2.51 (1.85, 3.42)	
Mood Disorders						0.02
Psychiatrists	1.19 (0.80, 1.58)	2.48 (1.81, 3.15)	3.04 (2.27, 3.81)	2.50 (1.65, 3.35)	1.14 (0.75, 1.74)	
Non-psychiatrists	0.46 (0.28, 0.65)	1.31 (0.93, 1.69)	1.42 (1.00, 1.84)	1.40 (0.99, 1.82)	2.18 (1.45, 3.29)	
Anxiety Disorders						0.56
Psychiatrists	0.58 (0.37, 0.79)	1.00 (0.72, 1.29)	1.40 (1.02, 1.77)	1.47 (0.98, 1.96)	1.69 (1.13, 2.54)	
Non-psychiatrists	0.52 (0.33, 0.72)	0.68 (0.44, 0.93)	0.65 (0.40, 0.91)	1.09 (0.77, 1.41)	2.09 (1.20, 3.62)	
Psychoses/Dev Disorders						0.53
Psychiatrists	0.20 (0.12, 0.27)	0.51 (0.16, 0.86)	0.49 (0.32, 0.65)	0.55 (0.32, 0.79)	1.58 (0.86, 2.93)	
Non-psychiatrists	0.31 (0.14, 0.48)	0.46 (0.29, 0.63)	0.56 (0.36, 0.76)	0.64 (0.40, 0.87)	2.09 (1.11, 3.94)	
Other Mental Disorders						0.001
Psychiatrists	0.52 (0.36, 0.68)	0.92 (0.60, 1.24)	1.02 (0.71, 1.34)	0.73 (0.51, 0.95)	0.49 (0.31, 0.77)	
Non-psychiatrists	1.37 (0.99, 1.75)	1.39 (1.01, 1.77)	1.96 (1.45, 2.46)	1.62 (1.18, 2.05)	1.26 (0.87, 1.82)	
Psychotropic Medications						
Any						0.88
Psychiatrists	1.87 (1.33, 2.41)	4.14 (2.86, 5.43)	4.39 (3.23, 5.54)	4.55 (3.10, 5.99)	2.15 (1.28, 3.62)	
Non-psychiatrists	6.48 (5.48, 7.47)	7.82 (6.31, 9.32)	10.11 (8.16, 12.05)	12.58 (9.96, 15.19)	2.07 (1.64, 2.61)	
ADHD Medications*						0.11
Psychiatrists	0.83 (0.48, 1.17)	1.46 (0.81, 2.12)	1.53 (1.05, 2.01)	2.40 (1.59, 3.21)	2.82 (1.63, 4.89)	
Non-psychiatrists	2.14 (1.70, 2.57)	2.30 (1.68, 2.92)	3.91 (2.90, 4.91)	6.75 (5.07, 8.43)	4.60 (3.26, 6.50)	
Antidepressants						0.006
Psychiatrists	1.02 (0.76, 1.28)	2.37 (1.66, 3.09)	2.31 (1.69, 2.92)	2.00 (1.32, 2.68)	0.81 (0.56, 1.19)	
Non-psychiatrists	1.13 (0.87, 1.40)	1.97 (1.51, 2.43)	2.47 (1.87, 3.07)	2.11 (1.51, 2.71)	1.70 (1.20, 2.39)	
Antipsychotics						0.04
Psychiatrists	0.28 (0.15, 0.40)	0.93 (0.58, 1.28)	1.52 (1.01, 2.02)	1.70 (1.09, 2.31)	4.79 (2.92, 7.87)	
Non-psychiatrists	0.07 (0.00, 0.13)	0.17 (0.06, 0.29)	0.54 (0.35, 0.73)	0.75 (0.48, 1.01)	12.25 (5.94, 25.25)	
Mood stabilizers						0.34
Psychiatrists	0.30 (0.17, 0.43)	0.82 (0.50, 1.14)	0.81 (0.55, 1.07)	0.80 (0.49, 1.12)	1.28 (0.79, 2.08)	
Non-psychiatrists	0.44 (0.28, 0.59)	0.55 (0.35, 0.75)	0.93 (0.61, 1.25)	0.79 (0.50, 1.08)	1.83 (1.05, 3.19)	
Anxiolytics						0.04
Psychiatrists	0.08 (0.04, 0.12)	0.27 (0.17, 0.37)	0.43 (0.27, 0.59)	0.44 (0.26, 0.62)	2.58 (1.36, 4.88)	
Non-Psychiatrists	3.01 (2.31, 3.71)	3.40 (2.50, 4.30)	3.53 (2.78, 4.29)	4.02 (3.09, 4.94)	1.18 (0.83, 1.70)	

Data from NAMCS. Children ages 0-13, Adolescents ages 14-20 years *ADHD medications include stimulants, atomoxetine, guanfacine, and clonidine.

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Supplemental eTable 3. Background clinical characteristics of office-based physician visits with a mental disorder diagnosis, children, adolescents, and adults 2007-2010*						
Characteristic	1. Child Visits with Mental Disorder Diagnosis (N=1166) %	2. Adolescent Visits with Mental Disorder Diagnosis (N=892) %	3. Adult Visits with Mental Disorder Diagnosis (N=9264) %	X ² Statistic	P Value	Group Differences
Geographic Region				0.57	0.7535	
Northeast	17.61	20.39	21.41			NS
Midwest	21.48	20.92	22.29			NS
South	40.92	39.43	35.36			NS
West	19.98	19.26	20.93			NS
Metropolitan Area Status				2.47	0.0846	
Urban or suburban	82.09	88.15	86.64			1<2
Rural	17.91	11.85	13.36			1>2
Visit Disposition						
Return at specified time	77.61	77.28	81.45	2.70	0.0674	2<3
Refer to other physician	10.47	9.19	7.88	1.82	0.1628	NS
Other	17.35	17.76	15.03	1.35	0.2580	NS
Data from NAMCS. Children ages 0-13, Adolescents ages 14-20 years. *White includes white, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native. *Also includes atomoxetine, guanfacine, and clonidine. NS denotes not statistically significant.						

Supplemental eTable 4: Trends in office-based visits with mental disorder diagnoses, psychotropic medications, psychotherapy, and psychiatric care for young people by gender and race/ethnicity group, United States 1995-2010						
Characteristic	1995-1998 Visits per 100 Population (95% CI)	1999-2002 Visits per 100 Population (95% CI)	2003-2006 Visits per 100 Population (95% CI)	2007-2010 Visits per 100 Population (95% CI)	OR (95% CI)	Interaction <i>P</i>
Any Mental Disorder Diagnosis						
Males	9.48 (7.83, 11.12)	14.80 (11.73, 17.87)	18.84 (15.10, 22.57)	18.99 (14.64, 23.33)	1.95 (1.54, 2.48)	0.51
Females	6.00 (4.88, 7.13)	9.85 (7.98, 11.71)	11.73 (9.48, 13.98)	11.43 (9.10, 13.76)	1.82 (1.48, 2.23)	
White, non-Hispanic	8.40 (6.91, 9.89)	12.89 (10.31, 15.47)	15.61 (12.66, 18.57)	14.68 (11.39, 17.98)	1.93 (1.55, 2.39)	0.33
Other	5.61 (4.24, 6.98)	10.70 (8.08, 13.31)	14.59 (10.70, 18.47)	17.14 (12.76, 21.53)	2.28 (1.65, 3.14)	
Any Psychotropic Medications						
Males	9.14 (7.69, 10.60)	13.11 (10.37, 15.86)	15.87 (12.74, 19.00)	20.25 (15.70, 24.79)	2.30 (1.82, 2.89)	0.04
Females	7.51 (6.20, 8.81)	10.75 (8.79, 12.71)	13.04 (10.43, 15.66)	13.85 (11.05, 16.64)	1.82 (1.45, 2.29)	
White, non-Hispanic	7.96 (6.75, 9.16)	11.97 (9.62, 14.32)	14.51 (11.64, 17.38)	17.03 (13.37, 20.68)	2.45 (2.00, 3.02)	0.005
Other	9.73 (7.05, 12.41)	11.94 (8.84, 15.04)	14.42 (10.87, 17.96)	17.41 (13.41, 21.41)	1.49 (1.05, 2.12)	
Psychotherapy						
Males	2.58 (1.84, 3.33)	3.80 (2.39, 5.20)	4.89 (3.52, 6.25)	3.83 (2.62, 5.03)	1.31 (0.88, 1.95)	0.44
Females	1.90 (1.33, 2.47)	3.13 (2.30, 3.96)	3.50 (2.52, 4.48)	2.48 (1.66, 3.30)	1.14 (0.78, 1.69)	
White, non-Hispanic	2.45 (1.76, 3.14)	3.71 (2.48, 4.94)	4.06 (3.00, 5.12)	3.22 (2.25, 4.20)	1.31 (0.89, 1.94)	0.93
Other	1.53 (0.93, 2.13)	2.65 (1.40, 3.90)	4.70 (2.62, 6.78)	3.01 (1.53, 4.48)	1.28 (0.72, 2.27)	
Visit to Psychiatrist						
Males	3.21 (2.34, 4.09)	6.84 (4.76, 8.93)	7.69 (5.65, 9.73)	6.85 (4.63, 9.08)	1.79 (1.19, 2.68)	0.35
Females	2.48 (1.79, 3.17)	4.47 (3.33, 5.61)	5.31 (4.03, 6.59)	4.51 (3.21, 5.81)	1.56 (1.11, 2.20)	
White, non-Hispanic	3.05 (2.21, 3.89)	6.17 (4.42, 7.93)	6.67 (5.05, 8.29)	5.40 (3.77, 7.02)	1.66 (1.15, 2.40)	0.28
Other	2.17 (1.32, 3.03)	4.06 (2.42, 5.69)	6.09 (3.74, 8.45)	6.65 (3.72, 9.59)	2.31 (1.24, 4.31)	

Data from NAMCS. Analysis limited to young people, ages ≤ 20 years

Supplemental eTable 5: Trends in office-based visits by young people and adults by selected reasons for visit, United States 1995-2010						
Reason For Visit	1995-1998 Visits per 100 Population (95% CI)	1999-2002 Visits per 100 Population (95% CI)	2003-2006 Visits per 100 Population (95% CI)	2007-2010 Visits per 100 Population (95% CI)	OR (95% CI)	Interaction <i>P</i>
Anxiety and nervousness						0.001
Young People	0.58 (0.39, 0.77)	1.25 (0.92, 1.57)	1.22 (0.92, 1.52)	1.30 (0.94, 1.67)	1.66 (1.10, 2.51)	
Adults	5.28 (4.58, 5.98)	5.72 (4.77, 6.66)	5.66 (4.70, 6.63)	5.58 (4.63, 6.53)	0.85 (0.71, 1.02)	
Fears and phobias						0.37
Young People	0.34 (0.15, 0.52)	0.10 (0.00, 0.21)	0.36 (0.17, 0.55)	0.49 (0.25, 0.74)	1.86 (0.64, 5.42)	
Adults	0.61 (0.46, 0.77)	0.58 (0.41, 0.75)	0.73 (0.51, 0.95)	0.67 (0.32, 1.02)	1.02 (0.49, 2.16)	
Depression						0.14
Young People	1.32 (0.97, 1.67)	1.93 (1.47, 2.40)	2.02 (1.54, 2.50)	1.35 (1.03, 1.66)	0.88 (0.66, 1.17)	
Adults	6.82 (5.97, 7.68)	6.90 (5.83, 7.96)	7.04 (5.89, 8.20)	5.98 (4.97, 7.00)	0.70 (0.59, 0.82)	
Anger						0.0007
Young People	0.15 (0.07, 0.24)	0.37 (0.21, 0.53)	0.33 (0.21, 0.45)	0.32 (0.16, 0.47)	1.55 (0.82, 2.91)	
Adults	0.24 (0.17, 0.32)	0.28 (0.16, 0.39)	0.22 (0.16, 0.28)	0.12 (0.08, 0.16)	0.39 (0.26, 0.60)	
Restlessness						0.93
Young People	1.03 (0.69, 1.38)	1.42 (0.99, 1.84)	1.02 (0.65, 1.40)	0.34 (0.17, 0.51)	0.30 (0.20, 0.47)	
Adults	0.11 (0.06, 0.15)	0.19 (0.04, 0.34)	0.09 (0.05, 0.13)	0.06 (0.02, 0.10)	0.31 (0.13, 0.75)	
Behavioral disturbances						0.26
Young People	0.38 (0.24, 0.52)	0.88 (0.57, 1.20)	0.86 (0.53, 1.20)	0.71 (0.38, 1.05)	1.34 (0.79, 2.28)	
Adults	0.15 (0.10, 0.20)	0.17 (0.10, 0.24)	0.17 (0.11, 0.24)	0.18 (0.11, 0.24)	0.89 (0.49, 1.61)	

Data from NAMCS. Young people ages 0-20 years, adults ages ≥21 years